Witness Name: Laurence
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Statement No.:1

Exhibits: LM/01-03

Dated: 17 January 2025

UK COVID-19 INQUIRY

WITNESS STATEMENT OF LAURENCE MCHAUSER ON BEHALF OF MCKINSEY & COMPANY

I, Laurence McHauser, will say as follows: -

Opening Remarks / Personal Introduction

1. I am grateful for the opportunity to assist the Chair and Inquiry with its work.

2. I am a Partner of McKinsey & Company. My professional focus is on operations and supply chain management, a subject on which I advise private sector and public sector clients around the world. This statement pertains only to PPE provision support delivered to NHSE during the Covid-19 pandemic.

Introduction

3. McKinsey was asked by Emily Lawson (Chief Commercial Officer of NHSE) in March 2020 to support NHSE at the start of the pandemic, specifically around PPE procurement and distribution. This led to our services being procured - this was done through cabinet office frameworks (see below).

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Our approach to public sector client service

4. In the spirit of clarification below is McKinsey's approach to service in the UK public sector which I believe reflects the approach we took during our client service for the engagements covered by this statement:

   a. we provide policymakers with the data and fact-based analysis they need to support informed decision making by our clients; but we don't recommend or make policy

   b. we help public sector institutions to implement the decisions taken by policymakers and improve outcomes for citizens

   c. we support our clients in designing the required organisations, systems and capabilities to implement programmes

   d. we take account of a mix of sources, including our in-house research and the findings of other experts. Any (e.g., demand and capacity) models we build are designed as scenario-planning tools and are not predictive, and we ensure the role they are designed to play is clear to clients

   e. our structure and ways of working ensure we bring the expertise of the whole of McKinsey to bear (subject to conflict management protocols), including our experience in other countries facing similar challenges. We do this to deliver the best possible insights for our clients

   f. we will not second McKinsey colleagues into internal roles inside public sector organisations. Instead, we work based on contractually agreed deliverables

   g. for the delivery of our client service we follow the relevant UK public sector frameworks

   h. we will not undertake evaluations to decide who wins government contracts or engage in lobbying for other clients

   i. we will not provide clinical recommendations

   j. we follow relevant data protection and handling restrictions and adhere to the highest level of confidentiality in our client work. Consistent with other professional services firms, we follow strict staffing protocols to prevent conflicts of interest.

Situation and Challenge for PPE Supply Chain

5. On arrival to the NHSE headquarters, I spent time in discussion with government employees about the PPE situation, in order for McKinsey to gain an understanding of the challenges the government faced. This was to understand the situation better, to establish if and how McKinsey could provide support to NHSE with regard to the PPE supply chain challenge. My preliminary understanding was as follows. The PPE in question was largely single use items, typically with low unit cost, used to protect people from contagious disease. In this case, the PPE was used by both staff in health and care settings, and the patients these staff were caring for. At that point, the immediate focus of NHSE was ensuring supply of PPE for hospitals, who's staff were providing treatment for the first spike in Covid patients (March 2023). For hospitals specifically, a significant proportion of these PPE items in question were procured and delivered through a preexisting decentralised and outsourced supply chain provider. The provider took orders directly from hospitals and delivered PPE to those hospitals, often directly to in-hospital 'lineside' storage locations (e.g., wards, theatre departments etc). In a situation where there is steady and predictable demand and an organisation is looking to design a supply chain that maximises service level (i.e., availability of items where needed) at lowest cost, a decentralised and outsourced is a common choice.

6. The impact of the pandemic on PPE was felt in two ways. Firstly, the amount of certain items of PPE that hospital staff and patients were required to use increased suddenly. This was because PPE usage guidelines changed to minimise the transmission rate of the Covid-19 virus. This was principally determined by PHE, who issued IPC guidelines on PPE usage in various healthcare settings.

7. Secondly (as a result of the increase in required PPE), there was a rise in ordering, increasing stock levels at the hospitals (and indeed other health and social care settings). This may have been driven by uncertainty of future requirement (at this point in the pandemic, published UK epidemiological modelling was producing a wide range of potential forecasts). We were told by NHSE and DHSC colleagues that this sudden increase in demand had caused the PPE provider ordering systems to fail, and led to shortages of certain items of PPE.

8. The first challenge the government had was that the existing supply chain ceased to be able to deliver PPE into the acute sector (hospitals). We were told by government officials that the existing logistics provider declared they were unable to fulfil PPE demand and would cease delivering to hospitals within days. As a result, the acute

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sector's PPE distribution capability would cease to function within days of the first lockdown.

9. The second challenge was a lack of visibility on the amount of PPE required. As previously described, orders were placed by users in the acute sector and delivered directly by third party providers. Ordering had increased, but it was not clear whether this represented the volume of PPE required by hospitals to deliver clinical care in line with the new IPC guidelines on an ongoing basis. The existing supply chain infrastructure was not able to give NHSE leaders a clear view on the national requirements of PPE. The long-term requirement is critical for any supply chain management, as it determines your procurement and logistics capacity needs. The government did hold emergency stockpiles of PPE known as the pandemic influenza preparedness stockpile (PIP stock). However, these stocks were being depleted as they were being shipped to hospitals due to the increase in requirement for PPE driven by the increase in cases and IPC guidance. The demand was greater than anticipated.

10. This was a difficult time for those working in NHSE and across the NHS. This critical supply chain was collapsing, when it was most needed to protect the clinicians and patients. This was in the context of the huge global rise in cases and unprecedented loss of life around the world. Those working in NHSE faced a very difficult challenge: to set up an emergency supply chain that had a critical role to play in preventing loss of life to UK citizens.

Focus of McKinsey's Work

Scope of Initial work

11. McKinsey was asked to bring on a team to carry out a specific work stream of analysis within the NHSE team working on the PPE covid response.

How work was procured

12. Services were identified and scoped by DHSC and NHSE leaders. Services were then commissioned using Cabinet Office frameworks that had been setup before the Covid-19 pandemic. This was done in line with processes and using the required documentation of those frameworks.

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Track record / Expertise

13. McKinsey has a proven track record at solving problems that have not been addressed before for organisations around the world. Secondly, we have expertise in supply chain design and management. Thirdly we have deep and rapidly deployable expertise in data analysis and modelling. And lastly, our breadth of expertise allows us to deliver outputs quickly and flexibly - we are able to rapidly adapt our approach to be able to flex easily onto other topics as our clients' needs change.

Focus and outcomes of the work

14. Overall, McKinsey was asked to work on five topics, which supported the decision making of the three main PPE leaders: Emily Lawson (Chief Commercial Officer of NHSE), Paul Deighton PPE Make Lead, and Jonathan Marron, Director Dept. Health and Social Care. The topics are summarized below:

15. Requirement modelling – assessing the amount of PPE the nation needed to follow clinical guidelines and public health guidelines.

16. Setting up supply chain management processes – setting up the supply chain management information logic and data processing tool, reporting structures and planning functions for an emergency supply chain.

17. Re use – strategic design of how a PPE supply chain could be designed to use existing cleaning technology that allows for types of PPE to be cleaned and reused in extreme circumstances. (Our focus was on the supply chain consequences and not the clinical requirements or validity of the cleaning technology).

18. Domestic make – programme management support and technical manufacturing support to a team set up to "retool" British industry to manufacture PPE.

19. Excess stock – a smaller strand of work 1 year after the start of the pandemic to distribute PPE to other government departments and domestic sectors where it was needed.

Setting up supply chain management processes

Initial creation of a national requirement model for the acute sector *(Mar 20 – Jul 20)*

20. McKinsey was asked to model how much supply coverage the pandemic influenza preparedness stockpile (PIP stock) would provide hospitals in the acute care sector

during pandemic level usage of PPE. We created a requirement model to estimate how much PPE the acute sector needed in order to carry out its clinical activities in line with PHE IPC guidelines. We did this for a focussed set of PPE items: FFP3 respirators, FFP2 respirators, Type IIR face masks, safety glasses / visors, gloves, surgical theatre gowns, aprons, hand hygiene products (e.g., sanitizer). We also modelled non-PPE products, general purpose detergent, clinician waste bags, paper towels, body bags, and fit-test solution (used to check that respirators fit properly to each clinician's face). This was done by taking the PHE IPC clinical guidelines, working with clinicians and carers to estimate the amount of PPE staff and patients would need according to these guidelines, and translating that into a current requirement using current (daily) caseloads, and forward-looking requirement of this using the SAGE / NHS epidemiological caseload forecasts. (NB, McKinsey facilitated and supported with translation of clinical and care professionals' input into mathematical modelling assumptions, and sought to strengthen these assumptions with inputs from many expert and frontline sources, but did not adjust the modelling assumption inputs provided by clinical and care professionals).

21. We also included the inbound supply forecast from PPE that had been procured by DHSC / NHSE to show the future requirement vs stock availability for the acute sector. This supply chain model gave a day by day model of the Covid PPE national requirement and model supply for the acute sector. This gave PPE leaders another data point to inform their decisions on PPE distribution and procurement.

22. Once the preliminary supply chain model for the acute sector had been completed, we were then asked to expand the model to more settings of care. As described above, initially we focused on the acute care sector (hospitals), however other settings required significant PPE volumes. We added modelling assumptions for other types of healthcare providers (e.g., GPs) and social care providers (e.g., care homes, domiciliary care providers), and other government departments. This expanded the modelling complexity but gave government leaders a more comprehensive understanding of the national requirement of PPE based on IPC guidelines, how these guidelines effected PPE usage within all key health and social care settings, the current (daily) caseload across various settings, and epidemiological forecasts of caseloads in the future. It showed the existing stocks and the confirmed orders of inbound (procured) PPE.

23. Throughout this period, IPC guidelines were updated and added to by PHE as public policy and NHS policy for Covid (e.g., visitors not allowed in hospitals, then allowed

with the correct PPE) evolved. The McKinsey team provided rapid updates to the model and reports when these changes occurred, scenario modelling for potential policy changes (e.g., the potential switch from a mix of Type-IIR masks and FFP3 respirators, to 100% FFP3 respirators for staff in hospitals), ongoing reports for government officials and DHSC and NHS leads.

Creating and transferring an enduring demand and supply model, and establishing Voice of the Customer insights *(Jul 20 – Sept 21)*

24. The second package of supply chain work focused on data and obtaining "voice of the customer" insights. To improve distribution decision making the government wanted to better understand the distribution within the supply chain for the PPE consumers e.g. hospitals, primary care. We were commissioned to design processes to obtain data from the distribution channels (the logistics provider which physically distributed in the PPE to users) as well as local inventory stockpiles that had been established as part of the emergency supply chain. We created an analytics system, ingesting multiple data inputs with multi-million rows of data, which gave government decision-makers an accurate and comprehensive supply chain data at a weekly-daily resolution. This allowed the assessment of delivery trends across all settings of care and government departments being supplied with PPE, and so allowed improved stockpile management, logistics planning and procurement decisions. We also supported the Government by designing "voice of the customer" panels which they established. These were weekly-monthly panels attended by customer groups, to gather information on PPE needs that the data alone did not convey. These customer groups included end users of PPE of a wider scope than purely acute hospitals e.g. social care homes, mental health trusts, GPs, Ambulances, Hospices etc.   These panels would gather information about the usage of PPE in the field, including issues with logistics, governance and communications. Voice of the customer panels proved effective in providing government officials with frontline insights, enabling them to act and fix issues. Concurrently to this we designed a telephone campaign for government officials to set up to contact social care providers to rapidly gather significant amounts of in-depth information on the state of PPE stocks and usage within social care organisations.

Social care intelligence unit *(Jul 20-Aug 20)*

25. This package of work focused exclusively on social care. Government officials had been unable to get clarity on the state of PPE within the social care sector. This was

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because these are privately run providers and there are more of them than hospital trusts. Therefore, regular data requests from all care homes would have been an impractical approach. We worked closely with a government team that was set up to carry out complex analysis on a true consumption rate and true requirement of the social care sector to give leaders a better understanding of how much PPE support the sector might need.

Supply chain management

Short-term requirement modelling *(Mar 20-May 20)*

26. At the start of the pandemic the government needed to distribute the PPE that was available, across all hospital trusts in the country. However, as previously described, the amount trusts and other PPE users were asking for was considerably more than was available. As a result, due to supply limitations the government needed to distribute PPE based on an estimate of a true clinical need. We used this approach for the requirement model previously described, to create a granular requirement model based on daily reports of Covid-19 cases in hospitals. We also input 24-hour distribution data to track the amount that had been allocated to hospitals in an attempt to estimate inventory levels. This gave government officials an additional point of evidence to inform distribution. Ultimately, government officials made the distribution decisions. The analysis that McKinsey completed was one input to their decision-making process.

Setting up the medium-term supply chain management processes *(May 20-Mar 21)*

27. Once an initial distribution system had been established the supply chain required more sophisticated management practices to ensure it could operate smoothly for the medium term e.g. months not weeks. To do this, we supported the government in setting up three supply chain functions; data management, digital ordering and logistics operations.

28. Data management formalised the process of tracking consumption and estimated inventory in hospitals using online forms and databases to allow hospitals to regularly update information. This allowed us to create automated dashboards that gave government decision-makers a clearer view of the state of the supply chain and the consumers of PPE.

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29. A digital ordering process was designed and implemented by the government to allow hospitals to request PPE in a controlled way through online forms. We designed a process for the government to categorise products to allow for more effective inventory management.

30. Lastly, the logistics operations. We assessed in hospital operations to understand how the hospitals were managing their local PPE inventory and give government decision makers an understanding of where bottlenecks were occurring downstream of distribution. We also carried out process mapping for the distribution process from the central warehouse in Daventry, to allow government leaders to identify and overcome bottlenecks in the shipping process.

Reuse *(Apr 20-May 20)*

31. The government wanted to understand the feasibility of cleaning PPE for reuse rather than disposing of it. In April 2020 We were asked to model the supply chain that can be used to collect and clean PPE from users and redistribute throughout the country to enable users to have recycled and sanitised PPE if there was a supply shortage. This was based on existing technology and clinical guidance; our focus was to model the potential supply chain. We developed a supply chain design, modelled its performance, and laid out potential strategic options of how supply chain could be established in the event that it was needed.

Domestic make *(May 20-Jun 20)*

32. Lord Deighton set up a "Make" team of people to find ways to purchase PPE from manufacturers within the UK who did not previously make PPE. The UK did not have any significant domestic production capability. The "Make" team sought to identify manufacturers who used similar or adjacent technology to that that is used in the manufacture of PPE and adapt it to produce PPE domestically. Here we supported Lord Deighton's team. We provided project management support including creating workplans and carrying out progress monitoring. We also provided technical manufacturing expertise to advise the team on the scope of the adapting production processes and expanding the capacity of production processes. We were not involved in purchasing, contracting or pricing discussions.

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Excess stock (Jan 21 – Mar 21)

33. Towards the end of support the government asked us to support them in understanding how to redistribute unused PPE. We did this by setting up small team working alongside government officials. We supported the team to carry out analysis to help decision makers to identify potential recipients of the excess PPE. This would help government officials to approach potential users and set up agreements. We also established programme management tracking to monitor potential distribution agreements through initiative tracking dashboards.

Response to request for "Lessons learned"

34. McKinsey has published globally on Supply Chain risk and resilience after the Covid-19 pandemic.

35. Organisations can minimize risk by stress testing their supply chains by using modelling to understand risks that they hold. They can also become more resilient to stocks through increased inventory holding. This has been widely reported in the global healthcare sector and is described in more detail in this paper. "How COVID-19 is reshaping supply chains", 2019, Alicke et al. https://www.mckinsey.com/capabilities/operations/our-insights/how-covid-19-is-reshaping-supply-chains **(Exhibit LM/01-INQ000521987)**.

36. The management of healthcare supply chains can be strengthened by setting up improved data and analytics functions to give a better view of supply chain management information to supply chain leaders. Furthermore, those supply chain management functions should better involve clinicians in decision making. This is described in "Optimizing health system supply chain performance", 2022, Bowen et al. https://www.mckinsey.com/industries/healthcare/our-insights/optimizing-health-system-supply-chain-performance **(Exhibit LM/02-INQ000521992)**.

37. Taking a strategic view of the supply chain over the long term and identifying critical items to mitigate shocks is an effective way for organisations to establish more resilient supply chains. But critically establishing standard protocols, capabilities and governance that can be enacted during a crisis. This can be seen in "Bolstering health system supply chain resilience to reduce risk", 2023, Bishop et al. https://www.mckinsey.com/industries/healthcare/our-insights/bolstering-health-system-supply-chain-resilience-to-reduce-risk **(Exhibit LM/03-INQ000521997)**.

Statement of Truth

I believe that the facts stated in this witness statement are true. I understand that proceedings may be brought against anyone who makes, or causes to be made, a false statement in a document verified by a statement of truth without an honest belief of its truth.

Signed:
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│      Personal Data         │
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Dated: 17th January 2025