Witness Name: Professor Sir Ian Diamond
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UK COVID-19 INQUIRY
MODULE 6

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:

Contents

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. This includes setting the standards for official statistics in the Code of Practice for Statistics.

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 [ID6/01-INQ000335482] 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 [ID6/02-INQ000503375].

The role and responsibilities of the National Statistician

11. I, as the National Statistician (October 2019 – present (January 2025 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'.

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

12. 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.

13. Where further insight was required, we introduced and adapted surveys at pace to rapidly inform policy decisions about the pandemic. For example, we introduced the Business Insights and Conditions Survey (BICS), the Covid-19 Infection Survey (CIS), the Schools Infection Survey (SIS) and made changes to the Opinions and Lifestyle Survey (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.
14. 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.
15. We also created the Covid-19 latest insights page on our website to collate all the relevant statistics centrally and make it easier for the public to access this information [ID6/03-INQ000503386].

Quality and accuracy

16. 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.
17. 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.

18. This is included even for our statistics in development, a subset of official statistics going through development and evaluation (formerly known as 'experimental statistics'). Such statistics may have a wider degree of uncertainty. The Code of Practice encourages innovation and improvement and highlights the need for National Statistics and other official statistics to remain relevant for use, to provide a dynamic public service. Statistics in development are useful for rapidly introducing new analyses to serve the public good, while allowing 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 were badged as such for public transparency. The Code of Practice's provisions for such badging allowed ONS to produce timely and transparent evidence informing urgent policy decisions, such as the survey of the clinically extremely vulnerable exhibited at [ID6/03a-INQ000251588], or the novel indicators of consumer spending at [ID6/04-INQ000252626].
19. 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 [ID6/04-INQ000252626].
20. 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.

Engagement with stakeholders

Engagement with UK Government

21. 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 then Chief Scientific Officer, Sir Patrick Vallance, which helped to inform and identify potential data gaps.

22. 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 [ID6/05-INQ000252629] where they refer to Covid-19 workstreams.
23. 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 (PLU), a small team of colleagues working closely with government departments to better understand policy priorities and data gaps and highlight where ONS data could help inform these areas.
24. This was the main route by which data and statistics were shared between the ONS and the UK Government. Through the establishment of PLU (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.
25. 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 [ID6/06-INQ000252674].
26. 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.

27. I directly briefed Ministers on a handful of occasions though these did not directly relate to social care.
28. I also attended broader meetings with representatives from Government, such as:
    a. The 'Gemini 2' session on 30 July 2020 regarding the development, understanding and expectation of the NHS Test and Trace system [ID6/07-INQ000252680]. This was a cross-ministerial meeting.
    b. Covid-19 Testing taskforce meetings in April and May 2020 [ID6/08-INQ000252681].
    c. Covid-19 Strategy 'O' meetings which took place almost daily during late March and April 2020 [ID6/09-INQ000252682].

Engagement with devolved administrations

29. 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.
30. 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. Work done in collaboration with the Devolved Administrations is often identified or agreed through regular engagement and there is not a formal 'commissioning procedure' in place.
31. 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.

32. I met with David Crossman, the then Chief Scientist for Health within Scottish Government on various occasions. 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 which are detailed in [ID6/10-INQ000252676]. We also routinely engaged on specific areas of work such as the CIS.

ONS interaction with SAGE and its sub-groups

33. 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.
34. Iain Bell, the then Deputy National Statistician for Population and Public Policy, Jennet Woolford, then Head of Policy and Engagement, Health and Pandemic Insights (HAPI), Ben Humberstone, then Deputy Director for the Health Analysis and Life Event (HALE) Division 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.
35. Iain Bell and Ruth Studley attended the ethnicity sub-group, as did one additional colleague below SCS grade from HALE.
36. Hugh Stickland attended SPI-B.
37. 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.
38. 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.
39. My private office also met with the SAGE Secretariat on a fortnightly basis to provide updates on our progress against any outstanding actions.

40. 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.
41. 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. 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. We shared long Covid analyses with SAGE in February 2021 and July 2021.

42. I also established the evaluation subgroup which designed the principles of the Joint Biosecurity Centre (JBC).

Interaction with scientific and expert groups in devolved administrations

43. In terms of scientific and expert groups in the devolved administrations, our engagement was much more limited.
44. 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.
45. 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.
46. 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

47. My colleagues in the ONS collaborated regularly with health bodies across the UK, either on mortality analysis, the CIS or the SIS.
48. On mortality data, we provided data extracts weekly to PHE (and its successor UKHSA), the JBC, SPI-M and Public Health Wales.
49. 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.

50. 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 [ID6/11-INQ000503366], 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.
51. 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.
52. 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.
53. Analysis shared as management information for operational decision making was circulated up to three times weekly with Senior Civil Servants in PHE/UKHSA, JBC, NHS England or NHS Test and Trace, NRS and NISRA.
54. The ONS 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.
55. The ONS also attended meetings arranged by Cabinet Office, for example Covid-19 Taskforce Analysis meetings, which were also attended by colleagues in the devolved administrations.

56. 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.
57. 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 [ID6/12-INQ000092880] and the Director of Public Health regarding the SIS [ID6/13-INQ000503368].
58. Finally, on 22 October 2021 I convened a round table with attendees from the analysis function and other key stakeholders such as the Kings Fund and Nuffield Trust following the announcement of the Health and Social Care Levy. The meeting sought to explore how data could better provide an understanding of this sector [ID6/14-INQ000503369]. Challenges identified at the meeting included data gaps, ensuring that there is an understanding of who holds what data, and that Trusted Research Environments have access to the right data tools. The Department for Health and Social Care were invited to reflect on the discussion outside of the meeting. It was planned that another round table would be held once the Social Care Strategy was finalised. To the best of my knowledge, another round table with these attendees did not take place.

International collaboration

59. Throughout the pandemic the ONS maintained strong links with a wide range of multilateral bodies and other National Statistical Offices (NSO) around the world.

Multilateral bodies

60. The ONS 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).
61. 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.

62. 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.
63. 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.
64. Members of the ONS HAPI team are part of the WHO Classification and Statistical Committee and worked with them 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

65. The ONS has participated in a considerable amount of bilateral engagement with international NSOs or public health officials.
66. 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.
67. There were also several one-to-one meetings between me (or my Deputy National Statisticians) and international counterparts. These meetings covered all aspects of the pandemic and mostly focused on sharing experiences.

68. In addition to the UK Government and Devolved Administrations, I met with Padraig Dalton, Chief Statistician at the Irish Central Statistics Office approximately quarterly throughout the pandemic to cover our respective responses to the pandemic. One such meeting focused on the work each of our offices were doing on the measurement of deaths in care homes. These meetings were informal and not minuted.
69. 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 in 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.

70. 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 pandemic response

Quality and Standards

71. Our statistics are assessed against the Code of Practice for Statistics, with quality being one of the three pillars. They are awarded Accredited Official Statistics designation if they comply. This quality mark can be found at the top of Accredited Official Statistics publications to make users aware that they can be trusted.
72. 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 is important to understand that all statistical estimates are subject to uncertainty. This includes confidence intervals and associated footnotes 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.
73. This information 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 very 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. They are badged as such for public transparency.
74. 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.

75. 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.

Methodology

Death certification as a source for official statistics

76. The ONS and its predecessor organisations have been and remain responsible for publishing statistics on cause of death as recorded on death certificates. The process of death registration, which involves transcribing the causes of death on the Medical Certificate of Cause of Death (MCCD) into the official register, is carried out by local registration officials acting under the authority of the Registrar General.
77. The processing of these records into statistical outputs was carried out by the Office for Population Censuses and Surveys (OPCS) from 1970 to 1996 and thereafter by the ONS (which included the former OPCS). The Statistics and Registration Service Act 2007 (SRSA) replaced the legal entity the ONS with the Statistics Board, known as the UK Statistics Authority. The current ONS operates as the executive office of the Authority.
78. The SRSA requires the ONS to produce and publish statistics for the public good and the Registration Service Act 1953 requires us to produce an annual count of the number of deaths by various characteristics in England and Wales. This statutory responsibility involves providing information on the number of deaths registered in England and Wales over time and by cause at an aggregate level.
79. More detailed extracts of the death registration data (including microdata requests and access to individual level data) are regularly made available to other government departments (such as the Department of Health and Social Care (DHSC) and its agencies) and researchers in academia. The ONS also conducts and publishes analyses based on these data to answer key policy questions.
80. This deaths registration data can be used to monitor diseases and infections that contribute to mortality; but it cannot be used directly to monitor the *prevalence* of a disease or infection, since a cause would only be mentioned on a death certificate if it contributed to the death. For example, if someone had contracted

Covid-19 but it did not contribute to their death then Covid-19 would not be mentioned on their death certificate.

81. The ONS's *Deaths registered weekly in England and Wales* release can be used for surveillance and is published 11 days after the end of the week of interest (for example, deaths registered to the week ending 12 May 2023 were published on 23 May 2023) [ID6/15-INQ000503370]. This looks at high-level numbers of deaths and provides a limited number of breakdowns, including a division between deaths due to respiratory diseases and other causes.
82. The systems used by the ONS are not designed to identify short-term trends in particular infectious diseases or to monitor trends in real time (for example, by date of occurrence). In the past, analysis has mostly been carried out on an annual basis. However, to support the better understanding of the Covid-19 pandemic, the ONS began publishing more timely and granular data.
83. For example, the deaths registered weekly in England and Wales publication was expanded to include weekly numbers of deaths due to and involving Covid-19. In addition, the amount of information and breakdowns provided were increased to inform the public and support urgent decision-making about prevention and treatment by government and NHS bodies at all levels. This included expanding our deaths registered weekly in England and Wales release to include breakdowns of deaths involving Covid-19 by sex and age, as well as more detailed analyses of deaths involving Covid-19 in monthly and ad-hoc publications. This included additional analysis by place of death and place of residence.
84. The information that the ONS gathers on cause of death comes from the MCCD (except for coroner cases) via the death registration. The MCCD is normally completed by a doctor who was in contact with the patient during their final illness. The informant was (until the Covid-19 pandemic) provided with a physical copy of the MCCD to take to the local registration office. The local registrar, after making certain checks, exactly transcribes the cause of death information from the MCCD to the official death register. The registrar also collects some information directly from the registration informant (usually the next of kin) for example the deceased's full name, age, sex and last known address to record in the register. The combined information is sent to the ONS for statistical

purposes. The document often referred to as the 'death certificate' is a certified extract of the death register.

85. Information on how the ONS processes and codes mortality data is detailed in the exhibited Quality and Methodology Information and User Guide (Mortality statistics in England and Wales QMI (Quality and methodology information) [ID6/16-INQ000503371] and user guide to mortality statistics) [ID6/17-INQ000503372].
86. Coding for cause of death at the ONS is carried out according to the World Health Organisation (WHO) International Classification of Diseases (ICD) and Related Health Problems, Tenth Edition (ICD-10) and internationally agreed rules.
87. The ONS use the Iris software to code cause of death. Most deaths (around 80%) have the underlying cause of death coded automatically using the Iris coding software. Using an automated coding tool enables rapid processing and improves the international and temporal comparability of mortality statistics. The remainder of deaths are coded manually by experienced coders; manual coding is also necessary for deaths involving a coroner's inquest.
88. At the start of the pandemic, as Covid-19 was a novel cause of death, all of these deaths were manually coded by our specialist coders until automatic coding could be established.
89. Daily extracts of death registrations that we receive from Registration Online (RON) pass through a series of automatic validation processes that highlight any inconsistencies. Internal consistency checks are then conducted to eliminate any errors made during the recording of deaths, and to ensure the annual dataset is complete.
90. Various additional checks are performed on the death certificate data to establish any anomalies. Periodic reports on persistent coding problems are referred to a medical epidemiologist for advice and to international forums.
91. Once the dataset has been created, consistency checks are carried out on the analytical output ahead of publication. The exhibited flowchart details the quality assurance and checks conducted on deaths data [ID6/18-INQ000503373].

Deaths due to and involving Covid-19

92. The ONS use the term "due to Covid-19" when referring only to deaths with an underlying cause of death as Covid-19, and the term "involving Covid-19" when referring to deaths that had Covid-19 mentioned anywhere on the death certificate, whether as underlying cause or a contributory cause. When Covid-19, or any health condition, is mentioned on the death certificate, this indicates that in the judgement of a doctor or coroner it played a role in the causation of death even if it was not the underlying cause.
93. The ICD-10 definitions used to define deaths due to Covid-19 (where Covid-19 was the underlying cause):
    a. U07.1 (Covid-19, virus identified)
    b. U07.2 (Covid-19, virus not identified but suspected)
    c. U10.9 (multisystem inflammatory syndrome associated with Covid-19 unspecified).

To define deaths involving Covid-19 (where Covid-19 was mentioned on the death certificate, not necessarily as the underlying cause), we also used the ICD-10 code U09.9 (post-Covid-19 condition, unspecified). This code cannot be assigned to the underlying cause of death so is not included in the “deaths due to Covid-19” definition.

94. Definitions of Covid-19 deaths in Scotland and Northern Ireland are the same as for England and Wales.

Place of death

95. To calculate death figures by place of death, the ONS use information collected on the death certificate to determine where the death occurred and where the deceased lived. When the place of death is the same as the place of residence and is not a communal establishment, we refer to this as deaths at home (or sometimes "private homes").
96. Where the individual died in a communal establishment, we link the mortality data to a communal establishment file via a unique identifier assigned by the registrar. This allows us to collect information on the type of establishment, by breaking the list into over 80 types of organisation, grouped into the following categories:

a. home (those at the usual residence of the deceased (according to the informant), where this is not a communal establishment)
b. care home (whether local authority or non-local authority)
c. hospitals and communal establishments for the care of the sick (excluding psychiatric hospitals and hospices) (whether NHS or other than NHS)
d. hospices (whether NHS or other than NHS)
e. other communal establishments: includes schools, convents and monasteries, nurses' homes, university and college halls of residence, young offender institutions, secure training centres, detention centres, prisons and remand homes elsewhere: includes all places not covered in this list such as deaths on a motorway; climbing a mountain; in a public place; or in someone else's home

97. In ONS publications, the term "care home resident" refers to all deaths where either (a) the death occurred in a care home or (b) the death occurred elsewhere but the place of residence of the deceased was recorded as a care home.

Care home data across the nations of the UK

98. In 2023, the ONS worked in collaboration with NRS for Scotland and the NISRA for Northern Ireland to release a publication outlining the feasibility and limitations of producing a UK-wide statistic for deaths in care homes [ID6/19-INQ000503374].
99. The article concluded that the fundamental issue around comparability between the four nations is the differences in definitions of what constitutes a "care home" in each nation, therefore production of a UK figure was not possible.
100. Table 1 below sets out the definitional differences in care homes, and differences in the types of care and care needs that are provided for in England, Wales, Scotland and Northern Ireland [ID6/19a-INQ000520279]. For example, convalescent home care is provided for in England but not in Wales, Scotland, and Northern Ireland and Mental Health Crises House care is provided in Northern Ireland but not in England, Wales or Scotland.

Table 1: definitional differences in care homes, and differences in the types of care and care needs that are provided for in England, Wales, Scotland and Northern Ireland.

	England	Wales	Scotland	Northern Ireland
Care Types				
Care home with nursing	Yes	Yes	Yes	Yes
Care home without nursing	Yes	Yes	Yes	Yes
Convalescent home	Yes	No	No	No
Respite care	Yes	Yes	No	No
Mental health crises house	No	No	No	Yes
Rest home	Yes	No	No	No
Joint user hospital	No	No	Yes	No
Contractual hospital	No	No	Yes	No
Hospice	No	No	Yes	No
Care needs				
Elderly care	Yes	Yes	Yes	Yes
Learning disability	Yes	Yes	Yes	Yes
Dementia care	Yes	Yes	Yes	Yes
Terminally ill	Yes	No	Yes	Yes
Treatment of disease, disorder or injury	Yes	No	No	Yes
Therapeutic communities (drug/alcohol dependence)	No	No	No	Yes
Blood borne viruses	No	No	Yes	No

101. The devolved responsibility of social care in the UK means that each of the four nations have different frameworks to accessing adult social care along with different funding arrangements. For example, Northern Ireland provide free domiciliary care for individuals assessed as requiring additional care. Differences in care home access, management, and funding may affect care home populations, and should be considered when comparing care home deaths across the four nations.

102. It is these differences in policies, definitions, and legislation across the four nations that mean that the comparability of social care data across the UK is not currently possible.

Additional mortality analysis during pandemic

103. During the pandemic, we increased the detail of our deaths registered weekly in England and Wales release and produced a number of additional outputs. The increased analysis included additional detail on age, geography, place of death analysis, data by occurrences, comparisons to public health metrics, additional datasets on place of residence and data from the Care Quality Commission (CQC). Additional datasets were also added on deaths by place of death and local authority.

104. During the pandemic, the content and output type changed to remain relevant and useful. Changes were discussed at the Mortality Theme Group, a meeting of UK wide producers and users of mortality statistics across government, to establish what was most useful to users of the statistics.

105. This included a number of releases which provided information on the number of deaths in care home settings. These were published with differing frequency and captured different characteristics.

a. 'Deaths Registered Weekly in England and Wales', 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 [ID6/15-INQ000503370].
b. Monthly Mortality Analysis, which provided breakdowns by place of death, sex, country and age (under 75, 75 and over).
c. 'Deaths of care home residents, England and Wales'.

Deaths in Care Homes and Deaths of Care Home Residents

106. The ONS produced two different metrics related to deaths in care homes.

a. The first was the number of deaths where the place of death was a care home. These figures include "care home residents", where either (a) their place of death was in a care home, or (b) those individuals whose place of residence on their death certificate was not a care home, but their place of death was in a care home.

b. The second was the number of deaths where the place of residence was a care home. This included all deaths where either (a) the death occurred in a care home, or (b) the death occurred elsewhere (e.g. in a hospital) but the place of residence of the deceased was recorded as a care home.

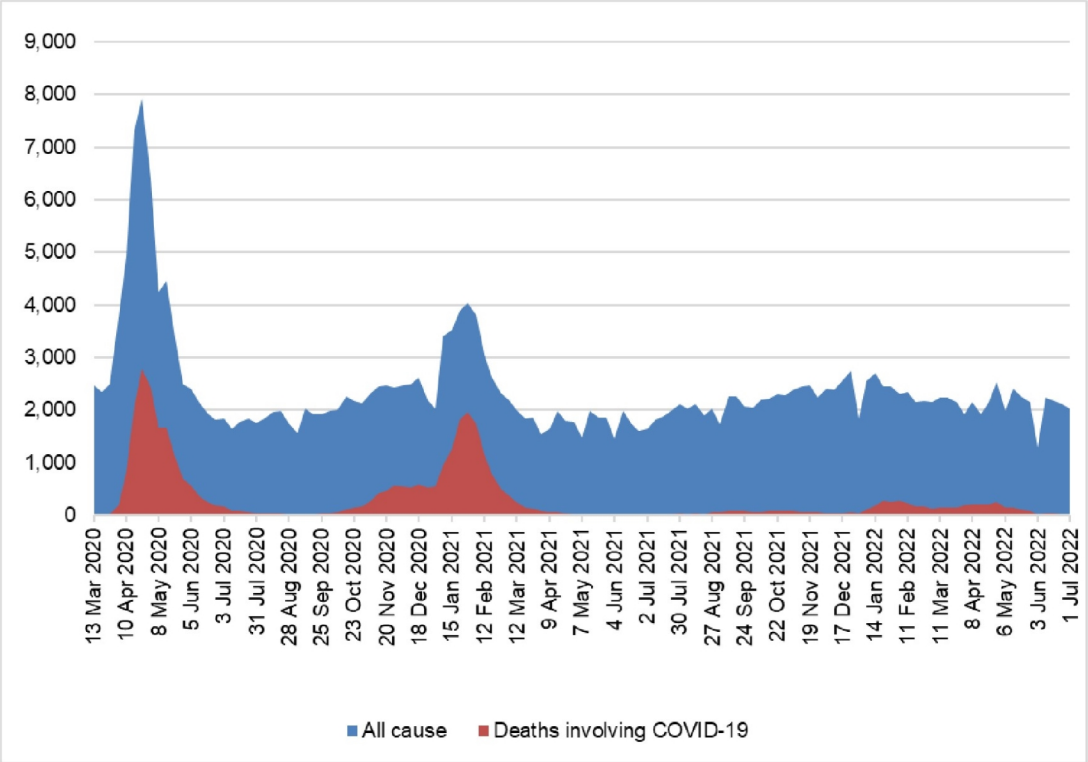
107. The number of deaths involving Covid-19 by place of occurrence, including care homes, was published weekly as part of our deaths registered weekly in England and Wales publication [ID6/20-INQ000271324]. This information was not provided in the Scotland and Northern Ireland data deliveries to the ONS as the definitions of place of death varied by country. For example, the 'Home' category for Scotland includes non-institutional locations, such as shops and bus shelters which would be classed as 'Elsewhere' in the England and Wales statistics.

108. Between the week ending 13 March 2020 and the week ending 1 July 2022 there were 37,578 deaths involving Covid-19 where the place of death was a care home. Figure 1 shows the number of deaths involving Covid-19 where the place of death was a care home. The number of all-cause deaths has been included as a comparison.

109. The number of deaths involving Covid-19 in care homes followed the same trend as the overall number of deaths involving Covid-19, regardless of setting. The week with the highest number of deaths involving Covid-19 in care homes was the week ending 24 April 2020 with 2,794 deaths. The week with the highest number of deaths involving Covid-19 regardless of setting was the week before, week ending 17 April 2020. The week with the highest proportion of deaths involving Covid-19 that occurred in care homes was 15 May 2020, where 1,660 of the 3,810 deaths involving Covid-19 (43.6%) occurred in care homes.

110. Similar peaks were seen in all-cause mortality as deaths involving Covid-19. During the first wave, (until 11 September 2020), the week ending 8 May 2020 had the largest proportion (39.2%) of deaths in care homes having Covid-19 listed on the death certificate. During the early 2021 peak, week ending 29 January 2021 had the largest proportion of care home deaths mentioning Covid-19 (49.0%).

Figure 1: Number of all-cause deaths and deaths involving Covid-19 where place of death is care home by week of registration, March 2020 to July 2022, England and Wales[1,2]



111. The increase in non-Covid-19 deaths was looked into early in the pandemic in September 2020 [ID6/20a-INQ000520280] and was reviewed subsequently in March 2023 [ID6/20b-INQ000520281] ONS has analysed the causes of death of the non-Covid-19 excess, but we are not able to assign specific reasons for these excess deaths to have occurred at those points in time. Possible reasons include unidentified Covid-19, but also changes in care-seeking behaviour because of the pandemic, changes in the availability of health services such as emergency and intensive care, and indirect effects of the pandemic situation such as social isolation. The fact that the peaks in non-Covid-19 excess deaths followed the same pattern as the peaks in Covid-19 deaths does, however, suggest that at least a significant proportion of these deaths were directly related to Covid-19 and its immediate effects. Because reliable and

[1] Based on date a death was registered rather than date a death occurred

[2] Based on those resident in England and Wales

convenient laboratory testing was not available at the beginning of the pandemic, and diagnostic awareness was still low, the likelihood of undiagnosed Covid-19 can be expected to be highest in the early months of the pandemic.

112. Figures 2 and 3 show excess deaths in England and Wales for each month between March 2020 and June 2022, broken down in different places of occurrence. The highest excess mortality, both in absolute numbers [Figure 2, ID6/20c-INQ000520282] and proportional increases (Figure 3) occurred in care homes in April 2020.

113. The following paragraphs look at the date a death occurred. There can be a delay between a death occurring and being registered with most deaths registered within 7 days (67.2% in 2021), but some deaths can take years to be registered. These deaths are most likely to need to be seen by a coroner and go to an inquest. The ONS does not know about a death until it has been registered.

114. Wave 1 (24 January 2020 to 11 September 2020) had the highest number of average deaths occurring in care homes per week, with 472 deaths involving Covid-19 by week. The lowest was found in the Delta period (13 June 2021 to 9 January 2022) with an average of 61 deaths per week. The lowest for all settings was seen in the same period (Delta) with an average of 708 deaths per week. The period with the highest number of average deaths a week was in wave 2, with 2,406 deaths per week on average. Wave 1 had the third highest number of average deaths in a week when looking at all settings.

Table 2: Number of deaths involving Covid-19 by wave (date of occurrence), where the death occurred in care homes and where the deceased was a care home resident, March 2020 to July 2022, England and Wales

Deaths *occurring* in care homes are identified by 'place of death' and deaths of care home *residents* by 'usual place of residence', both recorded at death registration. A person's usual place of residence may be recorded as a former private residence if they have been resident in a care home for only a short time before death, in which case they could be counted as a 'death occurring in a care home' but not a 'death of a care home resident'.

			Deaths occurring in care homes				Deaths of care home residents, in all locations			
			Involving Covid-19		All causes		Involving Covid-19		Due to Covid-19	
Period		Weeks	Deaths	Deaths per week (average)	Deaths	Deaths per week (average)	Deaths	Deaths per week (average)	Deaths	Deaths per week (average)
Wave 1	24 Jan 2020 – 11 Sep 2020	33	15,590	472	53,065	1,608	16,784	509	15,776	478
Wave 2	12 Sep 2020 – 8 Jan 2021	17	6,864	407	40,553	2,406	7,690	456	6,870	408
Alpha	9 Jan 2021 – 12 June 2021	22	9,841	447	48,125	2,188	9,493	432	8,539	388
Delta	13 June 2021 – 09 Jan 2022	30	1,833	61	21,245	708	1,782	59	1,456	49
Omicron	10 Jan 2022 – 28 June 2022	24	3,769	156	18,939	784	3,347	139	2,394	99
	24 Jan 2020 – 28 June 2022	**126**	**37,897**	**301**	**181,927**	**1,444**	**39,096**	**310**	**35,035**	**278**

Figure 2: Number of excess deaths by month and place of occurrence, registered March 2020 to June 2022, England and Wales [Sheet 10, ID6/20c-INQ000520282]

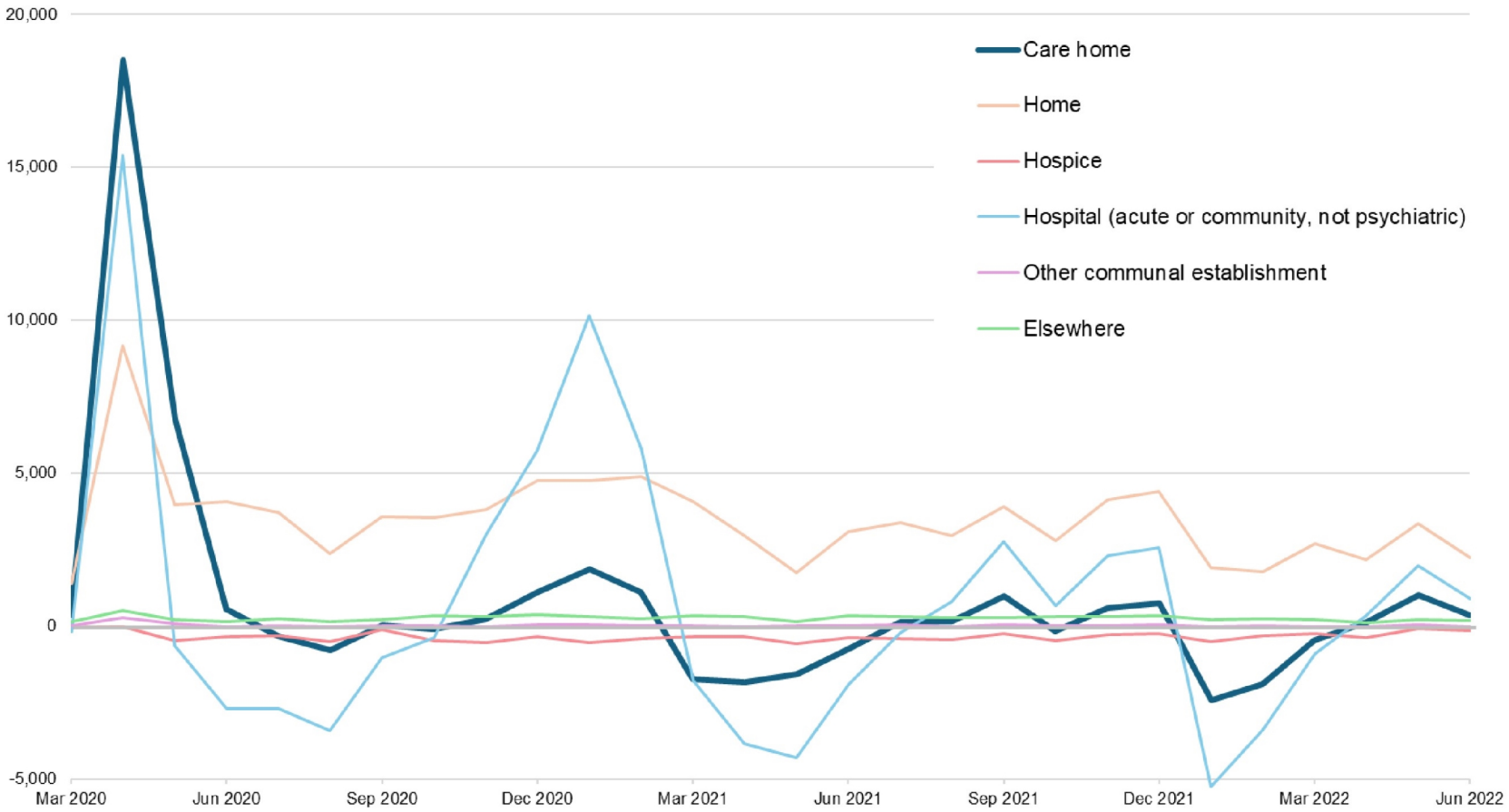
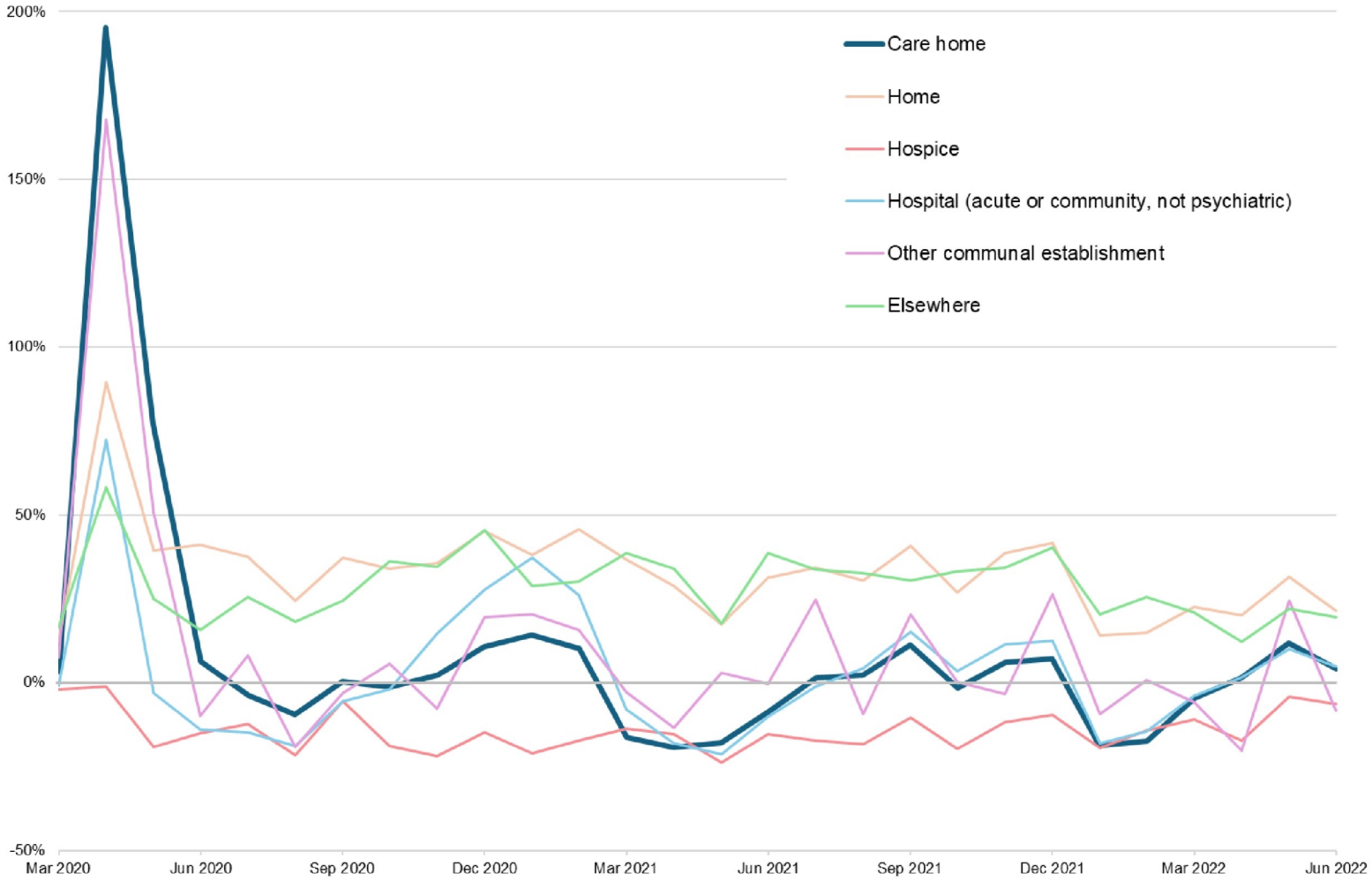


Figure 3: Percentage of excess deaths by month and place of occurrence, registered March 2020 to June 2022, England and Wales [Sheet 10, ID6/20c-INQ000520282]

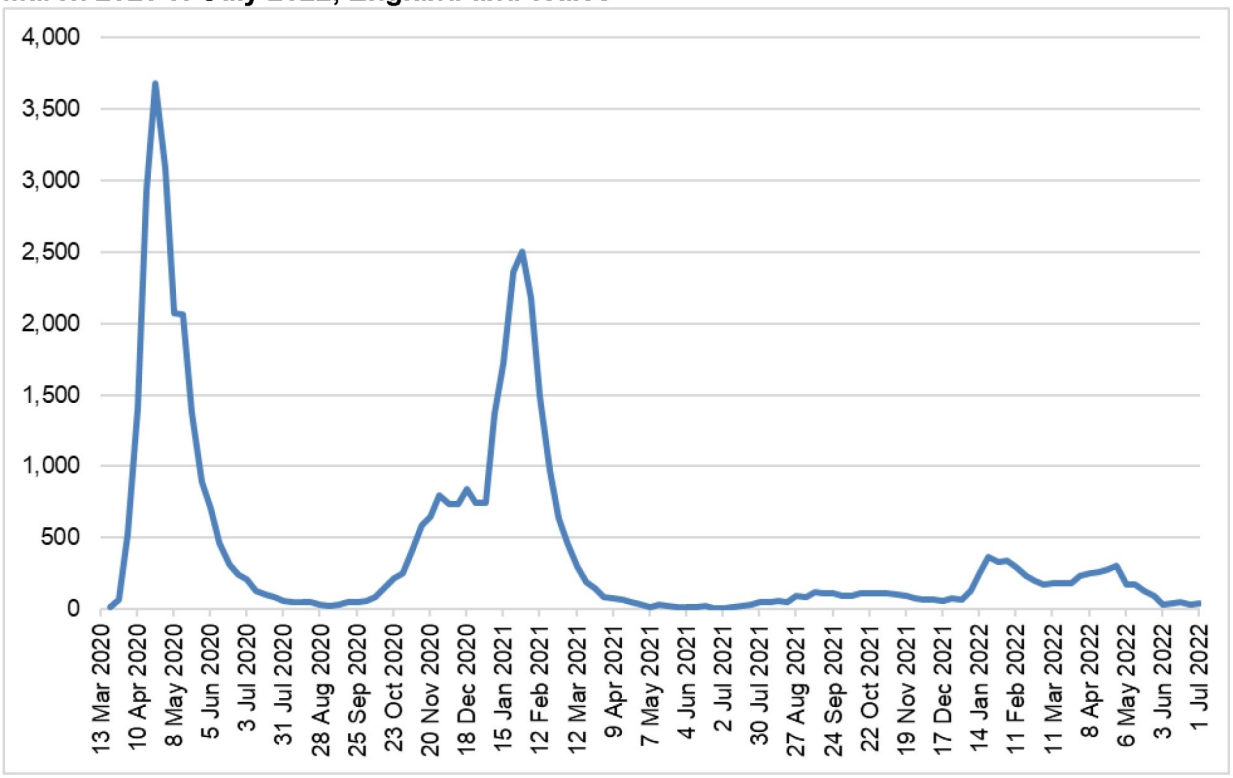


115. The number of deaths involving Covid-19 in care home residents was published weekly starting in 2021 [ID6/21-INQ000503377]. The first death involving Covid-19 of a care home resident was in the week ending 20 March 2020.

116. Figure 4 shows the number of deaths involving Covid-19 in care home residents by week of registration. Between week ending 20 March 2020 and week ending 1 July 2022 there were 49,624 deaths involving Covid-19 in care home residents. Figure 5 shows this same series alongside the number of deaths recorded as having *occurred in* a care home.

117. The week with the highest number of deaths involving Covid-19 in care homes residents was the week ending 24 April 2020 with 3,679 deaths. This was the same week as deaths that occurred in care homes.

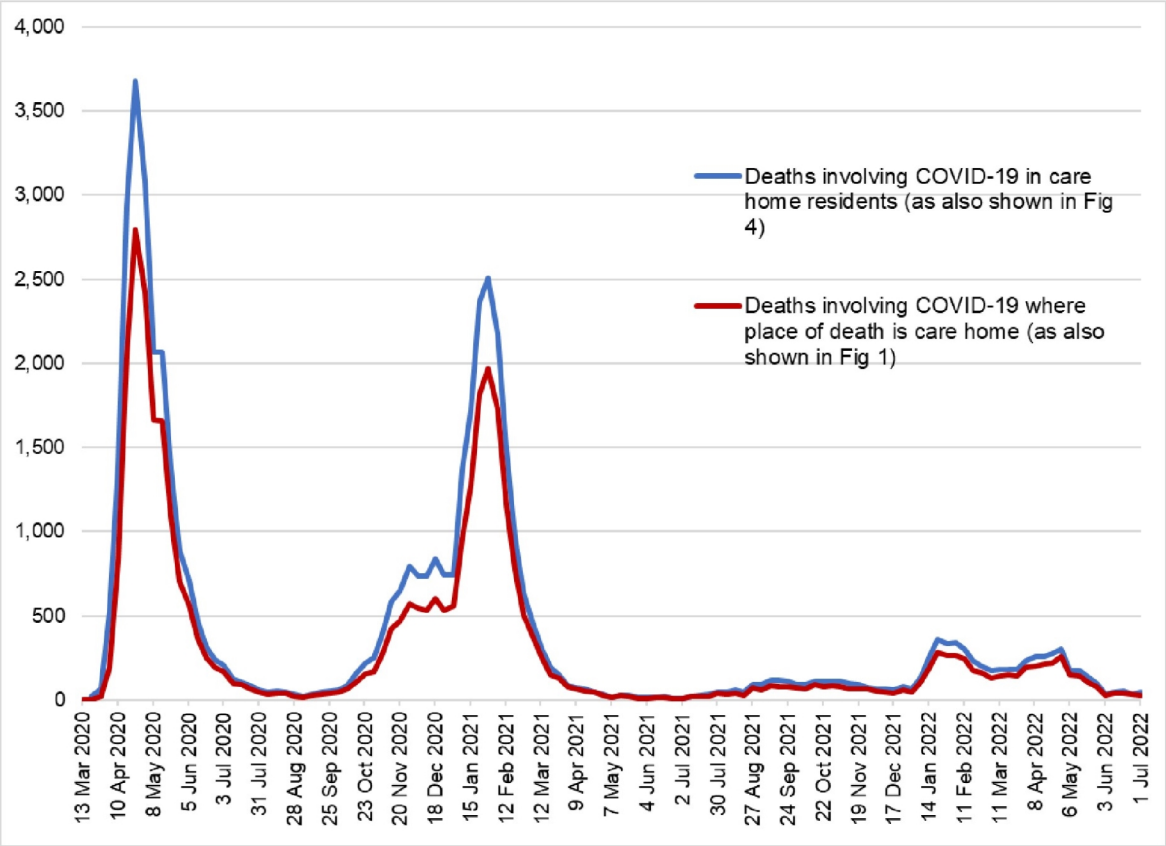
Figure 4: Number of deaths involving Covid-19 in care home residents by week, March 2020 to July 2022, England and Wales[3,4]



[3] Based on date a death was registered rather than date a death occurred

[4] Based on those resident in England and Wales

Figure 5: Number of deaths involving Covid-19 in care home residents and where place of death was care home, by week, March 2020 to July 2022, England and Wales [5,6]



118. Wave 1 (deaths occurring between 24 January 2020 and 11 September 2020) had the highest number of average deaths per week with 509 deaths involving Covid-19 by week. The lowest was found in the Delta period (deaths occurring between 13 June 2021 and 09 January 2022) with an average of 59 deaths per week.

Covid-19 deaths of care home residents

119. The preceding paragraphs have looked at deaths involving Covid-19. In other words, deaths where Covid-19 is mentioned as the underlying or a contributory cause of death. The next paragraph looks at deaths due to Covid-19 (where Covid-19 was the underlying cause of death only).

[5] Based on date a death was registered rather than date a death occurred

[6] Based on those resident in England and Wales

120. The largest number of average deaths per week due to Covid-19 in care home residents occurred in Wave 1 (24 January 2020 to 11 September 2020) with an average of 478 deaths a week. The lowest was in the Delta period (13 June 2021 to 09 January 2022) with 49 deaths per week on average.

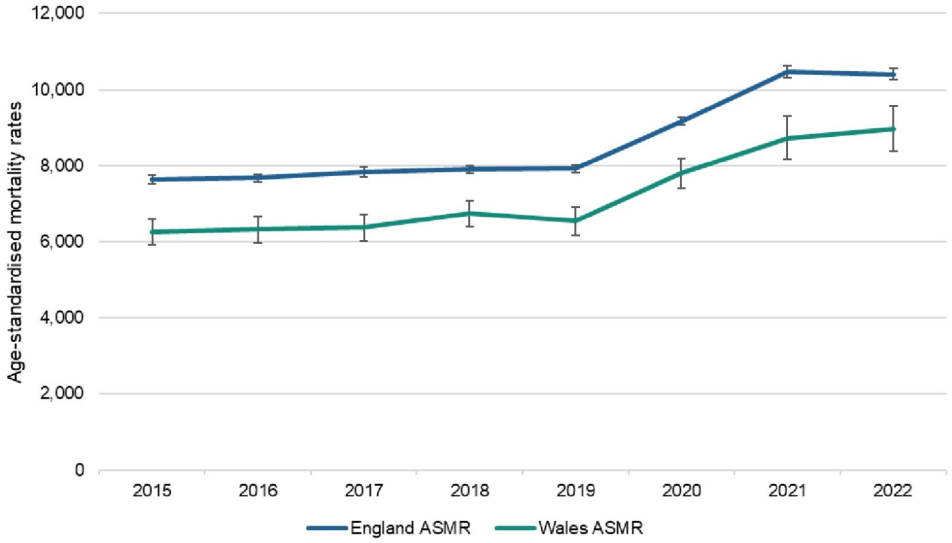
Deaths in the pre-pandemic period

121. ONS data on registered deaths of care home residents in England and Wales by underlying and leading causes of death [ID6/21a-INQ000503387] show that in the years before the pandemic (2015 to 2019) there were increases in the age-standardised mortality rate (ASMR) of care home residents, but these increases were not statistically significant year-on-year, as suggested by the overlapping error bars in Figure 6 (As age is a key factor in Covid-19 mortality, ASMRs allow comparisons to be made between groups that have differing age structures. Interpreting differences in mortality rates between different groups without accounting for the differing age profiles or population sizes can lead to misleading conclusions.).

122. Comparing deaths of care home residents in England and Wales to the five-year average for each of the first months of 2020, deaths were 382 and 979 deaths below average in January and February and 336 above average in March. The overall mortality rates for care home residents in 2020, 2021, and 2022 were significantly higher than before the pandemic, as shown by Figure 6.

123. In general, more people die in winter than in summer, but death rates fluctuate widely from winter to winter for reasons including weather and seasonal infectious diseases. ONS analyse the ratio between winter and summer deaths ('excess winter mortality') both including and excluding Covid-19 [ID6/21b-INQ000520283].

Figure 6: Age-standardised mortality rates of care home residents, registered from 2015-2022, England and Wales



Deaths involving Covid-19 by occupation

124. The number of deaths involving Covid-19 by occupation was published as an article three times between 11 May 2020 and 25 January 2021 [ID6/22-INQ000503378], [ID6/23-INQ000300319] [ID6/24-INQ000119040]. Although the published article has not been updated since, there were multiple updates to the health and social care occupation data published on our 'user requested data' page on the ONS website. The latest data is to 31 March 2022 [ID6/25-INQ000503381].

125. Figures 7 and 8 respectively show the age-standardised mortality rate for deaths involving Covid-19 and all-cause mortality. This is broken down for all occupations, health care workers and social care workers by sex for the time periods 9 March to 28 December 2020 and 9 March to 31 March 2022. This analysis only looks at those aged 20 to 64. Please note, the scale differs in each chart.

126. For both time periods and sexes, social care workers had a statistically significantly higher mortality rate for deaths involving Covid-19 and all-cause mortality when compared to the population's rate. For deaths involving Covid-19, the rate was at least 2 times larger in the social care workers compared to the population (range of 2.1 to 2.5). The difference wasn't as large in all-cause

mortality, with social care workers showing a mortality rate between 1.9 and 2.0 times larger than that of the general population.

127. For health care workers, in the period to 28 December 2020, men had a significantly higher rate of deaths involving Covid-19 comparted to the general population but a significantly lower rate when looking at all-cause mortality. For female health care workers, there was no significant differences in either deaths involving Covid-19 or all-cause mortality when looking at this period. When looking at deaths registered to 31 March 2022 all rates in healthcare workers were lower than that of the general population, this was significant in all rates apart from men's deaths involving Covid-19.

128. These results are consistent with a study conducted by ONS [INQ000271343] based on the Public Health Data Asset, investigating whether the occupational differences in Covid-19 mortality were likely to be due to occupational exposure, or to other factors such as geographical location, ethnicity or underlying health, using data up to 28 December 2020. After only adjusting for age, the study found that men working as health care workers (health professionals, health and social care associate professionals and care workers and home carers) were at elevated risk of Covid-19 death. For men working as health and social care associate professionals and care workers and home carers, the elevated risk of Covid-19 death was largely explained by differences in socio-demographic factors, living conditions and health. For health professionals, however, the elevated risk of Covid-19 death in men working as health professionals could not be explained by differences in other socio-demographic factors nor in underlying health, and therefore, was likely to be due to occupational exposure.

Deaths involving Covid-19 in the care sector, England and Wales

129. In May 2020 the ONS started a publication entitled "Deaths involving Covid-19 in the care sector, England and Wales". The release was designed to capture the impact Covid-19 was having on the mortality of care home residents during the pandemic.

130. The ONS worked closely with Care Inspectorates to improve the timeliness of data on deaths that involved Covid-19 in care homes. On 28 April 2020 we published a statement which explained that the ONS, CQC and the

Care Inspectorate Wales (CIW) agreed to publish provisional counts of deaths of care home residents in care homes in England and Wales respectively, based on statutory notification by care home providers [ID6/26-INQ000503382].

131. Deaths in terms of "care home residents" used in the mortality articles noted refers to all deaths where either (a) the death occurred in a care home, or (b) the death occurred elsewhere but the place of residence of the deceased was recorded as a care home [ID6/26-INQ000503382]. Data were quality assured by DHSC, Welsh Government, the CQC and the CIW.

Figures 7 and 8: Age-standardised mortality rates (ASMRs) for deaths involving Covid-19 and all causes among health and social care workers (those aged 20 to 64 years), and among people of the same age and sex in the population, England and Wales, deaths registered between 9 March 2020 and 31 March 2022.[7,8,9]

Figure 7: Deaths involving Covid-19

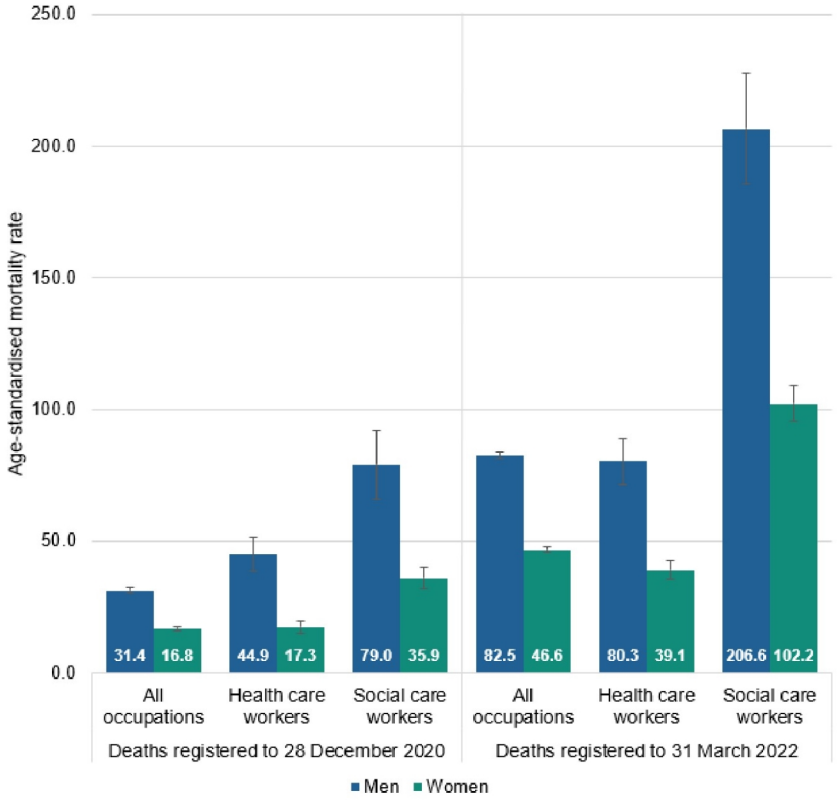
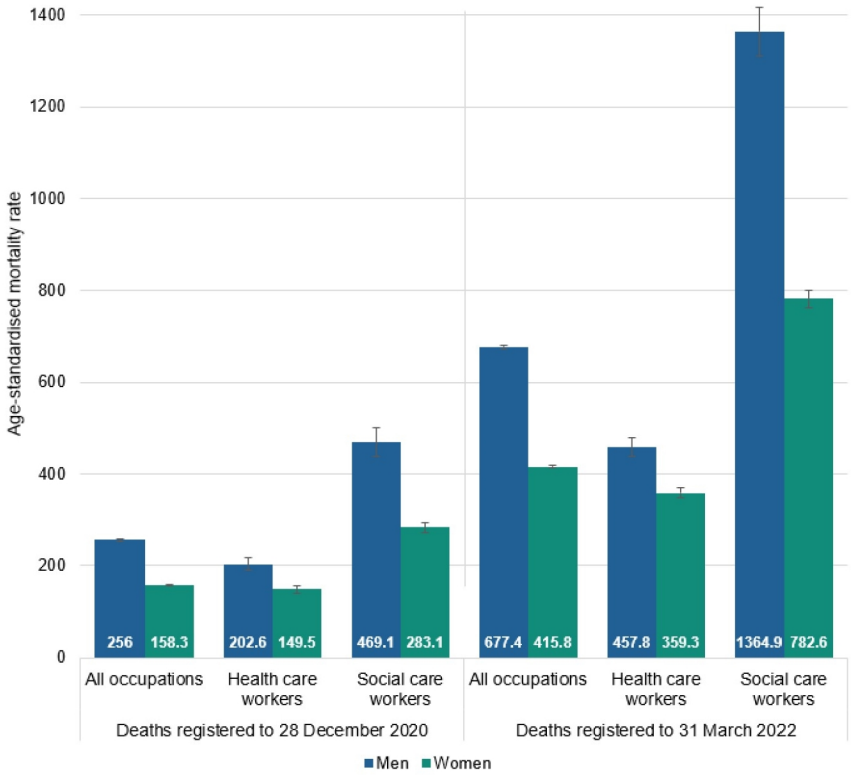


Figure 8: Deaths, all causes



[7] Figures are for residents of England and Wales aged 20 to 64 years.

[8] Age-standardised rates per 100,000 population, standardised to the 2013 European Standard Population. Age-standardised rates are used to allow comparison between populations which may contain different proportions of people of different ages.

[9] The lower and upper confidence limits have been provided. These form a confidence interval, which is a measure of the statistical precision of an estimate and shows the range of uncertainty around the estimated figure. Calculations based on small numbers of events are often subject to random fluctuations. As a general rule, if the confidence interval around one figure overlaps with the interval around another, we cannot say with certainty that there is more than a chance difference between the two figures.

CQC and CIW sources of data

132. The data provided by the CQC and CIW on deaths of care home residents in care homes in England and Wales had their differences.

133. The CQC definition of a care home is *"a place where personal care and accommodation are provided together. People may live in the service for short or long periods. For many people, it is their sole place of residence and so it becomes their home, although they do not legally own or rent it. Both the care that people receive and the premises are regulated*." [ID6/27-INQ000503383].

134. The following strengths of the CQC data should be noted:

a. Good coverage of deaths occurring in care home residents while a regulated activity is being provided, as it is mandatory for regulated services to report deaths to CQC;

b. Deaths are notified to CQC regardless of where they occurred;

c. Notifications are provided to CQC within two to three days of death, a shorter delay than with death registrations;

d. CQC will contact providers if a form is blank or insufficiently complete to obtain the missing information; and

e. CQC analysts clean the data extracted from CQC systems and remove records where there is duplication; standard quality assurance procedures are undertaken.

135. The following limitations of the CQC data should also be noted:

a. Notification forms ask service providers about the person who died, including age and gender. These questions are not mandatory, and so providers may not answer them. This would render the dataset incomplete, therefore we do not compare characteristics between ONS and CQC data.

b. Care homes can submit death notifications via an online portal or by returning a downloadable form, and the questions differ slightly by the submission method used. However, the variables supplied to ONS by CQC are asked on both versions of the form.

c. Domiciliary care was included in the first edition of the annual deaths release and the first two releases (15 May 2020, 3 July 2020) of "Deaths involving Covid-19 in the care sector"; however, it has not been included in subsequent editions owing to concerns raised by CQC of the risk of under-

reporting [ID6/28-INQ000503384]. CQC data on domiciliary care only contains data on those who died while a regulated activity was being provided, or those whose death may have been the result of a regulated activity and how it was provided, and so does not reflect all deaths of those receiving domiciliary care. At the time, there was no more complete data measuring domiciliary deaths.

d. Death notifications data do not go as far back in time as death registrations.

e. Cause of death does not have to be medically confirmed and is reported by the care provider. This may have a particular effect on deaths from Covid-19, as unlike death registrations, there is no requirement for either a medical diagnosis of Covid-19 or a positive test to state Covid-19 as cause of death.

136. The following characteristics of the CIW data should also be noted. The CIW definition of a care home is as follows: "*A care home service provides accommodation, together with nursing or care, to an individual(s) because of their vulnerability or need.*" [ID6/29-INQ000503385].

137. Death notification data from CIW include:

a. Almost complete coverage of deaths occurring to care home residents, as these deaths are collected by CIW under statutory regulation.

b. Notifications are provided to CIW within two to three days of death, a shorter delay than registrations.

c. Deaths are notified to CIW regardless of where they occurred.

138. However it should also be noted that CIW do not publish data on characteristics of care home residents such as age or sex. During a quality assurance review, CIW noted some providers had notified them of the same death more than once, resulting in duplicates in the data. This was corrected at the time, but it is possible that duplicates will occur again [ID6/28-INQ000503384]. However, CIW now conduct regular quality assurance to minimise the impact of duplicates on the data quality. Cause of death does not have to be medically confirmed and is reported by the care provider. This may have a particular effect on deaths from Covid-19, as unlike ONS death registrations, there is no requirement for either a medical diagnosis of Covid-19 or a positive test to state Covid-19 as cause of death.

Death certificates

139. There are various self-identified characteristics that are not collected on the death certificate, for example religion, ethnicity and disability. However, the ONS was able to obtain some of this information through linking death certificates to corresponding records from the 2011 and 2021 censuses.

140. We were unable to obtain information identifying if the deceased was receiving care at home, as this information is not captured on the death certificate. One of the challenges of social care data is that there is not sufficient data to understand the number of people receiving care services at home, as this can include a range of public and privately funded services. Part of this complexity is because there is currently no requirement for local authorities or care providers to collect statistics on individuals who self-fund the care they receive. This leaves a significant evidence gap in the understanding of how care is funded and the impact on the adult social care sector. A self-funder is (typically) an individual who uses their own finances to pay for care (in both residential or community settings), as opposed to receiving support from the local authority or another third party. Information on the size of the care home population is updated by the decennial census.

Covid-19 infections overview

141. During the pandemic the ONS published data on Covid-19 infections including on the estimated number of infections amongst those who reported working in patient-facing roles and the likelihood of infection by occupation group.

142. From November 2020 to September 2021, ONS regularly published statistics on comparisons of estimated infections between those who reported they worked in patient-facing roles, with those who did not. See paragraphs 162-163. An ad- hoc publication on 22 February 2021 contained analysis on the likelihood of testing positive for Covid-19 by occupation group [ID6/30-INQ000503388]. This included the following categories: 'caring personal services', 'health and social care associates', and 'health professionals'. See paragraphs 164-171.

143. From Autumn 2021, estimates of infections between patient facing and non patient facing roles were replaced with a further development of our modelled estimates of the likelihood of testing positive. These characteristics

models were used to analyse the risk associated with several core demographic and inequalities characteristics, including occupation, while controlling for the effects of other characteristics. This provided a better reflection of the true risk associated with each characteristic. See paragraphs 172-174.

144. There are many factors associated with occupation that can affect the numbers of people testing positive for Covid-19 that are unrelated to the occupation that someone works in. For example, some occupations are more likely to be held by people of particular ages. Other occupations may be more common in particular regions of the country.

145. CIS data showing these modelled likelihoods of testing positive for Covid 19 by work sector were published fortnightly from October 2021 to 25 May 2022, the categories 'healthcare' and 'social care' were included. [ID6/31-INQ000503389].

146. Published outputs used the data collected from the CIS to measure the risk of testing positive across different occupation and industry groups using statistical models.

Coronavirus Infection Survey (CIS)

147. Statistics and analysis on infections by occupation group were based on data from the CIS. The CIS was a gold standard survey set up in rapid time to measure Covid-19 infections and antibodies in partnership with the University of Oxford and others. The survey was the largest of its kind across the UK, collecting at its peak some 400,000 samples each month. It formed a critical evidence base for 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. These breakdowns were fundamental in many of the policy decisions made to contain the pandemic and save lives.

148. The CIS was established to measure Covid-19 infection and antibodies within private households. The sampling did not include residents of communal establishments, including hospitals and care homes.

149. The survey was based on a nationally representative random sample of households across the UK where all residents aged over two years were invited to join the study. Whether or not they had symptoms, participants were regularly asked to provide nose and throat swabs, answer a questionnaire, and for some

participants, provide a blood sample. The study was longitudinal, returning to the same participants over time to provide more insights into where, and in which types of people, Covid-19 infection was changing.

150. The sample for the survey in England, Wales, and Scotland was primarily drawn from AddressBase, a commercially available list of addresses maintained by Ordnance Survey. In Northern Ireland, the sample was selected by the NISRA from people who have participated in NISRA and ONS surveys and had consented to be contacted again. This means that in all four countries only private households were included in the study.

151. Information on the characteristics of the population in England and Wales who are resident in communal establishments, and were therefore not represented in the CIS, can be found in the Census 2021 release on the topic [ID6/32-INQ000520284]. This release calculates the disability status of occupants in communal establishments, with care and health type establishments, detention establishments and temporary and hostel accommodation having a higher percentage of disabled occupants compared with the household population on census day. Care and health type establishments encompass hospitals and care homes.

152. The CIS was launched in England on 26 April 2020 and expanded to include Wales on 29 June 2020, Northern Ireland on 26 July 2020 and Scotland on 21 September 2020. CIS continued to run until March 2023 [ID6/33-INQ000503390].

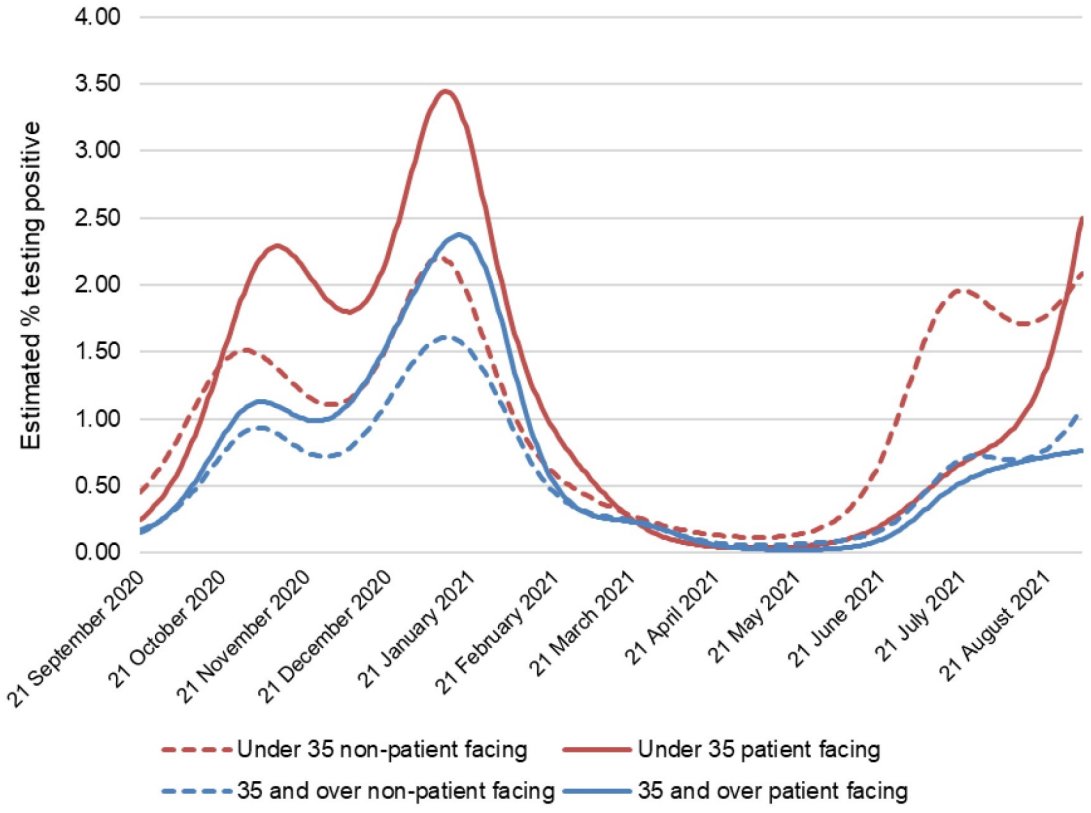
Infection Rates: Patient facing roles and non patient facing roles

153. From November 2020 to September 2021, the ONS regularly published statistics on comparisons of estimated infection rates between those who reported they worked in patient-facing roles, with those who reported that they did not work in patient-facing roles. When infection levels were sufficiently high to allow further breakdown, these analyses were further produced to show infection rates for those aged under 35 and those aged 35 and older [ID6/34-INQ000503391].

154. Figure 9 below (derived from published data) shows that there were times in late 2020 and early 2021 when people aged under 35 in patient-facing roles were estimated to have a higher proportion of infections (coinciding with the

'Alpha' variant) [ID6/34-INQ000503391]. Infections started falling within this group from January 2021, likely as a result of vaccinations and protection from previous infection. From March until June 2021, there was very little difference in the proportions infected across the groups. From June 2021, those in patient facing roles experienced lower infections compared to all adults aged under 35. This coincides with the emergence of the 'Delta' variant. From July, those aged under 35 in patient facing roles experienced rising infections.

Figure 9: Modelled daily rates of the percentage of the population testing positive for Covid-19 by patient-facing healthcare roles, September 2020 to September 2021



Likelihood of testing positive by self-reported occupation group

155. Estimates of the likelihood of specific characteristics affecting an individual testing positive vary from one time period to another, depending on multiple factors. ONS analysis of the likelihood of testing positive by specific occupation group, rather than by broad category such as: patient facing / non

patient facing as above, was first carried out during the second wave of the Covid-19 pandemic.

156. On 22 February 2021, an ad hoc publication based on CIS data compared the likelihood of testing positive for Covid-19 across different self-reported occupation groups in England [ID6/30-INQ000503388]. The model included data from England for the period 1 September 2020 to 7 January 2021, and considered whether people ever tested positive or always tested negative on swab tests during this period. It only included working age adults (those aged 16 to 74 years) in work. Occupation data were based on Standard Occupational Classifications (a common classification of occupational information for the UK) indicated by the survey respondents [ID6/35-INQ000503392].

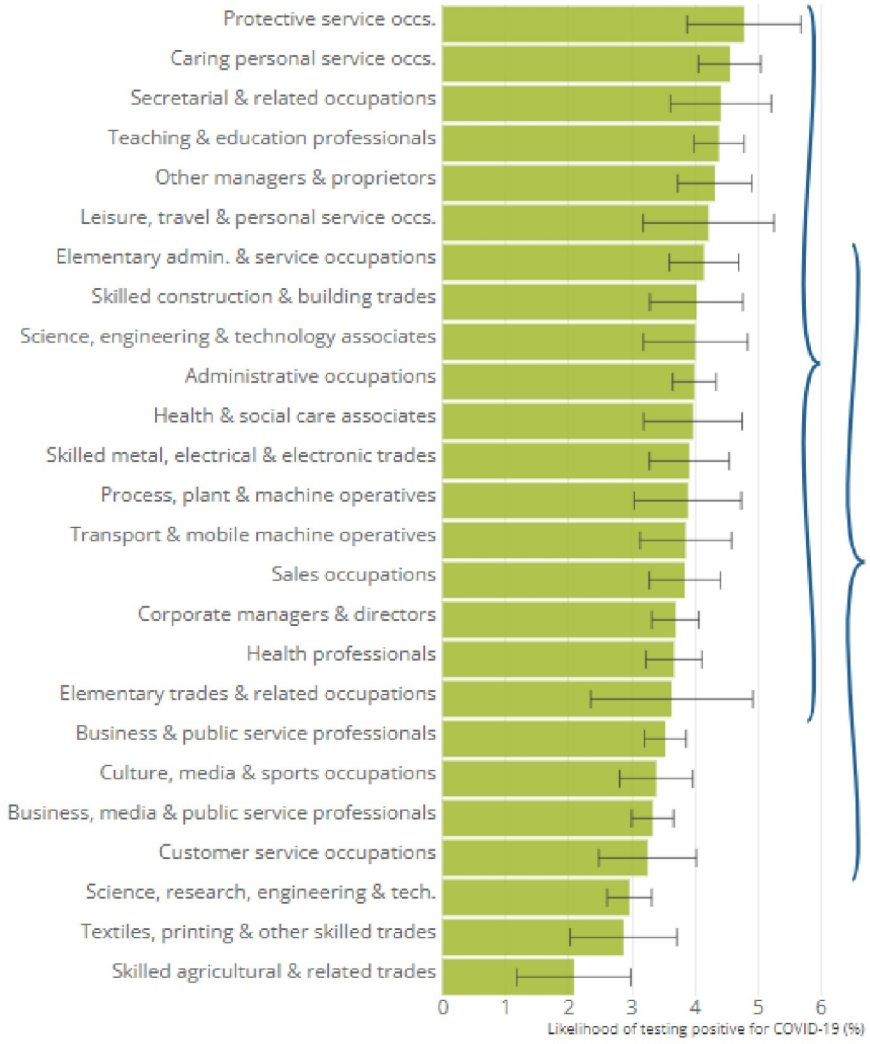
157. The contact individuals have with others both in and out of work will contribute to their likelihood of testing positive. Occupational risks are also interlinked with a wide variety of other factors such as household size, socio-economic status and existing co-morbidities.

158. Within each occupational group in our analysis including health and personal care professions, there were people working from home, people who found social distancing at work easy and those who found it hard. Our analysis therefore adjusted for differences in reported ability to socially distance in the workplace and or work from home. We also adjusted for age, sex, region, the interaction between region and ethnicity, household size, multigenerational households, index of multiple deprivation, and reported use of face coverings. Our analysis was not adjusted for infection outside the period of study, and therefore could not account for the impact of levels of immunity within occupational groups as a result of exposure before September 2020, that is, during the first wave of Covid-19.Results from this model were presented as probabilities that a participant would test positive over the time period, taking into account their other characteristics. We found that for the period September 2020 to January 2021, there were relatively small differences in estimated probabilities between each occupation. For 25 occupation groups, the likelihood of testing positive for Covid-19 at some time between 1 September 2020 and 7 January 2021 ranged from 2.1% to 4.8.% and the different occupations were largely distributed uniformly across this continuum. In the main, the estimated probabilities were not significantly different to each other, although the

probabilities of some occupations at the upper end of the estimated probability continuum were statistically significantly different to some at the lower end. Those occupations at the upper end included protective service occupations (4.79% estimated probability of testing positive for Covid-19 (95% CI 3.88% to 5.70%)); and caring personal service occupations (4.56% estimated probability of testing positive for Covid-19 (95% CI 4.05% to 5.06%) [ID6/36-INQ000503393].

Figure 10: Likelihood of testing positive for Covid-19 by occupation, based on model adjusting for demographics, ease of social distancing at work, use of face coverings at work and working at home or elsewhere, 1 September 2020 to 7 January 2021, England

Brackets indicate occupations unlikely to have evidence of difference in the probability of people testing positive, compared to many other occupations in the same bracket.



159. In this analysis, the assessment of statistical evidence is based on the comparison between occupations in the logistic regression model. There is statistical evidence of a difference between two occupations if the 95% confidence interval around the difference does not overlap with zero.

160. Within this analysis, there was statistical evidence that those respondents who reported working in 'Caring Personal Service' occupations had a higher probability of testing positive during the period September 2020 to January 2021 than those who reported working in the following groups:

a. Health Professionals
b. Corporate Managers and Directors
c. Business and Public Service Associate Professionals
d. Culture, Media and Sports occupations
e. Business, Media and Public Service Professionals
f. Textiles, printing and other skills trades
g. Science, research, engineering and technology professionals
h. Skilled agricultural and related trades [ID6/30-INQ000503388].

161. The occupational group 'Caring Personal Service occupations' covers:

- Teaching and Childcare Support Occupations:
  - Early education and childcare assistants
  - Teaching assistants
  - Educational support assistants
  - Childminders
  - Nannies and au pairs
  - Playworkers
- Animal Care and Control Services:
  - Pest control officers
  - Animal care services occupations not elsewhere classified
- Caring Personal Service:
  - Nursing auxiliaries and assistants
  - Ambulance staff (excluding paramedics)
  - Dental nurses
  - Houseparents and residential wardens

- Care workers and home carers
- Senior care workers
- Care escorts
- Undertakers, mortuary and crematorium assistants

162. Figure 10 illustrates how those who reported working in 'health and social care associate' professions were more likely to test positive during September 2020 to January 2021 compared with those working in 'skilled agricultural and related trades'. There was also limited evidence of a higher probability of testing positive compared with those working in the 'science, research, engineering and technology professionals' grouping.

163. The occupation group 'Health and Social Care Associate Professions' covers:

- Health Associate Professionals
  - Dispensing opticians
  - Pharmaceutical technicians
  - Medical and dental technicians
  - Complementary health associate professionals
  - Health associate professionals not elsewhere classified
- Welfare and Housing Associate Professionals
  - Youth and community workers
  - Child and early years officers
  - Housing officers
  - Counsellors
  - Welfare and housing associate professionals not elsewhere classified
- Teaching and Childcare Associate Professionals
  - Higher level teaching assistants
  - Early education and childcare practitioners
- Veterinary Nurses:
  - Veterinary Nurses

164. There was no statistical evidence that those who reported working in the 'health professionals' grouping were more likely to test positive compared with those in any other occupation group during this period.

165. The assessment of statistical evidence of difference is based on the comparison between occupations in this model. Statistical evidence of difference only assesses the degree to which the differences observed could be down to chance, given the size of the groups studied; it does not imply anything about the size of the differences.

166. This model suggests that at this point in the second wave of the pandemic, the likelihood of Covid-19 infection for health and social care workers varied, with risk of infection higher for some roles but not for others. Our analysis did not explore the reasons for this, but one important consideration would be the level of exposure already present in these professions prior to September 2020. For example, research by Rhodes et al (2022) [ID6/36a-INQ000520285] which used CIS data from April 2020 to November 2021, found that odds of testing positive for Covid-19 were most pronounced in the early part of the pandemic. Ward et al (2021) [ID6/36b-INQ000520286], drawing on REACT study data from the end of the first wave of the pandemic, found high rates of antibodies already present among people facing workers by June/July 2020.

167. This initial analysis by occupation grouping did not attempt to separate roles within the Standard Occupational Coding groupings which would be classified as 'Essential' workers and thus continued to be public facing, from those which were 'non-essential' and would allow greater social distancing or work from home. The occupational sectors included in this analysis therefore combined health and personal care workers both with and without direct patient contact at the time.

168. By including the ability to work from home or socially distance in our model it allowed comparisons to be made to members of other occupations who were unable to socially distance, however it made it more difficult to focus comparisons specifically on people facing workers.

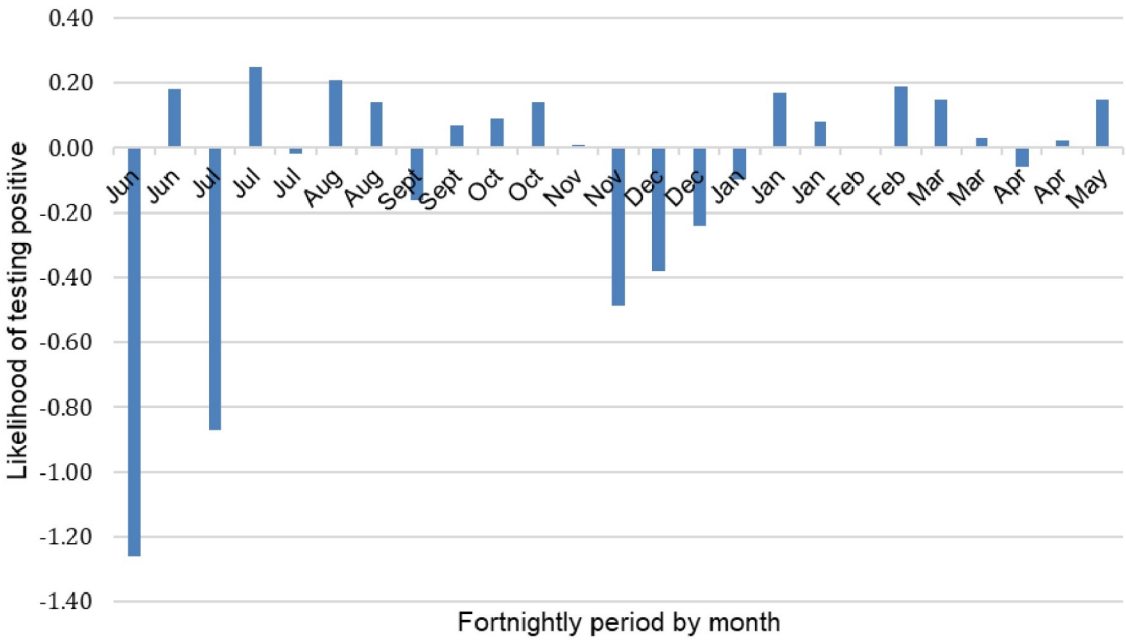
169. In order to better separate roles which were directly patient or resident facing, characteristics models were subsequently developed which did not rely on Standard Occupational Coding frames to group specific role types, but instead drew on respondents' self-reported occupational sector. These models were regularly published to identify the risk associated with core demographic and inequalities characteristics over time, including occupational sector, while controlling for the effects of other characteristics.

170. The ONS produced a model for occupation analyses which was specific to the working age population (those aged 16 to 74 years). This model included both a set of general control characteristics: sex, age, ethnicity and household size; and also characteristics relating to work: working location and whether or not individuals worked in patient-facing healthcare roles. This model was developed over time with expert academic input and considering a range of user needs and control factors. The full methodology underlying this model is described in [ID6/37-INQ000335506].

171. The odds of any group testing positive after controlling for other factors are presented as compared with the odds for testing positive in a base category (that is, as an odds ratio). When a characteristic has an odds ratio of one, this means that there is neither an increase nor a decrease in the likelihood of infection compared with the base category over that time period. An odds ratio of higher than one means that there is an increased likelihood of infection compared with the base category; while an odds ratio of lower than one means that there is a reduced likelihood of infection compared with the base category.

172. Analyses for the period May 2021 to May 2022 (as shown in Figure 11) show that at some times during the pandemic, those who reported working in Social Care were more likely to test positive than those working in other sectors, but at other times they were less likely [ID6/38-INQ000503395].

Figure 11: Modelled likelihood of testing positive of people working in the Social Care sector, May 2021 to May 2022



Adult social care workforce

173. The ONS produced data on Covid-19 infections and mortality by occupation during the pandemic period as well as analysis relating to labour force shortages.

174. Analysis of infections by occupation was undertaken throughout the delivery of the Coronavirus Infection Survey, primarily in the screening model. Individuals' self-reported their occupation which was then used in a logistic regression model (a statistical technique that can be used to make predictions about individuals based on other known parameters) to determine the link between occupation and infection rates.

175. We also collected information on whether individuals worked in a 'patient facing' role though the quality of the data collected on this was unclear [ID6/39-INQ000503396].

176. The ONS produced deaths involving Covid-19 by occupation noted on the death certificate early in the pandemic [ID6/40-INQ000257958]. This is set out in more detail in paragraphs 135-138.

177. During 2021 and 2022, the ONS carried out a set of bespoke analysis relating to industries that were experiencing labour shortages, including adult social care and transport. These analyses were intended as one-off assessments

rather than regular time series [ID6/41-INQ000503399]. The analyses largely relied on the Labour Force Survey (LFS), which provides the official measures of employment and unemployment and is the largest household study in the UK (although the results below are still subject to some uncertainty, as are any estimates drawn from sampled surveys).

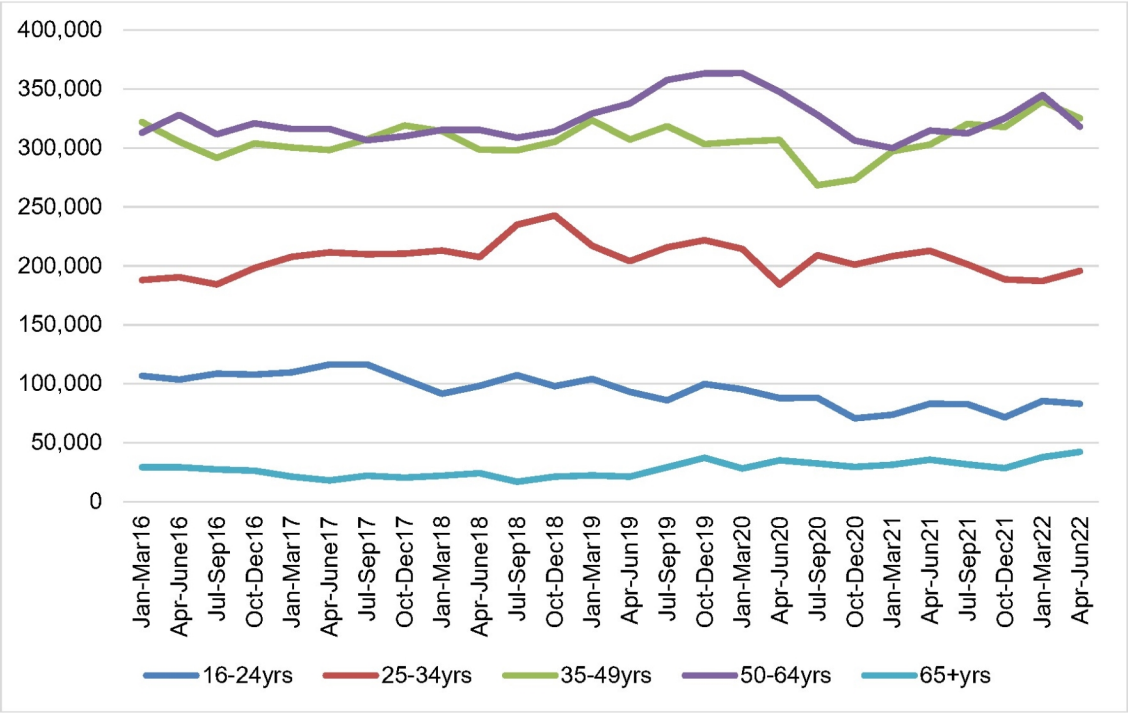
178. Using figures for the whole UK from the LFS, around 1 in 5 people in the Health and Social Care industry work in Adult Social Care (ASC). The number of people employed in ASC in October to December 2019, prior to the start of the pandemic, was 948,000. During the initial stages of the pandemic this number fell to 811,000 by October to December 2020, but increased to stand at 1,072,000 in April to June 2022 [ID6/39-INQ000503396].

179. As of April-June 2022, 84% of ASC workers were from the UK, 6% were from the EU, and 10% were from elsewhere.

180. As shown in Figure 12, from the start of 2019, the majority of workers in ASC were aged between 50 and 64 and over two thirds of the workforce was aged over 35. Workers in the 50-64 age group saw the largest decline throughout 2020, falling 56,000 (17%) in October to December 2020 when compared with the same quarter a year earlier [ID6/39-INQ000503396].

181. Vacancy rates for ASC fell at the start of the pandemic. However, they increased to 10.4% between 2020/21 and 2021/22. The vacancy rate observed in 2021/22 is the highest since the start of the series in 2012/13, when the Skills for Care series (Figure 13) begins.

Figure 12: Number of adult social care workers in employment by age, January 2016 to June 2022, UK. Not seasonally adjusted. Source: Labour Force Survey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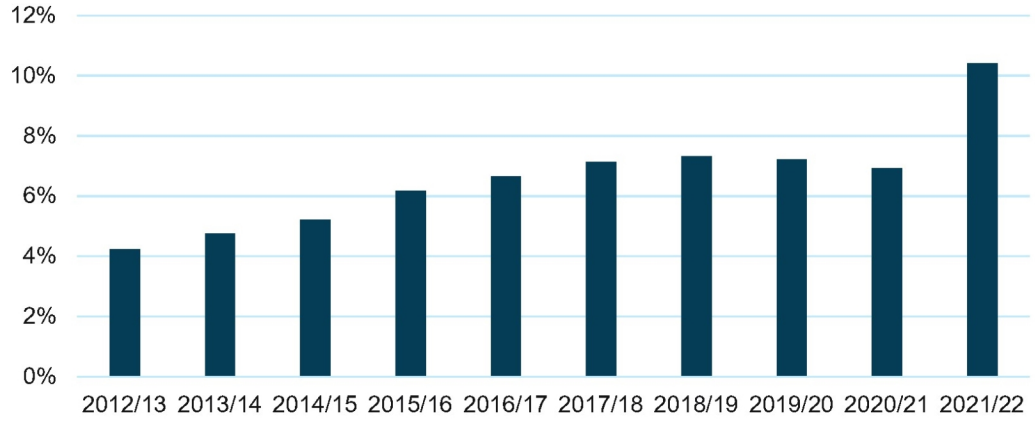
Apr-Jun21
Jul-Sep21
Oct-Dec21
Jan-Mar22
Apr-Jun22
16-24yrs
25-34yrs
35-49yrs
50-64yrs
65+yrs

Figure 13: Yearly vacancy rate in the adult social care sector, 2012 to 2022, United Kingdom. Source: Skills for Care.



Surveys of clinically extremely vulnerable people

182. The ONS established two surveys during the Covid-19 pandemic to gather evidence on the impacts of shielding policy on clinically extremely vulnerable (CEV) people's wellbeing, work and finances. These surveys were commissioned by DHSC and developed in collaboration with DHSC, PHE and other government departments to deliver insights for decision makers and the public.

183. The first survey, the Shielding Behavioural Survey, ran from April to July 2020 [ID6/42-INQ000503412]. The second survey, the COVID High Risk Group Insights Study, began in January 2021 and ran monthly until July 2021, with additional waves in October 2021 and April 2022 [ID6/43-INQ000503406]. Each survey wave took a sample of CEV people from the Shielded Patient List who had not been surveyed before. The sample was provided to the ONS by NHS Digital. More detail about both of these surveys is detailed below.

184. In March 2020, the UK Chief Medical Officers identified and reviewed the clinical conditions for which people should be considered at high risk from Covid-19, and NHS Digital developed methods to identify patients that met the conditions. There were 2.2 million people initially identified as clinically extremely vulnerable (CEV) including, for example, people with cancer receiving chemotherapy, severe asthma, and chronic obstructive pulmonary disease (COPD) [ID6/44-INQ000503407].

185. From 16 February 2021, an additional 1.5 million people were identified as CEV through the Covid-19 population risk assessment and added to the Shielded Patient List, held by NHS Digital. The change in CEV population means that statistics published prior to March 2021 cannot be directly compared with those after March 2021 or later, as data prior to March 2021 only reflects CEV people identified by clinical condition or a clinician's review.

186. From 1 April 2021, clinically extremely vulnerable people were no longer advised to shield, but were advised to take precautionary measures.

187. In addition to surveying clinically extremely vulnerable people, the ONS also conducted the Over 80s' Vaccines Insights Study looking into coronavirus vaccine attitudes and behaviours amongst the population aged over 80 [ID6/45-INQ000503408]. This was conducted in February 2021 in collaboration with DHSC.

188. The surveys described above did not provide specific information about care home residents, however care home residents did form part of the sample and therefore some respondents did live in care homes. The COVID High Risk Group Insights Study asked respondents whether they lived in a care home from February 2021 onwards and between 5% [ID6/46-INQ000503409] and 7% of respondents were care home residents [ID6/47-INQ000503410]. In the Over 80s' Vaccines Insights Study, 1% of the population reported living in a care home [ID6/48-INQ000503411].

Shielding Behavioural Survey

189. The Shielding Behavioural Survey was a study produced, ran and analysed in a collaboration between DHSC, the Department for Work and Pensions (DWP), the Government Digital Service (GDS) and the ONS. It was carried out with members of the public who had been identified by health professionals as CEV.

190. Participants in the Shielding Behavioural Survey included individuals who were accessing GP or hospital care for their underlying health condition as well as those who reported they were not accessing such care. Participation was not restricted by whether the individual was receiving personal care at their home or not, including by nurses, care support workers or family. As such, while many

respondents will fall within the Inquiry scope as recipients of adult social care, this will not be true for all.

191. The Shielding Behavioural Survey provided estimates of the number of people within the CEV group who were following shielding guidance, as well as the reasons for leaving their house and garden, their employment situation, and impacts of Covid-19 on their mental and physical health, among other topics.

a. In the period 28 May to 3 June 2020, 2.2 million CEV people were advised to shield and 95% report either completely or mostly following government shielding guidance.
b. In the period 9 June to 18 June 2020, 63% of the 2.2 million CEV people reported completely following shielding guidance.
c. Between 24 June and 30 June 2020, 58% of CEV people reported completely following shielding guidance; this was a statistically significant decrease compared with the previous data collected between 9 and 18 June.
d. In the period 9 July to 16 July 2020, approximately two-thirds (68%) of CEV people who normally worked (prior to receiving shielding advice) reported they were comfortable going back to work outside the home if protective measures were in place.

Phase 1: Shielding Behavioural Survey, England, April 2020 to July 2020

192. Work on the first phase of the Shielding Behavioural Survey took place from April 2020 until July 2020, with the survey sent to CEV people in England. There were six periods of data collection:

a. 28 April to 2 May (pilot survey data shared as management information with DHSC and the Ministry of Housing, Communities and Local Government (MHCLG) only) [ID6/49-INQ000503417].
b. 14 May to 19 May [ID6/49a-INQ000503418].
c. 28 May to 3 June [ID6/42 – INQ000503412]
d. 9 June to 18 June [ID6/50-INQ000339260]
e. 24 June to 30 June [ID6/51-INQ000339266]
f. 9 July to 16 July [ID6/52-INQ000339267]

193. Four statistical bulletins, covering data collection periods for waves 2 to 6, were published on the ONS website [ID6/52-INQ000339267]. The survey covered themes such as whether the respondent followed shielding advice, their reasons for leaving the house, their employment and the impact of the pandemic on their mental and physical health [ID6/52-INQ000339267].

194. The percentage of the CEV population that reported completely following the shielding advice was consistently around 60% between May and July 2020 [ID6/52-INQ000339267]. It was difficult to pinpoint the exact number following the guidance, as some findings contradicted each other: for example, the percentage who reported leaving the house in the previous seven days was higher than the percentage who reported they were not completely following guidance. However, over 90% of CEV people reported either completely or mostly following shielding guidance across all waves [ID6/53-INQ000503419].

195. The most common reasons that CEV people gave for leaving their house in the previous seven days were for exercise (ranging from 51% to 55% across the waves [ID6/54-INQ000503420]), to attend a GP or hospital appointment (ranging from 25% to 34% across the waves [ID6/55-INQ000503421]), and to shop for essentials (ranging from 24% to 30% across the waves [ID6/56-INQ000503422] [ID6/57-INQ000503423]).

196. Most CEV people reported their mental health had stayed the same despite the pandemic (ranging from 59% [ID6/58-INQ000503425] to 61% across the waves [ID6/59-INQ000503426], but consistently over one-third of CEV people reported that their mental health had worsened during lockdown (35% [ID6/60- INQ000503427] to 37% [ID6/58-INQ000503425] across the waves).

197. Around two-thirds of CEV people reported no change in the GP or hospital care they had received since being advised to shield (ranging from 64% [ID6/61-INQ000503429] to 68% [ID6/62-INQ000503430] across the waves). Around two-in-ten reported being unable to access certain types of care such as tests or scans (ranging from 18% [ID6/62-INQ000503430] to 21% [ID6/63-INQ000503432] across the waves), and around one-in-ten reported being unable to access any care (ranging from 10% [ID6/64-INQ000503433] to 13% across the waves) [ID6/61-INQ000503429].

Phase 2: COVID High Risk Group Insights Study, England, January 2021 to May 2022

198. Work on the second phase of surveying clinically extremely vulnerable people started in early January 2021, for CEV people resident in England. The second phase again provided evidence on whether CEV people reported following the shielding advice, their reasons for leaving the house and receiving visitors to their house, as well as their employment impact of the pandemic on their mental and physical health. The second phase also provided data on the uptake of the Covid-19 vaccination amongst CEV people.

199. Eight statistical bulletins were published during this phase, with six published monthly between January and June 2021 and one published in October 2021 [ID6/03a-INQ000251588]. The final bulletin provided analysis from data collected in April 2022, which provided insight into the experiences of the CEV population a year after shielding guidance was paused and seven months after the advice to shield had been ended.

200. In this survey, from February 2021, respondents were asked if they lived in a care home. The percentage who said yes was between 5% [ID6/46-INQ000503409] and 7% across the waves [ID6/47-INQ000503410].

201. The percentage of CEV people who reported completely following shielding advice dropped from 59% in January 2021 [ID6/43-INQ000503406], when it was similar to Shielding Behavioural Survey estimates (April to July 2020), to 49% in March (ID6/65-INQ000503440). The percentage of CEV people that reported leaving the house was much higher in February 2021 than during the first wave of the pandemic in 2022 (49% in May 2020 (ID6/66-INQ000503441), 66% in July 2020 (ID6/67-INQ000503442), 81% in February 2021 [ID6/46-INQ000503409]). Exercise, shopping for essentials and attending medical appointments remained the most common reasons for leaving the house.

202. Advice for CEV people to shield was paused from 1 April 2021 [ID6/68-INQ000503444]. Fieldwork for wave 4 of the COVID High Risk Group Insights Study was conducted between 26 April and 1 May 2021. Despite the advice being paused, 46% reported still following the precautionary guidance completely [ID6/69-INQ000503445], increasing to 92% who reported following the guidance either completely or quite closely [ID6/69-INQ000503445]. There was a

significant increase in the percentage of CEV people that left the house in the seven days prior to survey, from 80% in March 2021 [ID6/70-INQ000503447] to around 89% in April 2021 [ID6/71- INQ000503448], after pausing of the shielding guidance.

Over 80s' Vaccines Insights Study

203. In late January 2021, DHSC asked the ONS to survey individuals aged 80 years or over, to gather evidence of vaccine uptake and associated behavioural changes (for example, whether respondents were more likely to have left their home after having a vaccine dose than before, and the difference one or two doses made). Approximately 1% of survey respondents were resident in a nursing or care home at the time of survey [ID6/48 -INQ000503411]. In February 2021, when the data collection was carried out, more than 2.6 million people aged over 80 years had received their first vaccination.

204. An estimated two out of five (41%) over 80s who had received only one vaccine dose, in the three weeks prior to survey, had met someone not in their household or support bubble [ID6/72-INQ000503450]; this appeared to contradict the lockdown regulations at the time. Since receiving a single vaccination dose, a quarter (25%) were more likely to go hospital for an appointment given their vaccination, compared with 33% of those who had received two vaccine doses [ID6/73-INQ000503451].

205. Around half (49%) of people aged over 80 perceived the coronavirus to be a significant risk to them personally without a vaccination, compared with 5% perceiving a significant risk to themselves after receiving two doses of the vaccine [ID6/74-INQ000503452].

Vivaldi study

206. The Vivaldi Care Homes study was begun in May 2020 as a partnership between DHSC, UCL and the ONS to measure the impact of Covid-19 in care homes. The ONS's role in the first phase of the survey 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.

207. The Vivaldi study filled knowledge gaps about infection prevalence and risk transmission factors associated with infection in care homes. There was no other data source for this. The Vivaldi study published two key reports. The first was the impact of coronavirus in care homes in England (Vivaldi), 26 May – 19 June 2020 published on 3 July 2020 [ID6/75-INQ000346701]. This contains the initial analysis from the Vivaldi-1 survey.

208. The second was a more academic paper: factors associated with SARS-CoV-2 infection and outbreaks in long-term care facilities in England: a national cross-sectional survey published on 11 February 2021 in the Lancet Healthy Longevity [ID6/76-INQ000503454]. This included the full analysis and modelling from the survey data linked to the Pillar-2 test results. The paper was submitted to the journal in September 2020. The analysis was carried out during late July and August, and with the results being fed into a weekly dashboard (see below).

209. The Vivaldi team also developed and provided the care homes data dashboard, mainly derived from the Pillar 2 data held in the NHS Digital Foundry (NHS Covid-19 data platform). The dashboard showed aggregated information on:

a. Positive/Negative/Void for care homes for UK
b. A breakdown of positive/negative/void for staff, resident by symptomatic/asymptomatic
c. Analysis of percentage of care homes that have had outbreaks of COVID from testing data and comparing it to open CQC data that show self-declared cases of COVID in care homes. i.e. what care homes have outbreaks of covid they didn't suspect due to asymptomatic residents/staff.

210. The first dashboard was produced on 27 May for a Secretary of State for Health and Social Care briefing, and thereafter was improved and produced weekly, then twice weekly during June and into July for senior policymakers in DHSC. The reports included an executive summary and analysis from the Vivaldi-1 survey. An example of such a report is provided at [ID6/77-INQ000503455].

211. The ONS does not hold a copy of the Vivaldi telephone survey data. The survey was undertaken by IPSOS-MORI and the data were transferred and

ingested into the NHS Digital Foundry for linkage and analysis. They have not been provided to us or transferred to our Secure Research Service (SRS).

Lessons learned and recommendations

212. The following paragraphs set out areas where further work or changes to the current approach could greatly improve the insights available in relation to adult social care.

UK-wide data and definitions of 'care home'

213. There is enormous heterogeneity in what is defined as a care home across the UK. As a result of these definitional differences, a direct comparison of care home deaths between the four nations to produce an overall UK statistic is not currently possible. Being able to better measure and understand the care home sector would be greatly beneficial, especially in any future emergency or crisis situation.

214. To tackle such issues of UK comparability, I and the Permanent Secretary at the Department of Health and Social Care have convened a new Adult Social Care Theme Group, reporting to the UK Health Statistics Steering Group (UKHSSG). The Theme Group brings together senior data providers and analysts from each of the nations of the UK, with the following objectives:

a. Identification of evidence gaps in Adult Social Care statistics;
b. Identification of policy priorities;
c. Identification of cross cutting themes to avoid duplication;
d. Considering and fostering statistical harmonisation;
e. Coordination of publications across Adult Social Care statistics producers to ensure users of statistics and the public get one coherent message;
f. Identification of a user engagement strategy; and
g. Making Adult Social Care statistics more accessible for users.

215. The group has found a range of shared data gaps and development areas associated with inconsistent levels of data consistency, across thousands of care providers, across the UK. The diversity of systems across nations and local authorities within nations exemplify the challenges of social care data coherence, with common evidence gaps regarding, for example, people who fund their own care.

216. Considering the challenges of UK-wide data more generally, I and my colleagues on the UK Statistics Authority Board agree with the independent review of the UK's statistical system carried out in 2024 by Professor Denise Lievesley, that a significant barrier to the GSS creating harmonised data is resourcing and funding of devolved administrations to collect data that they do not require for their own needs.

217. Therefore, the Authority will make the case for funding arrangements that better support the development of UK-wide coherence in the next Spending Review. This will be inclusive of advocating for better arrangements on how statistics development in the devolved administrations is funded, to ensure that sufficient resources are available to make data comparable.

Unpaid care data

218. The 2021 Census asked: "Do you look after, or give any help or support to, anyone because they have long-term physical or mental health conditions or illnesses, or problems related to old age?". Respondents were asked to exclude anything they did as part of their paid employment. This decennial data provides information on the provision of unpaid care in England and Wales however further, more regular, insights are limited. An estimated 5.0 million usual residents aged 5 years and over provided unpaid care in 2021 in England and Wales [ID6/78-INQ000503456]. To better understand those who both provide and receive unpaid care and how emergency situations may affect them, more regular and granular data is required, including on caregivers' sociodemographic characteristics and hours worked in paid employment. While these data are currently available through the census and data linkage with census records, this represents a snapshot which quickly becomes more and more outdated. To improve their quality and completeness as part of a future system of population statistics, I would recommend a UK-wide statistical population register drawn from appropriately funded administrative sources which should collect data on unpaid care. ONS is working on developing processes and methods to replicate census outputs from administrative sources.

Adult Social Care

219. I hosted an Adult Social Care roundtable in October 2021 following the announcement of the new Health and Social Care Levy (noted in paragraph 58).

The meeting sought to explore how data could better provide an understanding of the adult social care sector. Having seen the benefits of collaboration during the pandemic period, I would welcome a renewed enthusiasm from key partners to examine data collection and closer working across the adult social care topic.

Mortality data

220. Considering changes to improve our understanding of mortality patterns, I strongly recommend that the ONS has access to the number of deaths being referred to the coroner.

221. Currently, the ONS is only aware of a death once it is registered by the informant. On average (Median), deaths are registered within 7 days, however, this increases to 26 days when certified by a coroner and 223 days when certified by a coroner with an inquest and post-mortem. If the ONS had access to the number of deaths being referred to the coroner, we would be able to produce more timely, robust estimates on the number of deaths by date of occurrence allowing greater information on current mortality patterns in England and Wales.

222. Ideally, this would be achieved through access to individual-level identifiable data that included both fact of death and suspected or provisional cause. This would enable more timely statistics on causes of death that tend to be referred to the coroner, such as suicides and infant deaths.

223. However, individual level data without any cause information, or even aggregate data on number of deaths per week or month (broken down by characteristics like age, sex and geography) would still be useful. Although this aggregate data would not improve reporting on causes such as suicides, it would at least enable more timely and accurate statistics on excess deaths. These have become increasingly high profile since the pandemic.

224. I note that the Royal Statistical Society has long advocated for this change, including in evidence to this Inquiry [INQ000183421].

Office for Statistics Regulation

225. As the Authority's separate regulatory arm, the Office for Statistics Regulation (OSR) reports directly to the Authority Board and its Regulation Committee.

226. OSR has worked extensively on identifying lessons learned relating to official statistics and data on social care, in light of the impact of Covid-19. OSR regulators have been involved in advocating for better statistics on social care

through their varied engagement with statistical producers and users, as well as leaders in the social care systems, governments and legislatures of the UK. They have found that social care was poorly served by official statistics before the pandemic and, while some improvements have been made to data collection from the sector, these are inconsistent and require system-wide leadership and collaboration to maintain the momentum for change.

227. Among other assessments and public interventions, the lessons identified by OSR are summed up in a series of reports:

a. In April 2020, OSR published the summary report *Adult Social Care Statistics: a way forward for Great Britain* [ID6/79-INQ000503458], which found a scarcity of funding had led to underinvestment in data and analysis on adult social care, making it harder for individuals and organisations to make informed decisions. The report recommended ways for statistical producers in England, Wales, and Scotland to prioritise five areas: collaboration, improving statistical coherence, filling data gaps, improving local data quality, and addressing the imbalance of resources available for analysis on social care compared to healthcare.

b. In October 2021, OSR's report *Improving health and social care statistics: lessons learned from the COVID-19 pandemic* [ID6/80-INQ000092812] found that the pandemic exposed gaps in available data, for example, that before the pandemic there had not been a clear understanding of the number of people and personal characteristics of those in care homes. The report identified ten lessons on how to understand and address data gaps on social care, including on the life-saving impact of sharing and linking data, and the importance of government prioritising this beyond the pandemic.

c. In October 2022, OSR published an updated report on lessons learned noting a statistical system which had transformed from crisis mode to a mode of 'living with Covid-19' [ID6/81-INQ000092810]. The report noted that some of the data gaps previously observed were being filled across the UK. For example, in 2023 NHS Digital (now NHS England) started a person-level data collection from Councils with Adult Social Services Responsibilities (CASSRs). In Wales, a new data collection was planned

with each social care provider and the Scottish Government undertook a review of nationally collected care home data.

228. In the context of the increased demands on producers, OSR's October 2022 report identified four key areas which support the production of statistics which serve the public good.

a. Horizon scanning: Producers of official statistics must understand what information people need so that they can prioritise effectively. This involves engaging with users to understand their needs and developing a good understanding of issues which are topical or likely to become topical.

b. Accessibility: Once producers have a good understanding of user needs and issues of high public interest, they must ensure that data and statistics are made available in an accessible, transparent and timely way.

c. Collaboration: In order to publish statistics which provide maximum value for users, producers will often need to collaborate to share data and improve coherence.

d. Innovation: Producers must continue to innovate to communicate their data and statistics in a clear and engaging way to a wide range of users.

229. OSR's October 2022 report provided an assessment of progress against its 2021 recommendations. OSR considered that there was still progress to be made against several of these recommendations, in particular on the transparency of numbers used publicly by governments and on overcoming barriers to data sharing. OSR found that topic-based working groups had been particularly successful in supporting a coordinated approach to health and social care statistics. The cross-UK group on social care (paragraph 214) resulted in the creation of the UK adult social care statistics landscape web page, which brings together statistics on social care for the whole of the UK. This includes a four nations matrix which informs users about which data are and are not comparable across the UK. In Scotland, the Covid-19 Data and Intelligence Forum was a successful way for producers to collaborate during the pandemic. This approach is now being used for social care data and statistics, with the establishment of a Social Care Data and Intelligence Forum. The Forum oversees a joint work plan for Public Heath Scotland and the Scottish

Government, aiming to improve cross-organisational coordination, data sharing and information governance.

230. In October 2022, OSR also published an assessment of compliance with the Code of Practice for Statistics against the new annual report by ONS on *Statistics on Deaths in the Care Sector* [ID6/82-INQ000520287]. OSR considered that the development of these statistics as an experimental output was innovative, but that the innovation and improvement had not yet gone far enough to reach its full potential for providing granular data or for describing deaths in the whole of the care sector. OSR asked ONS to build on its initial work and engage with a wider range of stakeholders, including obtaining external assurance, to support the development of the statistics. These statistics have not yet gained the status of 'Accredited Official Statistics', which is the designation for statistics assessed by OSR to meet the highest standards of trustworthiness, quality and value.

231. OSR is currently carrying out an assessment of adult social services workforce statistics in England published by Skills for Care, which took over publication of these statistics from NHS Digital in 2021. OSR published its findings from the assessment in November 2024.

232. I fully accept the recommendations made by OSR's lessons learned reports and seek to promote them through my roles in ONS, the Government Statistical Service, and the Analysis Function.

Statement of Truth

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

Signed: PD

Dated: 14 January 2025