# MODULE 3 CLOSING STATEMENT ON BEHALF OF THE UK HEALTH SECURITY AGENCY

## Introduction

- 1. The UK Health Security Agency ('UKHSA') is an executive agency of the Department of Health and Social Care ('DHSC') and undertakes certain statutory functions on behalf of the Secretary of State for Health and Social Care. UKHSA was established on 1 April 2021 becoming fully operational on 1 October 2021. Its role is to protect the public from infectious diseases and external hazards including environmental threats. UKHSA's functions includes providing expert scientific advice to the healthcare system<sup>1</sup>. UKHSA brings together expertise from several predecessor organisations including Public Health England ('PHE'), NHS Test and Trace ('NHSTT'), the Joint Biosecurity Centre ('JBC'), and the Vaccine Task Force ('VTF')<sup>2</sup>.
- 2. UKHSA does not have direct responsibility for the delivery of patient facing healthcare in the four nations. Its capabilities to support healthcare lie predominantly in, for example, health protection science and data analytics and surveillance and it responds to future health security hazards by collaborating with, among others, the NHS. UKHSA would also be involved in the delivery of vaccination programmes.
- 3. Module 3 has examined the impact of the Covid-19 pandemic on healthcare systems in the four nations. Alongside the statements submitted on behalf of UKHSA<sup>3</sup>, this closing statement addresses three key topics which arose during the Module 3 hearings:
  - 3.1. Infection, Prevention, and Control ('IPC') Guidance.

<sup>&</sup>lt;sup>1</sup> Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 31/01/2024 [INQ000489907/3.3]

<sup>&</sup>lt;sup>2</sup> Further information about the formation of UKHSA can be found in the statement of Professor Hopkins, Chief Medical Advisor to the UK Health Security Agency, dated 31/01/2024 [INQ000410867/16-25]. Further detail on the make-up of UKHSA can be found in Professor Hopkins' statement at [INQ000410867/46-50]

<sup>&</sup>lt;sup>3</sup> Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 31/01/2024 [INQ000489907]. Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency, dated 31/01/2024 [INQ000410867]. Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 27/06/2024 [INQ000410865]

- 3.2. Shielding as an intervention.
- 3.3. The use of data in a future pandemic.

### **IPC Guidance**

#### Understanding of the virus

- 4. Any guidance in which PHE/UKHSA is involved in producing, be it alone or in collaboration with other bodies, must be informed by the scientific and clinical evidence available at a particular point in time. When confronted with a novel virus, the rational starting point is to assess the research evidence on other genetically similar viruses including that from the international expert community. Science is an international endeavour and responses to pandemics are international efforts making it even more important to share research with colleagues in other countries<sup>4, 5, 6, 7</sup>.
- 5. On 31 December 2019, PHE's epidemic intelligence team identified a report from the Wuhan Municipal Health Commission that a cluster of viral pneumonia had been detected in Wuhan City, China<sup>8</sup>. On 12 January 2020, the World Health Organisation ('WHO') confirmed that the cluster was a novel coronavirus and noted some of the symptoms<sup>9</sup>. In the early stages of the pandemic, PHE was receiving information about SARS-Cov-2 from several organisations, both national and international<sup>10</sup>. Early research from China at this time concluded that SARS-Cov-2 was likely to be primarily transmitted through direct and indirect contact and respiratory droplets, and that there was insufficient evidence of airborne transmission<sup>11</sup>.
- 6. PHE's starting position when SARS-Cov-2 was detected in the UK was to use available knowledge of other genetically similar viruses to inform intervention in relation to likely routes of transmission. Similar viruses, such as SARS-Cov-1 and MERS, were transmitted via direct contact, indirect contact, and respiratory routes. The mode of transmission of a virus is informed by research and literature accumulated over a long

<sup>&</sup>lt;sup>4</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/85/15-22]

<sup>&</sup>lt;sup>5</sup> Oral evidence of Professor Michael McBride, Chief Medical Officer for Northern Ireland (24/09/2024) [10/24/13-24]

<sup>&</sup>lt;sup>6</sup> Oral evidence of Professor Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/83/5-9]

<sup>&</sup>lt;sup>7</sup> Witness Statement of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England, dated 23/07/2024 [INQ000421939/111]

<sup>&</sup>lt;sup>8</sup> Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UKHSA, dated 31/01/2024 [INQ000410867/103] <sup>9</sup> Ibid/104

<sup>&</sup>lt;sup>10</sup> Ibid/109

<sup>11 [</sup>INQ000218368]

period of time<sup>12</sup>, including extensive debates within expert groups such as the New and Emerging Respiratory Advisory Group ('NERVTAG') or, in an emergency, the Scientific Advisory Group for Emergencies ('SAGE'), and other advisory bodies, and in the international literature<sup>13</sup>. Scientific understanding of each novel virus evolves with time as evidence is accumulated<sup>14</sup>.

- 7. As might be expected with a novel pathogen, there was significant uncertainty about the exact mode of transmission of SARS-Cov-2 when it first emerged. Drawing on the existing medical literature and evidence at the time, the best information in the early stages of the pandemic (including from the WHO) was that SARS-Cov-2 was spread within close contact or short range (within 2 metres), as well as direct and indirect contact, and therefore likely to be droplet spread<sup>15,16</sup> Professor Susan Hopkins, Chief Medical Advisor at UKHSA, explained that determining the dominant route of transmission did not exclude consideration of other routes but provided a basis for developing effective IPC measures<sup>17,18</sup>.
- 8. The WHO and many other organisations produced their own guidance on Covid-19, but the UK was under no obligation to follow these<sup>19,20</sup>. Several countries contributed to the WHO guidance throughout the pandemic and WHO itself recognised that the ability to respond may vary in different countries. However, such guidance was informative not only because it formed part of the wider international picture about Covid-19 but also because it was based on the available evidence and included information about the behaviour of a virus which is not geographically specific (modes of transmission are not country specific).

Defining particle size is not a helpful metric as transmission of infectious airborne particles depends on many environmental factors

Professor Clive Beggs, a bioengineer who has produced an expert report for Module
3, proposed that the micron demarcation for droplets and aerosols should be 100

 <sup>&</sup>lt;sup>12</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/80/10-21]
<sup>13</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/85/2-6]

<sup>&</sup>lt;sup>14</sup> Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 31/01/2024 [INQ000489907/6.2]

<sup>&</sup>lt;sup>15</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/78/25 – 7/79/13]

<sup>&</sup>lt;sup>16</sup> Witness Statement of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England, dated 23/07/2024 [INQ000421939/110-112]

<sup>&</sup>lt;sup>17</sup> Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency, dated 31/01/2024 [INQ000410867/102]

<sup>&</sup>lt;sup>18</sup> Oral evidence of Professor Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/140/16-21] For more information regarding Professor Hopkins' expertise, please see her witness statement at [INQ000410867/3-6].

<sup>&</sup>lt;sup>19</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/63/6] <sup>20</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/84/16-21]

microns<sup>21</sup>, and not 5 microns, which as Dr Lisa Ritchie (National Deputy Director of Infection Prevention and Control at NHS England) explained was adopted long before the pandemic<sup>22</sup>. The use of dichotomies is not helpful when assessing risk in a range of situations because of the complexity of factors that can affect rates of transmission. The best steps to reduce transmission for all respiratory infections are improving ventilation, and the physical separation of those infected, whether patients<sup>23</sup> or the healthcare workers supporting them. The position taken by UKHSA was shared by Professor Sir Michael McBride (Chief Medical Officer ('CMO') for Northern Ireland)<sup>24</sup>, and Professor Sir Christopher Whitty (CMO for England)<sup>25</sup>.

- 10. The transmission of infectious airborne particles depends on many environmental factors. It is far more practicable and effective to focus on the hierarchy of controls (of which Personal Protective Equipment ('PPE') is sequentially the last effective measure to implement) without drawing a binary distinction on micron size.
- 11. The hierarchy of controls denotes some of the steps taken to prevent or control transmission when elimination is not possible<sup>26</sup> and what practical steps can be taken depending on the risk environment<sup>27</sup>. It is a concept born out of the Health and Safety Regulations, regulated by the Health and Safety Executive ('HSE"). What is more important and relevant than particle size is implementing the most effective measures of mitigation. Employers have a duty to put in place measures from the hierarchy of controls in order to protect their employees<sup>28</sup>. Workers' protection in respect of Covid-19 was enforced by the HSE via the Control of Substances Hazardous to Health Regulations 2002 ('COSHH')<sup>29</sup>. It is for the HSE to determine the appropriate standard for an employer discharging their statutory duty to protect their workers (including via risk assessment). It is not, nor could it be, for UKHSA to advise on whether measures taken are sufficient for the purposes of the regulations. The role of the UKHSA (and formerly PHE) was to provide scientific and technical advice about the virus. HSE's role, as the regulator, was to determine and enforce workplace measures to appropriately and adequately assess and manage risk to healthcare workers in employment settings.

<sup>&</sup>lt;sup>21</sup> Oral evidence of Professor Clive Beggs (11/09/2024) [3/37/19-25]

<sup>&</sup>lt;sup>22</sup> Oral evidence of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England (16/09/2024) [5/87/3-8] <sup>23</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/94/14-25]

<sup>&</sup>lt;sup>24</sup> Oral evidence of Professor Sir Michael McBride, Chief Medical Officer for Northern Ireland (24/09/2024) [10/35/3-8]

<sup>&</sup>lt;sup>25</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/139/10-18]

<sup>&</sup>lt;sup>26</sup> Oral evidence of Professor Fu-Meng Khaw, Public Health Wales (05/11/2024) [26/28/1-7]

<sup>&</sup>lt;sup>27</sup> Oral evidence of Laura Imrie, Clinical Lead for NHS Scotland Assure and Antimicrobial Resistance & Healthcare Associated Infection (05/11/2024) [26/157/1-25]

<sup>&</sup>lt;sup>28</sup> Witness Statement of Richard Brunt (Director of Engagement and Policy Division) on behalf of the Health and Safety Executive ('HSE'), dated 17/11/2023 [INQ000347822/25]

<sup>29</sup> Ibid/48

12. In any event, it would be sensible to shift from the unhelpful dichotomy of droplet and airborne and UKHSA is involved in work to develop the evidence base around terminology used. The WHO has published a report on proposed terminology<sup>30</sup> which recognised that terms such as 'airborne', 'airborne transmission', and 'aerosol transmission' were used in different ways in different scientific disciplines, and that this has contributed to confusion. UKHSA contributed to this new report through its membership of the Global IPC Network (GIPCN). The ongoing work on proposed terminology is explained more fully in the supplemental corporate witness statement provided by Professor Dame Jenny Harries, Chief Executive of UKHSA<sup>31</sup>. As that statement explains, rationalising the terminology used across several scientific disciplines is not solely within UKHSA's gift, but the Agency is committed to working with others to develop standardised terminology that better reflects how viruses are transmitted.

Many infections are transmitted through the respiratory route where airborne components play a role

- 13. Professor Beggs argued that the risk of airborne transmission from SARS-Cov-2 ought to have been known early in the pandemic because of previous research<sup>32</sup>, and that SARS-Cov-2 was predominantly spread by the airborne route<sup>33</sup>.
- 14. The Inquiry heard from several witnesses, themselves highly regarded experts, including Professor Whitty<sup>34</sup> and Professor Sir Gregor Smith (CMO for Scotland)<sup>35</sup>, that while the *risk* of airborne transmission was appreciated from the beginning, its contribution to infection spread was unknown. Dr Ritchie explained that the 'epidemiology and the scientific literature did not support that airborne spread as the predominant route of transmission and, indeed, the WHO guidance has not stated a change in a predominant mode of transmission for SARS-CoV-2<sup>'36</sup>.
- 15. In the early stages of the pandemic, information about the virus was limited and therefore the most proportionate and sensible approach was to work based on the evidence available, rather than to make unevidenced assumptions about risk. As a

 <sup>&</sup>lt;sup>30</sup> Global technical consultation report on proposed terminology for pathogens that transmit through the air (April 2024)
<sup>31</sup> Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 10/01/2025 [INQ000474701]

<sup>&</sup>lt;sup>32</sup> Oral evidence of Professor Clive Beggs (11/09/2024) [3/119/4-25] [3/188/23 – 3/190/7]

<sup>33</sup> Ibid [3/41/12-25]

<sup>&</sup>lt;sup>34</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/82/7-19]

<sup>&</sup>lt;sup>35</sup> Oral evidence of Professor Sir Gregor Smith, Chief Medical Officer for Scotland (25/09/2024) [11/35/7-24]

<sup>&</sup>lt;sup>36</sup> Oral evidence of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England (16/09/2024) [5/89/1]

public body, PHE had a duty to publish responsibly. Evidence gathering on emerging viruses can be a slow process because of the need to confirm the reliability and quality of any evidence. Public confidence in statements issued by UKHSA (or previously by PHE), must be as fully evidenced as possible<sup>37</sup>.

- 16. A key function of PHE/UKHSA was and remains to follow, analyse, record, and disclose the emerging evidential picture on the virus. PHE undertook studies continuously, including taking air samples from hospitals, and keeping abreast of emerging evidence from other organisations<sup>38</sup>. Professor Hopkins emphasised that information was gathered and studied continuously so that theories could be tested<sup>39</sup>.
- 17. In July 2022, the Respiratory Evidence Panel, a multi-professional group which had been specifically stood up in February 2021 to consider the evidence regarding the role of airborne transmission in relation to SARS-Cov-2, concluded with high confidence that by this point there was evidence to support airborne transmission, with contributing risk factors including poorly ventilated indoor settings, prolonged exposure, and activities that may generate more aerosols.
- 18. There was however never a specific, single point in time when the evidence suggested that SARS-Cov-2 was transmitted via aerosol (in addition to droplet) but rather that the emerging evidence suggested that it was possible, although it was not likely to be the dominant mode of transmission<sup>40</sup>. This view is shared by Professor Whitty<sup>41</sup>, who noted that there is still uncertainty now about whether aerosol is the dominant route of transmission of SARS-Cov-2. Whilst over the course of the pandemic, the national and international understanding of the contribution of airborne transmission evolved, the precise delineation of particle sizes and the extent to which evidence supported a dominant transmission route through different stages of the pandemic remains unclear. UKHSA operates and publishes on an evidence-led basis.

#### PHE recognised the possibility of asymptomatic transmission from the outset of the pandemic

19. PHE recognised the possibility of asymptomatic transmission as early as 28 January 2020<sup>42</sup>. At that time, while the clinical evidence did not rule out the existence of

- 39 Ibid [7/140/13-23]
- <sup>40</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024 [7/80/10-21]

 <sup>&</sup>lt;sup>37</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/104/7-12]
<sup>38</sup> Ibid [7/80/22 – 7/81/9]. For more information on studies, see Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency, dated 31/01/2024 [INQ000410867/102]

<sup>&</sup>lt;sup>41</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/139/22 – 12/140/6]

<sup>&</sup>lt;sup>42</sup> Witness Statement of Professor Susan Hopkins, Chief Medical Advisor Chief Medical Advisor to the UK Health Security Agency, dated 31/01/2024 [INQ000410867/102]

asymptomatic transmission, and in fact it was considered to be likely, expert opinion and consensus from the scientific community (including SAGE and NERVTAG) concluded that asymptomatic transmission was less likely to be the major driver of transmission<sup>43</sup>. By February 2020, the risk of asymptomatic infection was documented to be under critical consideration but evidence at that time remained unclear<sup>44</sup>. There was "*no single instance*" where it became obvious that asymptomatic transmission was happening in a certain percentage of cases<sup>45</sup>.

- 20. Evidence of asymptomatic transmission began to increase in late March and early April 2020<sup>46</sup>, with PHE submitting papers to SAGE and NERVTAG in April 2020 which provided further data on the potential significance of asymptomatic transmission<sup>47</sup>. This generation and sharing of this data from the UK and other countries allowed PHE to begin to understand and assess the scale of the risk of asymptomatic transmission, which had previously not been possible.
- 21. In April 2020, PHE published an updated version of the paper submitted to SAGE/NERVTAG (discussed above) that stated that there was some possibility that some asymptomatic/presymptomatic transmission was occurring but its contribution to overall transmission was uncertain<sup>48</sup>. The Easter 6 Study (April 2020) concluded that it was likely that the virus was being transmitted asymptomatically<sup>49</sup>.
- 22. It is important to put this evidence in its contemporaneous context: the virus was previously unknown and there was limited availability of testing. As it was not possible to eliminate the virus, the focus had to be on practical measures to control and isolate it. It was reasonable to act based on evidence already gathered from other respiratory viruses. It is likely that in the event of future novel pathogens there will continue to be an assumption of some degree of asymptomatic transmission which will likewise have to be investigated over an extended period of time<sup>50</sup>.

<sup>43 [</sup>INQ00348262]

<sup>&</sup>lt;sup>44</sup> For a detailed explanation about the distinction between asymptomatic cases and asymptomatic transmission, please see Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 31/01/2024 [INQ000489907/6.3-6.6]

<sup>&</sup>lt;sup>45</sup> Witness Statement of Professor Sir Christopher Whitty, Chief Medical Officer for England, dated 01/02/2024 [INQ000410237/4.23]

<sup>&</sup>lt;sup>46</sup> Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 31/01/2024 [INQ000489907/6.12]

 <sup>&</sup>lt;sup>47</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/168/5-10]
<sup>48</sup> [INQ000348271]

<sup>&</sup>lt;sup>49</sup> PHE: Investigation of SARS-CoV-2 outbreaks in 6 care homes in London (April 2020) is available on gov.uk.

<sup>&</sup>lt;sup>50</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/152/9]

#### High Consequence Infectious Disease ('HCID') Classification

- 23. As explained above, PHE used the evidence on previous respiratory viruses to assist with understanding and research of SARS-Cov-2. Early guidance was based on SARS-CoV-1 and MERS. Like SARS-Cov-2, MERS was initially classified as an HCID and FFP3 masks were recommended<sup>51</sup>. At the start of the pandemic the four nations public health HCID group was responsible for making recommendations on HCID classification, which then went to the Advisory Committee on Dangerous Pathogens ('ACDP') to consider, and where appropriate, endorse. The HCID group was made up of representatives from PHE and health professionals from across the UK, as well as experts from the HCID Clinical Network<sup>52</sup>. Subsequently, with ongoing accrual of evidence, on 16 March 2020 the HCID group forwarded to the ACDP a recommendation to declassify Covid-19 as an HCID. This was endorsed by ACDP and agreed by NHSE and the CMO<sup>53</sup>. From 19 March 2020, Covid-19 was no longer considered an HCID, and so patients could be treated at all hospitals rather than in specialist HCID units<sup>54</sup>.
- 24. The suggestion has been made the decision to declassify Covid-19 as an HCID coincided with a decision to 'downgrade' the type of PPE<sup>55,56</sup> (the inference being that the two decisions were linked). Dr Ritchie confirmed that the declassification allowed for different types of PPE depending on the treatment<sup>57</sup>. Professor Hopkins rejected the proposition that IPC guidance was informed not by the science but by the availability of FFP3 masks<sup>58</sup>.

# The UK IPC Cell was a forum of specialists providing consensus guidance for all four nations for healthcare settings.

25. PHE produced the first IPC guidance for healthcare settings on an emergency basis. It was based on extant MERS-CoV guidance. Professor Jonathan Van Tam, then Deputy Chief Medical Officer ('DCMO'), also commissioned IPC guidance from a small group in NERVTAG which was based on extant IPC guidance for Pandemic

56 Ibid [4/23/2-25]

<sup>&</sup>lt;sup>51</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/76/23 – 7/77/71

<sup>&</sup>lt;sup>52</sup> For more information on HCIDs, the Inquiry is directed to [INQ000410867/262-269]. For further information about the decision to declassify, see Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 31/01/2024 [INQ000489907/4.1-4.15] <sup>53</sup> [INQ000115534] [INQ000223384], Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UK Health

Security Agency, dated 31/01/2024 [INQ000410867/268-269]

<sup>54 [</sup>INQ000119498]

<sup>&</sup>lt;sup>55</sup> Oral evidence of Dr Barry Jones, Chair of the Covid-19 Airborne Transmission Alliance (12/09/2024) [4/21/15 – 4/22/2]

<sup>&</sup>lt;sup>57</sup> Witness Statement of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England [INQ000421939/109c] <sup>58</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/92/13-19]

Influenza<sup>59</sup>. Thereafter responsibility for producing guidance lay with the UK IPC Cell (also referred to as the Four Nations IPC Cell).

- 26. The establishment of a UK IPC Cell reflected the recognition that it would be beneficial for experts from the four nations to discuss and produce standardised guidance together<sup>60</sup>, and which reflected evolving and emerging evidence throughout the pandemic. The purpose of the UK IPC Cell was to support development of guidance (including reviewing evidence and providing advice) on IPC measures for Covid-19 in healthcare settings. References herein to 'IPC Guidance" is to the national guidance produced by the UK IPC Cell.
- 27. UK IPC Cell brought together IPC experts including from the NHS and public health agencies in each of the four nations, as well as representatives from DHSC, who worked collaboratively to reach a consensus view on the evidence. It liaised with different groups and co-opted members to provide ad hoc expert advice as required. When it began, the Chief Nursing Officer for England, Dame Ruth May, who was the head of IPC for NHSE, was the Senior Responsible Officer for the UK IPC Cell<sup>61</sup> and was a point of contact for example with the Royal Colleges<sup>62</sup>. NHSE provided the secretariat. Dr Ritchie chaired it from June 2020 to 31 March 2021 following which Dr Eleri Davies of Public Health Wales became Chair<sup>63</sup>. The Chair had a coordinating role in directing the group towards a consensus view and ultimate responsibility in determining whether consensus had been achieved<sup>64</sup>.
- 28. PHE's role within the UK IPC Cell was to provide technical and scientific analysis and advice<sup>65</sup>. It was appreciated that the guidance it produced, being directed to all four nations, would necessarily need to be adapted at local level to suit individual circumstances.

<sup>&</sup>lt;sup>59</sup> Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency, dated 31/01/2024 [INQ000410867/290/296], and oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/105/1]

<sup>&</sup>lt;sup>60</sup> Oral evidence of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England (16/09/2024)

<sup>[5/65/24 – 5/66/6]</sup> <sup>61</sup> Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency, dated 31/01/2024 [INQ000410867/74]

<sup>&</sup>lt;sup>i2</sup> Oral evidence of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England (16/09/2024)

<sup>[5/74/1]</sup> <sup>63</sup> Witness Statement of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England [INQ000421939/132-135] <sup>64</sup> Oral evidence of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England (16/09/2024)

<sup>[5/74-75],</sup> itness Statement of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England [INQ000421939/137], Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency, dated 31/01/2024 [INQ000410867/75], [INQ000410867/283-284]. <sup>65</sup> Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency, dated 31/01/2024

<sup>[</sup>INQ000410867/75]

- 29. PHE published the guidance produced by the UK IPC Cell on behalf of the four nations and undertook to ensure that it was consistent with other guidance published by government<sup>66</sup>. The Inquiry has received evidence that there was some misunderstanding as to who had "ownership" of the final guidance, the suggestion being that it was PHE because it published the guidance. Insofar as any confusion existed it was addressed early<sup>67</sup> and, as Dame Ruth readily acknowledged PHE published the guidance that was reached through consensus and did not override the view of others<sup>68</sup>. Dr Ritchie could not recall 'any occasions on which material changes were subsequently made to guidance by PHE/UKHSA ...<sup>'69</sup>.
- PHE was one partner in a four nations NHS and public health group<sup>70</sup>. As health is a 30. devolved matter it would have been outside the remit of PHE (and now UKHSA) to act independently in relation to guidance applicable to all four nations. Even in England, given PHE's specific role in the UK IPC Cell was to provide scientific advice and support operational delivery<sup>71</sup>, that PHE was not involved in core-decision making within the NHS, that local NHS trusts were responsible for implementing the guidance<sup>72,73,74</sup> and that HSE, as a regulatory body and experts in workplace safety, was represented on the UK IPC Cell<sup>75</sup>, for PHE to unilaterally override partners in the UK IPC Cell would have led to immediate challenge.
- 31. That there were differences in perception as to who "owned" guidance produced by the IPC Cell does not mean that there was an impact on its content. The Inquiry has not heard any evidence that the published guidance was not consensus guidance but rather reflected the view of one body. Further there were control mechanisms in place by which such conduct could have been immediately challenged. The UK IPC cell itself was multidisciplinary; matters could be escalated to the Senior Clinicians' Group<sup>76</sup>; and

<sup>&</sup>lt;sup>66</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/107/10-22] <sup>67</sup> HSIB Covid-19 transmission in hospitals: management of the risk — a prospective safety investigation, 29 October 2020.

<sup>[</sup>INQ000130588/40]

<sup>&</sup>lt;sup>a</sup> Oral evidence of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England (16/09/2024)

 <sup>[5/142/2-12]
&</sup>lt;sup>69</sup> Witness Statement of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England [INQ000421939/137]

<sup>&</sup>lt;sup>70</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/109/2-7] 71 Ibid [7/108/17-25]

<sup>&</sup>lt;sup>72</sup> HSIB Covid-19 transmission in hospitals: management of the risk — a prospective safety investigation, 29 October 2020 [INQ000130588/39]

Oral evidence of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England (16/09/2024) [5/17/5-18]

<sup>&</sup>lt;sup>74</sup> Witness Statement of Professor Sir Stephen Powis on behalf of NHS England, dated 09/07/2024 [INQ000485652/530], see also oral evidence of Professor Stephen Powis, National Medical Director of NHS England (07/11/2024) [28/24/19-28/25/23] 75 [INQ000347822/15/25]

<sup>&</sup>lt;sup>76</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/106/15-25]

the Chief Nursing Officers of the four nations provided oversight – Dame Ruth, defined her role as being "*to question, to challenge*"<sup>77</sup>.

- 32. The UK IPC Cell operated as a forum for robust debate between organisations with a view to achieving consensus. That is not the same as groupthink. Three judges on a panel who give a single judgment are not demonstrating groupthink but rather the process of analysing evidence to reach an agreed view. Consensus can change over time as more evidence emerges. A tendency to groupthink would be reflected in views not changing with new evidence. Professor Hopkins emphasised the levels of challenge already imbedded in the system and stressed the importance of multiple disciplines working together<sup>78</sup>. This was reiterated by Richard Brunt who spoke to the role of HSE's Chief Scientific Advisor to challenge the science<sup>79</sup>. Dame Ruth did not consider the UK IPC Cell to have suffered from groupthink<sup>80</sup> and Professor Smith noted that the expertise within the UK IPC Cell was useful for challenge and to provide expertise<sup>81</sup>.
- 33. It is self-evidently important that a wide range of opinions is encouraged, and internal and cross organisation conversations take place, supported by evidence, to reach a scientific or health consensus particularly during a pandemic. The UK IPC Cell was a multidisciplinary forum in which experts offered their views and challenge. Professor Hopkins was directed to a single UK IPC Cell minute in support of the proposition that, in that meeting, PHE were recommending a more precautionary approach compared to other members<sup>82</sup>. The fact that an individual (attending in their own professional capacity) was airing a different view shows why the UK IPC Cell did not operate by groupthink but, instead, worked collaboratively to challenge and reach an agreed position. Separately, that the view of the PHE representative did not dominate and did not affect the published guidance runs contrary to the suggestion that PHE had the final say on what guidance should be published.
- 34. The UK IPC Cell has demonstrated the importance of having a well-established mechanism for working collaboratively across different organisations and between the

<sup>&</sup>lt;sup>77</sup> Oral evidence of Dame Ruth May, Former Chief Nursing Officer for England (17/09/2024) [6/7/9-14]

<sup>&</sup>lt;sup>78</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/146/13-7/147/4]

<sup>&</sup>lt;sup>79</sup> [4/77/1-9]

<sup>&</sup>lt;sup>80</sup> Oral evidence of Dame Ruth May, Former Chief Nursing Officer for England (17/09/2024) [6/47/9-13]

 <sup>&</sup>lt;sup>81</sup> Oral evidence of Professor Sir Gregor Smith, Chief Medical Officer for Scotland (25/09/2024) [11/76/18-23] [11/78/11-15]
<sup>82</sup> [INQ000398244], see also the oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/134-136]. The PHE representative concerned was not asked to give evidence to the Inquiry as to the circumstances in which this issue arose.

four nations<sup>83</sup>. Building on the established ways of working and experience of the pandemic there is now a written agreement between UKHSA, NHS England, and DHSC, clarifying the roles of each body in developing and publishing guidance. The agreement will be regularly reviewed<sup>84</sup>. The first review is currently underway. This agreement includes collaboration on pathogen-specific guidance from UKHSA, which is reflected in the operational guidance contained within the National Infection Prevention and Control Manual ('NIPCM'). Relations with IPC colleagues have only strengthened because of work during the pandemic, as seen during the current Mpox epidemic.

IPC guidance was designed to be flexible, adaptable, and enabling in informing local risk assessments and to provide clear guidance on infection prevention and control precautions to minimise the risk of transmission of Covid-19.

- 35. It is logical to assess the evidence regarding the mode or modes of transmission of a novel virus and then select and/or recommend the IPC measures which are most able to prevent specific modes of transmission. The starting premise must be that IPC guidance is based on all the available evidence, including looking at what has gone before<sup>85</sup>. IPC guidance must be flexible and adaptable, which means facilitating a wide range of interventions; effective IPC measures go beyond just PPE. Flexibility in guidance is hugely important because it would be ineffective and inappropriate to mandate a one-size-fits-all approach across all settings. Different parts of the NHS estate have different IPC challenges, so the guidance must account for such flexibility.
- 36. Professor Sir Stephen Powis (National Medical Director of NHS England) provided a useful example of the importance of high-level flexible guidance when asked about NHS visitation guidance<sup>86</sup>; each estate is sufficiently different that a national mandate would be impractical and inappropriate, and it is important to empower individual organisations to apply the IPC measures in a way practicable to them<sup>87</sup>. Flexibility of approach ensures that different parts of the NHS estate can implement IPC measures in a way that is appropriate for that setting.

<sup>83</sup> Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UKHSA, dated 31/01/2024 [INQ000410867/484-

<sup>485]</sup> <sup>84</sup> UKHSA, DHSC and NHSE have agreed and signed an understanding on roles and responsibilities: "The headline organisational roles, responsibilities, and ways of working to deliver infection prevention and control (IPC) in England" (developed August 2022). This was reviewed in February 2024 and due for review again in December 2024.

<sup>&</sup>lt;sup>85</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UKHSA (18/09/2024) [7/89/12-23]

<sup>86</sup> Ibid [28/58/3-8]

<sup>87</sup> Ibid [28/111/2-11]

- 37. The Inquiry has heard evidence that the IPC guidance was difficult to implement in dayto-day practice<sup>88</sup>. It was not and cannot be for the UK IPC Cell to mandate the implementation of guidance at a local level. The IPC guidance was and is designed to be enabling, rather than mandatory. Professor Smith agreed that it was right that the IPC guidance allowed for local flexibility<sup>89</sup>.
- 38. As the Inquiry will appreciate, there is an important distinction between PHE/UKHSA's role in providing technical advice and contributing to what was and is national guidance, and the work of those responsible for implementing such guidance. For good reason, that responsibility would fall to healthcare providers in the four nations as the bodies who controlled a particular setting.
- 39. Professor Hopkins observed that IPC guidance is about reducing risk in a proportionate way<sup>90</sup>. Mr Brunt, on behalf of the HSE, described that guidance as setting a benchmark but explained that healthcare providers were able to conduct their own local risk assessments<sup>91</sup>. The practical effect of the HSE's position is that there is an intervening and critical step between national guidance and implementation: local risk assessments.
- 40. It should not be a contentious point that it is for the employer of those working in a particular healthcare setting to ensure there has been appropriate risk assessment of that setting<sup>92</sup>. Such an assessment can draw on the national IPC Guidance, and any other relevant NHS guidance as well as "on the ground" expertise. There is established IPC expertise in hospitals, usually including a Director of Infection, Prevention and Control (DIPC) and other key staff, experienced in reviewing the evidence, providing risk assessments for a variety of infection scenarios and how patients should be managed and other health and safety measures<sup>93</sup>. Local experts, closely familiar with the individual healthcare setting, are best placed to determine risk assessments and local guidance as necessary.
- 41. Given the IPC guidance was not mandatory but set the minimum requirement for PPE, it leaves scope for a local risk assessment to allow for a higher level of PPE. Such a

<sup>&</sup>lt;sup>88</sup> See Witness Statement provided by Tracy Nicholls OBE on behalf of The College of Paramedics, dated 19/09/2023 [INQ000281189/10], Witness Statement provided by Professor Simon Ray on behalf of British Cardiovascular Society, dated 16/05/2024 [INQ000479817], and Witness Statement provided by Dr Katherine Henderson on behalf of the Royal College of Emergency Medicine, dated 08/02/2024 [INQ000412904/26]

<sup>&</sup>lt;sup>89</sup> Oral evidence of Professor Sir Gregor Smith, Chief Medical Officer for Scotland (25/09/2024) [11/96/11-18]

<sup>&</sup>lt;sup>90</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/89/24 – 7/90/5]

<sup>&</sup>lt;sup>91</sup> Oral evidence of Dr Barry Jones, Chair of the Covid-19 Airborne Transmission Alliance (12/09/2024) [4/74/6-9]

 <sup>&</sup>lt;sup>92</sup> Oral evidence of Professor Philip Banfield, British Medical Association (28/10/2024) [21/115/5-9]
<sup>93</sup> Oral evidence of Dame Ruth May, Former Chief Nursing Officer for England (17/09/2024) [6/111/1-11]

risk assessment might in certain circumstances take account of individual concerns. The benefit of guidance focused on the dominant route of transmission is that it better enables an individual to assess how best to protect themselves.

- 42. Looking forward, UKHSA continues to support an 'enabling approach' for healthcare workers to have access to risk assessments to be able to determine the level of risk of the procedure they are carrying out and to access appropriate RPE. This approach is written into the current NIPCM and UKHSA is committed to work alongside the NHSE and DHSC, moving beyond the traditional binary paradigm of droplet and aerosol divide. Ultimately what UKHSA aims to achieve, in collaboration with the NHSE and others, is that individual healthcare workers, and their employers, are comfortable managing a range of hazards in healthcare settings.
- 43. It may be helpful for future guidance for pandemics or emergencies to have had prior consultation and that any future pandemic guidance is highlighted within the national IPC manuals in advance rather than running separate guidance.
- 44. As the Inquiry is aware, UKHSA's research into the impact of Covid-19 on healthcare workers continues through the SIREN study. The relevant published papers emanating from SIREN have been provided to the Inquiry. The research being undertaken by UKHSA relevant to IPC is discussed below but leaving that aside, there is future work for the NHS, as the employer, in giving consideration of how to work with healthcare workers to jointly understand their level of risk so that it is informed by the environment and organisation they are working in.

IPC guidance is based on the hierarchy of controls, with PPE as the last effective control measure to be introduced.

- 45. As already noted, the hierarchy of controls is a concept which emerged from health and safety law and the expertise of the HSE in relation to workplace safety. IPC guidance is designed to facilitate a wide range of interventions to reduce transmission, PPE being but one of the levels of the hierarchy of controls. Whilst these form a package of measures, it is important to ensure that recommendations as to PPE should be based on robust evidence and consideration of the balance between harm and benefit.
- 46. The Inquiry has heard considerable evidence about the use of PPE, particularly FFP3 masks including in the context of the applicability of a precautionary principle. There has not been clear evidence about what that means in practice, with some witnesses appearing to understand it as requiring routine adoption of FFP3 masks in all settings.

Dr Barry Jones told the Inquiry that a precautionary approach ought to have been applied to IPC guidance from 13 March 2020, which is when he believed there was evidence of airborne transmission<sup>94</sup>.

- 47. The argument that the precautionary principle, assuming it is capable of agreed definition, should be adopted in a situation where there is limited evidence, or a high level of uncertainty, ignores the evidence of all four UK Chief Medical Officers that such a principle is only effective if applied in circumstances where there are no risks. Professor Whitty explained that, when deciding what public health measures to adopt, the better approach is to balance different risks<sup>95</sup>. Professor Frank Atherton (CMO for Wales) agreed with this position<sup>96</sup>. Professor Smith told the Inquiry that adopting the precautionary principle would be inappropriate in circumstances where the data available showed gains from precautionary measures would be small; he emphasised that any response must be proportionate<sup>97</sup>. He also noted that FFP3 masks are just one type of protection available and are not always appropriate<sup>98</sup>.
- 48. PPE is not without considerable disbenefits for both the healthcare worker and the patient. FFP3 masks are not routinely worn in healthcare settings, and they can cause problems, including ulcers<sup>99</sup>, dehydration<sup>100</sup>, and communication difficulties<sup>101</sup>. Dr Gee Yen Shin (one of the Inquiry's IPC experts) noted that when FFP3 masks were introduced in his workplace, there was pressure to "*move in the other direction because people were finding RPE so uncomfortable*"<sup>102</sup>. The use of FFP3 masks would be disproportionate for some respiratory viruses (such as the common cold)<sup>103</sup>. The impact on doctor-patient communication should also not be underestimated. Professor Whitty explained that FFP3 masks are not always appropriate as they can be hard to hear through, make communication difficult (including expressing emotion), and can disadvantage patients with dementia or English not as a first language<sup>104</sup>.
- 49. Further, there was and remains insufficient evidence of the efficacy of FFP3 masks outside of the laboratory<sup>105</sup>. Professor Whitty agreed that the results in a laboratory do

<sup>&</sup>lt;sup>94</sup> Oral evidence of Dr Barry Jones, Chair of the Covid-19 Airborne Transmission Alliance (12/09/2024) [4/20/20]

<sup>&</sup>lt;sup>95</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/142/9-12]

<sup>&</sup>lt;sup>96</sup> Oral evidence of Professor Sir Frank Atherton, Chief Medical Officer for Wales (30/09/2024) [13/38/10-16]

 <sup>&</sup>lt;sup>97</sup> Oral evidence of Professor Sir Gregor Smith, Chief Medical Officer for Scotland (25/09/2024) [11/114/3-15]
<sup>98</sup> Ibid [11/174/12-23]

<sup>&</sup>lt;sup>99</sup> Expert Report by Dr Gee Yen Shin, Professor Dinah Gould, and Dr Ben Warne titled Infection prevention and control: the challenges of protecting everyone in healthcare settings from the threat of Covid-19, dated 08/08/2024 [INQ000474282/7.5] <sup>100</sup> Ibid/7.8

<sup>&</sup>lt;sup>101</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/213/5-7]

<sup>&</sup>lt;sup>102</sup> Oral evidence of Dr Ben Warne, Professor Dinah Gould, and Dr Gee Yen Shin, IPC experts (19/09/2024) [8/100/17] <sup>103</sup> Ibid [8/47/13-21]

<sup>&</sup>lt;sup>104</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/142/3-12]

<sup>&</sup>lt;sup>105</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/204/15-

not equate to what happens in operational circumstances<sup>106</sup>. Clinical trials have shown that the evidence base for FFP3 masks being more protective against Covid-19 than Fluid Resistant Surgical Masks ('FRSMs') remains weak<sup>107,108</sup>. The Inquiry's IPC experts, Dr Shin and Dr Ben Warne, were of the view that there is a plethora of IPC measures that can be effective in combination. Dr Warne agreed with Professor Hopkins' evidence that there was no high-quality evidence that FFP3 masks offered more protection against Covid-19 than FRSMs<sup>109</sup>. Professor Whitty described the evidence for a difference in the efficacy between FFP3 and FRSMs as *'extremely weak'* and agreed that more work needed to be completed in this area<sup>110</sup>.

- 50. A conclusion that the UK IPC Cell ought to have recommended FFP3 masks from the outset, and in all settings, ignores the clinical evidence (with which the Inquiry's experts agreed) available at the time, the large disbenefits that FFP3s can have and the overall balance of risks. Public health agencies must act based on research and evidence when recommending such measures.
- 51. As to aerosol-generating procedures ('AGP'), there is little scientific consensus about which procedures are aerosol generating<sup>111</sup> because CPR, for instance, constitutes a variety of interventions, some of which are considered AGPs and others which are not<sup>112,113</sup>. The Resuscitation Council UK interpreted a lack of evidence regarding AGP production as there not being "enough" evidence to effectively rule out CPR as an AGP<sup>114</sup>. On the evidence available, the UK IPC Cell determined that CPR did not show the potential for AGP production, particularly when there was a reluctance to cause delay in the provision of CPR<sup>115</sup>. Dr Jones argued that the status of CPR as an AGP would have been irrelevant if FFP3 masks had been recommended from the off<sup>116</sup>. This oversimplifies what, if viewed dispassionately, is a nuanced issue. The time necessary to put on a FFP3 mask and any accompanying PPE could delay intervening in a life-threatening situation. Reflecting an approach of balancing risk against benefit, healthcare workers, depending on their individual circumstances, may be advised to wear FFP3, i.e., someone may be advised to wear an FFP3 even if a procedure is not

108 Oral evidence of Professor Sir Michael McBride, Chief Medical Officer for Northern Ireland (24/09/2024) [10/34/19-22]

<sup>&</sup>lt;sup>106</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/149/11-17]

<sup>&</sup>lt;sup>107</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/83/1-11]

<sup>&</sup>lt;sup>109</sup> Oral evidence of Dr Ben Warne, Professor Dinah Gould, and Dr Gee Yen Shin, IPC experts (19/09/2024) [8/40/22 - 8/41/3]

 <sup>&</sup>lt;sup>110</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/140/16-23]
<sup>111</sup> Oral evidence of Dr Ben Warne, Professor Dinah Gould, and Dr Gee Yen Shin, IPC experts (19/09/2024) [8/48/3-5]

<sup>&</sup>lt;sup>112</sup> Ibid [8/49/14-20]

<sup>&</sup>lt;sup>113</sup> Oral evidence of Laura Imrie, Clinical Lead for NHS Scotland Assure and Antimicrobial Resistance & Healthcare Associated Infection (05/11/2024) [26/139-140]

<sup>&</sup>lt;sup>114</sup> Oral evidence of Professor Jonathan Wyllie, Resuscitation Council (10/10/2024) [20/7/12-17]

<sup>&</sup>lt;sup>115</sup> Oral evidence of Professor Jonathan Wyllie, Resuscitation Council (10/10/2024) [20/12/6-14]

<sup>&</sup>lt;sup>116</sup> Oral evidence of Dr Barry Jones, Chair of the Covid-19 Airborne Transmission Alliance (12/09/2024) [4/40/11-24]

deemed to be an AGP. Therefore, FFP3 may be appropriate for some individuals performing CPR but not all.

- 52. There may be a difference between a person's perception as to the effectiveness of a piece of equipment and the evidence and degree of that effectiveness. The Inquiry has heard that some healthcare staff felt they had more protection (and by implication felt safer) with FFP3 masks rather than FRSMs<sup>117</sup>. There is a logical and important distinction between the subjective concept of perception (which could be valid for many reasons) and what, on the evidence, is necessary and proportionate as an IPC measure. Professor Dinah Gould (one of the Inquiry's IPC experts) explained the distinction using the example that while the use of alcohol gel was recommended as the most effective anti-bacterial gel, often healthcare staff feel better protected by the physical act of washing their hands with soap and water<sup>118</sup>.
- 53. At present, there is only low-quality evidence that FFP3s may have reduced infections as part of a package of IPC interventions. UKHSA recognises that more research is needed in the field of IPC, including systematic reviews, evaluations of complex interventions, and clinical trials to strengthen the evidence base for non-pharmaceutical interventions. UKHSA applied for funding for the WIPPET study (Winter Personal Protective Equipment Trial) to understand the efficacy of FFP3s against FRSMs so as to better enable decision-making on the types of masks that should be recommended, but this was not successful<sup>119</sup>.
- 54. Recognising that mask use is an area where more certainty is needed, UKHSA has considered other ways to continue to conduct research into the efficacy of different mask types. While not a funding organisation, UKHSA has internally funded the development of an observational framework to look to assess mask use in healthcare workers. In addition, there is work ongoing within the SIREN study, and there are academic institutions considering this issue<sup>120</sup>. Further detail can be found in the supplemental corporate witness statement provided by Professor Harries<sup>121</sup>.
- 55. Any recommendation as to the use of FFP3 masks and the extent of that use in a future pandemic will need to consider not only the question of supply but also the availability

<sup>&</sup>lt;sup>117</sup> Oral evidence of Professor Philip Banfield, British Medical Association (28/10/2024) [21/114/3-13]

<sup>&</sup>lt;sup>118</sup> Oral evidence of Dr Ben Warne, Professor Dinah Gould, and Dr Gee Yen Shin, IPC experts (19/09/2024) [8/79/3-15]

<sup>&</sup>lt;sup>119</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/133/2-10]

 <sup>&</sup>lt;sup>10</sup>
<sup>120</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/134/13-23]

 <sup>23]
&</sup>lt;sup>121</sup> Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 10/01/2025
[INQ000474701]

in terms of resources and infrastructure to fit-test individuals<sup>122</sup>. That is an operational decision outside of UKHSA's remit. It would require capacity and expertise in the NHS which is not currently in place. Any future PPE stockpile needs to include a range of face masks that ensure that all facial shapes and sizes are adequately catered for, in particular for women and ethnic minority healthcare workers.

- 56. In respect of what is considered to be an AGP, expert bodies around the world have not come to a settled view and the debate in the UK reflects the international experience. There have been wider calls for more work to determine whether CPR is an AGP, and UKHSA supports more work in this space, particularly in consultation with those who will be implementing the guidance. At the request of the World Health Organisation, UKHSA is undertaking an updated evidence synthesis on AGPs which will form part of the update of the WHO's IPC guidance. It is anticipated that the evidence synthesis will be completed by the end of March 2025.
- 57. Ventilation is one of the most effective interventions to reduce transmission of respiratory infections in healthcare. UKHSA supports greater focus on ventilation in future IPC guidance<sup>123</sup> as an effective IPC measure to improve the response to any future pandemic<sup>124</sup>. A lot of ventilation components are dealt with by building memoranda and technical memoranda that are developed by the technical estates, facilities and engineering teams within the NHS. Indeed, given the backlog of maintenance in the NHS estate which totals £14 billion<sup>125</sup>, and the fact that the physical build and infrastructure of an individual setting would influence implementation and risk assessment, the flexible use of temporary ventilation measures might (HEPA filter and Ultraviolet devices) need even greater attention.

#### Shielding as an intervention

58. The chronology of the shielding programme is set out in the personal witness statement provided by Professor Harries<sup>126</sup>. The major activity of the shielding programme took place prior to the formation of UKHSA. The Ministry of Housing, Communities and Local Government ('MHCLG') had overall responsibility for the programme including financial and community support provision. DHSC was responsible for the clinical elements of

<sup>&</sup>lt;sup>122</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/200/2-11] <sup>123</sup> Ibid [7/164/4-7]

<sup>&</sup>lt;sup>124</sup> Oral evidence of Dr Lisa Ritchie, National Deputy Director of Infection Prevention and Control at NHS England (16/09/2024) [5/115/8-14]

<sup>&</sup>lt;sup>₅</sup> Oral evidence of Amanda Pritchard, Chief Executive of NHS England (08/11/2024) [29/143/5-7]

<sup>&</sup>lt;sup>126</sup> Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 31/01/2024 [INQ000489907/9.11]

the programme including for example commissioning NHS England and NHS Digital as required. The Office of the Chief Medical Officer led on the clinical inclusion criteria (see below)127.

- 59. Following the establishment of UKHSA Professor Harries, as Chief Executive of UKHSA, took on a coordinating role for the Enhanced Protection Programme ('EPP'). The EPP provided follow-on support for those who remained at higher risk of serious illness from Covid-19 following the roll out of the vaccine programme and with the advent of potential new therapeutic and diagnostic interventions<sup>128</sup>.
- The shielding programme was a voluntary protective programme intended to support, 60. and reduce mortality in, individuals who were predictably at risk from Covid-19<sup>129</sup>. It was a novel programme made possible in the UK by virtue of a centralised health service, with people being rapidly identified predominantly via digital cohorting<sup>130</sup>.
- Professor Harries was responsible, in her capacity as DCMO, for the clinical 61. development of the lists determining the individuals who were considered likely to be Clinically Vulnerable ('CV') and Clinically Extremely Vulnerable ('CEV')<sup>131</sup>. The criteria were agreed by the four UK CMOs on 18 March 2020, with the first iteration of the Shielded Patients List being produced by NHS Digital on 20 March 2020. The clinical basis for the CV and CEV lists was continually reviewed throughout the pandemic, with additional groups being added or removed as the pandemic progressed and evidence accrued.
- 62. The development of QCovid, a coronavirus risk prediction model, further informed the clinical conditions on the CEV list. An example of an evidence driven inclusion is that of Down's syndrome. Professor Whitty explained that, because of the recognised downsides of shielding, disability in and of itself would not have been included in the CEV list as a default unless there was an 'overwhelming probability of substantially increased harm'<sup>132</sup> although many of those with disabilities were already included under separate clinical risk-based criteria. Down's syndrome was added when it was apparent

<sup>&</sup>lt;sup>127</sup> Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 27/06/2024, [INQ000410865/29], oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency

<sup>(18/09/2024) [7/70/2-7/71/14]</sup> <sup>128</sup> Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 27/06/2024, [INQ000410865/66] <sup>129</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/68/19-

<sup>23]</sup> 

<sup>130</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/73/22 -27/74/5]

<sup>&</sup>lt;sup>131</sup> Witness Statement of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency, dated 31/01/2024 [INQ000489907/9.2] <sup>132</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/111/24]

that adults with Down's syndrome were at a higher risk than the general population<sup>133</sup>. This was a decision taken by the four CMOs<sup>134</sup>. Shielding was designed as a protective programme to inform those most at risk from Covid-19 and provide essential support to them to enable them to take any action they wished to protect themselves. Professor Harries described her role as helping to protect a 'group of individuals with heightened clinical risk'<sup>135</sup>.

- 63. Shielding was always voluntary; it was never compelled by legislation. This was made clear at all times in shielding guidance by public health officials. It is right to note however that the concept of voluntary shielding was not always articulated accurately by other parts of government in the way it was considered by OCMO and DHSC. That made communication with the public more challenging. To give the impression that a voluntary programme is compulsory will always be unhelpful. What impact that had on those recommended to shield is unclear. Plainly were some form of shielding to be necessary in a future pandemic then ensuring consistent clarity of communication by all groups conversing with the public is paramount.
- 64. Professor Whitty's evidence to the Inquiry, with which UKHSA agrees, is that shielding represented a balancing exercise between benefits and risks. Such a balance fluctuates over time in response to the epidemiological situation as does the accruing associated evidence see, for instance, the decision to pause the programme in August 2020 when infection rates were low, which meant that the epidemiological benefits of shielding were unlikely to outweigh the adverse mental and social impacts, particularly in the longer-term progress of the pandemic<sup>136</sup>. This logic was similarly applied with the decision to end the shielding programme when the vaccination programme had been rolled out, and the most vulnerable had been vaccinated<sup>137</sup>. The four UK CMOs all spoke of the importance of balancing the benefits and risks of shielding<sup>138</sup>.
- 65. The shielding programme highlighted the importance of data. Identifying individuals as CEV was a difficult task because it required pulling together data from multiple sources in a way previously never attempted. Inevitably this required a staged approach with data easiest to access being used rapidly to protect as many individuals as possible as

<sup>&</sup>lt;sup>133</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/112/11-23]

<sup>&</sup>lt;sup>134</sup> Oral evidence of Professor Sir Gregor Smith, Chief Medical Officer for Scotland (25/09/2024) [11/124/17-19]

<sup>&</sup>lt;sup>135</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/82/13-17]

 <sup>&</sup>lt;sup>17]</sup>
<sup>136</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/115/1-11]
<sup>137</sup> Ibid [12/121/1-9]

<sup>&</sup>lt;sup>138</sup> Oral evidence of Professor Sir Michael McBride, Chief Medical Officer for Northern Ireland (24/09/2024) [10/97/18-23], oral evidence of Professor Sir Gregor Smith, Chief Medical Officer for Scotland (25/09/2024) [11/118/1-17]

quickly as possible<sup>139</sup>. Professor Whitty similarly explained that being able to rapidly get data from multiple sources is critical in an emergency<sup>140</sup>. Professor Harries stressed the importance of ensuring the underlying data sources are appropriately coded in the first instance to maximise the accuracy of digital cohorting when required<sup>141</sup>. Data is ultimately provided by individuals, and so any expansion in its use requires a broader societal conversation about people's willingness to consent to data sharing in healthcare and better knowledge of how it can be used to support individuals and communities. UKHSA supports increased access to data in emergency periods so that the most vulnerable can be identified quickly. It is important that any data systems built across different healthcare systems are designed to support this purpose. So, for example, to ensure that different health hazards can be appropriately addressed, the data systems utilised by UKHSA need to be pathogen agnostic and those utilised across the NHS need to ensure the accuracy of clinical and social data.

Dr Catherine Finnis, on behalf of the Clinically Vulnerable Families, concluded that the 66. upsides of shielding outweighed the negative impacts as it was both a reassurance and of practical support to CEV individuals<sup>142</sup>. Dr Finnis praised the additional support offered to CEV individuals, such as the 'passport' which enabled working from home, Statutory Sick Pay, food parcels, and supermarket slots<sup>143</sup>. In terms of support, several witnesses, including Professor Helen Snooks (the Inquiry's expert on shielding)<sup>144</sup>, praised the support offered to those shielding which ought not to be taken away in a future pandemic. Dr Finnis argued that those benefits ought to have been extended to households. Professor Harries explained that there was 'strong recognition' of this issue, but that it was practically highly complex to deliver effectively; modelling by SAGE had shown that it was difficult to identify a household and/or confined group, and this is why an original concept of 'cocooning' had been ruled out. While the shielding programme was designed to be as supportive an intervention as practically possible it was always recognised that it was 'never going to be perfect'<sup>145</sup>.

#### Evaluating the shielding programme

67. It is a fundamental concept of good public health practice that wherever possible interventions should be monitored and evaluated. Sometimes this can be achieved

 <sup>&</sup>lt;sup>139</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/117/16-24]
<sup>140</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/118/1-6]
<sup>141</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/75/4-12] <sup>142</sup> Oral evidence of Dr Catherine Finnis, Clinically Vulnerable Families (07/10/2024) [18/90/6-22]

 <sup>&</sup>lt;sup>143</sup> Oral evidence of Dr Catherine Finnis, Clinically Vulnerable Families (07/10/2024) [18/91/3-13]
<sup>144</sup> Oral evidence of Professor Helen Snooks (30/10/2024) [22/168/14-23]

<sup>&</sup>lt;sup>145</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/85/14-27/86/13]

appropriately 'in house' i.e., by those delivering the work but frequently, to remove potential bias in assessment and to provide learning for the future, external peer and academic evaluation will be sought. This was the driving factor behind asking the University of York to consider ways of evaluating the shielding programme following considerable internal DHSC consideration of how this could be achieved effectively<sup>146,147</sup>. The fundamental problem with trying to evaluate the shielding programme was the predictable lack of any control group. Facilitating such a controlled evaluation would have required the exclusion of people considered likely to be vulnerable in an emergency from the start of a programme intended to support and protect them and at the peak of pandemic risk where no alternative interventions such as vaccines had been developed<sup>148</sup>, something with obvious ethical problems. The University of York concluded that the absence of a valid comparator group prohibited formal meaningful evaluation of the effectiveness of the shielding programme. This absence of evidence does not of course necessarily indicate absence of effectiveness - it explains the fact that the knowledge is not robustly attainable in this set of circumstances.

- Relying on a review of a number of studies which sought to evaluate the shielding 68. programme, Professor Snooks concluded that the absence of evidence that the programme was effective means that shielding should not be used in the future given the significant mental and physical harms caused to those involved. That is, respectfully, not a conclusion which is supported by the evidence.
- 69. In her report, Professor Snooks states: 'There is little high-quality evidence on the impact of shielding on mortality but those researchers that have investigated this have not found consistent or sustained effects - in the majority of studies, mortality has been found to be higher than the general population and comparator groups (as may be expected by the nature of conditions included for shielding), but in particular, Covid-19 related mortality has been found to be significantly higher. If the intervention had been effective we would have expected this to reduce... Although some uncertainty remains, with findings from several studies - using different approaches - showing increased infections, mortality and Covid-19 related mortality associated with shielding, we conclude that shielding did not have the protective effect that was hoped for<sup>149</sup>.

<sup>&</sup>lt;sup>146</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/113/8-15]

<sup>147 [</sup>INQ000497033]

<sup>&</sup>lt;sup>148</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/113/16 - 27/114/15] <sup>149</sup> Expert Report by Professor Helen Snooks titled Emergency Prehospital Care and Shielding, dated 09/08/2024

<sup>[</sup>INQ000474285/52/148]

- 70. The potential that those required to shield might be affected adversely was appreciated from the beginning. It was a feature of the difficult balance between risk and harm that had to be struck. UKHSA submits that on careful analysis a proposition that shielding should never be considered as a mitigation measure in a future pandemic is unhelpful.
  - 70.1. All the studies drawing from defined historic patient comparators cited by Professor Snooks<sup>150</sup> lacked proper control groups. Accordingly, they are incapable of accounting for differences in baseline comorbidity, ongoing risk and behaviour between the groups compared. That was a limitation which Professor Snooks appeared to accept in evidence<sup>151</sup>.
  - 70.2. By way of example, *Jani et al*<sup>152</sup> compared the observed outcomes from Covid-19 across three groups, namely those at low risk from Covid-19, moderate risk, and highest risk (i.e. those on the CEV group). Similarly, *Snooks, Watkins et al*<sup>153</sup> compared outcomes in the shielding group to the non-shielding population. Put simply, it is unsurprising that rates of Covid-19 testing, infection and mortality were greater in the CEV group. Such findings are entirely consistent with those expected in a group which: i) exhibited significantly worse baseline health; ii) was more likely to be tested for Covid-19; and iii) was more likely to seek medical attention, thereby being at greater risk of nosocomial transmission.
  - 70.3. It follows that, in the absence of any meaningful control group, no robust comparison of the outcomes between those who shielded and those who did not can be deduced. That too was a proposition which appeared to be accepted by Professor Snooks, whose view was that she was '*[making] the best of that evidence that I can*'<sup>154</sup>.
  - 70.4. On the basis of the limited evidence available, a conclusion that the shielding programme was ineffective because the studies cited did not find lower rates of infection and Covid-19 deaths in those who shielded cannot stand. UKHSA agrees with Professor Whitty's observation that he '*wouldn't go as far*' in his interpretation of the studies cited by Professor Snooks. Whilst it is not known (and cannot be known), it is entirely plausible that in the absence of the

<sup>&</sup>lt;sup>150</sup> The relevant studies have been disclosed to the Inquiry.

<sup>&</sup>lt;sup>151</sup> Oral evidence of Professor Helen Snooks (30/10/2024) [22/155/2-8]

<sup>&</sup>lt;sup>152</sup> [INQ000504064]

<sup>&</sup>lt;sup>153</sup> [INQ000504066]

<sup>&</sup>lt;sup>154</sup> Oral evidence of Professor Helen Snooks (30/10/2024) [22/150/15-24]

shielding programme those in the CEV group would have experienced far higher rates of infection and death from Covid-19 than that reported in the studies cited. Indeed, it is a possibility which Professor Snooks herself allows for in her report: 'We cannot rule out the possibility that Covid-19 related mortality would have been even higher without the shielding programme<sup>155</sup>. In the absence of robust evidence, the true position is simply unknown.

- 70.5. Finally, UKHSA submits that it is incorrect to characterise the evidence available as universally reaching similar conclusions. Filipe et al<sup>156</sup> found that shielding likely reduced Covid-19 mortality by 34%. Its design, which compared how the Covid-19 outcomes of shielders and non-shielders evolved throughout periods of low and high Covid-19 incidence, can properly be considered the best methodology by which to identify the true effect of shielding<sup>157</sup>. Zarif et al<sup>158</sup> found initially protective effects from shielding which appeared to fade over time. They suggested more research was required to confirm the findings and explore why that may be the case. As noted by Professor Snooks, Cooksey, Underwood et al<sup>159</sup> found that shielding appeared to reduce the incidence of Covid-19 in patients with inflammatory arthritis.
- 71. For the reasons above, and in her evidence, Professor Harries did not agree with Professor Snooks' conclusions<sup>160</sup>. Her view was echoed by Professor Whitty<sup>161</sup> and Professor Atherton<sup>162</sup>. Professor Harries observed the difficulty in separating the impact of shielding from the impact of wider non-pharmaceutical interventions. Given the lack of a robust evidence base to show that shielding did not work, UKHSA submits that Professor Snooks' central conclusion in relation to the future use of this strategy lacks necessary rigor, and her evidence cannot sustain a recommendation that shielding should never be used as a measure in the future.
- 72. While there were no doubt negative impacts from shielding, they must be assessed against the inherent consequences which resulted from the pandemic as a whole and the imposition of lockdown. Further, the implementation of a systematic approach to

<sup>&</sup>lt;sup>155</sup> Expert Report by Professor Helen Snooks titled Emergency Prehospital Care and Shielding, dated 09/08/2024 [INQ000474285/152/148]

<sup>&</sup>lt;sup>6</sup> Effects on mortality of shielding clinically vulnerable patients in Liverpool during the Covid-19 pandemic, Filipe, Barnett et al [INQ000504059], [INQ000504060]

Oral evidence of Professor Helen Snooks (30/10/2024) [22/116/2]

<sup>&</sup>lt;sup>158</sup> The impact of primary care supported shielding on the risk of mortality in people vulnerable to Covid-19, Zarif, Joy, Sherlock, et al [INQ000504067]

<sup>&</sup>lt;sup>159</sup> Shielding reduced incidence of Covid-19 in patients with Inflammatory Arthritis, Cooksey, Underwood, et al [INQ000504058] 160 Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/115/8-

 <sup>&</sup>lt;sup>16</sup>]
<sup>161</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/130/14-24]
<sup>161</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/130/14-24]

<sup>&</sup>lt;sup>162</sup> Oral evidence of Professor Sir Frank Atherton, Chief Medical Officer for Wales (30/09/2024) [13/85/10-14]

identifying those most at clinical risk and offering them the choice to shield meant that those persons could then access other support. In the absence of such a systematic approach, those who chose to shield because they were recognised as being at a higher clinical risk would have done so without support<sup>163</sup>.

73. The better question is whether if, in the event of a future pandemic possibly very different from Covid-19, there is a policy consideration whether to adopt a shielding programme, then how could such a programme be planned and delivered in a better way.

### Shielding in future pandemics

- 74. Which interventions are considered in a future pandemic involves a balancing exercise of benefits and potential harms to the population (including mental, physical, and societal harms), many of which are of course unknown at the start of the incident.
- 75. When looking forward, the Inquiry asked several witnesses whether they would consider implementing a shielding programme in a future pandemic. Professor Whitty did not rule out recommending shielding again, although noted that it would be situation specific due to the 'extraordinarily difficult' nature of shielding<sup>164</sup>. Professor McBride added that it is now very difficult to assess the effectiveness of shielding because an assessment was not done at the time<sup>165</sup>. He referred to his statement in which he confirmed his view that the "best and most effective way to protect the CEV and CV in any future pandemic is to reduce community transmission with shielding only as an addition to, rather than an alternative to, other wider NPIs"<sup>166</sup>. Professor Harries, while explaining that there were steps that could be done differently, said that she could not rule out recommending a shielding programme in the future, noting that it is difficult to not support those who are clinically vulnerable when there are no alternative interventions (such as a vaccine) available<sup>167</sup>.
- 76. The development of QCovid was completely innovative in terms of emergency health protection interventions and ensured a data-led approach to determining which individuals were likely to be CEV. It helped to identify additional groups based on clinical

<sup>&</sup>lt;sup>163</sup> Oral evidence of Professor Helen Snooks (30/10/2024) [22/23/6-8]

<sup>&</sup>lt;sup>164</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/132/1-10]

<sup>165 [10/99/2-14]</sup> 

<sup>&</sup>lt;sup>166</sup> Witness Statement provided by Professor Sir Michael McBride, Chief Medical Officer for Northern Ireland, dated 16/04/2024

<sup>[</sup>INQ000421784/134] <sup>167</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/118/15-22]

and wider risks as the information from the pandemic accrued. QCovid enabled a more personal risk-based approach.

- 77. Looking forward, being able to identify those individuals who are most at risk better ensures that support can be targeted where needed and that appropriate research and evaluation can be undertaken. The capability to pull together data from multiple sources is critical to accurate risk stratification and avoids the need for broad categorisations. QCovid provided such capability and showed how utilising data could be essential to an effective response to the next pandemic. Subject to the time it would take to accrue the hazard risk evidence for a new pathogen and to develop a similar tool<sup>168</sup>, an equivalent model or even more sophisticated version than QCovid could generate risks profiles which could then be incorporated both into protective policies and focused treatment delivery.
- 78. The following would also be important:
  - 78.1. The alignment of data systems and data sharing agreements to be in place routinely to ensure rapid data sharing and linkage to support the operationalisation of a future clinical shielding policy or other outbreak control measure as soon as an incident arises.
  - 78.2. Work to develop new regulatory frameworks to overcome data protection barriers to sharing data. This is a complex issue which requires public debate and, ultimately, consent for what is acceptable in a pandemic or emergency versus normal day-to-day business.
  - 78.3. Building on the success of QCovid by creating and evaluating a prototype public facing tool.
  - 78.4. The development of detailed digital cohorting and those skilled in its use and interpretation by NHSE and other healthcare providers outside a pandemic for wider health purposes.
- 79. The Inquiry has heard about the enduring mental health impacts felt by many during the pandemic, including amongst those who shielded. Mental health services were signposted in the shielding letters and other communications to CEV individuals.

<sup>&</sup>lt;sup>168</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/98/19-22]

Professor Whitty, while observing that the next pandemic may be very different, said that maintaining appropriate capabilities, including in relation to mental health was important for the future<sup>169</sup>. Professor Smith expressed the hope that were shielding needed in the future then it might come with a 'greater degree of mental health support'<sup>170</sup>. Professor Harries suggested that, in a future pandemic, there could be a practical mechanism by which a GP could more easily monitor the mental health status of a CEV individual so that support can be targeted where appropriate<sup>171</sup>.

80. Should shielding have to be used again, then the need to provide financial and other support could well involve more than one government body, albeit with one government department, as MHCLG did, taking overarching responsibility. As to the clinical aspects of a future programme, a co-ordinating group including key clinicians from DHSC, UKHSA, NHSE, the Devolved Administrations and relevant clinical panels would continue to enhance the provision of advice and decision making. That group would benefit from robust links to relevant policy teams across government and the support of a dedicated digital team in NHSE to identify clinically vulnerable individuals via NHS records. It is more sensible that this group be led by a senior responsible officer sitting within DHSC given that department has a central position in the co-ordination of the wider health care system.

#### The use of data in a future pandemic

81. Data preparedness is vital to responding to future health threats including pandemics. Being able to undertake granular analysis of data in the future will only improve epidemiological understanding of those most at risk. UKHSA is a service, scientific and research organisation focused on health protection. Much of the Agency's work involves interpreting data and the importance of being able to collate and share data is a theme addressed in UKHSA's Module 2 closing statement. UKHSA relies on data to identify the emergence of health threats and to inform guidance, recommendations as to interventions, and its science. Data therefore forms an important strand of pandemic preparedness, as well as reducing harm from infectious diseases and environmental hazards, and responding to health security incidents.

<sup>&</sup>lt;sup>169</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/197/1-12] [12/195/15-12/198/2]

<sup>&</sup>lt;sup>170</sup> Oral evidence of Professor Gregor Smith, Chief Medical Officer for Scotland (25/09/2024) [11/118/8-17]

<sup>&</sup>lt;sup>171</sup> Oral evidence of Professor Dame Jenny Harries, Chief Executive of the UK Health Security Agency (06/11/2024) [27/109/1-

- 82. During the pandemic, PHE analysed the data available to it to better understand the disparities that were being highlighted by the pandemic and published the resulting reviews to assist other bodies (see: 'Covid-19 - review of disparities in risks and outcomes<sup>172</sup> and 'Beyond the data: Understanding the impact of Covid-19 on BAME groups'). UKHSA continues to contribute to improving health outcomes for the population through its analysis of data. UKHSA has published a Health Equity for Health Security Strategy which sets out a commitment to providing national, regional and local partners with the data, evidence and advice needed to understand and address health protection outcomes. UKHSA is building its capability to identify people and places most at risk of health protection inequalities within infectious disease surveillance systems and routine data sources. Each winter since the pandemic UKHSA has produced analyses of inequalities in hospital admissions for Covid-19 and Influenza according to social deprivation and ethnicity. The Health Protection Research Unit ('HPRU') for Health Analytics and Modelling is, as with other HPRUs, a partnership, funded by the National Institute for Health and Care Research, between UKHSA and a UK university (here the London School of Hygiene and Tropical Medicine.
- 83. The effectiveness and depth of UKHSA's surveillance is however dependent on the receipt of good quality data in good time, from other organisations within the healthcare system. The pandemic highlighted the challenges that exist with the accessing, storing, and managing of data. There can be practical difficulties in facilitating secure data sharing between different systems. Unclear ownership and responsibilities in relation to data risks unnecessary confusion and delay when trying to share data. It is important to have clearly defined roles, responsibilities, and accountability to underpin the culture, governance, and data platforms needed to make improvements.
- 84. The importance of ensuring clarity as to what data needs to be collected and by which organisation is illustrated by an issue canvassed during this module data on healthcare worker deaths. UKHSA does not directly collect data on the deaths of healthcare workers, aside from deaths abroad<sup>173</sup>. Professor Hopkins explained that the SIREN study, of which the Inquiry has received detailed information, operates on data shared by consent<sup>174</sup>. Logically, the NHS, is best placed to collect such data (albeit the Office of National Statistics also collects data on mortality and the Health and Safety Executive which collects data on workplace deaths). Amanda Pritchard told the

 <sup>&</sup>lt;sup>172</sup> [INQ000399820]. For information on the background to this review, the Inquiry is directed to the Witness Statement of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency, dated 31/01/2024 [INQ000410867/434-441].
<sup>173</sup> Oral evidence of Professor Sir Christopher Whitty, Chief Medical Officer for England (26/09/2024) [12/73/18-23]

<sup>&</sup>lt;sup>174</sup> Oral evidence of Professor Susan Hopkins, Chief Medical Advisor to the UK Health Security Agency (18/09/2024) [7/183/3].

Inquiry that prior to the pandemic the NHS did not have a systematic mechanism to capture staff deaths but instituted a process during the pandemic. She explained the difficulties encountered including issues of privacy and how to validate a person as a healthcare worker<sup>175</sup>. Such difficulties reflect the questions that can arise when considering how data can be safely utilised.

- 85. To address the challenges presented by the current data landscape, in September 2023, UKHSA published its first data strategy with the three central aims of preparing for health security hazards, reducing harms through effective health security responses, and building the UK's health security capacity. There are five necessary aspects to effective data utilisation<sup>176</sup>:
  - 85.1. Data acquisition the ability to collect data from different data locations.
  - 85.2. Data sharing which requires platforms and compatible systems, relies on strong relationships between data owners and that the legal safeguards and governance processes are in place.
  - 85.3. Data linkage the capacity to rapidly link data from multiple sources across the healthcare sector (primary and secondary) and from other parts of Government.
  - 85.4. Quality and coding of data including the recording of protected characteristics such as self-assigned ethnicity as well as occupational data (which would require agreement with employees).
  - 85.5. Consent the need for public debate/understanding on how data is recorded and shared and for the appropriate regulatory frameworks to be in place.
- 86. UKHSA will continue to be a driver for data improvement. The Agency aims to maintain centralised, secure, safe, and scalable data with standard governance and cloud-based analytics. It has built on the lessons learnt from the pandemic including through the creation of scalable and adaptable data platforms (for example the Enterprise Data and Analytics Platform which consolidated and unified a number of data assets and is cloud based and the UKHSA Data Dashboard, which was inspired by the Covid-19

<sup>&</sup>lt;sup>175</sup> Oral evidence of Amanda Pritchard, Chief Executive of NHS England (08/11/2024) [29/144/23-29/146/21]

<sup>&</sup>lt;sup>176</sup> For further reflections on the importance of data collation and data sharing, the Inquiry is invited to read UKHSA's Module 2 closing submissions at [INQ000399527/9-12].

Dashboard and provides the public with health data in an accessible and transparent manner), and seeks to focus on establishing systems that can be quickly and easily scaled up during emergencies.

87. More widely, improving the collation and sharing of data across the healthcare system to the point where there is a unified approach will offer significant opportunity to improve health outcomes. UKHSA has and is taking steps in this regard and is committed to working with other organisations across the system to build a better landscape. Working together will allow for the development of robust arrangements for the rapid sharing of data (a good example being timely hospital admission data). Such arrangements, if already in place, would facilitate early scaling up in the initial stages of a pandemic. Of course, the need for consent and public agreement must not be ignored. The use of data raises important legal and ethical considerations. An important question is whether restrictions on data sharing should be relaxed during an emergency and, if so, on what basis and within what framework. There is more work to be done in this area and to that end Professor Cathie Sudlow's recently published review on the UK health data landscape ('Uniting the UK's Health Data: A Huge Opportunity for Society', published 8 November 2024) is an important contribution.

#### Preparing for a future pandemic

- 88. During the hearings in this module the Inquiry heard accounts from those most directly affected by the pandemic, people whose lives were irrevocably affected by the death of a loved one; healthcare staff who worked tirelessly on the frontline. Those stories have been deeply moving and at times difficult to hear. They must not be forgotten. The Inquiry has heard too from those charged with providing advice, developing guidance and implementing it at pace and in response to developing changes in the virus all in an emergency situation which the UK had never previously experienced and of course dealing with the same traumatic impact of the pandemic in their personal lives.
- 89. All participants in this Inquiry share the common hope that it will be able to make practical recommendations that will contribute to the work of pandemic preparedness. Consistent with its commitment to assisting the Inquiry with its work, UKHSA invites the Chair to consider the following recommendations focused on the scope of Module 3:
  - 89.1. The UK IPC Cell operated on and recognised the importance of a multidisciplinary approach. That principle should be sustained to ensure that the production of guidance is informed by as wide a range of views as possible. That

could include aerobiologists, hospital engineers and facilities teams, alongside multidisciplinary advisory groups to government; and a range of individuals who have to operationalise and use the guidance.

- 89.2. IPC is a routine but critical feature of the day-to-day activity of any healthcare setting. A focus on PPE should not override the importance of other mitigations. In particular, the importance of ventilation to IPC should be more consistently recognised and researched. How temporary measures are deployed may be particularly important given the challenge of maintaining the NHS estate.
- 89.3. There is a need for further research into the efficacy of FFP3 masks in the workplace. That will allow for better understanding of the circumstances in which such masks should be used, how they could or would be used in combination with other measures; and how the concerns of healthcare staff would be addressed. Any decision as to the extent of use of FFP3 masks will need to take account of the availability of a cadre of staff trained to fit them.
- 89.4. In the event of a policy decision that shielding needs to be used again, there ought to be a co-ordinating group tasked with addressing the clinical aspects of any shielding programme. Its membership should include key clinicians from DHSC, UKHSA, NHSE, DAs and relevant clinical panels, with strong links to relevant policy teams across government, supported by a dedicated digital team in NHSE to identify clinically vulnerable individuals via NHS records. The senior responsible officer for such a group should come from DHSC, given its primary role within the health care system.
- 89.5. The ability to rapidly obtain data from multiple sources is critical for accurate risk stratification based on individual risk rather than on very broad categorisations. That then allows for more focused interventions and support. Advances in technology mean that tools similar to, if not further advanced than, QCovid can be developed for future pandemics so allowing information on risk profiles to be incorporated from the outset. The possibility of using technology to get a head start on the next pandemic means that data sharing agreements between organisations and work to develop regulatory frameworks to share data need to be improved now, well ahead of any urgent future need.

## Conclusion

90. UKHSA is a modern organisation utilising state of the art technology and surveillance to tackle current and future health threats in the UK. UKHSA continues to seek to build systems that are capable of being scaled up during an emergency and from the outset has established specific teams and analysis to better understand and respond to inequalities in health outcomes in different communities and vulnerable groups. UKHSA will continue to assist the Inquiry and play its part in reflecting on the lessons to be learnt and implementing change for the benefit of public health in all four nations of the UK.

> Bilal Rawat Lissy Verrall-Withers Thomas Hayes 9 January 2025