

Witness Name: Professor Sir Ian Diamond

Statement No.: M2/01/UKSA

Exhibits: ID2/01- ID2/99

Dated: 8 September 2023

UK COVID-19 INQUIRY

WITNESS STATEMENT OF PROFESSOR SIR IAN DIAMOND

I, Professor Sir Ian Diamond, Chief Executive of the UK Statistics Authority and National Statistician, will say as follows:

| | |
|--|----|
| The UK Statistics Authority's role, function, and responsibilities | 2 |
| <i>Key officials</i> | 4 |
| The ONS's role in providing data and statistics during the Covid-19 pandemic | 7 |
| Covid-19 statistics and data that informed the pandemic response | 9 |
| <i>Quality and accuracy</i> | 10 |
| <i>Pre-release access and management information</i> | 10 |
| <i>Covid-19 latest insights (live roundup)</i> | 12 |
| Identifying data gaps | 14 |
| <i>Opinions and Lifestyle Survey (OPN)</i> | 15 |
| <i>Business Insights and Conditions Survey (BICS)</i> | 16 |
| <i>Covid-19 Infection Survey (CIS)</i> | 17 |
| <i>Mortality statistics</i> | 18 |
| <i>Deaths in care homes</i> | 19 |
| <i>Requests for data and statistics</i> | 21 |
| <i>New surveys</i> | 21 |
| <i>Bespoke analysis</i> | 23 |
| <i>Modelling</i> | 27 |
| <i>Public Health Data Asset</i> | 30 |
| <i>ONS publications on the impact of, or response to, Covid-19 internationally</i> | 31 |

| | |
|---|----|
| <i>ONS publications specific to devolved nations</i> | 31 |
| <i>Other key materials</i> | 31 |
| Engagement with stakeholders | 32 |
| <i>Engagement with UK Government</i> | 32 |
| <i>Informal/private communication with Ministers or SCS within Governments across the UK</i> | 34 |
| <i>Engagement with devolved administrations</i> | 34 |
| ONS interaction with SAGE and its sub-groups | 35 |
| <i>Access to statistics and data by SAGE and sub-group members, and the role of the Secure Research Service (SRS)</i> | 37 |
| <i>Models produced by SAGE and/or SPI-M</i> | 38 |
| <i>Interaction with scientific and expert groups in devolved administrations</i> | 38 |
| <i>Interaction with other public, domestic and local bodies</i> | 39 |
| <i>International collaboration</i> | 40 |
| <i>Multilateral bodies</i> | 40 |
| <i>GDP</i> | 41 |
| <i>CPI</i> | 42 |
| <i>Bilateral engagement</i> | 43 |
| <i>Parliamentary engagement</i> | 44 |
| Pandemic challenges and lessons learned | 46 |
| <i>Interaction with Governments, devolved administrations, public bodies and local authorities</i> | 46 |
| <i>Data sharing</i> | 47 |
| <i>Data collection</i> | 48 |
| <i>Social Surveys</i> | 49 |
| <i>Economic Statistics</i> | 51 |
| <i>Public perception of our data, statistics and analysis</i> | 54 |
| <i>Lessons learned reports</i> | 55 |
| Conclusion | 58 |
| Statement of Truth | 59 |

The UK Statistics Authority's role, function, and responsibilities

1. The UK Statistics Authority (the Authority) is an independent statutory body established under the Statistics and Registration Service Act 2007 ('the 2007 Act'). It operates at arm's length from government as a non-ministerial department and reports directly to the UK Parliament, the Scottish Parliament, the Welsh Parliament and the Northern Ireland Assembly.

2. The 2007 Act established the Statistics Board as a body corporate (see section 1(1)). The 2007 Act also provided that there should be a National Statistician appointed by the Crown as an officer of the Board (see section 5). The National Statistician is the Chief Executive of the Board (see section 31).
3. The Board has adopted standing orders ('the standing orders'). The standing orders explain (at ¶1) that:

The Act created a 'Statistics Board' but by resolution at its first meeting on 2 February 2008 the Board agreed that it would operate under the name of the 'UK Statistics Authority'.
4. The 2007 Act sets out the Authority's objective as promoting and safeguarding the production and publication of official statistics that serve the public good (see section 7 (1)).
5. The Authority has a number of responsibilities. These are described as follows (at ¶3 of the standing orders):

The Authority provides professional oversight of the Government Statistical Service (GSS) and has exclusive responsibility for the Office for National Statistics, and for independent regulation.
6. In practice, the Office for National Statistics (ONS) operates as the Authority's statistical production function and is part of the GSS. The ONS is the UK's internationally recognised National Statistical Institute and largest producer of official statistics in the UK. The ONS is responsible for collecting and publishing statistics related to the economy, population and society at national, regional and local levels. It is the work of the ONS that I will, unless stated otherwise, be referring to in this statement.
7. The Office for Statistics Regulation (OSR) is the regulatory arm of the Authority and provides independent regulation of all official statistics produced in the UK. Ed Humpherson, Director General for Regulation, will be providing a separate corporate statement to the Inquiry.
8. The GSS is a network of all those involved in the production of official statistics in the UK. Official statistics are defined as those produced by organisations named in the 2007 Act or in the Official Statistics Order (SI 878 of 2023). Every public body with a significant GSS presence, such as those involved in the production or use of official statistics, has its own designated Head of Profession for Statistics. The GSS is part of the cross-government Analysis Function, which is a community of analysts across government. I lead both the GSS and Analysis Function.
9. Official statistics are produced by statisticians operating under the umbrella of the GSS, working in either the ONS, UK government departments and agencies, or one

of the three devolved administrations in Northern Ireland, Scotland and Wales. Each of the devolved administrations has its own Chief Statistician. The Concordat on Statistics [ID2/1-INQ000252611] sets out an agreed framework for statistical collaboration between the Authority, UK Government, and the Northern Ireland, Scottish and Welsh Governments.

10. An organisation chart of the Authority outlining how the ONS, OSR and the GSS relate to each other has been exhibited to the inquiry [ID2/2 – INQ000252612].

Key officials

11. I will now set out a summary of the key officials within the ONS.
12. I, as the National Statistician (October 2019 – present (August 2023 at the time of writing)), am Chief Executive of the Authority, Head of the GSS and Analysis Function. I provide overall leadership for the ONS and the statistics profession across government. I advise ministers, the Cabinet Secretary and senior officials on the production, dissemination and use of statistics across government. I am responsible for the work of our department and provide direction to ensure we deliver on our strategy 'Statistics for the Public Good'.
13. I am also supported by three Deputy National Statisticians:
 - a. Deputy National Statistician and Director General for Data Capability, Alison Pritchard (October 2020- present). She is leading the transformation in data usage which will see ever more integrated data put to effective and safe use across the private and public sectors. She ensures the ONS has the right technology and skills to meet its goals in data analytics and data science. She champions safe and secure data sharing for the public good in the ONS and beyond.
 - b. Deputy National Statistician and Director General for Economic, Social and Environmental Statistics (ESEG), Mike Keoghan (January 2022- present). He is responsible for ensuring the ONS continues to produce the UK's most important statistics about the economy and society. He is expanding our work on the environment and driving the transformation of economic statistics. Under the ESEG umbrella sit national accounts (including Gross Domestic Product (GDP)), labour market statistics, trade, public sector finances, prices, crime, subnational data and climate change statistics, as well as the Data Science Campus.
 - c. Deputy National Statistician and Director General for Health, Population and Methods (HPaM), Emma Rourke (July 2022 – present). She is responsible for ensuring the ONS continues to produce high-quality analysis and statistics

that inform the public on matters of health, population (including outputs from the 2021 Census) and migration. She ensures that such analysis and statistics are underpinned by solid methodological practices and quality assurance. She has a strong focus on developing new methods for statistics using administrative data. This will inform my recommendation on the future of population and social statistics production in England and Wales – including future census arrangements.

14. The structure of these groupings has been adapted over 2020, 2021 and 2022, reflecting the internal changes made due to the impact of the pandemic on our work priorities. I have exhibited to the inquiry the relevant organograms throughout January 2020- end of May 2022 to illustrate the structural changes that occurred.
15. Exhibit [ID2/3 - INQ000252613] illustrates the structure of the ONS in April 2020.
16. Exhibit [ID2/4 - INQ000252614] illustrates the structure of the ONS in May 2021. Here you can see that Economic Statistics had taken on Social and Environmental Statistics through the acquisition of the Public Policy Analysis (PPA) directorate, and that Health Analysis and Life Events (HALE) division had moved from PPA directorate to become its own directorate: Health Analysis and Pandemic Insight (HAPI). Surveys directorate had also moved to Data Capability which reflects structural changes post Census 2021.
17. Exhibit [ID2/5 - INQ000252615] illustrates the structure of the ONS in May 2022. While no significant structural changes at the directorate level, it shows some people moves that are described in later paragraphs.
18. Between 2020 and 2023 I was supported by the Second Permanent Secretary and Deputy Chief Executive Sam Beckett (September 2020 – May 2023). In assisting with the overall leadership of the ONS, Sam had responsibility for Economic Statistics.
19. Each of the Deputy National Statisticians changed within the time period:
 - a. Frankie Kay was Interim Deputy National Statistician for Data Capability in January 2020 and left in November 2020; she was replaced by Alison Pritchard.
 - b. Jonathan Athow was Deputy National Statistician for Economic Statistics (now ESEG) in January 2020 and left in October 2021; he was replaced by Mike Keoghan.
 - c. Iain Bell was Deputy National Statistician for Population and Public Policy (PPP, now HPaM) in January 2020 and left in June 2021. Pete Benton replaced him in January 2022 before he took a period of extended absence. Emma Rourke became Deputy National Statistician in July 2022.

20. Key Directors throughout the time period include:

- a. Pete Benton
 - i. In January 2020 was Director of PPP Operations – this included responsibility of Covid-19 Infection Survey (CIS) operations.
 - ii. In 2021, he moved to Director of Census Operations.
 - iii. January - July 2022 promoted to Deputy National Statistician for HPaM.
- b. Grant Fitzner
 - i. Has been Director for Macroeconomic Statistics and Analysis throughout the time period, however, was briefly responsible for the ONS's Covid-19 response in April 2020 (before we implemented the long-term organisational changes required).
- c. Liz McKeown
 - i. In January 2020 she was Director of PPA (joint with Emma Rourke until August 2020), this included responsibility for health analysis (until August 2020) and the Opinions and Lifestyle Survey (OPN).
 - ii. In August 2020, HALE division was moved from PPA to the new HAPI directorate. In February 2021, due to organisational restructuring, the PPA directorate moved to what subsequently became ESEG.
- d. Darren Morgan
 - i. In January 2020 he was Director of Economic Statistics Development; this included responsibility for the Economic Statistics Transformation Programme and also the production and publication of Labour Market and GDP statistics.
 - ii. In April 2021 he moved to be Director of Economic Statistics Production and Analysis; this includes responsibility for the Business Impacts of Coronavirus Survey (BICS) (now known as the Business Insights and Conditions Survey), whilst also retaining responsibility for Labour Market and GDP figures.
- e. Emma Rourke
 - i. In January 2020 she was Director of PPA (joint with Liz McKeown until August 2020) which had responsibility for HALE division.
 - ii. From August 2020, she became Director of HAPI, which incorporated the CIS programme.
 - iii. In July 2022 she was promoted to Deputy National Statistician for HPaM.
- f. Tom Smith

- i. In January 2020 was Director of the Data Science Campus, left in March 2022, temporarily replaced by Arthur Turrell.
- 21. Key Deputy Directors throughout this time period include:
 - a. Ben Humberstone
 - i. In January 2020 was Deputy Director of HALE, left the ONS in May 2021.
 - b. Alex Lambert
 - i. In January 2020 was Deputy Director for Social Surveys Operations and became Director for Survey Operations in April 2021 – this includes CIS operations.
 - c. Julie Stanborough
 - i. In January 2020 was Deputy Director for Best Practice and Impact, replaced Ben Humberstone as Deputy Director for HALE in May 2021.
 - d. Hugh Stickland
 - i. In January 2020 was Deputy Director of Strategy & Engagement from start of pandemic, by May 2022 was Deputy Director of Analysis Hub.
 - e. Ruth Studley
 - i. Joined the ONS in June 2020 as Deputy Director of CIS Surveillance Analysis, is presently Director of HAPI.
 - f. Jen Woolford
 - i. In January 2020 was Deputy Director of Population and Public Policy Statistical Design and Research, then Deputy Director of Policy & Engagement division, and by May 2022 was Director of Health Population & Methods Transformation.
 - g. Rob Bumpstead
 - i. Has been Chief of Staff to the National Statistician and Deputy Director for the Central Policy Secretariat throughout the time period.

The ONS's role in providing data and statistics during the Covid-19 pandemic

22. As the UK's National Statistical Institute, the ONS's role during the pandemic was to inform decision-makers and the public with regular data and analytical insights. This was across the economic, social and health themes. We increased the level of insight that we provided within releases, such as mortality, to reflect the needs of our users (such as the public, media and decision-makers). For example, we linked these data to produce new insights on Covid-19 deaths for different characteristics such as ethnic group, disability and occupation.

23. Where further insight was required, we introduced and adapted surveys at pace to rapidly inform policy decisions about the pandemic. For example, we introduced BICS, CIS, the Schools Infection Survey (SIS) and made changes to OPN. We also safely procured and used new data sources such as financial transactions to provide novel insights for decision-makers. The ONS worked closely with government departments and the devolved administrations. We provided expertise and support to facilitate effective surveillance of the virus.
24. We amended the routes by which we provided these data to decision-makers and the public. For the former, in April 2020 we implemented a new process for ad-hoc analysis to be commissioned and delivered swiftly. The organisation worked hard to maintain quality whilst delivering to a fast timeline. Many aspects of production and clearance became more efficient as a result. In addition, we shared management information to ensure that decision makers could make informed decisions with the timeliest data. This is set out in more detail at paragraph 44.
25. For the latter, we created the Covid-19 latest insights page to collate all the relevant statistics centrally and make it easier for the public to access this information; this is discussed at paragraph 50. We also amended our release times. Of the many statistical releases that the ONS publishes daily, a number are market-sensitive economic statistics. Before the pandemic these used to be published at 0930. We would hold a secure 'lock-in' briefing for accredited newswires, to provide them with access to the release prior to publication. This ensured the data were subsequently released in an orderly and timely way to the financial markets, consistent with the Code of Practice for Statistics. These 'lock-in' briefings took place in a secure environment in the ONS London office, however Covid-19 and government guidance on social distancing made delivering these secure briefings challenging, and the security arrangements to protect the orderly release of market sensitive information meant it would not be possible to deliver this in a virtual way. Therefore, from 26 March 2020 we moved to publish market sensitive releases at 0700 without briefing accredited newswires ahead of publication. This earlier release was outside market hours so it mitigated the risk of providing an advantage to some traders if there were unexpected problems with the dissemination of data. I wrote to the Director General for Regulation, Ed Humpherson, to explain our proposed approach [ID2/6-IINQ000252616]. He described it as '*sensible and proportionate*' [ID2/7-IINQ000252617].
26. The existing governance structures within the ONS remained in place during the pandemic. However, they were supplemented to reflect the fast-moving and changing picture. Early in March 2020 we established a rapid response group

including Directors General, Directors and relevant business area leads. This met each weekday morning at the start of the pandemic. We soon implemented Outputs and Operations sub-groups to ensure oversight of analytical outputs and operations across the organisation. For example, these groups helped make the strategic decision to pause some less critical releases. This meant that colleagues could focus on our priority products at the time.

Covid-19 statistics and data that informed the pandemic response

27. The ONS publishes a range of statistics related to the economy, population and society routinely. For the purposes of this statement, I have set out Covid-19 specific publications rather than routine publications that may have captured Covid-19 related impacts. I have noted origin, time period, territorial extent, demographic breakdowns, and methodology and collection changes for each.
28. I have also included details on some datasets (such as financial transactions data) that informed the Government's pandemic response. Due to data sharing agreements with most providers, these are not publicly shared.
29. I exhibit a list of datasets we produced during January 2020 to the end of March 2020 which relate to initial strategies and response to Covid-19 [ID2/8- INQ000252618].
30. The work the ONS did to measure the effectiveness, compliance, and social impact of non-pharmaceutical interventions (NPIs) from January 2020 to end of May 2022 is at exhibit [ID2/9- INQ000252619].
31. During the pandemic we also focused on the impact of the pandemic and associated NPIs on at-risk and vulnerable groups. A list of these publications is at exhibit [ID2/10-INQ000252620].
32. A list of our health statistics, including on mortality, infections and antibodies, produced during the pandemic are exhibited at [ID2/11-INQ000252621].
33. Our work capturing the impact of Covid-19 on the economy including labour market was also important to decision-makers and the public. A list of relevant datasets is at [ID2/12 - INQ000252622].
34. Some of our surveys captured public response to Covid-19 public health communications and public confidence in governments across the UK. These are exhibited at [ID2/13- INQ000252623].
35. I exhibit relevant statistical bulletins relating to these datasets published from January 2020 to end of May 2022 [ID2/14- INQ000252624].
36. A list of academic papers and journals we wrote, contributed to and that use our data in a novel way or for comparison are exhibited at [ID2/15 - INQ000252625].

Quality and accuracy

37. Our statistics are assessed against the Code of Practice for Statistics, with quality being one of the three pillars. They are awarded National Statistics designation if they comply. This quality mark can be found at the top of National Statistics publications to make users aware that they meet the full requirements of the Code.
38. All ONS datasets and publications also include details on data quality in the methodology section. Caveats in the interpretation of data are highlighted in bold at the top of every publication if required, although it should be noted that all statistical estimates are subject to some degree of uncertainty. Confidence intervals and associated footnotes are included to aid interpretation. Confidence intervals give an indication of the degree of uncertainty of an estimate and help decide how precise a sample estimate is. It specifies a range of values in which we think the true value is likely to lie, defined by lower and upper limits.
39. This is included even for our experimental statistics, a subset of official statistics going through development and evaluation. Such statistics may have a wider degree of uncertainty. The status of experimental statistics is useful as it allows producers of statistics to involve users in the assessment of suitability and quality at an early stage, for example through my advisory committees. Experimental statistics are badged as such for public transparency.
40. We publish more statistical quality and methodology information (QMI) in separate reports detailing the strengths and limitations of the data, methods used, and data uses and users. This is to inform our audience of changes in sample and survey design and how these affect the accuracy of our data. An example QMI for a relevant Covid-19 dataset is exhibited at [ID2/16- INQ000252626].
41. As a result of the pandemic, we had to adapt collection methods, moving from in person interviews and paper questionnaires to telephone or online collection. This was to ensure quality and accuracy remained high. Further detail on steps that were taken to overcome these data collection challenges for our social surveys and economic statistics are detailed in paragraphs 206-228.

Pre-release access and management information

42. Equality of access to official statistics is a fundamental principle of statistical good practice. As of 1 July 2017, pre-release access to statistics produced by the ONS was removed in all but exceptional circumstances.
43. One such exceptional circumstance occurred on 31 March 2020 when I gave an exemption for the ONS to provide the Department for Health and Social Care (DHSC) with provisional data on deaths registered weekly in England and Wales.

This approval was granted for that date only, the first release of its kind, on specific grounds relating to the need for Ministers to better understand the spread of Covid-19 across non-hospital settings. We placed a statement on the ONS website the same day to explain this decision [ID2/17- INQ000252627].

44. When we removed pre-release access, it was made clear that in certain circumstances, such as when important for operational planning and decision-making, the National Statistician could grant early access to statistics. The fast-changing nature of the pandemic meant that timely data to inform decision making by government was critical. I gave approval for specific data to be shared a short time before publication to assist with operational planning and decision making during the pandemic period. These data, known as management information, differ from official statistics. Although it is quality assured, it is still in pre-published form. While fit for certain purposes, preparation for publication had not yet been completed.
45. During the period from January 2020 to May 2022, management information from ONS surveys was shared with named individuals, Ministers and key officials representing UK Government, advisory and health organisations and devolved administrations. This was to inform urgent operational planning and decision-making for the public good. These sources included CIS, SIS, weekly mortality statistics, OPN, and BICS. Aggregate data on financial transactions was also shared in accordance with specific data sharing agreements with commercial suppliers.
46. The exhibited document [ID2/18- INQ000252628] includes monthly snapshots of the distribution lists (where available) that were used to share management information. Management information may have also been shared separately in addition to these lists for quality assurance purposes.
47. The ONS shared a regular submission with the Cabinet Office CCS Data and Dashboard Team (DDT) Covid Dashboard with data including OPN, BICS, weekly mortality statistics and financial transactions data. As detailed in the exhibited document, some outputs were initially shared as part of the regular Cabinet Office DDT submission but shared separately later during the pandemic.
48. The distribution list for the Dashboard covered Cabinet Office and His Majesty's Treasury (HMT), (via the DDT Mailbox and an official from HMT). On occasion during the pandemic, additional colleagues from Cabinet Office and HMT were also sent the Dashboard information. It has not been possible to identify a record of the distribution list that Cabinet Office sent their Dashboard to.
49. The management information was shared in line with guidance from OSR. They recognised the importance of management information to the operation of government. We also published guidance on our management information policy

internally for ONS colleagues' awareness. Those receiving management information were required to meet strict conditions. They had to confirm that their role and work fed directly into Covid-19 decision-making.

Covid-19 latest insights (live roundup)

50. The Covid-19 Latest Insights Tool was developed at pace in November 2020. It was released in December 2020 so that members of the public could find reliable, easy to understand information about the Covid-19 pandemic in one place.
51. It was built on top of an existing product, the Coronavirus roundup, which had launched at the start of the pandemic in March 2020. The roundup was designed to provide a daily summary of ONS analysis relating to the pandemic on the ONS website. It was aimed at the public. It did not include data from other departments.
52. At the time, the main source of Covid-19 information on the ONS website was the CIS publication. This was a long and technical publication when it first began, aimed primarily at expert users.
53. Separately, the GOV.UK Covid-19 dashboard for daily Covid-19 case figures and deaths was very data focused and did not provide context.
54. The idea to provide an understandable narrative across departments involved collaboration between DHSC, Joint Biosecurity Centre (JBC) and UK Health Security Agency (UKHSA) (formerly Public Health England (PHE)). The ONS was also providing weekly reports from the OPN and death registrations, as well as other ad-hoc publications, meaning daily updates and key information were often published across multiple websites and outputs.
55. The insights tool was commissioned in November 2020 to fill these gaps. It provided a quick look of key measures and some simplified narrative. It combined narrative and an ability for users to find all the information in one place. It also enabled users to find the more detailed information as needed. The development of the insights tool involved many different teams across the ONS, as well as DHSC, and we engaged in user testing at key stages to make sure it met user need.
56. Initially a weekly insights article was published which provided a summary of the latest findings on Covid-19 from the CIS, death registrations, the REACT study, and OPN. The first article was published in mid-November 2020, and data from UKHSA was added into the article at the end of November 2020. This was done to meet user need as quickly as possible whilst a longer-term solution (the insights tool) could be developed. The data in the article mostly covered England only, with the exception of OPN data which covered Great Britain.

57. The first version of the Covid-19 Insights Tool was developed in five weeks and was first published in mid-December 2020, alongside the weekly articles. From January 2021, the content from the weekly insights article started to be added to the insights tool. The insights tool then replaced the weekly article (the final weekly article was published in February 2021). Following this, the insights tool started to be expanded to cover the other UK nations where possible.
58. By May 2021 the Covid-19 Latest Insights Tool had been expanded and developed to include additional data sources, bespoke charts, narrative for each section (rather than only a description of the chart), and comparisons of the different data sources.
59. In July 2021 the Covid-19 Latest Insights Tool was merged with the Coronavirus roundup. The two products were similar and attracted a similar audience. The coronavirus roundup became the 'front page' of the Covid-19 Latest Insights Tool and has remained in this format since. The roundup had a mailing list and sign-up which had over 10,000 people on it at its peak and this also transferred over to the insights tool.
60. The format of the Covid-19 Latest Insights Tool remained the same since the merger with the roundup. However iterative changes were made to respond to user feedback. For example, we collaborated with external stakeholders to include more data sources from outside of the ONS, to provide additional insight and a more rounded picture for our users.
61. The tool provided weekly updates on infection levels from the CIS, hospital admissions and Intensive Care Unit (ICU)/High Dependency Unit (HDU) admissions from UKHSA data, and deaths from ONS death registrations. Later on, weekly updates on the autumn booster programme and time since last vaccine dose were also added. Other regular, but less frequent, updates included:
- a. reinfections, symptoms, antibodies and long Covid estimates from the CIS
 - b. behaviours and opinions related to Covid-19 from the OPN
 - c. primary diagnosis for patients admitted to hospital with Covid-19 from NHS England
 - d. analysis of critical care admissions from the Intensive Care National Audit & Research Centre
 - e. as well as other ad-hoc ONS publications that contain findings related to the Covid-19 pandemic.
62. The Covid-19 Latest Insights Tool is the most widely read product in the history of the ONS website. Google Analytics shows that there were almost 1.7 million views across the different pages of the tool between July 2021 (when the merger with the coronavirus roundup occurred) and May 2022. The true figure is likely to be far

higher than this as these figures only include users who accept analytics/non-essential cookies on the ONS website (estimated at 30% of all visitors.)

63. The extent to which it was used by key decision-makers is more difficult to ascertain; as explained, the tool was created for the public and has been well received.

Identifying data gaps

64. The ONS was agile and proactive in identifying the data, statistics and analysis that decision-makers and the public needed to respond to the pandemic, for example, in relation to the impacts of Covid-19 and associated NPIs on individuals and businesses.
65. I personally had regular informal engagement with other Permanent Secretaries through attending the weekly meeting Wednesday Morning Colleagues (WMCs). I attended the Scientific Advisory Group for Emergencies (SAGE) with the Chief Medical Officer, Professor Sir Chris Whitty, and Chief Scientific Officer, Sir Patrick Vallance, which helped to inform and identify potential data gaps. Following a search of ONS records, these discussions at SAGE, and the action the ONS took to provide the relevant data, can be found at paragraphs 99 and 139.
66. The ONS engaged with government departments and the devolved administrations to understand data requirements and shape analytical plans. We did this using our established channels such as Heads of Statistical Profession (HoPs) quarterly meetings, Departmental Directors of Analysis (DDAN) bi-monthly meetings, and supplementing these with additional fortnightly calls. The agendas and minutes from these HoPs and DDAN meetings have been exhibited together at [ID2/19-INQ000252629], where they refer to Covid-19 workstreams.
67. In March 2020, the ONS seconded a colleague into the Civil Contingencies Secretariat (CCS) data team (this team later merged into the Covid-19 Taskforce based in the Cabinet Office) to directly understand the data needs and requirements of the UK Government. We retained a colleague there throughout the pandemic through to the evolution of Taskforce in mid-2022 (when it became the Joint Data and Analysis Centre (JDAC)). This secondment provided an excellent route for the ONS to understand the data needs and requirements of the UK Government and also share insight and analysis directly with key decision-makers in the Cabinet Office. The success of this model led to the creation of the ONS's Policy Liaison Unit. This is a small team of colleagues working closely with government departments to better understand policy priorities and data gaps and highlight where ONS data can help inform these areas.

68. The ONS was aware that given the unprecedented nature of the pandemic, any new perspectives or insight would be of interest to decision makers and the public. For example, the ONS's Faster Indicators release, originally developed before the pandemic, grew in importance as a tool providing economic insights, including metrics on daily UK flights and total online job adverts.
69. Key decision makers were engaged in relation to the development of specific ONS surveys such as the OPN, BICS and CIS that would provide insights in relation to the pandemic. These surveys have been updated and adapted throughout the course of the pandemic to reflect changes in policy and our understanding of the virus. There were different ways in which the Government shared their feedback and data needs in relation to each of these surveys.

Opinions and Lifestyle Survey (OPN)

70. Before March 2020, the OPN was an ONS survey which ran for 2 months in each quarter. From late March 2020, with new restrictions in place, this was adapted to become a weekly survey collecting data on the impact of Covid-19 on day-to-day life (the frequency of the publication of the survey results changed during the pandemic period). Through the Covid-19 Taskforce the Cabinet Office were primary users of these data. They made regular requests for new questions and analysis, to support Ministers, SAGE and the subgroups. The Cabinet Office also supported efforts to secure finance, HMT approvals and DHSC funding through the CIS programme to adapt and maintain the survey. The ONS were open to feedback on the survey and given the frequency of data collection, were able to adapt survey questions to reflect data needs incredibly quickly.
71. The ONS consulted with a wide range of other government departments on a regular basis as it developed questions for the survey. The first draft of the survey was also shared with SAGE members over the weekend 13 to 15 March 2020. Following such engagement, the ONS added and adapted questions within the survey. Examples include:
- a. working regularly with the Department for Transport (DfT) and Cabinet Office to collect data on self-reported use of facemasks in public, including on public transport,
 - b. working with DHSC to collect timely data on attitudes towards vaccination uptake during the early stages of the vaccine roll out, and
 - c. working with the Covid-19 taskforce to develop content to measure the number of working adults travelling to work / working from home, alongside self-reported compliance to social distancing and other NPIs.

72. Exhibit [ID2/20- INQ000252630] records requests made to add themes or questions to the OPN, including those from Cabinet Office relating to Covid-19, from October 2020. This is not a complete record due to the different methods by which requests were made, for example via informal conversation. Those highlighted yellow originated, to the best of my knowledge, from the Cabinet Office. Requests up until October 2020 were not recorded in a central log.
73. Not all requests recorded in the exhibit will have been included in the OPN. For example, if there was no space in the survey, or a request was made but not actionable. Where requests are duplicated, they may have been included in the log until a decision on their inclusion was made.
74. Following searches of ONS records, exhibit [ID2/21- INQ000252631] includes emails detailing requests for information to be added to the OPN from the Cabinet Office. Some of these requests are from the ONS Policy Liaison who was embedded in the Covid-19 Taskforce at the time, as noted at paragraph 67.
75. In addition, exhibit [ID2/22-INQ000252632] is an excel spreadsheet received in December 2020 from Cabinet Office requesting specific breakdowns for the OPN, new suggestions for OPN questions and bespoke research requests.

Business Insights and Conditions Survey (BICS)

76. The BICS survey was newly established by the ONS in March 2020. It was initially designed to capture pandemic-related economic impacts to inform the UK response. The initial sample size was 17,800 in the first wave (March 2020). It increased slowly over the next few waves. The sample increased in June 2020 to 24,500, and again in November 2020 to 38,800. The sample size has remained fairly consistent at this level since then.
77. From April 2020, the ONS worked closely with policy and analytical leads across government and the devolved administrations to help identify priority areas for new waves of the survey. This involved: (i) identifying where policies differed in each nation (as such would therefore need to be reflected in the survey), and ii) meeting and corresponding regularly to check that the BICS would deliver the insights required. Initially this was ad-hoc, before moving into more regularly arranged meetings. We worked closely with most government departments, including Cabinet Office, the Office for Budget Responsibility (OBR), HMT, the Department for Business, Energy and Industrial Strategy (BEIS), the Department for International Trade (DIT), DfT and the Bank of England.
78. Following such engagement, the ONS included questions in the BICS. For example, questions were added on the proportion of the workforce on furlough; the proportion

of the workforce currently absent from work due to illness or self-isolating; adaptation to working from home as a permanent business model going forward; provision of regular testing for workforce and general expectations of the business welfare in the future and comparisons to business operations pre pandemic.

Covid-19 Infection Survey (CIS)

79. On the morning of 16 April 2020, I attended a SAGE meeting [ID2/23-INQ000252633] which agreed on the importance of obtaining an accurate estimate of R and community prevalence over the next 2-3 weeks to inform decisions. Following this meeting (on the same day), I discussed how to estimate the positivity rate with Michael Webb, a No10 and HMT special advisor. I discussed individually with Professor Sir Jeremy Farrar and Sir Patrick Vallance the possibility of setting up a large community survey to estimate both positivity and the incidence of antibodies. On the evening of 16 April I convened, and Professor Sir Jeremy Farrar chaired, a meeting to design the approach for surveying infection to establish true prevalence of Covid-19 in the population (with Professor Sarah Walker and Sir John Bell from the University of Oxford, and Tasmin Berry from the Office for Life Sciences also attending).
80. The ONS was subsequently commissioned by DHSC to deliver the CIS, a longitudinal study (a survey design that contacts the same individuals over time to detect changes) of the population prevalence of Covid-19 infection in the community. The design group included Professor Sir Jeremy Farrar, John Newton (Public Health England), Alex Lambert (Deputy Director for CIS Operations at the ONS, at the time), Professor Sarah Walker (Chief Investigator and Study Lead, Oxford University), Sir John Bell (Regius Professor of Medicine, University of Oxford), Tasmin Berry (Director, Office for Life Sciences) representatives from DHSC and myself. We based the survey on existing household surveys such as the Annual Population Survey (APS) and the Labour Force Survey (LFS). In the case of CIS, at the start of the study, all those invited to join were individuals who had previously participated in an ONS social survey, to increase the speed at which sufficient participants could be recruited to provide estimates to central government. The sampling method evolved over time and is detailed further in [ID2/24 - INQ000252634].
81. Working with partners including the University of Oxford, the CIS was the largest regular survey of coronavirus infections and antibodies. It provided vital information to help the UK's pandemic response. The CIS was operational between April 2020 and March 2023 and formed a core part of the government's ongoing surveillance of

the prevalence of Covid-19 across the UK, delivering data breakdowns by age and region across all four nations.

82. The CIS pilot took place in England and the survey then expanded to the devolved administrations. Fieldwork began in Wales in June 2020 (first published August 2020), Northern Ireland in July 2020 (first published September 2020) and Scotland in September 2020 (first published October 2020). The ONS engaged with the Chief Statisticians in the devolved administrations to identify each nations different priorities and analytical needs, to expand the survey and to provide vital data on Covid-19 positivity rates across the UK.
83. DHSC, UKSHA, devolved administration and Oxford University representatives attended the CIS Programme Board and steering group which were both set up in May 2020. We also developed a CIS user group in 2021. This was to consolidate user engagement and get collective views on priorities. It was attended by representatives from DHSC, NHS Test and Trace, the devolved administrations and Oxford University.
84. On 25 September 2020, I received a request from No.10 for data on the prevalence of long-term symptoms following infection, known as long Covid. In February 2021, the ONS added questions on long Covid to the CIS, with the first national prevalence estimates published on 1 April 2021. Since June 2021, the ONS has produced monthly surveillance estimates of the population prevalence of self-reported long Covid, as well as periodic analyses relating to long Covid and Covid -19 vaccination and variants. The ONS has provided updates at DHSC ministerial roundtables on long Covid and at NHS England's long Covid taskforce and attends a fortnightly meeting of national long Covid study leads (chaired by Professor Kamlesh Khunti and reporting to the CMO for England). We provided papers on long Covid to SAGE for meetings held on 4 February 2021 [ID2/25- INQ000252635] and 22 July 2021 [ID2/26- INQ000092856].

Mortality statistics

85. Throughout the time period, there were two main published data sources available on deaths: the daily DHSC Covid-19 deaths data and the ONS weekly death registrations data for England and Wales.
86. The daily DHSC Covid -19 deaths data [ID2/27- INQ000252637] were published for the UK at 2pm every day; this data came from NHS England, Public Health Wales, Health Protection Scotland and Public Health Agency in Northern Ireland. This daily reporting of deaths provided an immediate understanding of the pandemic.

87. The ONS weekly death registrations data for England and Wales [ID2/28- INQ000252638] are released every Tuesday at 9:30am relating to the week that ended 11 days prior (for example, data for the week ending 20 March are released 31 March).
88. Before 29 April 2020, DHSC published Covid-19 deaths in hospitals only where the patient had tested positive. From 29 April 2020, DHSC started to publish daily announced figures on deaths from Covid-19 for the UK. These figures provided a count for all deaths where a positive test had been confirmed, wherever that death took place. And on 12 August 2020, timings for testing positive were introduced where deaths were counted as Covid-19 deaths if the patient died within 60 days of testing positive (or after 60 days, but Covid-19 was mentioned on the death certificate). These figures also included a breakdown of patients that died up to 28 days of testing positive.
89. The DHSC data was available at a quicker turnaround and provided a good indication of trends, however it was based on date of reporting and was a measure of those who had tested positive and died; at the start of the pandemic this was confined to hospitals only. The ONS measure provides a more accurate assessment of deaths involving Covid-19, as estimates are based on all deaths where Covid-19 is mentioned on the death certificate, including those occurring outside of hospitals (for example, in care homes). Weekly ONS figures by registration date roughly followed the DHSC daily figures, with a short time lag. This reflected the time between a death taking place and being officially registered with cause of death recorded. More information on this issue can be found in our impact of registration delays release [ID2/29- INQ000252639].
90. To aid in explaining these different figures and improve clarity around which should be used when, we published a statement on our website "*Deaths relating to the coronavirus*" (31 March 2020) [ID2/30- INQ000252640] written in collaboration with DHSC. A full summary of the differences between the sources was also included in the statement [ID2/31-INQ000252641]. Further to this, the ONS released comparisons on deaths relating to Covid-19 by the different organisations and the possible reasons why there may be differences in 'Comparison of weekly death occurrences in England and Wales: up to week ending 10 July 2020' [ID2/32- INQ000252642].

Deaths in care homes

91. Within ONS's weekly publication there are three data releases relating to deaths in care homes:

- a. Deaths registered weekly in England and Wales [ID2/33- INQ000252643], provisional; this presents provisional counts of the number of deaths registered in England and Wales, by age, sex and region, and place of death e.g. care homes.
 - b. Number of deaths in care homes notified to the Care Quality Commission (CQC) [ID2/34- INQ000252644], England; this presents provisional counts of deaths in care homes, based on statutory notifications by care home providers to the CQC.
 - c. Care home resident deaths registered in England and Wales [ID2/35- INQ000252645], provisional; this presents provisional counts of the number of care home resident deaths registered in England and Wales, by region, including deaths involving Covid-19). "Deaths of care home residents" refers to both (a) resident deaths occurring in a care home, and (b) deaths where the deceased resided in a care home but died elsewhere e.g. in a hospital. The figures should not be confused with "deaths in care homes" reported in other publications, which refers only to category (a).
92. The ONS published a transparency statement on 28 April 2020 [ID2/36- INQ000252646]. This explained that the ONS and CQC had agreed to publish provisional counts of deaths in care homes, based on statutory notifications by care home providers to the CQC. This was to improve the timely availability of the data. The statement compares the coverage, inclusion and timeliness of DHSC Covid-19 deaths, ONS Covid-19 deaths registered, ONS Covid-19 death occurrence (actual date of death), and CQC deaths in care homes (date of notification received) [ID2/37- INQ000252647].
93. The first publication on deaths involving Covid-19 in the care sector was released on 15 May 2020 [ID2/38- INQ000252648]. Updates on deaths in the care sector were published in July 2020 [ID2/39- INQ000252649], May 2021 [ID2/40- INQ000252650] and February 2022 [ID2/41- **INQ000230971**]. The May 2021 publication analysed deaths registered involving Covid-19 in the care sector during wave one and two of the pandemic. The February 2022 publication looked at deaths registered involving Covid-19 in the care sector during waves one, two and three of the pandemic. This work was produced in collaboration with the CQC and Care Inspectorate for Wales and quality assured by Welsh Government and DHSC.
94. A National Statistical blog post on 3 July 2020 [ID2/42- INQ000252652] explained the differences between the ONS deaths involving Covid-19 within the care sector publication and the cross-Government Vivaldi study. It was explained that because of those differences conclusions should not be drawn from putting them together.

95. Since 2020, the ONS has released new annual publications of deaths of care home residents (now on its third release). This covers information regarding the leading causes of death in care homes. It is produced in collaboration with the CQC and Care Inspectorate for Wales and quality assured by Welsh Government.

Requests for data and statistics

96. In addition to the surveys already described, there were other new surveys and bespoke data requests that the ONS delivered on during the pandemic response. I enclose below a list of such surveys and bespoke requests. Requests for analysis were often made for a specific decision-making point or to evaluate the effectiveness of NPIs and guidance.

97. We provided what we understood, through our engagement with Governments across the UK and our own horizon scanning, to be the most useful, high quality and timely evidence to inform decisions. We can only advise how this was used by decision-makers when we were made aware of the specific use of our data, statistics and advice. We do not know all instances of what it informed and how it was used.

New surveys

98. I enclose below a list of new surveys.

- a. *Coronavirus and clinically extremely vulnerable people in England* – DHSC commissioned the ONS to set up a survey on those shielding and the impacts of this on their wellbeing, work and finances in May 2020. DHSC managed onward sharing and evidence used in key decision-making meetings.
- b. *International Arrivals Survey* – DHSC commissioned the ONS to set up and run the survey from September 2020. Slide packs were shared with DHSC, Home Office and DfT. Data measured compliance with self-isolation for international arrivals isolating at home or in non-quarantine hotels. This was used to monitor policy on self-isolation and testing.
- c. *Covid-19 Attitudes Study* (previously named Test and Trace Insights Study) - DHSC commissioned the ONS and managed onward sharing and oversaw evidence that went to key decision making meetings. The survey was established in February 2021 and ended May 2022. It measured behaviour of individuals advised to self-isolate, including impact of isolation on well-being and finances.
- d. *Student Covid-19 Insights Survey* – In late 2020 DHSC and JBC commissioned the ONS to measure behaviours, plans, opinions and well-being of higher education students in the context of the pandemic and associated guidance.

- e. *Covid-19 Schools Infection Survey* – DHSC commissioned the ONS in late 2020 to investigate the prevalence of infections and presence of antibodies to Covid-19 among pupils and staff in sampled primary and secondary schools in England. The survey was led by a partnership between PHE, London School of Hygiene and Tropical Medicine (LSHTM) and the ONS. The ONS's role was to operationalise the study and disseminate results. The survey ended in March 2022. Sinead Langhan and James Hargreaves, from LSHTM, were co-Principal Investigators alongside Fiona Dawe from the ONS. The LSHTM co-Principal Investigators changed for SIS2 to Patrick Nguipdop-Djomo and Punam Mangtani. The study Chief Investigator was Dr Shamez Ladhani from PHE for both SIS and SIS2.
- f. *Vivaldi Care Homes study* – The study was led by a partnership between DHSC, UCL and the ONS to measure the impact of Covid-19 in care homes. The survey ran from May to June 2020. The ONS's role was to advise on the survey design and estimates approaches, to oversee the collection of data from care homes, provide the methodology and enable DHSC to weight their care home data.
- g. *Liverpool mass testing Survey* – DHSC commissioned the ONS for a pilot to evaluate city wide voluntary testing throughout November 2020.
- h. *Over 80's Vaccine Insights Study* – DHSC commissioned the ONS to measure people's views and experiences of Covid-19 guidance and the vaccine rollout being administered to those aged 80 years and over in England. The survey ran once in February 2022.
- i. *Covid-19 Vaccine Opinions Study* – DHSC commissioned the ONS to investigate changes in vaccine uptake in adults who previously reported vaccine hesitancy on the OPN. The survey ran in September 2021.
- j. *Daily Contact Test* – study led by DHSC in April to July 2021 which measured the effectiveness of daily testing for close contacts of positive cases in schools produced data through Polymerase Chain Reaction (PCR) and Lateral Flow Tests. The data was uploaded to the Secure Research Service (SRS) platform, which included anonymised data on close contacts, test and trace, and Covid-19 symptoms. The ONS used a management reporting dashboard which provided a breakdown of schools' progress with testing and data reporting, to support the ONS' role of cleaning data to facilitate the publication of the final report (with Oxford University responsible for the analysis and reporting).

- k. *Student Experiences Insights Survey* – commissioned by DHSC and the data advisory group which included Department for Education (DfE), Cabinet Office, DHSC, UKHSA and Universities Data advisory group. The ONS conducted a study on first year students (survey run in October 2021) and third year and higher students (survey run in November to December 2021). The survey measured university students' academic experience and wellbeing.

Bespoke analysis

99. I enclose below a list of bespoke requests (which have been exhibited where of interest to the Inquiry).
- a) *March 2020* - the ONS produced various population statistics (various subgroups of those living alone, elderly or medically/socially vulnerable) for the Department for Digital, Culture, Media and Sport (DCMS) and Cabinet Office, to feed into lockdown and shielding plans.
 - b) *March 2020* – the ONS received a request from SAGE in March to investigate excess deaths from Covid-19. Analytical papers were produced in June and August estimating direct and indirect impacts of Covid -19 on mortality in collaboration with DHSC, Home Office and Government Actuary's Department (GAD). This fed into SAGE advice and No10 evidence dashboards to inform NPIs in general [ID2/43- INQ000252653]
 - c) *April 2020* – the ONS shared UK Covid-19 deaths data following urgent request on registration and occurrence data by age, sex, place of death with Scientific Pandemic Influenza Group on Modelling, Operational sub-group of SAGE (SPI-M-O). The full detail of this dataset was not published due to being highly provisional and disclosive, but publications including breakdowns by sex, age, regions of England and Wales, and place of occurrence were published every Tuesday from 20 March 2020 onwards [ID2/44- INQ000252654]. Provisional versions of these publications were sent to COBR for review and use in daily briefings.
 - d) *April 2020* – the ONS provided HMT with findings from BICS on which government Covid-19 initiatives businesses were interested in using, such as furlough.
 - e) *April 2020* – the ONS produced analysis on household size and composition for PHE and on estimated number of households by ethnicity and socio-economic classification.
 - f) *April 2020* – the ONS provided analysis on the proportion of children living within households in England for DfE, which was used to support analysis of school reopening.

- g) *May 2020* – the ONS produced initial estimates for DfE on number of working households affected by school closures/reopening. Followed up later by sharing statistical code which gave them the flexibility to produce estimates for any combination of year groups.
- h) *May 2020* – the ONS shared initial estimates on public use of face masks with Cabinet Office and DHSC, which was published on 29 May 2020 [ID2/45- INQ000252655].
- i) *May 2020* – the ONS produced estimates on the number of households by presence of key worker and person aged over 65 years for NHS England and NHS Improvement. Followed up with presence of health and social care key workers split into 'high priority' and other groups, English regions and UK countries 2019. Used to estimate regional demand for testing.
- j) *June 2020* – the ONS shared data with BEIS on further breakdowns on key worker data to feed into policy on schools reopening, open/closed industries, safer workplaces.
- k) *June 2020* - Leading up to tests for stage 2, the ONS provided Cabinet Office with insights around people's use of support bubbles. We also adapted the OPN with options of reasons for leaving home in line with easing of restrictions.
- l) *June 2020* - Shared sub-regional analysis on Leicester, Oadby and Wigston to inform localised lockdowns in Leicestershire.
- m) *July 2020* – the ONS provided No10 with probabilities of testing positive by characteristics using the CIS to feed into self-isolation period decisions. It was published 7 July 2020 ([ID2/46- INQ000252656].
- n) *July 2020* – the ONS provided No10 with data on multigenerational households, ethnicity, age and religion by region to gain further insight into behaviours for no mixing outside bubbles guidance.
- o) *July 2020* – the ONS provided the SPI-M with analysis on numbers of households by specific age grouping that fed into Covid-19 modelling and SPI-M paper for SAGE. This was published 13 July 2020 ([ID2/47- INQ000252657].
- p) *July 2020* – The ONS produced analysis on people in households by household size and ethnic group for the Covid-19 Taskforce. This was published 13 July 2020 [ID2/47- INQ000252657].
- q) *September 2020* – The ONS provided DHSC with analysis on occupations.
- r) *September 2020* – The ONS produced analysis for DHSC on antibody tests which was published on 18 September 2020 [ID2/48- INQ000252658].

- s) *September 2020* – Responded to SPI-M query on swab positivity by region and age. It was then published weekly (25 September 2020 publication is at [ID2/49-INQ000252659]).
- t) *September 2020* – The ONS published antibodies data following an urgent request for use in a televised press conference ad hoc on 21 September in time to support the press conference ([ID2/50- INQ000252660] and later in the regular publication on 25 September ([ID2/49- INQ000252659]).
- u) *September 2020* – The ONS provided Cabinet Office and No10 with population stats table on estimated number of households by size and ethnic group, English and Welsh local authorities, to feed into lower tier local authority watchlist metrics.
- v) *September 2020* – The ONS produced data on the estimated number of households by the number of residents aged 16 and over in Wales.
- w) *September 2020*- Provided JBC with info on travel abroad by positivity. Published on 28 September 2020 [ID2/51-INQ000252661] and on 27 October 2020 [ID2/52-INQ000252662].
- x) *October 2020* - Published data on the percentage of individuals aged 16 and above testing positive for antibodies.
- y) *October 2020* - Provided DHSC with antibody data by region.
- z) *October 2020* - Provided No.10 with data on positivity by region by age.
- aa) *October 2020* - Provided CCS with information on whether this wave of the pandemic was worse than the first.
- bb) *October 2020* - Tripled the sample size of the OPN to provide more granular analysis, including by region for Cabinet Office.
- cc) *October 2020* - Provided Cabinet Office with population statistics on the number of non-cohabiting couples and number of adults in non-co-resident relationships living alone, published as ad hoc, feeding into bubbling and potential exemptions.
- dd) *October 2020* – Provided infection rate of Covid-19 on public transport to determine whether public transport was a major source of transmission, at [ID2/53-INQ000252663]. (This was exploratory analysis with inconclusive results. The results were shared with government departments to demonstrate the work had been completed, but were not published as the low counts meant it was not fully representative of the topic.)
- ee) *October 2020* – Provided Covid-19 Taskforce with incidence by region.
- ff) *October 2020* – Provided the Secretary of State for Health and Social Care with analysis on age by region. Provided DHSC with symptomatic cases of people reporting symptoms who do not test positive.

- gg) *November 2020* - Public Health Data Asset (PHDA) was used in analysis for SAGE paper on household transmission and ethnicity, specifically regarding the risk of Covid-19 mortality in multigenerational households. Initial, preliminary results were shared via a presentation at the SAGE ethnicity subgroup, primarily for QA purposes. Published as a preprint on 2 December 2020 [ID2/54- INQ000252664] and as a reviewed paper published in the *Journal of the Royal Society of Medicine* on 24 March 2021 [ID2/55- INQ000252665] .
- hh) *November 2020* - Provided Cabinet Office with data on people wearing a face covering whilst travelling on public transport using the OPN.
- ii) *November 2020* - Added further questions to OPN and analysis conducted around peoples Christmas plans and forming Christmas bubbles for Cabinet Office.
- jj) *December 2020* - Provided Covid-19 Taskforce with information on growth rates for the new variant compared to other strains (published ad hoc on 23 December 2020 [ID2/56- INQ000252666] and later in weekly bulletins from 8 January 2021 [ID2/57- INQ000252667] and data on new variant by age, published 21 December 2020 [ID2/58- INQ000252668] .
- kk) *December 2020* - Responded to GO-Science requesting to know if cycle threshold (Ct) values are higher or lower for those infected with new variant and on the new variant by age group. Published 21 December 2020 [ID2/58-INQ000252668] .
- ll) *January 2021* - Provided Covid-19 taskforce with information on household transmission from children.
- mm) *January 2021* - Provided JBC with analysis on risk to teachers.
- nn) *January 2021* - Responded to several requests from Cabinet Office, including number of households in England in support and childcare bubbles, estimates of children in lone parent families by ethnicity (for Race Disparity Unit) and households containing different age groups.
- oo) *March 2021* - Provided the Scientific Pandemic Insights Group on Behaviour (SPI-B) and GO-Science with incidence ratios.
- pp) *March 2021* - Provided data on average household size with children to JBC.
- qq) *April 2021* - Update to previous population profiles with improved functionality shared with Cabinet Office.
- rr) *August 2021*- Produced analysis of existing population estimates sources and their impact on vaccine uptake for Cabinet Office.
- ss) *September 2021* - Provided SAGE with updated evidence on the impact of working from home on transmission.
- tt) *September 2021* - Shared a slide pack using a variety of data sources sent to Cabinet Office on the impact of NPIs on transmission and the economy.

- uu) *October 2021* - Provided Cabinet Office with early estimates for NPIs to support decision making for Roadmap and Plan B (on rapid lateral flows to provide evidence for test, trace and isolate) from the OPN based on an early cut of the fortnightly survey data.
- vv) *October 2021* - Provided SAGE Secretariat with updated evidence on the impact of working from home on transmission.
- ww) *October 2021* - Provided Cabinet Office with information on our estimates on vaccine effectiveness.
- xx) *November 2021* - Provided Public Health Scotland with estimates of ratios of symptomatic to asymptomatic infections, published 2 March 2022 [ID2/59-INQ000252669].
- yy) *November 2021* - Shared a slide pack using a variety of data sources with Cabinet Office on the impacts on working from home on consumption.
- zz) *November 2021* - Mortality by vaccination status using PHDA used as additional evidence for UKHSA and SAGE on effectiveness of vaccines.
- aaa) *December 2021* - analysis shared with DHSC on vaccine hesitancy among pregnant women.
- bbb) *December 2021* - data sent to Cabinet Office on self-isolation by occupation based on CIS modelled estimates.
- ccc) *January 2022* - Responded to World Health Organisation medical officer's interest in whether we had data on the proportion of asymptomatic infection for Omicron infections.

Modelling

100. As a rule, the ONS did not produce statistical models to project future trends relating to the pandemic. However, as mentioned at paragraph 99b, with DHSC, GAD and the Home Office, we produced a series of papers to produce estimates of Covid-19's direct and indirect impacts on mortality. The findings of these analyses were presented to SAGE, and papers later released by SAGE on gov.uk [ID2/43-INQ000000]. Broadly, all analyses in this series presented the pandemic's impacts on the following four categories:
- a. Excess deaths due to contracting Covid-19
 - b. Impacts on people who have contracted Covid-19, whose outcomes were worsened due to healthcare service resource limitations or re-prioritisation
 - c. Impacts on people with non-Covid-19 healthcare needs due to changes to healthcare services to tackle Covid-19

- d. Health impacts due to government's non-pharmaceutical interventions (NPIs) to tackle Covid-19

101. Point C estimated the impact of the withdrawal of non- Covid-19 health services. Point D included assessment of lockdown as a whole, as the impacts of individual NPIs were likely overlapping and more precise than the ONS and DHSC could reliably estimate. The economic impacts of lockdown (NPIs in general) were quantified separately.

102. The first analysis of these four categories was presented to SAGE on 8 April 2020 and released by SAGE on 12 June 2020. This initial paper focused on estimates of potential mortality impacts and years of life lost in all four categories, comparing two scenarios provided by SPI-M-O: a mitigated and unmitigated reasonable-worst-case (RWC) scenario. In this paper, point B included some impacts of removing non- Covid-19 patients.

- a. Point B estimates were based upon DHSC's review of their single departmental plan, testimony from countries experiencing Covid-19 ahead of the UK (e.g. Italy and China), stakeholders in the sector and timely news reports. Quantified estimates made use of international evidence on the impact of delays in healthcare and overcrowding in emergency healthcare admissions, and standardised hospital mortality distributions. The mitigated RWC assumed sufficient ventilated beds and workforce for all Covid-19 admissions and expected admissions for other conditions; the unmitigated RWC assumed 60% mortality for all patients requiring non-critical care beds, and 100% mortality for all requiring critical care beds – approximately a 4% infection fatality rate.
- b. Point C was estimated by modelling a scenario whereby a proportion of elective care activity is cancelled entirely for 6 months.
- c. Point D impacts of government's NPIs were considered by the author departments' economists across many categories, including potential increases or reductions in mortality due to suicide, car accidents, violent crime, work accidents, domestic accidents, domestic violence, homelessness, air pollution, exercise and diet. These estimates were based on literature review of how changes in these topics typically impacted mortality, and judgement of whether the NPIs would increase or reduce the current levels.
- d. Point D economic impacts considered a variety of recession curve shapes, capturing different lengths, depths and recoveries of recession. Again, a literature review of recession's effects on mortality underpinned the quantified analysis. Finally, longer-term estimates of recession's impacts on mortality

were estimated by assuming a prolonged recession would increase deprivation levels. The avoidable mortality rates of each decile of population deprivation (measured using the England and Wales Indices of Multiple Deprivation [IMD]) were adjusted so each local authority experienced increased deprivation, varying using a GDP contraction estimate (central estimate based on KPMG analysis), and varying elasticity between GDP and IMD score. Economic assumptions were shared with HMT before analyses were finalised.

103. Following this first paper, analytical methods were improved to capture morbidity estimates across all categories, as well as mortality estimates. This updated analysis and paper were tabled at SAGE on 23 July 2020, and released by SAGE on 7 August 2020 (with a revision released in September 2020). This paper based assumptions on a “Central Static Scenario” projection produced by SPI-M-O, refined due to more evidence on pandemic impacts and trajectory being available.
 - a. In this paper, Point B’s definition changed to only focus on worsened outcomes for Covid-19 patients, so impacts of reprioritised healthcare services on non-Covid-19 patients are presented only in Point C.
 - b. Previous methods were refined for all categories, but especially for Point D impacts of government’s NPIs, where all impacts on mortality and morbidity were estimated using the Global Burden of Disease in conjunction with literature review.
104. A third paper in the series was discussed by SAGE on 19 November 2020 and 17 December 2020, before release on 29 January 2021. This paper presented the mortality impacts to date across all categories, where these were identifiable, as well as the impacts in a SPI-M-O “Winter Scenario” projection compared to a counterfactual scenario wherein government removed all existing NPIs between December 2020 and March 2021.
105. A final paper in the specified period by DHSC and the ONS focused on impacts to date, rather than a forward-looking scenario. This was discussed by SAGE on 7 September 2021 and released on 17 September 2021.
 - a. Point C results considered changes to diagnosis of chronic conditions, activity managing existing long-term conditions, referrals to secondary care for routine appointments, and hospital activity. Analyses to estimate these results to date included modelling by the Institute of Fiscal Studies (IFS).
 - b. At time of writing for Point D, many mortality impacts were yet to be realised, so the potential future impacts are discussed based on observed changes in (for example) tobacco consumption and education. Economic impacts of

Covid-19 and government's NPIs are assessed using changes to unemployment rates to date and the impacts these might have on mortality and morbidity in existing literature.

106. As well as the work on the direct and indirect impacts of Covid-19, the ONS also produced ad-hoc releases on excess mortality in England and Wales throughout the time period. They did not look directly at the impact that lockdowns and the withdrawal of NHS services, however they did outline which causes had the highest number and proportion of excess deaths. The releases also looked at excess deaths by place of death.
107. As stated in the release commentary, some of these results could possibly be linked to the indirect impacts of coronavirus. For example, the possibility of people not seeking or receiving medical treatment due to the pandemic causing pressures on the NHS.
108. We also use modelled estimates in some of our work. For example, data in the CIS used modelled estimates to calculate the official reported estimate of the UK population testing positive for Covid-19.
109. The ONS has and continues to publish data on the prevalence of Covid-19 across the UK using CIS data. This enabled SPI-M to make and publish empirical estimates of the rate of transmission: the R rate.

Public Health Data Asset

110. The PHDA is a unique population level dataset combining, at individual level, data from the 2011 census, mortality data, primary care records, hospital records, vaccination data and Test and Trace data. The PHDA was used to produce many analyses, two of which are highlighted at point gg and zz under the subheading *bespoke analysis*, that were used extensively to inform the Covid-19 policy response, by SAGE, Cabinet Office and DHSC including:
- a. to investigate inequalities in Covid -19 mortality by ethnicity, religion, disability, occupations and examined whether these differences were driven by other socio-demographic factors. These analyses were used extensively to inform the Covid policy response, by SAGE, Cabinet Office, Joint Committee on Vaccination and Immunisation (JCVI) and DHSC.
 - b. to conduct the validation of the QCovid risk model, developed by the University of Oxford following a commission by the Chief Medical Officer. This is a risk prediction model that estimates a person's risk of catching coronavirus and being admitted to hospital or dying. It is being updated regularly to account for vaccination and changes in variants. Following the

successful validation, it was used to update the shielding list and inform the prioritisation of the vaccination campaign.

- c. to investigate inequality in the coverage of vaccination against Covid-19, focusing on a range of sociodemographic characteristics, such as ethnicity, religion, disability, deprivation and occupation.
- d. to examine vaccine effectiveness and vaccine safety, working in collaboration with the Medicines and Healthcare products Regulatory Agency (MHRA) and JCVI.
- e. the Health Data Research UK call on Covid research, all analyses were conducted by ONS researchers, with academics collaborating on drafting papers.

ONS publications on the impact of, or response to, Covid-19 internationally

- 111. We considered the impact of Covid-19 internationally in analysis comparing excess all-cause mortality between European countries and regions on 30 July 2020 [ID2/60- INQ000252670] (updates to this article were released in March and November 2021). This used weekly all-cause death registration data published by Eurostat from the contributing nations of the EU and European Free Trade Association on the Eurostat Weekly Mortality Online Database, which we considered the most robust source of published mortality statistics to conduct our Europe-wide comparisons.
- 112. It is not known the extent to which this was used by the UK Government or devolved administrations to inform key decision-making.

ONS publications specific to devolved nations

- 113. The CIS provides country specific modelled estimates of prevalence of infections for each UK nation; the territorial boundaries of the CIS and reasons for those is detailed in [ID2/61- INQ000252671]. While some of our datasets relate to England only, such as the Test and Trace Contacts survey commissioned by DHSC, the ONS does not collect data for Wales, Scotland or Northern Ireland individually.

Other key materials

- 114. In addition to datasets and statistical bulletins and the materials used to develop these, the ONS also published a number of statements, articles and blogs on its website during the pandemic period to aid the communication and understanding of our statistics. During the pandemic, we also published analytical plans to ensure transparency on our work programme in response to Covid-19 [ID2/62- INQ000252672 /ID2/63-INQ000252673].

115. We proactively offered and provided support to the UK Government for the daily press conferences on the development and presentation of the daily slides from 30 March 2020 to February 2022. All slide decks and data packs produced by the ONS team for the Covid -19 press briefings are published on GOV.UK (we did not produce some of the slide decks in September and October 2020 and there are a small number of decks where there was no statistical content).
116. The daily slide deck usually contained information on mortality and infection rates, as well as on behaviours toward NPIs. We also produced focused slides to inform specific announcements.

Engagement with stakeholders

Engagement with UK Government

117. As discussed at paragraph 67, we embedded a member of staff initially within the CCS Data Team which then joined the Covid-19 Task Force in the Cabinet Office from March 2020. This was to ensure ONS data and analysis were fed into decision making, and that ONS teams were aware of analytical priorities or gaps and able to respond. This was the main route by which data and statistics were shared between the ONS and the UK Government. Through the establishment of the Policy Liaison Unit (and engagement with senior leaders from other government departments, devolved administrations and wider groups of interest like SAGE) we were quickly made aware of the need for data and statistics.
118. We provided regular feeds of ONS data into central government monitoring via the Covid-19 Task Force (inc. Dashboard) within Cabinet Office. These data were also shared with other government departments through ONS teams (such as the CIS), to key stakeholders including senior civil servants and Ministers involved in the pandemic response. We also shared aggregated financial transactions data to other government departments [ID2/64- INQ000252674].
119. As noted in paragraph 65, I attended WMCs and SAGE on an at least weekly basis. I chaired two out of the six National Core Studies which were established in October 2020 by the Chief Scientific Advisor: on data and connectivity and another on epidemiology and surveillance. Following a search of inboxes, I have exhibited agendas for the epidemiology and surveillance meetings [ID2/65- INQ000252675]. The secretariat for the data and connectivity meetings was provided by HDR-UK. Additionally, the ONS attended the National Core Studies coordination meetings, where teams presented more detailed updates on each of the studies and ensured work was aligned. These provided an opportunity to share expertise and insight across the studies.

120. I attended ad hoc meetings which focused on the priorities at the time. These usually centred on the themes of testing and transmission in a range of settings such as the community and schools. In preparing this statement, a search of my calendar using key SCS and Ministers names was carried out to produce a list of meetings during the time period; this is at [ID2/66- INQ000252676]. Whilst we have endeavoured to cross-check this extensive list, please note that I may have attended other meetings not listed or not have attended some of the meetings listed in this exhibit due to the fast-paced nature of my diary during this period. It does not include regular SAGE or WMCs meetings.
121. I directly briefed Ministers on a handful of occasions:
- d. I briefed the Prime Minister, the Rt Hon Boris Johnson MP, on localised Covid outbreaks in the North West of England in July 2020 [ID2/67- INQ000252677].
 - e. I verbally briefed the Deputy Prime Minister, the Rt Hon Dominic Raab MP, ahead of appearing alongside him to discuss the prevalence of Covid-19 at the daily press conference on 7 May 2020. There were no written notes associated with this briefing.
 - f. I briefed the Health and Social Care Secretary, the Rt Hon Matt Hancock MP, on excess deaths and long Covid-19 on 22 January 2021 [ID2/68- INQ000252678].
 - g. I briefed the Shadow Cabinet on trends relating to Covid -19 prevalence and social behaviours on 30 November 2020 [ID2/69- INQ000252679]. This took place ahead of a vote in Parliament on the introduction of restrictions.
122. I also attended broader meetings with representatives from Government, such as:
- h. The 'Gemini 2' session on 30 July 2020 regarding the development, understanding and expectation of the NHS Test and Trace system [ID2/70- INQ000252680]. This was a cross-ministerial meeting.
 - i. Covid-19 Testing taskforce meetings in April and May 2020 [ID2/71- INQ000252681].
 - j. Covid-19 Strategy 'O' meetings which took place almost daily during late March and April 2020 [ID2/72- INQ000252682].
123. In preparing this statement, I have interpreted 'written communication with Governments across the UK' to mean key email communications and have specified the search terms to key SCS and Ministers. The parameters of the search are exhibited at [ID2/73- INQ000252683]. I also enclose two lists given the volume of correspondence. The first [ID2/74- INQ000252684], covers all relevant emails and

the second, a shorter list [ID2/75-INQ000252685], where relevant individuals were only included if they were in the To or From field and those in CC or BCC are removed. Both lists cover sender, recipient(s), date and subject.

Informal/private communication with Ministers or SCS within Governments across the UK

124. I can confirm that throughout the period January 2020 to May 2022, I was not part of any informal groups, such as WhatsApp groups, that were used to communicate about the ONS response to Ministers or senior civil servants. I primarily communicated through my Private Office using a shared office mailbox, and at times my personal official ONS email account. I did not use any private email addresses to communicate.

125. On occasion, I did use text communications (between WhatsApp and iMessage) to talk with certain senior civil servants (Sir Patrick Vallance, Professor Sir Chris Whitty, Simon Ridley, Rob Harrison, Simon Case, Sir Mark Sedwill, Steffan Jones and Katherine Hammond) during the specified time period. This was to arrange a meeting or the preface to a phone call or wider meeting with officials, which would have been minuted.

126. Former Deputy National Statistician Iain Bell who worked at the ONS between May 2017 and June 2021 has noted that he exchanged some WhatsApp messages with the Chief Scientist at DFE and some text messages with the DHSC leads on the CIS. These largely covered the operational running of the survey and timings for analysis and were not related to decision making.

Engagement with devolved administrations

127. Our engagement with the devolved administrations is guided by the Concordat on Statistics, an agreed framework for co-operation. It provides assurance that we will work together to meet public need by producing coherent and comparable statistics at the UK and disaggregated levels while recognising differing policy contexts. This approach works in line with devolution settlements, allowing official statistics to best meet the needs of the public and decision makers within devolved regions and capitalise on data sources in devolved policy areas.

128. As health and social services are devolved matters, we worked with statistical producers across the UK to ensure relevant official statistics were high quality, statistically coherent and UK-wide where possible, accurate, relevant, timely, and accessible. Cross-UK engagement increased during the pandemic through working-level initiatives and groups.

129. High-level formal governance and oversight of cross-UK statistical work is provided by the Authority's Inter-Administration Committee (IAC) that I chair, with

membership that includes the Chief Statisticians of the devolved administrations. This Committee meets quarterly and promotes statistical coherence across the administrations of the UK and resolves inter-administration issues should they arise.

130. I met with David Crossman, Chief Scientist for Health within Scottish Government on various occasions which are detailed in [ID2/66- INQ000252676]. At a working level the ONS routinely engaged with representatives from the devolved administrations. For example, this includes weekly calls between the Heads of Profession for Statistics across the devolved administrations and UK government departments. We also routinely engaged on specific areas of work such as the CIS, as detailed at paragraph 157.

ONS interaction with SAGE and its sub-groups

131. I attended meetings of SAGE on a regular basis throughout the pandemic. I was first invited to attend from 13 March 2020. Where relevant, I also invited other ONS colleagues to attend, usually to present ONS data or analysis.

132. Iain Bell, Deputy National Statistician for Population and Public Policy, Jennet Woolford, Head of Policy and Engagement, HAPI, Ben Humberstone, Deputy Director for HALE and three colleagues below SCS grade, one from HALE, one from the CIS team and another from the natural capital team, all attended SAGE at least once.

133. Iain Bell and Ruth Studley attended the ethnicity sub-group, as did one additional colleague below SCS grade from HALE.

134. Hugh Stickland attended SPI-B.

135. We attended a monthly Testing Initiatives Evaluation Board, chaired by Professor Susan Hopkins, and attended a SAGE Task and Finish Group on mass screening on 19 August 2020.

136. In addition to formal SAGE meetings, I had informal discussions with other members of SAGE: namely Sir Patrick Vallance, Professor Sir Chris Whitty, Professor Sir Jeremy Farrar, Professor Sarah Walker, Professor Graham Medley, Professor Brooke Rogers, Professor Steve Powis and Dame Jenny Harries. These meetings covered a breadth of topics depending on the priority of the day. Due to their informal nature, there were limited written notes or minutes taken, and therefore I cannot recollect the individual discussions and advice given.

137. My private office also met with the SAGE Secretariat on a fortnightly basis to provide updates on our progress against any outstanding actions.

138. Throughout the pandemic the ONS provided and presented analysis to SAGE across a wide range of Covid-19 related issues. These included, but were not limited

to, the prevalence of Covid-19, mortality, occupational risk and symptoms. The analysis shared with SAGE and its sub-groups informed their recommendations about 'lockdowns', tiering and NPI's, as well as the removal of restrictions.

139. The ONS worked alongside partners to deliver analysis for use by SAGE and its sub-committees. Requests for these data were made by SAGE and recorded in published minutes of SAGE meetings. Key analysis provided included:

- a. Working with partners at the University of Oxford and University of Manchester, the prevalence of community transmission by a range of characteristics including age and ethnicity was fed into SAGE and SPI-M regularly.
- b. SAGE and SPI-M received regular mortality analyses, with the support of the General Register's Office who increased the timeliness of data shared with the ONS to produce these statistics.
- c. SAGE received analysis on Covid-19 prevalence amongst school aged children. This was completed in collaboration with partners at the London School of Hygiene and Tropical Medicine.
- d. SAGE and SPI-M regularly received analysis on prevalence of Variants of Concern (VoC) which was produced in collaboration with partners at the University of Oxford and University of Manchester.
- e. SAGE received analysis on predictors of positivity such as occupation.
- f. SAGE received analysis on symptoms across variants, this was done in collaboration with partners at the University of Oxford and University of Manchester.
- g. As mentioned at paragraph 99b, SAGE received analysis on excess deaths, which was produced with DHSC, GAD and Home Office.
- h. We completed a population-based cohort study using our Public Health Linked Data Asset, a cohort of individuals aged 19-100 years, based on the 2011 census and linked to Hospital Episode Statistics, the General Practice Extraction Service data for pandemic planning and research, and radiotherapy and systemic chemotherapy records, to inform the QCOVID model for New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG).
- i. As mentioned in paragraph 84 we shared long Covid analyses with SAGE in February 2021 and July 2021.

140. I also established the evaluation subgroup which designed the principles of the JBC.

Access to statistics and data by SAGE and sub-group members, and the role of the Secure Research Service (SRS)

141. SAGE members requested and received analysis from the CIS as management information for operational purposes.
142. SAGE members also accessed data from the ONS through the SRS, which is the ONS's Trusted Research Environment (TRE).
143. The SRS provides accredited researchers with secure access to de-identified, unpublished microdata to work on research projects for the public good (de-identified data is information that cannot by itself be used to identify an individual). It has played a vital role in the government response to the Covid-19 pandemic.
144. At the start of the Covid-19 pandemic, and associated lockdowns, we had to address some significant challenges so that we could continue to provide a service to existing and new users. We were able to do that successfully and play a vital role in the government response to the Covid-19 pandemic. Since SAGE members are based in various academic institutions, it is difficult to distinguish them as a distinct group of users. This section, therefore, applies to the wider SRS user base, which includes SAGE members.
145. One such challenge was when our Safe Rooms and office locations closed. Within days we introduced a policy to allow researchers access to the SRS from home. This was an extension of our existing, office-based remote access policy but with added conditions to ensure continued security (for example, access was only by corporate machine and connection via a corporate Virtual Private Network (VPN). In addition, we extended the availability of researcher access to the SRS to 24 hours a day, 7 days a week. These two measures allowed vital research relating to Covid-19 to continue and with greater flexibility than before.
146. Due to the collaborative nature of the CIS, it was decided that the SRS was the most appropriate location to undertake the processing and analysis. Since April 2020, the SRS team provided dedicated support to all aspects of the project. When infection rates were at their peak, this support extended to out of hours cover so that the latest data could be ingested and output requests cleared so that the analysis could meet tight deadlines to inform decision-making on timing of lockdowns, creation of tiers, etc.
147. The SRS has also supported the wider research community, including SAGE, to conduct its Covid-19 analysis. All users of the SRS have to be trained and accredited to access the service. Prior to the pandemic the training was classroom based but by April 2020 we had moved to a course that could be delivered online.

This allowed for the continued accreditation of new researchers during lockdown, and we are now training approximately 100 new researchers per month.

148. Since the start of the pandemic, a large amount of Covid-19 related data has been brought into the SRS and made available to accredited researchers, alongside our existing data holdings. This has enabled valuable new insights into the Covid-19 and its socio-economic impact. We introduced semi-automated processes in response to the crisis so that we were able to bring in higher volumes of more complex data into the SRS more quickly.

149. The SRS in December 2022 held approximately 20 Covid-19 related datasets. I enclose a list of datasets as at May 2022 [ID2/76- INQ000252686]. Some of the datasets are ONS-owned, some are from external sources, while others are linked datasets that have been created to provide new insights and have joint-ownership.

Models produced by SAGE and/or SPI-M

150. We did not comment on the statistical models developed by SAGE or its subgroups.

151. Ruth Studley and other colleagues from the CIS team met with the SPI-M Secretariat on a weekly basis to discuss the results of the CIS to feed into their modelling and operational recommendations.

152. The ONS worked collaboratively with SPI-M and SPI-M-O and had a good working relationship. In addition to the weekly meeting to discuss the results of CIS, ONS colleagues from the CIS team presented to SPI-M at least once, including on areas such as predictors of positivity.

Interaction with scientific and expert groups in devolved administrations

153. In terms of scientific and expert groups in the devolved administrations, our engagement was much more limited.

154. Professor Andrew Morris, Chair of the Scottish Government Covid-19 Advisory Group, and I chaired the National Core Study on data connectivity, set up by Sir Patrick Vallance. We also had engagement related to his role as Director of Health Data Research UK (HDR-UK), which the ONS works closely with.

155. I presented on Covid-19 prevalence across a range of settings as well as trends in societal behaviours at the Welsh Government Technical Advisory Group on 15 December 2020. Iain Bell presented to the same group on 18 May 2021, and a member of the CIS team presented CIS data in November 2021.

156. Stephanie Howarth wrote to me in September 2020, as did Fliss Bennee in the Technical Advisory Cell, seeking resource support from ONS or the wider GSS

by means of short-term staffing loans or placements to support analytical work in response to Covid -19. The Technical Advisory Cell was highlighted as a possible area of support. The ONS Director of People and Business Services, Philippa Bonay, worked with the Welsh Government to advertise these posts in December 2020.

Interaction with other public, domestic and local bodies

157. My colleagues in the ONS collaborated regularly with health bodies across the UK, either on mortality analysis, the CIS or the SIS.
158. On mortality data, we provided data extracts weekly to PHE (and its successor UKHSA), the JBC, SPI-M and Public Health Wales.
159. The ONS convened regular meetings between mortality data producers and users from across the UK from 10 March 2020. Attendees included PHE (and UKHSA), DHSC, Public Health Wales, Welsh Government, National Records Scotland (NRS), Scottish Government, and Northern Ireland Statistics and Research Agency (NISRA). This group enabled discussions to make sure data were as comparable as possible.
160. It should be noted that the exact frequency and membership of this meeting varied over time. They took place without formal agendas or minutes as they were often organised at short notice, in view of the need to share information and make decisions urgently as the pandemic unfolded. There was a note taken of the 22 March 2020 meeting which has been exhibited [ID2/77- INQ000252687], and generally subjects covered in the meetings were as follows:
 - a. Arrangements for sharing data between organisations, including analytical needs, technical processes, legal provisions, agreement of data sharing agreements, and data security issues.
 - b. Discussion on statistical methods, use and development of data sources, and technical issues around death certification, coding and classification.
 - c. Coordination of work plans, information-sharing and planning around analytical priorities, data needs, timing and methods for forthcoming statistical releases.
 - d. Discussion on emerging findings from the data, interpretation of findings, needs for new analysis and development of methods.
161. The ONS received mortality data feeds from NRS and NISRA to create a UK weekly death figure, and the weekly deaths release was shared with various organisations for quality assurance purposes and to add any explanations where needed.

162. For CIS data, from April 2020 to June 2022, the ONS met with the JBC, SPI-M and NHS Test and Trace on a weekly basis to discuss the findings of the CIS.
163. Analysis shared as management information for operational decision making has been circulated up to three times weekly with Senior Civil Servants in PHE/UKHSA, JBC, NHS England or NHS Test and Trace, NRS and NISRA.
164. The ONS specifically met with the Public Health Agency for Northern Ireland to discuss research requirements for the CIS in Northern Ireland. There were ad hoc meetings with the devolved administrations to discuss CIS data.
165. We also attended meetings arranged by Cabinet Office, for example Covid-19 Taskforce Analysis meetings, which were also attended by colleagues in the devolved administrations.
166. The Schools Infection Survey was an England only study and a partnership between PHE, London School of Hygiene and Tropical Medicine and the ONS. As such, PHE's involvement was across the remit of the study: design; ethics; collection; analysis and dissemination of the data and statistics. NHS Test and Trace data were linked to the SIS and SIS2 datasets.
167. The study reached out to local health boards and education authorities to raise awareness of the study in their area and to help promote participation; we have exhibited the relevant letters to the Assistant Director of Education [ID2/78-INQ000252688] and the Director of Public Health regarding the SIS [ID2/79-INQ000252689].

International collaboration

168. Throughout the pandemic the ONS maintained strong links with a wide range of multilateral bodies and other National Statistical Offices (NSO) around the world. A central record is not kept of how this engagement informed ONS outputs however I have detailed a couple of known examples below.

Multilateral bodies

169. We principally engaged with the United Nations Statistics Division (UNSD), the World Health Organisation (WHO), the United Nations Economic Commission for Europe (UNECE) and the Organisation for Economic Cooperation and Development (OECD).
170. Throughout 2020 and early 2021 colleagues from our international team held meetings with the UNSD which were focused on how the ONS, as a leading member of the global statistical community, could support the UNSD's efforts during the pandemic. This included providing them with materials and presenters for webinars, advice on guidance documents, and other similar activities.

171. In June 2020 Frankie Kay, the then Interim Deputy National Statistician for Data Capability, presented on our experience during a session held by the UNECE looking at how NSOs were managing the pandemic. This work continued at UNECE throughout the remainder of 2020 and 2021 across several other previously established taskforces and workgroups.
172. Throughout 2020 and 2021 ONS colleagues, mostly from the Economic Statistics teams, participated in a series of OECD workshops on additional data and statistics needs that went beyond health and looked at the impact of Covid-19 on the economy.
173. Two examples of where international engagement informed the ONS's actions during the pandemic period related to Gross Domestic Product (GDP) and Consumer Price Inflation (CPI).

GDP

174. A challenge to recording GDP that was identified in the early stage of the pandemic was the measurement of non-market output, specifically regarding the provision of healthcare and education. Estimating the value and volume of these services is challenging, as there is typically no market price for which this output is sold.
175. For health and education output, we follow international best practice and produce volume estimates based on cost-weighted activity. These depend on direct volume measures such as the number of students in different educational settings and the reported number of patients treated for various conditions. These are in turn weighted by their cost per unit. However, traditional "activity" measures were challenged by the pandemic.
176. The ONS engaged with Eurostat to establish what guidance they would be providing and provided feedback on their proposed approach. We also engaged with the Australian Bureau of Statistics to share information on approaches.
177. We also shared draft copies of our first publication [ID2/80- INQ000252690] on international comparisons of GDP with the IMF and OECD colleagues, where we were able to take on feedback on the theoretical and practical challenges. This led to further collaborative efforts.
178. We understood that the apparently greater fall in non-market output in the UK compared to other countries could have been due to different approaches to measuring it. The ONS had been making more extensive use of "direct volume" measures, as is preferred in international guidance. However, we had only relatively limited information about the methods employed in other countries. The ONS

therefore initiated a programme of analysis with the OECD to interview other NSOs to better understand the methodological differences and the implications of these for international comparisons of GDP.

179. The findings were jointly published by the ONS and OECD [ID2/81-INQ000252691] and presented to national accountants at the OECD Working Party on National Accounts to assist NSI's in understanding international comparisons in this area. The research has frequently been used to inform understanding of international comparisons of GDP.

CPI

180. One of the main challenges around measuring price inflation during the pandemic was around data collection, given the implementation of social distancing policies and movement restrictions brought into effect. For consumer price statistics, price collectors would usually visit outlets locally across the country every month. Covid-19 restrictions challenged our ability to continue this.
181. The international community came together to respond to the challenge in producing inflation statistics during the pandemic. The ONS was following the guidance and best practice provided by Eurostat, the EU statistical agency responsible for the compilation of the EU harmonised index of consumer prices (which the UK CPI was compiled to be compliant with).
182. Eurostat provided clear guidance [ID2/82-INQ000252692] on the best practice for compiling CPI during Covid-19, along with similar advice and guidance circulated by the United Nations Economic Commission for Europe (UNECE) [ID2/83- INQ000252693] and the International Monetary Fund. The ONS were key contributors to this guidance, and a series of online webinars were scheduled by UNECE (chaired by the UK) and subsequently a handbook to provide best practice for the compilation of CPI during lockdown [ID2/84- INQ000252694]. Regular engagement with other NSOs, such as the USA, Canada, Australia and New Zealand was held to discuss issues and share best practice.
183. The ONS followed the guidance from Eurostat in adapting procedures for CPI, although much of this guidance was best practice that ONS was already implementing (or had already implemented). The ONS set out clearly the approach it took to compile the CPI in a series of articles that covered collecting CPI during lockdown [ID2/85- INQ000252695], resuming price collection post lockdown [ID2/86- INQ000252696], and updating CPI weights to reflect the impact of Covid-19 [ID2/87- INQ000252697]. Each of these aligned to the wider guidance from Eurostat [ID2/82-INQ000252692].

184. Members of the ONS HAPI team are part of the WHO Classification and Statistical Committee and worked with it on a number of technical matters related to recording Covid-19 and post-covid conditions. Colleagues from HAPI are also members of the WHO Mortality Reference Group and throughout 2020 and 2021 attended several ad-hoc meetings to make technical decisions regarding Covid-19 classifications. These groups, as well as the Iris Consortium, (the managing body for the Iris cause of death coding software) informed the ONS's actions. For example, by receiving technical updates to process death registrations mentioning Covid-19 automatically and taking part in discussions regarding which ICD codes to use for specific circumstances such as the coding for the long-term effects of Covid-19.

Bilateral engagement

185. The ONS has participated in a considerable amount of bilateral engagement with international NSOs or public health officials.

186. During 2020 and 2021 I attended a series of meetings, usually arranged bi-monthly, with the chief statisticians from Canada, Poland, New Zealand, Australia, The Netherlands and Estonia. These informal meetings were not minuted and discussed all aspects of the pandemic, such as experiences of the pandemic and how NSOs would operate post Covid-19.

187. There were also several one-to-one meetings either between me (or my Deputy National Statisticians) with my international counterparts. These meetings covered all aspects of the pandemic and mostly focused on sharing experiences.

188. In addition to the UK Government and Devolved Administrations, I met with Pdraig Dalton, Chief Statistician at the Irish Central Statistics Office approximately quarterly throughout the pandemic. These meetings were informal and un-minuted, but usually covered the response to the pandemic. For example, one meeting focused on the work each of our offices were doing on the measurement of deaths in care homes.

189. Other senior ONS officials also engaged with equivalents in peer organisations. Notably:

- a. The then Deputy National Statistician for Economic Statistics, Jonathan Athow, participated in a Federal Economic Statistics Advisory Committee meeting hosted by the US Bureau of Labor Statistics which discussed how economic statistics were being produced in response to the pandemic.
- b. The then Deputy National Statistician for Population and Public Policy, Iain Bell, and Director for Population Statistics, Pete Benton, discussed the CIS with Statistics Canada.

- c. In addition to bilateral and multilateral engagement, ONS colleagues from HAPI met with the WHO, the Wellcome Trust and with the Robert Koch Institute several times throughout 2022 to discuss the Authority's participation in the Pandemic Preparedness toolkit project. This project calls upon the Authority's pandemic response experience and expertise to develop a toolkit containing practical guidance, statistical methods, knowledge products, case studies and training materials for other NSOs, especially low and middle-income countries.
 - d. In September 2021, the Covid Infection Survey Advisory Board, chaired by Professor Sir David Spiegelhalter, commissioned a small multidisciplinary group to look beyond the immediate domestic response to Covid-19 and develop reasonable scenarios over the next one to three years that could inform our portfolio. This group of international experts met twice and influenced the Advisory Board's steer on analytical plans. ONS leaders were joined by experts on areas including behaviour, viral ecology, economics and engineering, from Princeton University, Sydney University, Imperial College London, King's College London, the London School of Economics Law School, and the University of Liverpool.
190. We shared our experience with other bodies. In early 2022, the US Centre for Disease Control and Prevention (CDC) (Dr Marc Lipsitch and Dr Dylan George) contacted the ONS as they wanted to learn from the UK experience. They had been tasked to help build new analytical capabilities to help guide health emergency decision-making to improve their pandemic preparedness. On 25 February 2022, these colleagues from the CDC met with me, colleagues from the ONS, UKHSA and our Oxford University partners. We presented on the CIS, including logistics and design, resources, workforce, technology, the study results, and how these results were used in the response.

Parliamentary engagement

191. Recognising the importance of a high-quality evidence base for policymakers including parliamentarians, I and my ONS colleagues engaged with select committees of both Houses in the UK Parliament regarding various aspects of data and statistics concerning Covid-19. We did not engage with devolved parliaments on Covid-19 data and statistics during January 2020- May 2022. Our engagement with each Committee was as follows:
- a. Public Administration and Constitutional Affairs Committee (PACAC)

- i. PACAC wrote on 14 April 2020 asking for clarity on Covid-19 cases and mortality and I responded on 22 April. PACAC asked for further information on this topic, which I provided on 13 May 2020.
 - ii. For their inquiry into *data transparency and accountability: Covid-19*, both Ed Humpherson and I gave oral evidence on 22 September 2020. I provided follow-up written evidence on 30 September 2020. The Committee requested a further update which I provided via correspondence on 9 February 2021.
 - iii. PACAC also opened an inquiry on *Covid-19 vaccine certification* to which I provided written evidence on 28 April 2021.
- b. Treasury Committee
 - i. The then Deputy National Statistician for Economic Statistics, Jonathan Athow, provided written evidence to the Treasury Committee's inquiry on the *economic impact of coronavirus* on 28 April 2020. He provided oral evidence on 20 January 2021 and followed up with further written evidence on 1 February 2021.
 - ii. Jonathan Athow provided written evidence to their inquiry on *jobs, growth and productivity after coronavirus* on 18 May 2020.
 - iii. Finally, for the inquiry *an equal recovery*, Jonathan Athow provided written evidence on 30 July 2020, Liz McKeown, Director for Public Policy Analysis, gave oral evidence on 15 September 2021, and followed up in writing on 18 October 2021.
- c. Science and Technology Committee
 - i. I gave evidence on 7 May 2020 for the inquiry *UK science, research and technology capability and influence in global disease outbreaks* and followed up in writing on 18 May 2020.
 - ii. The Science and Technology Committee and Health and Social Care Committee opened a joint inquiry on *coronavirus: lessons learnt*. I gave evidence for the section of the inquiry focused on the role of modelling and statistics on 21 October 2020. The then Deputy National Statistician for Population and Public Policy, Iain Bell, also gave evidence to this inquiry on the impact of the virus on minority ethnic groups on 1 December 2020 and followed up with them in writing on 22 December 2020.
- d. Women and Equalities Committee

- i. Iain Bell provided written evidence to the inquiry on *unequal impact: coronavirus and the impact on people with protected characteristics*. Liz McKeown gave oral evidence to the same inquiry on 6 May 2020.
- e. Business, Energy and Industrial Strategy Committee
 - i. Jonathan Athrow submitted written evidence on the *impact of coronavirus on businesses and workers* on 20 May 2020.
 - ii. He also provided written evidence for their inquiry on *post-pandemic economic growth: levelling up local and regional structures and the delivery of economic growth* on 22 September 2020.
- f. International Trade Committee
 - i. Jonathan Athrow submitted written evidence for the inquiry on the *coronavirus pandemic and international trade* on 3 June 2020.
- g. Lords Science and Technology Committee
 - i. Iain Bell provided both written and oral evidence for their inquiry on *the science of Covid-19*, on 2 and 6 July 2020 respectively.
- h. Education Committee
 - i. I wrote regarding *the impact of Covid-19 and school closures on children and young people* on 6 July 2020.
- i. Lords Public Services Committee
 - i. On 22 July 2020, I gave oral evidence for their inquiry *public services: lessons from coronavirus*.
- j. Work and Pensions Committee
 - i. Jonathan Athrow provided written evidence on 29 July 2020 for the inquiry *preparations for changes in the world of work*.
- k. Lords Economic Affairs Committee
 - i. On 28 October 2020, Jonathan Athrow submitted written evidence for their inquiry on *employment and Covid-19*.
- l. Lords Covid-19 Committee
 - i. Jonathan Athrow wrote on 6 July 2021 regarding the inquiry *long-term impact of the pandemic on towns and cities*.

Pandemic challenges and lessons learned

Interaction with Governments, devolved administrations, public bodies and local authorities

192. The ONS worked with colleagues across government departments, the devolved administrations, and public bodies throughout the pandemic. We worked constructively to share expertise, provide methodological support and seconded colleagues to departments.

193. At the very beginning of the pandemic from January to early March 2020 there was less immediate contact with central government and the devolved administrations, however we soon established excellent working relationships with them and demonstrated how our data and capabilities could support the pandemic response. In any future national emergency, I would advocate for the ONS to be involved at the earliest opportunity to provide decision makers and the public with information and insight right from the start.
194. Two partnerships of note were with the Covid-19 Taskforce and with HMT; the latter of which we worked closely with to measure the economy during this challenging and unprecedented period. On the former, working with different leaders in the Taskforce throughout the pandemic we were able to successfully understand the data needs from the centre of UK Government and return insights such as regular data from CIS rapidly.
195. It is also worth highlighting again the role that ONS colleagues played in supporting the preparation and presentation of data at the daily Downing Street press conferences: designing slides to clearly present data, creating an analytical pipeline and ensuring statistical best practice to help users best understand the content.
196. Across the devolved administrations we built trusted working relationships that worked incredibly well. For example, as we established the CIS we were able to very quickly create a design that covered all four nations and we also worked constructively to agree a common definition on what a Covid death was in 2020. We also formed good working relationships with other public bodies such as the NHS, PHE and subsequently the UKHSA and I routinely talked to their leaders including Professor Stephen Powis and Dr Jenny Harries.
197. I am proud of the work that the ONS conducted throughout the pandemic period to deliver results at speed and the way in which we worked with partners effectively to deliver data insights regarding the pandemic. Reflecting on the knowledge of data sources and analytical capability to support the pandemic response across government in early 2020, it was not as understood as it is today. I hope that the significant work that has gone into developing insight tools such as the CIS will continue to help provide valuable information on the health of the nation for decision makers and the public. I also believe that approaches we have used to deliver insights during the pandemic, such as regular flexible surveys, are proving their value in tracking current societal and economic issues, such as the rising cost of living, and will do so in any future emergency situations.

Data sharing

198. Throughout the pandemic response we were able to communicate and share our data effectively. However, we did face some challenges in receiving data from others. Control of Patient Information Notices (COPI) made obtaining data from relevant health bodies easier, however, it often took time, and we were not always able to get the health data required, such as when trying to link hospitalisations data with CIS. The ONS has high standards and processes around data protection and security which facilitate the secure sharing of data, however differing interpretations of data sharing gateways and risk appetites between departments meant that gaining access to data from organisations such as NHS Digital was not as easy as it could have been.
199. To fully maximise the potential of linked data and analysis, the swift and smooth provision of access to data across government, in ways that are fully mindful of individual privacy, is critical. This can be facilitated through TREs such as the Integrated Data Service (IDS) platform being developed by the ONS. The IDS has been designed to transform the way de-identified data about our society and economy is made available for vital research and decision making in the UK. The service will provide improved forms of data, alongside analytical and visualisation tools, in a secure multi-cloud infrastructure and would be a valuable tool if used in the response to any future national emergency.
200. Despite some barriers to receiving data easily we worked with great energy to ensure that we could share the latest information with colleagues in a swift and secure manner. For example, the PHDA we created allowed us to link to data sources to provide new insights, academics were able to access data via the SRS safely and easily and we made provision of management information to colleagues in government departments, advisory bodies and the devolved administrations where their role and work fed directly into Covid-19 decision making.
201. Regarding data privacy and the UK General Data Protection Regulation (GDPR) during the pandemic I have no significant or outstanding concerns. As part of the ONS's role as lead investigators of the CIS, we received various policy or technical and operational enquiries from survey participants about the handling of personal data, all of which were investigated promptly, and answered and responded to satisfactorily, by customer-facing teams in the ONS and the other partner organisations involved in the survey. Participant information materials, including privacy information, are made available to all survey respondents and published.

Data collection

202. The pace of developments and breadth of work that we were conducting during the pandemic posed unique challenges to the accuracy and quality of our data, particularly on survey data collection. However, we continued to follow our well-established quality control processes to maintain quality.
203. Contingency planning conducted pre-lockdown enabled us to rapidly adapt our data collection across the country. Nevertheless, without the ability to knock on doors and interview in-homes, public response to our surveys decreased although we introduced a suite of measures to minimise this. We also adopted alternative methods including the re-weighting of results to manage the impact. We accelerated our transformation towards online data collection, such as the online OPN survey and businesses within construction, which meant all our short-term business surveys were online.
204. In the case of certain outputs such as the CIS, given its significance and value to decision makers, we took extra steps to ensure the accuracy, quality and reliability of the data. For instance, we developed a contingency timeline should data processing be delayed, for example by lab delays, and established a tiered incident response team to ensure the swift resolution of any issues.
205. We also conducted the largest, once in a decade, survey during the pandemic. The Census for England and Wales took place on 21 March 2021 and placed a legal requirement on residents in households and communal establishments, such as hospitals and care homes, to provide census returns. Although the census was completed predominantly online, to ensure no-one was excluded, paper questionnaires and support were available for those who preferred to complete on paper or were unable to complete online. In the months preceding the census, the ONS worked closely within the Cabinet Office Covid-19 Taskforce to establish the impact of Covid-19 legislation on our operational activities. Through this engagement we ascertained that field work could be undertaken to allow us to follow-up non-response, and many completion centres could open, for example in libraries, where we could assist respondents with completion. The response rate for the 2021 Census was 97%, which exceeded our target response rate.

Social Surveys

206. The ONS conducts a number of social surveys including the LFS, Survey on Living Conditions (SLC), Living Costs and Food Survey (LCF), Wealth and Assets Survey (WAS), National Survey for Wales (NSW), Family Resources Survey (FRS), Household Asset Survey (HAS), IPS and OPN. In February 2022 the ONS

- published an article discussing operational changes caused by the coronavirus pandemic, and the impact they had on our surveys [ID2/88- INQ000252698]. Before the pandemic we would collect data for social surveys using three distinct methods: the IPS interviewers, Face to Face Interviewers working across the UK and Telephone Operations (TO) conducting telephone interviews with the public.
207. From March 2020 Telephone Operations colleagues were required to work from home, and we provided the necessary IT kit so that they could continue to carry out their roles effectively. Face to Face interviewers were stood down from operations with effect from 18 March 2020 to implement new arrangements to enable telephone interviews instead of in-home interviewing. We also stood down the IPS as there was limited international travel due to Covid restrictions, and they returned to work fully from 18 January 2021.
208. One immediate and significant impact of the pandemic was an overall drop in survey response rates from the public, which other national statistical offices observed in their household surveys too. The most significant example of this was on the LFS, where response decreased from 55.2% (April 2019 – February 2020) to 28.7% (April 2020 – March 2021). To mitigate increased bias as a result of decreased response, we made changes to the survey analysis and output methods, including the re-weighting of data. We have always been transparent with the challenges we have faced and the measures we have taken to address them. Further information on the impact of the pandemic on the LFS has been published within the LFS quarterly performance quality monitoring report. The re-weighting exercises are captured in more detail on the ONS website. With the recognised limitations of the LFS at this time, we launched our new online labour force survey early, and this will fully replace the LFS in 2023 to provide a comparator set of data for our labour market outputs teams to draw on.
209. To address lower contact rates with the public, a new approach was trialled in July 2020 called Knock to Nudge (KtN). This process involved knocking on sampled addresses and obtaining an appointment to conduct an interview over the phone at a later date and followed strict Covid health and safety protocols. From April 2021 KtN became part of the Face to Face interviewer role, with mixed-mode data collection techniques including in-home interviewing returning in full from March 2022.
210. We also adapted our surveys in consultation with stakeholders to enable telephone interviewing. This included shortening longer surveys such as SLC, focusing on questions across our suite of surveys to inform government priorities related to the pandemic response, and adapting questions for telephone interviewing.

211. Overall, we were able to implement a suite of measures to minimise the impact on quality: introducing KiN to improve response rates, adapting surveys to suit telephone interviewing, and increasing sample sizes for surveys.

Economic Statistics

212. In addition to the challenges facing our Social Surveys the pandemic also created new challenges for our economic statistics, such as how to collect information with many shops closed, businesses ceasing to trade and no interviewers to knock on doors. In May 2020, the ONS published three articles looking at the effects of Covid-19 on National Accounts [ID2/89- INQ000252699], Prices [ID2/85- INQ000252695] and the Labour market [ID2/90- INQ000252700]. These were complimented with two further articles in June 2020 on Sector Accounts [ID2/91- INQ000252701] and Balance of Payments [ID2/92- INQ000252702] I have summarised these below.

213. The main issues were:

- a. Conceptual: how we measured the price of goods that were not available
- b. Data collection: how we keep collecting data when some companies were not trading
- c. Methodological: how we adjust, given the way that the economy was functioning had changed so significantly
- d. Internal workforce: how we continue to produce quality statistics whilst our staff are unable to work in the office environment or face Covid related illness

214. One such conceptual challenge was how we should treat the Coronavirus Job Retention Scheme when calculating GDP. We took the decision to count the scheme as a subsidy to business, netting it off the income measure of GDP, as the furloughed employees continued to count as employed and the payments they received from their employer as wages and salaries. Another example is that we adjusted education output to reflect the number of students in school and added in learning from home. We also accounted for unavailable goods and services by using methods such as assuming their prices would have moved in line with the average movement for related goods and services. This was the simplest approach that came as close as possible to reflecting that the supply of certain goods and services had been interrupted.

215. As with social surveys, survey data collection for economic statistics also posed a challenge. To produce economic statistics we survey businesses to measure GDP, and individuals to understand whether they are in work or unemployed. As

noted in paragraph 180, we also collect prices from shops to measure inflation. We transitioned quickly to rely more on email contact and data collection over the phone or online. This change resulted in fewer people responding and collecting less information than normal, and we carefully monitored the outcomes of our data collection.

216. One of the most common issues we dealt with was when firms or businesses did not respond to our survey, or where data were late for other reasons. When that happened, we filled in gaps in our data collection, technically known as imputation. Under normal circumstances, we could do this by using historical relationships between different data sources however these historical relationships may not have held in such unprecedented times. Despite the challenging context we considered each challenge as it arose.
217. We drew upon new data sources. For example, we created new surveys to help fill the gaps, and we used administrative data such as PAYE real time information from HMRC. These new sources sometimes shed light on specific economic issues, such as how businesses were changing their employment practices and helped us cross-check our core economic data and informed the judgements we needed to make.
218. We also sought new survey data to produce the strongest possible statistics consistent with international statistical guidance and in making these changes, sought the input of experts. For example, we established an expert technical panel for inflation measurement. We also considered international guidance regarding our approach to measuring education output where our solution was to contract Teacher Tapp, who conduct weekly surveys of teachers in England, to acquire new information to estimate the contribution of remote learning to overall education output. In healthcare, the challenge of adding new services to our estimates of output also required clear signposting on our website of our methods changes.
219. As the government responded to the pandemic, new aspects of their response placed new data collection requirements on our fiscal statistics teams. Notably, this included collecting information about the new Coronavirus Job Retention Scheme (CJRS) and the Self Employment Income Support Scheme (SEISS), as well as a range of loan guarantee schemes (including the Coronavirus Business Interruption Loan Scheme (CBILS) and similar). These were large schemes, accounting for a large portion of the variation in government spending, which we had to incorporate to maintain the quality of our statistics.
220. Data collection for our estimates of the contribution of Public Services (including healthcare and education) to GDP was also affected, with some data

sources suspended, some sources of infrequent data becoming unsuitable overnight and the introduction of new public services such as Test and Trace requiring us to seek new data to accurately capture economic developments.

221. These challenges required our teams to continually assess the rapidly developing policy landscape and respond to mitigate any effects on the quality or coverage of our measurement and respond in line with international statistical guidance.
222. For Public Sector Finances, the main impact of the pandemic on our short-term data collection was the need to make changes to our detailed production methods. In particular, the data we use to estimate tax receipts is collected on a cash basis (reflecting the timing of payments made) but is required on an accrued basis (reflecting when the tax liability arose) for our main fiscal and national accounts statistics. The sharp shock of the pandemic, lockdowns and the support measures implemented (such as tax deferral schemes) made our 'usual' methods for converting from cash to accrued measurement inappropriate.
223. We therefore worked closely with our data suppliers HMRC, OBR and HMT to produce our best estimates of the profile of tax receipts over this period. For estimates of local government expenditure and receipts which typically arrive with a longer lag, we worked with DLUHC and OBR to ensure that our statistics were as accurate as possible. We also placed a greater than usual emphasis on our cash measures over this period: pointing users towards statistics which are less subject to revision, while reminding them of the associated limitations.
224. Over the longer term, the pandemic also impacted on our 'final outturn' collections of public expenditure and receipts. In particular, the Annual Accounts of Central Government Departments were delayed for the 2020/21 and 2021/22 financial years. The final set of Local Government Annual Accounts for the same period have been similarly delayed. As a consequence, our statistics on these sectors of the economy remained more uncertain for a longer period than normal.
225. For our estimates of public service output, we took several steps to ensure the quality of our statistics, including working with other government departments and the devolved administrations. For data collections which were suspended, we sought internal assessments from the NHS, DHSC and the devolved administrations to gauge the developing situation as accurately as possible. These assessments covered most of the healthcare activity by weight. We also sought access to those statistical series which continued to be published. As a result, estimates of public service output in early GDP estimates had more data content (as opposed to forecast content) than previously.

226. We sought new, more frequent data where the frequency of our usual sources presented measurement challenges. For example, where we had previously used annual estimates of the number of students at school, we switched to using new, more frequent, daily estimates of school attendances made available by both the DfE (in England) and the devolved administrations. This meant that we could reflect fluctuations in actual attendance at schools far more accurately than previously, which was important both during and in between lockdowns.
227. Where new activities came on stream, including the Test and Trace and Vaccination Programmes, we worked with colleagues in the NHS, the Vaccine Task Force, DHSC and BEIS to ensure that we could access the key data that we needed.
228. In producing economic statistics during the pandemic we have been as transparent as possible about the issues we faced and how we addressed them. We have communicated with stakeholders the importance of remembering that these were unprecedented times and that all our economic statistics were consequently more uncertain and prone to more revision than usual as we continue to build on and improve the statistical outputs covering the impacted period.

Public perception of our data, statistics and analysis

229. It is of the utmost importance that we are regarded as a trusted voice in the UK. We take great care in the presentation and publication of our data to ensure that they serve the public good and any risk of misinterpretation is effectively mitigated. Steps we take to avoid misinterpretation include drafting our publications with clear, concise language, building relations with media contacts to encourage clear reporting of our statistics and analysis and including contact details of statisticians with each release so they can be contacted directly for guidance by any member of the public.
230. We took steps to prevent misinterpretation during the pandemic such as publishing blogs and articles to explain our data in more detail. For example, in early 2022, it was being claimed that the true number of deaths caused by Covid-19 in England and Wales was 'only' around 17,000 people. These claims were drawing on a Freedom of Information request that we published in 2021 that asked for mortality figures where Covid-19 was the sole cause of death. The issues with taking this to mean the 'true' number of people dying from Covid-19 missed some of the crucial context. By publishing a National Statistical blog on 26 January 2022 [ID2/93-INQ000252703] we were able to clarify how we measure Covid deaths and why the claim was factually incorrect.

231. The Authority has commissioned research from the National Centre for Social Research (NatCen) on levels of trust in, and the awareness and use of, official statistics in Britain for a number of years. In 2021, the survey showed that public confidence in official statistics remains high and engagement with official statistics had increased since 2018 [ID2/94- INQ000252704]. A very high proportion of respondents trusted the ONS (89% of those able to express a view) and its statistics (87%). This was very encouraging to see. The Public Confidence in Official Statistics Survey also asked respondents about their level of trust in the ONS compared to other institutions in British public life. Of the institutions listed on the survey, the ONS has the highest levels of trust, similar to that of the Bank of England and the courts system.

Lessons learned reports

232. Teams across the ONS routinely reflect on their outputs and ways of working in an informal manner to ensure that they meet our organisational strategic goal to deliver statistics for the public good. Since January 2020, ONS colleagues have conducted or been involved with work reflecting on both the role and work of the ONS and GSS during the pandemic, and these are listed in this return.

233. In addition to these internal pieces of work, we have contributed to Parliamentary Select Committee inquiries relating to the pandemic (covered elsewhere in this response) and have engaged with lessons learned reviews written by the OSR. Interim Deputy National Statistician for Health, Population and Methods Emma Rourke also spoke at an event hosted by the Royal Statistical Society (RSS) in June 2022 on evidence and policy making as part of the RSS's series of events entitled Covid-19 Evidence Sessions.

234. Reflections that took place across the ONS to consider our work during the pandemic was summarised in a response to a Cabinet Office commission in April 2022. This sought to capture innovations during the pandemic period. Our return to Cabinet Office is exhibited [ID2/95- INQ000252705] as part of this statement. It includes more details on the work listed below.

- a. *June 2020, Looking forward review.* In 2020 I commissioned the ONS's Interim Director General for Data Capability, Frankie Kay, and the then Head of Strategy Group to conduct a short piece of work to capture the opportunities that had materialised because of the Covid-19 pandemic. By engaging with ONS colleagues and stakeholders and using focus groups and 'pulse surveys' the team gathered information from across the organisation.

- b. This review was published internally in June 2020. It provided 22 recommendations, outlining areas that we as an organisation wished to retain in the future and aspects of existing work practices that we wished to combine with new approaches. There were four high level strategic recommendations:
 - i. The ONS should be on the front foot with the evidence needs of the nation.
 - ii. Improvements in the communication of statistics during the pandemic should be built upon.
 - iii. Cross-department and cross-discipline working should continue to be improved.
 - iv. Policies and practices should reflect the new context, for example where colleagues work.
 - v. The other recommendations in the review focused on people and resources, new outputs/products and key existing statistical series.
- c. *June 2020, reflections on the Analysis Function's response to Covid-19.* A paper by DHSC's Director of Analysis was discussed at the Analysis Function Board which I chair as Head of the Analysis Function. The paper provided five main reflections on the role that the Function played in decision making during the pandemic, as follows:
 - i. Analysis had played a prominent role in Covid decision-making.
 - ii. We had risen to the challenge in rapidly developing new statistics, surveys and evaluations.
 - iii. Data sharing and visualisation had been fast-tracked.
 - iv. There had been strong collaboration across departments.
 - v. Analytical resource from across government had been shared, bringing our staff together in high-performing new teams.
- d. *November 2020, rapid high-level lessons learned review.* In November 2020, the National Statistics Executive Group (NSEG), the ONS's top-level executive committee commissioned a rapid high-level lessons learned review across the statistical system. This was undertaken in January 2021 and presented to NSEG and the IAC in February 2021 [ID2/96- INQ000252706] and Annex [ID2/97- INQ000252707]. The paper and annex exhibited were not included in the Cabinet Office commission in April 2022
- e. This review was conducted via video sessions and a written proforma, consulting: GSS HoPs and lead officials, Chief Statisticians from the devolved administrations and the GSS IAC, staff from ONS and the devolved

administrations, and Authority colleagues including Deputy National Statisticians, ONS Outputs Group, Central Policy Secretariat and the OSR.

- f. The review made some short, high-level reflections on lessons learned and drew from other reflective work conducted across the GSS, namely that the GSS had risen to the challenges posed by the pandemic and responded in an agile and innovative way across the GSS and devolved administrations. It was also noted that the GSS had increased its influence in informing decision makers in Government. The paper highlighted challenges that faced the GSS which included resources, data sharing across departments and differences in definitions or methods particularly where statistics were devolved.
 - g. This work continued after the initial review and two papers were tabled to NSEG in April 2021 and February 2022 respectively. The April 2021 paper updated NSEG on work that had taken place since the findings were first presented in February 2021 and set out a high-level timeline summarising initiatives taking place across the GSS and Analysis Function. The February 2022 paper provided a strategic overview of the breadth of work happening across the GSS and Analysis Function that has supported the statistical and analytical communities to build on the successes achieved in the pandemic response.
 - h. *November 2020. Economic Statistics Group (ESG) NSEG Paper.* In November 2020, then Deputy National Statistician Jonathan Athow and Economic Statistics Directors Grant Fitzner and Darren Morgan brought a paper to NSEG. This paper was drafted following informal engagement with Economic Statistics Group colleagues reflected on the work conducted by ESG during the pandemic. The paper highlighted lessons learned covering the areas of prioritisation, speed and flexibility, 'core' statistical production and analysis.
 - i. *November 2020. Covid Outputs.* The ONS's Communications and Digital Publishing Team assessed the impact of the ONS releases and how the organisation approaches success measurement. A working group was formed and drew on various sources, including the results from an online survey completed by ONS users, analysis of ONS website metrics and results and opinions from a survey completed by Stats User Net and Stats User Forum users. This report was discussed at the Analysis & Evaluation Committee, an NSEG sub-committee with cross-GSS membership.
235. In June 2021, a meeting of Departmental Directors of Analysis considered a paper which drew upon the findings of the GSS lessons learned work (noted at

paragraph 234,c) and supplemented it with similar work undertaken by other analytical professions. Profession leads were invited to feed in on behalf of their professions. Findings included noting the agility and innovation in data collection during the pandemic and the challenges identified overlapped with the findings of the GSS lessons learned work [ID2/98- INQ000130465].

236. The ONS also commissioned an external review, '*Evaluation of the ONS' role in the CIS programme*', which was conducted by RSM UK Consulting LLP in partnership with NatCen Social Science Research [ID2/99- INQ000130468]. The evaluation took place between April 2022 and July 2022, with the report published 12 December 2022. The evaluation looked at CIS, SIS, Vivaldi Study, Daily Contact Test, the IPS and the Covid-19 modelling hub.

237. Other than the CIS evaluation published on 12 December 2022, the ONS has not formally responded to or published conclusions or recommendations made regarding lessons learned during the pandemic. However, we continue to reflect on how we can maintain the momentum built during the pandemic across the organisation, which effectively demonstrated the strengths and capability of the system. Our strategy '*Statistics for the Public Good*' aims to entrench some of these features, such as making greater use of data sharing and innovation and providing a much wider reach of our information across society. We formally set out progress against the strategy in our Annual Report to the UK Parliament, the Scottish Parliament, the Welsh Parliament, and the Northern Ireland Assembly and capitalise on opportunities to update on our work to deliver: '*High quality data and analysis to inform the UK, improve lives and build the future*'.

Conclusion

238. The role of the ONS remained constant throughout the pandemic period in line with our statutory objectives, however the context in which we were working did very much change. Against the backdrop of the pandemic, there was an increased demand for and awareness of the need for timely, insightful evidence to inform policy development and the public alike. Therefore, we had to adapt.

239. As I hope is evident from this response, the ONS provided the statistics the country needed through both rapidly standing up new surveys and by bringing in new data sources to help understand the impact of Covid-19. We listened to what insights were required through increased collaboration with policymakers and maximised how our evidence was used and understood in Government by working with and seconding staff to key areas. Finally, we ensured the public were equally well-

informed through our Covid-19 insights tool and by helping with data visualisation for the daily press briefings.

240. I am incredibly proud of the extensive work that the ONS delivered during the Covid-19 pandemic, working at pace, in extremely challenging circumstances to deliver high quality insights for decision makers and the public. I hope that the information detailed in this statement is helpful to the Inquiry and I would be happy to clarify or provide further information should that be helpful.

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: 08/09/2023