Witness Name:
Statement No.:
Exhibits:
Dated:

UK COVID-19 INQUIRY

WITNESS STATEMENT OF Professor Deenan Pillay

I, Professor Deenan Pillay, will say as follows: -

1. I have until recently been Professor of Virology at University College London (UCL) and Consultant Medical Virologist at UCLH. The role of a Medical Virologist is to develop and implement laboratory tests for human viral infections, and to advise on the management of patients with those infections. I retired in October 2022 and am now Emeritus Professor at UCL. For the previous 30 years I have also been a Medical Consultant in Virology at the Public Health Laboratory Service (PHLS), Health Protection Agency (HPA)- both precursors of Public Health England and then UK Health Security Agency- as well as within the NHS. From 1994-2003 I was Consultant Medical Virologist and Director of the PHLS Antiviral Susceptibility Reference Unit in Birmingham. From 2009-2013 I was Head of the Division of Infection and Immunity, UCL, and from 2010-2012 Director of the UCLH/UCL NIHR Biomedical Research Centre. From 2013-2019 I was seconded from UCL to become Director of the Africa Health Research Institute based in South Africa focusing on HIV and TB research. My publications have in the main focused on the prevention, diagnosis, treatment and epidemiology of HIV and related viral infections.

2. I have previously sat on several governmental advisory bodies, including the Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infections (2007-2012), the Expert Advisory Group on AIDS (2007-2012). I also sat on SAGE in relation to Avian Influenza (2009).

3. During the COVID pandemic, I sat on the MHRA Expert Working Group on COVID Therapeutics (2020-2022), the DHSC Horizon Scanning Group for New Covid Diagnostics (2020), and the Serology Diagnostic Taskforce (Scientific Advisory Committee (2020). I was also on the Governance Committee of Covid Genomics UK (COGUK) (2020-2022).

4. I was a member of the Clinical Virology Network from its establishment in 2000, comprising all medical and scientific consultant virologists across the UK. I convened a small group during 2020 to formulate a professional response to the UK COVID Testing strategy. Some of these outputs have previously provided examples of this professional output to the inquiry to

assist in their investigation into the Test, Trace, Isolate response to the pandemic, which form part of the Inquiry's general disclosure, and focus on how the UK Test and Trace strategy bypassed the large network of clinical virology laboratories , with little use made of the long standing clinical and scientific expertise in dealing with new viral threats. Examples of these views are as **Exhibit DP/01 (INQ000551844), (Exhibit DP/02(INQ000551845) and Exhibit DP/03 (INQ000474853).**

5. My primary research activities during the pandemic focused on using electronic health records to assess disease risk, using viral genetics to map spread, and leading the development of a dashboard to assess the efficacy of test and trace activities. Some of these outputs have previously provided examples of this professional output to the inquiry to assist in their investigation into the Test, Trace, Isolate response to the pandemic, which form part of the Inquiry's general disclosure.

Independent SAGE

6. I was an inaugural member of this group which was initially established by Professor Sir David King in April 2020. This was as a response both to the perceived lack of transparency within scientific advice at the time, and also to engage with the public on COVID drawing on our cross disciplinary scientific knowledge. I was Chair of the group from September 2020 until October 2022 (my retirement date). During this time, we hosted weekly online press and public conferences (Friday 1.30-2.30pm) in which we provided an update on the latest COVID data and took questions from the press and public. We would often include a short additional presentation on a focused, topical issue, with expert guest contributors.

7. During the period 2020-2022, we produced over 60 dedicated expert reports on a range of issues, including Find, Test, Trace, Isolate and Support, (FTTIS); Education; Inequalities; Lockdowns; Mitigation measures and Vaccines and Variants. This included 17 reports specifically addressing Test and Trace and related activities (available at https://independentsage.org/tag/testing/; https://independentsage.org/tag/contact-tracing/). This was in addition to many press releases and comments on the latest issues (all available at www.independentsage.org). For much of the period I represented expertise in diagnostics and broader virological topics within the group and led on those reports related to testing issues.

8. My role was to chair our internal meetings, held once or twice each week prior to our weekly press conference, at which we discussed the current state of COVID response, identified priorities to cover in the press conference, progress on our expert reports and broader group strategy, logistics and membership.

Preamble to Test and Trace

Purpose

9. Before discussing the Test and Trace programme in more detail it is important to highlight key principles of diagnostics, which guide their use in healthcare. **A diagnostic test only has value if there is clear reason for undertaking it, and an action which will follow on from the result. It is this purpose which is key, and will define the effectiveness of a testing strategy.** It follows that testing for the sake of testing, or in order to achieve certain number of tests, as was done within the COVID Test and Trace programme, is a meaningless concept.

10. With regard to COVID, the purposes of testing are threefold:

a) Diagnose COVID disease in symptomatic individuals - for clinical management (providing treatment if required) and infection control (self-isolation of newly infected people).
b) Identify infection in close contacts of cases - for infection control (ensuring that contacts of cases self-isolate whether symptomatic or not, while allowing non-infected contacts to be released from isolation) and possible clinical management (providing treatment if symptoms worsen). This process particularly protects those vulnerable to severe infection.
c) Identify infection within communities - to instigate public health measures at community level (e.g., impose restrictions to increase social distancing and other hygiene measures if levels of infection are rising). This will also be an important way of identifying levels of infection in people without symptoms.

11. It is therefore self-evident that a testing strategy needs to be assimilated into a pathway to effect an appropriate outcome. In all cases, data capture, linkage, and accessibility (including rapid access to data for primary care physicians) are critical to effectiveness of the testing pathway. Further, all testing pathways have limitations (for instance test performance), and these should be considered prior to implementation. For all these reasons, Independent SAGE coined the phrase, **Find, Test, Trace, Isolate and Support,** to include all components of the pathway required to ensure effectiveness at limiting spread of infection, including the need to support those asked to isolate.

Existing Infrastructure in early 2020

12. Diagnostic virology laboratories - those already competent and accredited to provide PCR and other molecular tests - have been the mainstay of responses to newly emerging threats within the UK. Currently numbering 45 across the

UK, and Ireland [1] some are based and managed within NHS hospitals, others within universities (with a research focus) and some within Public Health England (with more of a reference test function, and also leadership for high threat pathogens). All 45 have a common approach, are Consultant-led, and, together, cover the whole UK population (including the devolved nations). Quality standards are maintained through the Royal College of Pathologists CPD scheme, and widespread informal interactions between laboratories are enhanced through the Clinical Virology Network, which provides a professional forum for joint learning, coordination of services, and supports laboratory quality control systems, including those run through the National Institute of Biological Standards and Control (NIBSC, which sits within the MHRA). Over the last 10-15 years, there has been a tendency for NHS Pathology services (which include laboratory specialties such as virology) to coalesce, often within public-private partnerships (following the influential Carter Report in 2006) in the name of increased efficiency. This has not generally limited the ability of virology services to respond to emergencies such as COVID-19.

13. Critically, these laboratories work seamlessly with local NHS data systems, including primary care and hospitals, as well as public health, to ensure that laboratory results flow quickly (electronically), within a firewall compliant environment. Such linkage is an essential requirement for assessing the OUTCOME of diagnostic testing: for instance the epidemiological and demographic associations with infection, clinical consequences of infection, and infection control risk.

14. Local management of infection outbreaks (of any form) was provided under the auspices of the Public Health Laboratory Service (PHLS), set up in conjunction with the NHS in 1945. This was maintained until transition to the Health Protection Agency in 2003, an organisation which included other health risks such as chemical and environmental threats. The most major change occurred with the next transition to Public Health England in 2012, in which local public health responsibility moved back to local authorities following the Lansley reforms. The aim was to allow an integrated local public health framework; however, resource was significantly reduced over time because of competition with other local authority priorities. Thus, by 2020, a fully-fledged integrated public health and laboratory population protection structure had been diminished.

15. Nevertheless, there remained considerable expertise through local Directors of Public Health and outbreak control teams. Despite this, the immediate COVID response involved very significant investment in a series of outsourced functions, rather than using such resource to rebuild existing structures. Further, PHE was itself dismantled, to be replaced firstly by National Institute

[1] As described in https://clinicalvirology.org/networking-directory/

for Health Protection (NIHP), followed swiftly by the UK Health Security Agency (UKHSA) – a series of seemingly irrational managerial changes to our public health infrastructure just at the time where a coordinated and strategic response was urgently required.

16. This preamble is important since it provides a framework within which an effective test and trace programme could have been established during COVID.

Test and Trace during COVID

17. I will focus on the development and rolling out of testing given my own experience and expertise, however I also touch on other aspects of the broader Test and Trace system where appropriate. The period of early 2020 was very difficult, and many scientists and clinicians within the NHS, PHE and universities worked hard to respond in the best way they could, within uncertain times. Mistakes were made, of course, but it would be unfair to ascribe blame to on-the-ground staff at a time of poor overall strategy and leadership.

18. My own summary of the Test and Trace response, as outlined below, is of a confused, uncoordinated approach which lacked strategy and clear leadership, and quickly focused on test number rather than ensuring the testing could lead to the goal of reducing disease and ongoing transmission. Further, the urgent need to scale up testing within this framework was severely compromised by not taking advantage of existing laboratories, expertise, and well-developed systems.

Testing

19. As soon as the SARS-CoV 2 outbreak and spread became apparent, virologists from around the UK started working on local solutions, typically through developing a PCR based assay, utilising the genetic sequence of the virus which had by then been published. Indeed, by 20th January, my own virology laboratory, at UCLH, had developed a prototype assay. One of the problems for many involved in developing tests was, however, the difficulty in obtaining "positive control" material in the very early period. This material was being held at the PHE laboratory in Colindale but was not being shared. Colindale had been tasked with creating a PCR test which could be rolled out to other laboratories. This (somewhat characteristic) top-down approach meant advantage could not be taken of the collective efforts of expert clinical virologists throughout the UK.

20. By 10th February 2020, PHE Colindale had the 'recipe' - assay - for a COVID test. Despite urgent requests that this assay be shared across the country it was initially only provided to the major 5 other PHE-associated laboratories (namely Porton Down, Birmingham, Bristol, Cambridge and Manchester). By

April, this assay was later found to be flawed, with reduced sensitivity compared to other tests available. It was estimated that many individuals who were infected with the virus had tested negative according to this test.

21. In the meantime, on 20th February 2020, Professor Sir Chris Whitty had stated that UK did not have sufficient testing capacity (confirmed later during COVID Inquiry, as **Exhibit DP/04 (INQ000251645).** My concern is that this view led to a highly expensive outsourced solution being sought, rather than taking advantage of the many clinical virologists who were already considering how best to ramp up testing for the health care workers, patients and populations they served using existing sample and dataflow systems. **This was a critical early decision, the basis of which remains unclear to me.** Further, testing of local health care workers was initially discouraged, since symptomatic staff were asked to stay at home rather than be tested.

22. Indeed, at around that time, Deloitte were commissioned to develop a testing service. On 20th March I was informed that "No 10 was seeking virology expertise" As a result, on 21st March I, together with several other clinical virologists and academic experts, attended a meeting led by Deloitte at which we were asked questions around the practicalities of home testing for essential workers, as in **Exhibit DP/05 (INQ000551840)**. It was during these discussions that the involvement of private partners, such as Randox and Thermo Fisher, became clear, and we were asked to respond to their own requests, for instance on safe packaging of clinical samples.

23. It was clear that Deloitte had no relevant expertise and were urgently seeking answers to some basic questions including clinical sampling and health and safety, from clinical virologists who themselves had the capacity, insight and knowledge to develop plans through their own laboratories and institutions. Indeed, over the next period, there were several examples of such local initiatives, including that led by the Crick Institute (Professor Sir Paul Nurse) and UCLH, although, as stated by Paul Nurse at the time, much PCR expertise across the UK continued to be ignored (and later recounted as in **Exhibit DP/06 (INQ000474854).**

24. In in these very early months there was widespread criticism that UK government testing strategy was inadequate, and in response, Dr Jenny Harries commented that the World Health Organisation call for "testing, testing, testing" was really targeted at countries with less well-developed public health infrastructure, as in **Exhibit DP/07 (INQ000474852).** This statement was derided by many and suggested to us that the UK COVID response was both complacent and based on a "UK exceptionalism".

25. In late March, "drive through centres" for swabbing and large testing Lighthouse Laboratories were being established, which were formally announced on 4th April (Matt Hancock). These represented Pillar 2 testing. In

many cases these labs were populated by staff from existing NHS and university laboratories and indeed depended on key pieces of essential equipment donated from university labs.

26. Coordination of Pillar 2 testing with ongoing testing within the NHS (termed Pillar 1) was absent or minimal, with questionable effectiveness of these new outsourced testing centres and laboratories (perhaps unsurprising). Indeed, in some instances university/NHS partnerships were initially developed and utilised for testing, only to then be told to wind down as Lighthouse labs were established. Deloitte entered a series of subcontracts for procurement, staffing provision, contact tracing and data systems, amongst others. One major problem was the poor degree of linkage of tests undertaken within private laboratories to NHS records and thus reporting back - to GP's, or public health officials, as in **Exhibit DP/08 (INQ000474855).**

27. There were other major problems with testing in these laboratory centres, two of which I give here:

a) Decision making on the supplier of critical test related software was flawed. This software functioned to interpret the outputs from PCR testing to ascribe a result as positive or negative. Through the preferred supplier, suboptimal software is estimated to have generated thousands of incorrect results. The contractual process by which the supplier was chosen was subject to legal challenge, which led to the UK government having to settle out of court, as in **Exhibit DP/09 (INQ000474858).**
b) In late September 2021, reports from members of the public emerged of incorrect results being issued by a laboratory in Wolverhampton (Immensa Health Clinic, Dante Laboratories), within the independent Lighthouse Laboratory structure. It took five weeks after these problems became apparent for the UK Health Security Agency to announce, on 15th October 2021, that the lab would be required to stop all Covid-19 testing. Anomalies in testing data in the Southwest of England were first identified after concerns were raised in the media about individuals with positive lateral flow results testing negative by PCR. It was clear that local management systems within that laboratory were suboptimal. The length of time it took to spot there was an issue and then act on it allowed an estimated 43,000 people with Covid-19 to be told - wrongly - that they tested negative. In the aftermath, Dr Jenny Harries, CEO of UKHSA at that time, announced that the laboratory in question was fully accredited, only for this to be promptly contradicted by the UK accreditation service (UKAS) itself. This is described as **Exhibit DP/10 (INQ000535915)**.

28. I Chaired the Horizon Scanning Group from the end of March to May 2020, which sat within a complicated managerial organogram reporting to Secretary of State, Lord Bethell in the DHSC, as in **Exhibit DP/11 (INQ000551841).** My committee was tasked with developing and delivering a professional and

expert approach to the evaluation of the quality of assay kits for potential bulk purchase. It was at a meeting in April 2020 of this committee at which a spreadsheet was presented listing potential suppliers. Some of these were listed separately on a 'VIP' tab; these were the companies which had approached ministers directly and I was asked to consider them for fast tracking, as in **Exhibit DP/12** INQ000581895 through the Cabinet Office Commercial Team. I refused because this undermined my wish for an objective, expert-led assessment. This experience gave me an insight into the contractual mayhem in play. Indeed, there were many criticisms from the Consultant Virology community of national purchases of testing systems which were not evaluated or were being imposed on their laboratories at the expense of well-established systems.

29. The broader context at this time was that Matt Hancock , on 2nd April, 2000, was speaking of a goal of 100,000 tests a day, as in **Exhibit DP/13 (INQ000474859)** and as discussed in paragraph 9 of this statement. This target was in the absence of any specific objective. Over the next few weeks, in the attempt to demonstrate this goal was being achieved, Mr Hancock himself and many others confused tests being available, with tests undertaken. In addition, there was confusion between tests to detect the virus and tests to detect antibodies (the latter of which was underpinned by large scale purchasing of kits, but ultimately provided no useful information). During the government press conferences it appeared to be a personal challenge to Mr Hancock himself to deliver on what was a deeply flawed goal, which caused further immense frustration for professionals in the field. Indeed, bringing in the army to deliver this goal deflected attention from the very important component of test and trace - namely to identify those infected, and to support the isolation of them and their contacts, and to limit spread of infection.
30. There were already discussions amongst the clinical and scientific community of many other innovative ways to utilise testing, and to respond to the spreading pandemic. For instance, once it was known that SARS-CoV-2 could be detected in stool samples from infected individuals the potential arose of testing sewage to detect the virus. This could be done, for instance, in sewage outflows from institutions such as schools, as a way of monitoring infection rates, and as an initial screening of communities and institutions to guide focused surge testing, However, the constraints imposed by the government focus on 100,000 tests a day made the assessment and implementation of new approaches difficult.

Trace, Isolate, Support

31. Now let me come onto other aspects of Test and Trace. In the same way that existing systems remained underutilised for testing, the same can be said for contact tracing. It is true that Local Authority capacity for public health had been reduced because of the HPA move to PHE in 2012. Nevertheless, it

seemed obvious that local public health structures were ideally placed to receive further investment to grow contact tracing and isolation support for the population they serviced, since this would not only build on existing expertise, but also be best placed to understand local drivers of the pandemic and how best to mitigate these risks and support the relevant communities. By contrast, SERCO were contracted to undertake the COVID contract tracing function (through the outsourced Test and Trace programme) with under-skilled staff tasked with dealing with the heterogeneous risk within diverse populations over the telephone. This was not joined up with identification of particular risk individuals and communities, and advice on isolation was generic and one dimensional. There appeared to be little understanding of the specific pressures people were experiencing. For example, how to support isolation in multi-generational households; for those living with high-risk individuals; for those without private outdoor spaces; or for those on zero-hours contracts who needed to earn. All of these challenges remained unevaluated and solutions were not sought. This is perhaps the clearest example by which inequalities in society were amplified by the poor COVID response. By contrast, delegating such tasks to local health protection teams would ensure a more sensitive, responsive and indeed effective outcome - namely limiting further spread of infection and disease.

32. What is the goal of a Test and Trace system? A report from DELVE on Test, Trace, Isolate and Support as in **Exhibit DP/14 (INQ000194035)** identified the key features required. They estimated that such a programme implemented in **addition to other measures such as social distancing**, could avert 5-15% of new infections as long as testing was rapid, led to isolation of contacts of cases within 48 hours of initial test of index case, and was characterized by high compliance and coverage of the population. The report also highlighted lessons from Taiwan, South Korea, New Zealand and elsewhere, where the time from testing to result being received was between several hours and 72 hours.

33. Considering the lack of integrated data available from UK Test and Trace, I led a programme of work within the UCL based i-sense consortium, as in **Exhibit DP/15 (INQ000551843),** to address this. By bringing together quite disparate pieces of data, for instance from ONS, PHE and other research studies, we were able to estimate the "cascade" of effectiveness of the Test and Trace. We asked what proportion of contacts of cases were able to successfully isolate? With a caveat of uncertainty, we were able to estimate how effective the test and trace programme was during late 2020. We concluded that only an estimated 3% of contacts of cases did actually adhere to isolation themselves. In other words, the Test and Trace programme as established during 2020 was likely highly ineffective in preventing ongoing spread of infections.

34. For these reasons, on 16th October 2020 Independent Sage published a blueprint for an effective Test and Trace system, as in **Exhibit DP/16 (INQ000474857)**. Indeed, we termed this Find, Test, Trace, Isolate and Support (FTTIS) in recognition of all the steps of the process required for a reduction in transmission and protection of the population.

35. In summary, it stated:
    a) Independent SAGE calls for the replacement of the failed, falsely named and private sector run 'NHS' Test and Trace with a system for England which is rooted in the regions of England and in local areas. It must be integrated throughout with the National Health Service and provide for the needs of people and the communities in which they live.
    b) NHS England should be the lead national organisation and provide the infrastructure and logistics for the organisation and functioning of the FTTIS system.
    c) In each top-tier local authority the local Director of Public Health should have the leadership role and convene the necessary management structure in conjunction with the local NHS and local authority.
    d) Laboratory capacity is crucial to our ability to control the virus throughout the UK. Independent SAGE calls for the establishment of a national COVID testing consortium, including all current providers, under the auspices, oversight and management of NHS.
    e) Isolation will not work unless people are supported to enable them to isolate. Self-isolation should be replaced by 'supported isolation' with assistance, if needed, with accommodation, domestic assistance and financial support up to £800.

36. In the meantime, the Clinical Virology Network, representing more than 60 Consultant level Virologists within the NHS, academia and across the developed nations, were actively discussing how best to roll out testing. Letters were sent to Prof Sir Chris Whitty on 10th July 2000, and Baroness Dido Harding on 2nd September 2020, asking for the engagement with the network and offering advice on how best to utilise the large network of specialist virology laboratories, as in **Exhibit DP/01 (INQ000551844).** Replies were not forthcoming. The CVN has itself previously provided written evidence to the Inquiry.

Legacy

37. One of the most disappointing - indeed in my view disgraceful - outcomes of the Test and Trace programme is the lack of any meaningful legacy or strategy for the next pandemic threat. Many of us in the field recognised that a significant increase in testing capacity would be needed early during the COVID pandemic. And further, that the manner in which this was undertaken

would be core to developing a sustainable system for further threats, incorporating surge capacity. By contrast, we witnessed a one-dimensional approach to testing developed through the outsourced model, with the establishment of the Lighthouse laboratories. As early as February 2021 concerns were expressed regarding the mothballing of some of the expensive Lighthouse laboratories, at a time when testing would be essential to monitor relaxation of some non-pharmaceutical interventions (NPI) such as school reopening, and people returning from holidays, as in **Exhibit DP/17 (INQ000474856).**

38. I started my evidence statement by recounting that some areas of the world, including China, South Korea and Taiwan were able to rapidly respond to the COVID pandemic through infrastructure and testing protocols developed in response to SARS, some 20 years previous. By contrast, despite a reported £37M spent on the Test and Trace programme, as in **Exhibit DP/18 (INQ000474851)** the UK has been left with minimal capacity for the next pandemic.

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.

Personal Data

Signed: _____

Dated: __25th February 2025_____