Content

Table of Abbreviations Used in This Statement

Full name	Abbreviation
Administrative Data Research Unit	ARU
Age-standardised mortality rates	ASMR's
Assembly Question	AQ
Black, Asian, Minority Ethnic	BAME
Business Services Organisation	BSO
Care home Quality Commission	CQC
Central Statistics Office	CSO
Central Survey Unit	CSU
Department of Finance	DoF
Department of Health	DoH
Deputy Registrar General	DRG
European Mortality Monitoring	EuroMOMO
Facilities Management Team	FMT
Freedom of Information	FOI
General Register Office	GRO
Government Statistical Service	GSS
Health and Social Care	HSC
Health Protection Surveillance Centre	HPSC
Honest Broker Service	HBS
Information and Analysis Directorate	IAD
International Classification of Diseases-10	ICD-10
Medical Certificate of Cause of death	MCCD
National Records Scotland	NRS
Northern Ireland Civil Service	NICS
Northern Ireland Mortality Study	NIMS
Northern Ireland Registration Office System	NIROS
Northern Ireland Statistics and Research Agency	NISRA
National Statistics Institutes	NSI
Office for Health Improvements and Disparities	OHID
Office for National Statistics	ONS
Office for Statistics Regulation	OSR
Public Health Agency	PHA
Quality Assurance of Administrative Data	QAAD
Real Time Information	RTI
Red Amber Green	RAG
Research Support Unit	RSU
Scientific Advisory Group for Emergencies	SAGE

Scientific Pandemic Influenza Group on Modelling	SPI-M-O
Senior Management Team	SMT
Service Level Agreement	SLA
The Executive Office	TEO
Vital Statistics & Administrative Research and Support	VARS
Vital Statistics Unit	VSU
UK Health Security Agency	UKHSA

Witness Name: Northern Ireland Statistics & Research Agency (NISRA)

Statement No.: 3

Exhibits: 43

Dated: 6 December 2024

UK COVID-19 INQUIRY - MODULE 6

WITNESS STATEMENT OF PHILIP WALES, THE NORTHERN IRELAND STATISTICS AND RESEARCH AGENCY (NISRA)

I, Philip Wales, will say as follows: -

1. I am a senior Civil Servant, appointed to the joint position of Chief Executive of the Northern Ireland Statistics and Research Agency (NISRA) and Registrar General for Northern Ireland. My appointment to NISRA commenced on 27th February 2023 and was prompted by the retirement of the previous post-holder, Ms Siobhan Carey, CBE. The material provided relates to the period 11 January 2020 to 18 March 2022 as stipulated and, as such, pre-dates my appointment. In view of this I would suggest that it would be appropriate and prudent that I can be accompanied by key remaining officials at any subsequent evidence session that may be required.

1. Overview of NISRA - role, responsibilities and relationships

2. NISRA, which incorporates the General Register Office (GRO), is an Executive Agency within the Department of Finance (DOF) and was established on 1 April 1996. NISRA's headquarters is located at Colby House, Stranmillis Road, Belfast.

3. GRO has responsibility for the administration of marriage and civil partnership law in Northern Ireland, along with the registration of births, deaths, adoptions and gender recognition. GRO is also responsible for the maintenance of registration records and, on request, the production of certificates in relation to these events.

4. NISRA is the principal source of Official Statistics and social research on Northern Ireland. These statistics and research not only inform public policy but also academic and private sector research and contribute to wider societal debate. NISRA provide services to a wide range of Government Departments and Non-Departmental Public Bodies to assist the policy development process and the delivery of their business objectives.

5. NISRA conducts the Census of Population which the Northern Ireland population are required to complete. The Census is used by central and local government, health and education authorities and other organisations to plan and provide future services.

6. A publicly available Agency Framework Document, which is subject to review after 5 years, is available on the NISRA website. It sets out the relationships between the Agency, its parent Department (DOF) and the Minister for Finance along with their respective responsibilities and lines of accountability. The Framework Document also sets out the duties of the Chief Executive regarding official statistics and details relationships with (i) statisticians outposted to Northern Ireland Civil Service (NICS) Departments/ Non-Departmental Public Bodies and (ii) the rest of the United Kingdom (UK) statistical system.

7. As agreed with the Inquiry Team this statement is based on work that was undertaken by NISRA statisticians and administrative staff embedded within the Department of Finance (hereafter referred to as NISRA Core) in response to the pandemic.

8. Statisticians who are outposted to other NICS Departments/ Non-Departmental Public Bodies are managed within and by the Departments/ Non-Departmental Public Bodies to which they are outposted. Their programmes of work, functions, and priorities etc. are stipulated and performance managed by the Departments/ Non-Departmental Public Bodies concerned, not by the NISRA Chief Executive. Such Departments/ Non-Departmental Public Bodies will have determined their respective responses to the pandemic and how to deploy their statistical resources in that work. A Concordat details the nature of the relationship and respective responsibilities between NISRA Core and those Departments/ Non-Departmental Public Bodies utilising NISRA statisticians.

9. As highlighted above, the Chief Executive in NISRA is also the Registrar General for Northern Ireland. During the period in question, the position was held by Siobhan Carey, CBE (now retired) who was supported by a senior management team (SMT) from within NISRA Core. SMT comprised of the Chief Executive & Registrar General, three Grade 5 Statistician Directors, the head of the GRO (the Deputy Registrar General (DRG)) and head of NISRA's Business Support and Development Branch. NISRA's SMT typically meets monthly and the main responsibilities of the group include: providing updates and advice to the Chief Executive & Registrar General on operational matters, developing Agency policy, business planning, financial and risk management, and other corporate responsibilities.

10. In terms of the Grade 5 Statistician Directors, and from a NISRA Core perspective, during the time in question Dr David Marshall was the Director of Census and Population Statistics, with responsibility for the planning and conduct of the 2021 Census, which was held on 21st March 2021. Brian Green was the Director of Sources, with responsibility for the planning and conduct of NISRA's Social Survey and statutory Business Survey operations. Dr Tracy Power (now retired) was Director of Analysis, with responsibility for several NISRA Core Branches (including Vital Statistics and Administrative Research & Support Branch (VARS), Statistical Support Branch and Dissemination Branch) and providing professional oversight (as required) to outposted statisticians.

11. The Chief Executive & Registrar General is also supported by NISRA's Agency Board, which comprises of NISRA's SMT plus representatives from all Senior Principal Statistician led Departmental business areas. The Agency Board considers issues relating to personnel and resourcing, the Code of Practice for Statistics, National Statistics, policy development and provides updates from the various departments represented.

12. Outside of NISRA's internal governance arrangements there are two external and independent organisations that have an important influence on the work of NISRA and indeed that of the other National Statistics Institutes (NSIs) in the other territories of the UK. They are the UK Statistics Authority (an independent body at arm's length from government) and the Office for Statistics Regulation (OSR), an independent regulatory arm of the UK Statistics Authority. The principal roles of the OSR, which continued to be exercised throughout the pandemic in respect of NISRA's work, are to:

- set the statutory Code of Practice for Statistics;
- assess compliance with the Code;
- award the National Statistics designation to official statistics that comply fully with the Code; and
- report any concerns on the quality, good practice and comprehensiveness of official statistics.

13. Historically, NISRA has worked very closely with the other NSIs throughout the UK and, in particular, with the Office for National Statistics (ONS). Relationships have been built up over many years and are well established. This is important from a harmonisation, coherence, efficiency, sharing of experience (e.g. technical and methodological) and sharing of systems and infrastructure perspective. It is also important as certain statistics are devolved to NI and, as such, the information provided by NISRA is crucial to the production of UK statistics. From a NISRA Core perspective, examples include: the 2021 Census, production of population estimates & projections, production of statistics on vital events (e.g. births, deaths, marriages, civil partnerships etc.) and the production of economic and labour market statistics. Very often, such statistics are produced based on common definitions and to harmonised timescales, with releases going out at the same time on the same day (e.g. NISRA's Labour Market estimates of employment, unemployment and economic inactivity). Relevant to the pandemic and hence this inquiry, certain statistics/ information relating to NI were produced by organisations other than NISRA. By way of example, this includes information produced by the ONS from: (i) the new voluntary Business Impact of Coronavirus Survey (BICS) (now called the Business Insights and Conditions Survey), which was specifically developed and maintained to capture and report the experiences of businesses throughout the pandemic and (ii) the ONS/ Oxford University led UK COVID-19 Infection Study.

14. These long established, tried & tested, professional working arrangements and relationships were particularly beneficial to NISRA in its response to the challenges presented by the pandemic. This was particularly the case from an economy of scale and avoiding duplication perspective, helping to optimise both resources and public expenditure across wider UK statistical system.

2. NISRA Core Key Business Areas

15. NISRA Core has seven key business areas, which are governed by the senior management team structure and Grade 5 statistician areas of responsibility as described in paragraphs 10 and 11 above. The seven business areas in question are:

i) The planning, conduct and reporting of the 2021 Census.

ii) The planning and delivery of social surveys in Northern Ireland for NISRA customers.

iii) The planning and conduct of Northern Ireland's statutory business surveys and the associated collation, analysis, reporting and dissemination of key economic and labour market statistics.

iv)The registration of key vital events (such as births, deaths, marriages and civil partnerships) as administered through the GRO.

v) The collation, analysis, reporting and dissemination of key vital event statistics.

vi) Corporate Statistical Support and Dissemination; and

vii) Corporate Business Support and Development.

16. The areas of relevance to Module 6 are (iv) and particularly (v) above; the paragraphs below document the pandemic's impact on the work of these areas and how NISRA evolved to meet the needs of a broad range of users during the pandemic period in question.

3. Registration of key vital life events

17. The GRO was involved in all of the NI pre-planning for the pandemic and the DRG was a member of the NI Excess Death Working Group. Membership of this group included the Department of Justice, Department of Health, Local Councils, Ministry of Defense and Police Service of Northern Ireland.

18. The DRG oversaw the application of the Coronavirus Act 2020 in relation to the registration of deaths and still births throughout the pandemic and took day-to-day decisions regarding whether a vital life event could take place as and when the Executive amended the restrictions on the public.

19. Throughout the pandemic period the GRO staff continued to work in the office and delivered a full service to the local Registration staff in local councils and to the public.

4. Evolution of registered death statistics in NI during the pandemic

1.1 Data collation, definitions and coverage

20. NISRA Vital Statistics Unit (VSU) is a small team within the wider NISRA Vital Statistics & Administrative Research and Support Branch. Prior to the pandemic the NISRA VSU experienced several years of under resourcing and long-term absence and entered the pandemic as a team of only 1.8 full time equivalent assistant statisticians and an administrative officer, supported by a Senior Principal Statistician. The immediate challenge for the VSU team was therefore to rapidly upscale and upskill while adjusting to remote working practices alongside meeting the immediate and significant data demands of the pandemic. This was successfully achieved, although the evolutionary approach to the NI weekly death statistics, as set out in section 1.3, is at least in part due to the resource available within the VSU during the early pandemic. The NISRA VSU now comprises a team of six full-time equivalent statisticians (made up of 2 deputy principal statisticians and 5 assistant statisticians) and an administrative support officer, which reflects the continuing and significantly raised profile and demand for vital events statistics during and after the pandemic.

21. VSU routinely publish vital events statistics using administrative information collected by the GRO and accessed from the Northern Ireland Registration Office System (NIROS). Death statistics produced by NISRA (as well as the ONS and the National Records Scotland (NRS)) are based on the routine system of death registration, whereby each death in Northern Ireland is medically certified and the Medical Certificate of Cause of death (MCCD) is completed by a doctor. NISRA relies on the accurate completion of the MCCDs for its further processing stages as outlined below. The death is then registered with a local registration office, after which the information held on the death certificate can flow digitally to NISRA VSU for statistical processing purposes. Registration is required by law within five days of the death occurring, and is needed to release a body for burial, therefore it is assumed that the registration information is complete i.e. that all deaths across Northern Ireland have been registered.

22. Coding of the cause of death text recorded on the MCCD using the International Classification of Diseases-10 (ICD-10) framework, is a key part of the statistical process to derive underlying cause (see definition at paragraph 25 below) of death; NISRA VSU are routinely supported by a dedicated ICD-10 coding team within the ONS, through a Service Level Agreement that has been in place since

2016. Through this agreement, the ONS apply ICD-10 coding rules to the Northern Ireland data and return the coded deaths data to NISRA for quality assurance and publication. Prior to the pandemic, NISRA published coded deaths data around 9-10 weeks after the reference period ended; however, as a result of the pandemic this timeline was shortened to around 6-8 weeks; this followed an initial delay with the publication of the quarter 1 2020 figures (August 2020) due to VSU resources being focused on ongoing development of the weekly deaths statistics.

23. The death registration process does not collect information on individuals' religion, ethnicity, or disability (unless in some way contributing to death and therefore captured on the MCCD), or any information pertaining to individuals' health status or treatment while alive. NISRA, however, utilised the Northern Ireland Mortality Study (NIMS) and data sharing arrangements with the Business Services Organisation (BSO) to overcome some of these data gaps (please see paragraphs 63 and 64 for further details). Very limited information on adult social care workforce deaths was available from occupation information made available by death informants – the reporting of and associated caveats with this information are detailed in paragraph 53.

24. NISRA VSU carry out a range of quality checks on the registration-based data such as completeness, sense checks, identification of duplicate records, trend analysis, bounds checking, within and across record consistency and specific checks on certain causes of death e.g. gender specific, suicides, alcohol and drug deaths etc. This is to ensure that the resulting vital events official statistics are as robust as possible. As part of the official statistics documentation supporting NISRA deaths statistics, a comprehensive Quality Assurance of Administrative Data (QAAD) statement is published on the NISRA website. The QAAD is a regulatory standard created by the UK Statistics Authority and outlines information on processes involved in the statistical journey from data collection to publication, with a focus on quality assurance.

25. All of the outputs published by NISRA VSU and referred to below, used the following definitions relating to a Covid-19 death:

    i. **A Covid-19 related death** – a death where Covid-19 is mentioned anywhere on

the death certificate. Covid-19 may therefore have been a direct or contributory cause of death. Also counted are cases where Covid-19 has been mentioned as a suspect or probable cause of death. NISRA weekly deaths statistics and other ad hoc releases used this definition which enabled much more timely reporting - one week after the reference period; this was particularly important due to the rapidly changing situation at the start of the pandemic. Statistics on Covid-19 related deaths relied on uncoded text (see definition ii) and aligned with weekly reporting in Great Britain.

26. ii. **A Covid-19 death/ death due to Covid-19** – defined by the application of ICD-10 coding rules which allows 'underlying cause' of death to be identified from the information held on the death certificate. This is the disease or injury that started the chain of events that led to death. This definition was applied to the Registrar General quarterly, provisional statistics following the ICD-10 coding process to identify underlying cause, and which necessitated a 6-8 week publication delay post-reference period as outlined above. The statistical press notices accompanying each of the quarterly outputs presented the statistical relationship between definitions (i) and (ii), for example, for quarter two ending 30 June 2020, the associated press notice stated that '*...This means that Covid-19 was the underlying, primary cause of death in 91.0 percent of all deaths which mentioned Covid-19 on the death certificate.'* **[PW3/01 - INQ000212423]**. The proportion of covid-related deaths that went on to be identified as being due to Covid-19 remained high - 84% covering the entire period of the inquiry March 2020 to June 2022. During the Covid-19 pandemic, there were two ways in which care homes were considered in terms of death registrations: Covid-19 related deaths that took place in care homes (generally referred to as 'care home deaths' across the UK) and Covid-19 related deaths of care home residents, regardless of where the death took place.

27. Within the GRO registration system (NIROS) there is a drop-down menu for 'Place of Death' which allows the registrar to allocate one of four categories: Psychiatric Hospital, NHS Hospital, Other hospital/nursing home; and 'other'. No category existed in the standard 'place of death' field specifically to identify care homes/nursing homes. NISRA VSU therefore created a more detailed 'place of death' variable (POD) using other information available as part of the registration process, with the following categories and criteria:

- **Hospital** – NIROS has a field for recording hospital name. The POD variable was assigned as 'hospital' where the hospital name information was completed during the registration process, or the place of death address included the word 'hospital' (with additional quality assurance checks to ensure the place of death address was a hospital rather than text saying 'enroute to the hospital' or other such scenario).

- **Care Home** – NIROS also has a field (named 'Nursing Home Name') for recording care home name – its completion relies on this information being provided by the informant. The POD variable reflected a value of 'care home' where the 'nursing home name' field was completed during the registration process; or one of the words 'care', 'nursing', residential' appeared in the place of death first address line; or other specific nursing home names that didn't include any of the key words listed, that were known to VSU, appeared in the place of death address line (and verified that they were, indeed, care homes). It should be noted that the NIROS system does not incorporate a universal list of care homes from which the registrars can select; and the place of death address field contains the address as provided by the informant. Identification of care homes by VSU therefore required a degree of manual checking to ensure, as far as possible and in the time available, that care home data was accurately captured. Through the process of completing address data historically VSU collated a list of care homes whose name did not include any of the previously listed key words to be identified in searches. This list was used for reference and evolved over time. It should also be noted that deaths counted as taking place in care homes may include a small number of deaths that took place in sheltered accommodation. This is because some care homes also have residential units for assisted independent living. There is no way for NISRA to differentiate between these as it is not possible to identify different parts of a care home from information on the death certificate.

- **Hospice** – The POD Variable was assigned as 'hospice' where 'hospice' or 'St John's House' appeared in the place of death address details.

- **Home** – The POD variable was assigned as 'home' where place of death

was a private, residential address (i.e. not a hostel or care home etc) and matched the usual address of the deceased as reported by the informant.

- **Other** – includes cases that did not fit any of the other criteria (e.g. deaths on commercial premises, at sea, in a street, in a private residential address that was not the deceased's home etc.)

28. A '***Care Home Resident***' variable containing a marker (i.e. 1 to indicate a care home resident and 0 to indicate an individual was not a care home resident) was also developed based on the following criteria;

    - The deceased's record showed the place of death was a care home; OR
    - Place of death was not a care home, but their usual address contained the words 'Nursing', 'Care' or 'Residential' (text search along with verification checks); OR
    - Place of death was not a care home, but their usual address contained specific care home names or references to 'care' not captured in the bullet points above and which could be verified by VSU as care homes.

29. It should be noted that NISRA was not able to estimate numbers of deaths of individuals who were receiving domiciliary care at the time of death as such information is not collected as part of the death registration system.

30. Each UK nation produced data on care home deaths during the pandemic. However direct comparisons were not easily made between countries as the definition of care homes may encompass something different in each region, for example, the organisation of the sector, types of care delivered, patient groups catered for and central government involvement. While outside the period of the Inquiry's focus, it is relevant to outline the collaborative work across the UK nations that resulted in the publication of 'Deaths in Care Homes, UK: 2015 to 2021 (final), 2022 (provisional)' by the ONS on 15 March 2023, available on the ONS website. This aimed to provide a UK picture of registered deaths in care homes but cautioned about comparison issues due to differences in care homes and the type of services provided across the nations "because of the devolved nature of adult social care in the UK."

Alongside the release of the report some additional background information on definitional and reporting differences for care homes across the UK was published by the ONS in consultation with the relevant authorities including the Department of Health and the Regulation and Quality Improvement Authority (RQIA) for Northern Ireland and is set out below (Table 1).

31. A further limitation of the work was the lack of information available relating to care home populations across the UK. Reporting is therefore based on care home deaths as a proportion of total registered deaths per nation. These data therefore suffered the limitation that they were not placed in the context of the total number of people in care homes at any given time.

32. Resourcing pressures during the height of the pandemic, balanced with the known limitations of the work, as outlined above, meant that this analysis was taken forward at a later point. While the work had been raised at the UK Mortality Theme Group as early as December 2021 it took considerable planning including consultation with UK health authorities as well as across the statistical agencies to coordinate and obtain the correct permissions, access and background information to build an accurate picture with appropriate caveats. The quality assurance process was also extensive as it required input from the relevant health departments, the agencies monitoring the care sector and statistical staff producing death registration analysis.

Table 1: Definitional and reporting differences for care homes across the UK

	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

	England	Wales	Scotland	Northern Ireland
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
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

1.2 NISRA Vital Statistics Unit (VSU) functions and early pandemic response

33. NISRA VSU performed several key functions during the pandemic. These included: a) the establishment and ongoing development of the weekly registered deaths publication, b) the reporting of quarterly underlying cause of death statistics, c) publication of in-depth statistical and research reports; d) response to external requests from the public and the Executive via Freedom of Information (FOI) requests, Assembly Questions (AQs) and correspondence cases; and e) the provision of micro-data files under data sharing agreements to key bodies in order to support, among other things, the forecasting, modelling and calculation of the 'R' rate. NISRA VSU was not, however, directly involved in these latter areas (nor did it sit on any of the specialist groups such as Scientific Advisory Group for Emergencies (SAGE) or Scientific Pandemic Influenza Group on Modelling (SPI-M-O)) and acted solely as a data provider to support these

endeavors. Further detail on area (d) in relation to the type of information requested, is provided below and in the attached **Annexes B and C.**

34. In delivery of its key functions, NISRA VSU provided necessary briefing to ministers and key officials as appropriate and references to such correspondence are outlined in the sections below. NISRA VSU also liaised closely with the ONS and NRS to ensure as consistent an approach as possible in relation to the production and presentation of registration-based Covid-19 deaths statistics, specifically in terms of definitions and methodologies used, and the coverage and timing of analyses. Some inconsistencies arose; however, these did not significantly impact the comparability of the weekly statistics. Further detail is provided at paragraph 48 below.

35. Prior to the pandemic, there was an established process in place for weekly, aggregate data to be sent by NISRA to the Public Health Agency (PHA) for ongoing surveillance of certain respiratory diseases including flu mortality for specified flu strains and date of registration of death. This was replaced, on 20 March 2020, following the death of the first person in Northern Ireland due to Covid-19, with a daily data share to the PHA via the Department of Health's Information and Analysis Directorate (IAD). This data included all deaths where Covid-19 was mentioned on the death certificate. At the same time, a separate, existing data sharing agreement between NISRA VSU and DOH IAD was also rapidly revised to cover the provision of daily deaths microdata to IAD for the purposes of operational intelligence. As DOH IAD are the primary source of hospital admissions data it was critical for them to have a full picture of admissions and subsequent deaths.

1.3 Establishing and developing a weekly registered Covid-19 related deaths output

36. Prior to the pandemic, NISRA VSU routinely published the total number of deaths registered in the reference week – published each Friday, one week after the reference week. These routine weekly figures were first expanded to cover registration based respiratory and Covid-19 related deaths in week ending 27 March 2020 (published on Friday 3 April 2020). The decision to publish registration based (i.e. using date of registration as opposed to date the death occurred)

Covid-19 related deaths aligned with the ONS approach and was driven by the need for equivalent NI and UK-wide data.

37. In order to publish weekly information on Covid-19 related deaths, as already stated, NISRA VSU was limited to the information collected during the death registration process, that is, the cause of death text as recorded by the medical professional certifying the death. Specific guidance on certifying Covid-19 deaths was made available to medical practitioners via the DOH Website. VSU also liaised with the Medical Advisor in DOH to seek clarification in relation to certain terminology being used by practitioners, particularly in the early stages of the pandemic, for example, use of the wording 'Covid-pneumonia'. This liaison assisted DOH in the further refinement of their guidance to doctors. Weekly Covid-19 statistics published by NISRA therefore reported on 'Covid-19 related deaths',

38. The relative brevity of the reports published on 3 and 10 April 2020 reflected the relatively low numbers of Covid-19 deaths in NI at the time (the publication on 10 April reflected a total of 65 registered Covid-19 related deaths) and focused on sex, age group and occurrence-based analysis as well as definitional commentary. The latter was aimed at addressing growing public confusion in relation to various estimates of Covid-19 deaths being published from different sources across the UK.

39. As enabled by the Pre-Release Access to Official Statistics (NI) Order 2009, pre-release access to the early weekly statistical reports and accompanying statistical press notice was provided to both the DOF and DOH Ministers **[PW3/02 - INQ000212410]**. However, following a breach of the pre-release conditions **[PW3/03 - INQ000212411]** involving circulation of the report to officials not included on the pre-release list, NISRA significantly limited its pre-release access to the statistics to 8.30am each Friday morning (i.e. one hour before release), and granted it to the DOH Minister, the DOH Permanent Secretary and a named DOH press officer only.

1.4 Decisions associated with the development of the NISRA weekly deaths statistics

40. NISRA liaised closely with the PHA and DOH in relation to the development of the

weekly report over several weeks during April and May 2020. This helped ensure that the NISRA report referenced any updates in relation to the changing PHA and DOH definitions, as well as changes to the death certification and registration process during the Covid-19 pandemic, as enabled by the Coronavirus Act 2020. The report's evolution was also monitored closely by the OSR who were aware of the cross UK issues pertaining to definitional differences.

41. On 14 April 2020, NISRA advised the DOF Minister of the decision to include 'place of death' information (Covid-19 related deaths occurring in hospital, care home/ hospice and other locations) for the first time in the weekly reports from 17 April 2020 onwards **[PW3/04 - INQ000212414]** (with the data categories being refined to identify 'care homes' and hospices separately the following week). This decision was made due to considerable public interest in care home deaths and the existing gap in NISRA reporting; and because PHA data did not include all non-hospital, Covid-19 deaths so were unable to provide a complete picture. The decision was also supported and encouraged by the NI Chief Medical Officer **[PW3/05 - INQ000212415]** and followed similar publications by the ONS and NRS starting 7 April and 15 April respectively. The NISRA publication on 17 April 2020 reported on Covid-19 related deaths occurring up to week ending 10 April 2020 and followed work by NISRA to refine existing 'place of death' collation processes as set out in paragraph 27. Resourcing pressures in the small NISRA team (as referred to more generally in paragraph 20) and the need for preparatory work (paragraph 27) and vital quality assurance thereafter, meant that the first NISRA data breakdowns by place of death were later than the other NSIs. These statistics reflected that 41 out of the 157 (26%) Covid-19 related deaths up to that point had occurred in care home or hospice settings. In addition, a table was published providing detail of the number of Covid-19 related deaths occurring each week by place of death and showed that 24 care home deaths had occurred in the reporting period ending 10 April.

42. Supporting a weekly analysis of place of death required a level of quality assurance which, prior to the pandemic, was carried out on an annual basis only. Along with the changes needed at paragraph 27 above to identify care homes, processes for time sensitive quality assurance needed to be established and trialed to ensure outputs would be of sufficient quality. As soon as these processes were established

the data was released at the earliest possible opportunity – closely coinciding with other UK NSIs.

43. In liaison with departmental press offices, the step to report on deaths in care home and hospices was communicated publicly via DOF and DOH press statements on 14 April 2020 **[PW3/06 - INQ000212416]**. In addition, NISRA also provided the DoF Minister with speaking notes **[PW3/07 - INQ000212417]** for the Executive meeting on 15 April to explain definitional differences between the NISRA based statistics and the PHA surveillance reports. A closed media briefing session led by DOF Press Office and NISRA was held remotely on 17 April 2020 at 9.20am to give the attending media pre-release access to the statistics in a controlled way, to ensure accurate reporting from the outset; the OSR was advised of this decision in advance. A statistical dashboard containing summary information on Covid-19 related deaths was also developed and published on the NISRA Website in late April 2020 to assist with at-a-glance understanding of the developing trends.

44. On 11 May 2020 the DoH Minister wrote **[PW3/08 - INQ000212413]** to NISRA with a number of questions in relation to improving the breadth and frequency of published Covid-19 statistics. NISRA responded on 13 May 2020 **[PW3/09 - INQ000212412]** providing detail on considerations relating to increasing the frequency of the weekly deaths report to twice weekly or more. NISRA advised they had considered the matter alongside the Code of Practice for Statistics pillars of Trustworthiness, Quality and Value in mind and concluded that a twice weekly or more approach was not feasible for several reasons:

    (i) timeliness of the registration data: NISRA considered the times taken to register deaths and the median was around three days. The weekly statistical production model for reporting deaths for week ending each Friday allowed for five days to the following Wednesday for deaths to be registered. This, in turn, allowed two days from the final count of occurrences to be added at that point and for the team to produce and quality assure the statistics for release each Friday. To adopt an earlier cut-off point (say, the median of three days after the reference period), the earliest NISRA could produce another output with any meaningful reliability would be the following Wednesday. These figures would be

highly provisional and liable to change only two days later with the Friday release. This was highly likely to add further confusion for users and would not add value to the series. The alternative consideration by NISRA was for an addition to the current schedule of reporting deaths in the seven days ending each Friday to release death counts for periods such as the seven days ending each Tuesday. However, NISRA were concerned that another mid-week interjection would confuse the position even more.

(ii) the risk of departure from the rest of the UK position: Both ONS and NRS were publishing registration-based statistics only once a week and they had no plans to change this approach largely due to reasons outlined in (i) above.

(iii) The risk of adding to public confusion: The public and the media had exhibited confusion over the differences between the health based, daily surveillance death figures published on the DOH dashboard and the NISRA weekly statistics. NISRA, having worked hard to brief the media and others on the differences between the two sources, assessed that another mid-week interjection would confuse the position even more and undermine public confidence and trust.

(iv) The resource implications within the small NISRA VSU: The NISRA team were already working around the clock to produce the weekly outputs in addition to meeting other demands in relation to data shares and ad hoc requests (see **Annexes B and C** for detail) and maintaining necessary communications both across the UK and the NICS. There was a real risk that, if asked to do more, the quality of the work would be impacted, or staff could become exhausted. Having the time to quality assure the release was deemed essential in maintaining public trust and NISRA was not prepared to compromise staff and data quality for little additional benefit to users.

45. NISRA's response of 13 May **[PW3/09 - INQ000212412]** also provided some requested clarity sought by the DoH Minister on 'NISRA's intentions regarding the detailed information being supplied by RQIA regarding care home infection and outbreak levels'. This request followed a letter from the DoH Minister to

Executive colleagues on 7 May 2020 **[PW3/10 - INQ000509701, PW3/10a - INQ000509702]** outlining ongoing work by the RQIA to develop a regional dataset on care homes including information on Covid-19 testing levels and positive tests. The letter suggested issues of reliability and quality with this data collection and completeness. NISRA advised the DoH Minister that RQIA had its own analyst function to assure the quality and reliability of the data being collected through this process and that once figures were sufficiently robust, they could be made available publicly on the DoH dashboard.

46. NISRA provided a further response to the DOH Minister on 14 May 2020 **[PW3/11 - INQ000212418]** following interest in care home deaths at a regional level. The Minister was advised that NISRA's weekly deaths statistics due to publish on 15 May 2020 would include, for the first time, a high-level analysis of all deaths and Covid-19 related deaths by Local Government District, based on the usual address of the deceased, in order to add to the overall regional picture. This geographical enhancement also aligned NISRA with approaches taken by the ONS and NRS.

47. On 18 May 2020 the DOH Minister requested that additional analysis **[PW3/12 - INQ000212419]** be added to the weekly statistics based on 'care home residents'. Following NISRA's response on 21 May **[PW3/13 - INQ000212420]**, Covid-19 related deaths of care home residents were added from 29 May 2020. This analysis aimed to supplement the existing information on deaths occurring in care homes, to include patients dying in hospital whose usual residence was provided in the registration system as a care or nursing home. NISRA provided caveats with the analysis, which had no way of determining the number of patients transferring to hospital from a care home unless the individual's usual address was reported as a care home by the death informant. Publication of this data was in line with that being published by the ONS. The DOH Minister commented publicly on the welcome publication of these figures on the same day **[PW3/14 - INQ000212421]**.

48. The NISRA weekly deaths statistics continued to be developed according to user need such as facilitating reporting at a UK level as part of the Downing Street daily briefings **[PW3/15 - INQ000212422]**. By the end of September 2020, the report included 12 detailed tables to support user interest and need. Data presented

covered totals by both registration week (i.e. the week in which the death was registered by the informant/next of kin) and occurrence week (i.e. the week in which the death took place). These may not necessarily happen in the same week, as a death can be registered up to five days after it occurred, although this can be longer for deaths that are referred to the Coroner's Service for Northern Ireland. It is standard practice to base statistics analysis on registration date as there can be notable registration delays for some types of deaths leading to a lag between the death occurring and being registered. This means that data based on occurrence date is subject to change on an ongoing basis, indefinitely, to account for any delayed registrations. Registration-based data, on the other hand, can be finalized at a given point in time after which it will no longer be subject to change. During the pandemic, data based on date of occurrence, as well as date of registration, was published as most Covid-19 deaths were certified via MCCD so did not experience registration delays; it also enabled a further layer of information about specifically when people were dying, which was in keeping with the rest of the UK. In summary, the Weekly deaths statistical tables including care home analysis covered:

- A weekly count of Covid-19 related deaths registered (i.e. week of death registration) in Northern Ireland, by place of death (hospital, care home etc.) (w/e 17 April 2020 published 24 April).

- A weekly count of Covid-19 related death occurrences (i.e. week the death occurred which may be different to the reference week it was registered in) in Northern Ireland, by week of death and place of death (w/e 15 May published 22 May).

- A weekly count of Covid-19 related deaths of care home residents in Northern Ireland occurring, by place of death (w/e 22 May published 29 May 2020).

- A daily count of Covid-19 related death occurrences by date and place of death in Northern Ireland (w/e 22 May published 29 May 2020).

- Weekly count of Covid-19 related care home deaths registered in Northern Ireland, by Local Government District (LGD) (w/e 19 June published 26 June).

- Daily count of Covid-19 related deaths registered by date and place of death

(w/e 21 August published 28 August).

- Weekly count of deaths registered in Northern Ireland, by place of death (hospital, care home etc.) (w/e 16 October published 23 October).

49. The primary forum for UK statistical collaboration was the ONS chaired Mortality Theme Group, which increased its meeting frequency at the start of the pandemic from quarterly to fortnightly to facilitate regular discussion relating to Covid-19 statistical developments such as evidenced at **[PW3/16 - INQ000212409]** and to assist with providing a coordinated UK statistical response. This group also had representation from health departments and agencies including the PHA and DOH, to cover all aspects of Covid-19 mortality reporting. However, the rapid evolution of the weekly deaths statistics across the UK, based on already established weekly reporting, meant that some jurisdictional differences arose. These included:

(i) a different production timeline across the UK countries: NISRA and ONS both covered the same reporting period - each week ending on a Friday, with NISRA publishing the statistics a week later (each Friday) and ONS publishing on the following Tuesday (11 days after the end of the reporting period). NRS covered a different reporting period of week ending each Sunday and publishing the following Wednesday. Given these different reporting periods, ONS began publishing UK level data on 12 June 2020. Across all the countries, daily counts of Covid-19 related deaths were also published within the weekly breakdowns to aid direct comparison at a daily level or other aggregations.

(ii) Different bank and public holidays across the nations had the potential to drive fluctuations in death registrations. The impacts of such holidays were routinely highlighted in the NISRA and ONS reports.

(iii) Collation differences: the ONS and NRS were able to use ICD-10 codes to generate their counts of Covid-19 related deaths. NI deaths are coded by ONS on a monthly basis so the NI weekly tables were based on a key word search for Covid-19 or variations of this, in the cause of death text fields in the death registration data. This was a procedural difference only; NISRA put manual checks in place to ensure cases were correctly identified for example, ruling out cases that might say 'not Covid'.

(iv) The number of reporting weeks in a calendar year differed between

Northern Ireland and GB in 2020, where NISRA reported against 52 reference weeks and ONS and NRS reported against 53 reference weeks. This arose due to differing approaches to adjust for the 53rd reporting week which arises every few years due to leap years and because every 365-day year comprises 52 weeks and one day. Historically, NISRA's weekly statistics were aligned with flu season reporting (which begins in week 39 each year and- the occurrence of '53rd' weeks was based on the number of weeks between flu seasons); while ONS and NRS have historically followed the international standard ISO-8601 in which the first week of a calendar year is deemed to be that which includes the first Thursday of the new year. This difference in practice only became apparent during the pandemic and, although it had no impact on the coherence of the date-based reporting of death counts at the UK level, it had a modest impact on some weekly estimates of excess deaths (as the weekly averages drew on deaths registered in the same reference weeks of the previous years. In February 2024 NISRA published a revised- version of the historical weekly death registrations data, aligning the week numbers with the ONS and NRS reporting weeks. This revision coincided with the introduction of a new pan-UK methodology for the calculation of excess deaths statistics.

1.5 Registrar General Quarterly provisional statistics and ad hoc releases

50. NISRA Vital Statistics Unit (VSU) routinely publish quarterly, provisional vital events statistics which include deaths by *underlying cause*, identified using the ICD-10 standard coding rules. The quarterly statistics, however, did not provide a disaggregation by place of death; rather these data focused on detailed underlying cause of death by sex and age groups as well as geographies including Local Government District and Health & Social Care Trusts. As outlined in the definitional section above, NISRA published information in its statistical press release accompanying the quarterly statistics, indicating the relationship between Covid-19 related deaths and the proportion which subsequently were ICD-10 coded to find Covid-19 as the underlying cause. As stated above, over the period March 2020 to June 2022, 84% of Covid-19 related deaths subsequently had Covid-19 coded as the underlying cause of death. NISRA published some analyses and

detailed explanation on the relationship between Covid-19 related deaths and deaths due to Covid-19 (underlying cause) as part of its publication 'Covid-19 related deaths and pre-existing conditions in Northern Ireland: March 2020 – November 2021'. This explained that for the majority of Covid-19 related deaths in this period (86.1%), Covid-19 had been reported in part 1 of the MCCD (i.e. was considered to be in the causal chain of events leading to death). However in a small number of cases (85 or 2.8%), Covid-19 was reported in part 2 of the MCCD (a contributory cause) but following application of the complex ICD10 coding rules was found to be the underlying cause. The rest of Covid-19 related deaths were due to Covid-19 contributing to death rather than a causal factor.

51. Due to the enormous demands which the pandemic response placed on NISRA's small VSU, the NISRA Administrative Data Research Unit (ARU) provided support to the team, by carrying out certain Covid-19 secondary analyses and research. The ARU, comprising three NISRA statisticians, falls under the same NISRA command as the VSU but are an Economic and Social Research Council (ESRC) funded research function and form part of a wider partnership between NISRA, and both the Queens and Ulster Universities. The ARU were tasked to produce timely and comprehensive analyses covering four broad topic areas, each of which sought to provide Northern Ireland equivalent information to that available in the rest of the UK. These reports also covered areas of high public and government interest and their development and context are detailed in the sections below.

52. A statistical report focusing on age-standardised mortality rates (ASMRs) of Covid-19 and non-Covid-19 related deaths, broken down by month, sex, Local Government District, urban/rural and deprivation covered the following cumulative time periods: March – May 2020 (published June 2020), March – August 2020 (published October 2020), March 2020 – Jan 2021 (published February 2021), March-October 2021 (published December 2021). This followed correspondence between NISRA and the DoH Minister advising him of plans for such a report **[PW3/17 - INQ000212425].** ASMRs are a standard methodology used to adjust for different age profiles in different populations (e.g. different regions or countries), thus making the resulting rates more comparable across jurisdictions. They are presented per 100,000 people and are standardised to the 2013 European Standard Population. The European Standard Population is a population designed to reflect a standard age distribution and can be used across European countries

to produce standardised mortality rates. Crude age-specific mortality rates for a country or region, based on the country's own population, can be standardised to the ESP to allow comparisons across regions within a country, across countries or over time.

53. The reports also provided counts of deaths by country of birth and occupation, both of which are included on the death certificate. The country of birth analysis, first published in June 2020 also followed a question to NISRA from the DoH Minister in his letter of 11 May (paragraph 43 above) on the mechanisms NISRA was putting in place to record and report on the impact of Covid-19 on Black, Asian and Minority Ethnic (BAME) communities, as well as concern expressed by the Equality Commission relating to the additional risks for different racial and ethnic minority groups in relation to Covid-19 **[PW3/18 - INQ000212426]**. Information on the ethnicity of deceased is not, however, collected on death certificates whereas country of birth was readily available. As noted by NISRA in both the response to the DoH Minister on 13 May 2020, and in the June 2020 report, '*in Northern Ireland and England & Wales, information about the ethnicity of the deceased person is not collected when a death is registered. The Office for National Statistics has carried out linkage work with the 2011 Census to enable relevant analysis, however Northern Ireland has a small ethnic minority population and migration peaked more recently than 2011 when the last Census took place (On Census Day 2011, 1.8 per cent (32,400) of the resident population belonged to minority ethnic groups.) However, information on the country of birth recorded on death certificates may be more meaningful in the Northern Ireland context, although it is acknowledged that country of birth does not equate to BAME groups.*' The report went on to state that the majority of all deaths in Northern Ireland (89.9% Covid-19 related deaths and 88.7% non-Covid-19 deaths) between 1st March and 31st May 2020 were Northern Ireland born persons and that proportions of Covid-19 related deaths in Northern Ireland by country of birth were in line with proportions from the Northern Ireland Census in 2011. NISRA subsequently published a research report in December 2021 based on a Census 2011 to death registration linkage, to cover a wider range of demographic markers not included on the death certificate as well as ethnicity – further detail is provided below.

54. The analysis of Covid-19 related deaths by occupation (focusing on those of

working age 20-64) included a count of deaths among those in the health and social care occupations, as reported by the informant of the death. Mortality rates were not published, however. Calculating mortality rates for a specific occupation requires both the number of deaths and the corresponding population size associated with the occupation. For Northern Ireland, there were two primary reasons why it was not possible to calculate meaningful mortality rates for occupations. Firstly, statistical best practice advises against calculating per capita mortality rates based on small numbers as these rates tend to be highly variable and potentially misleading. In this case (with 28 deaths reported across all health and social care occupations as noted below), the numerator was insufficient to calculate reliable per capita rates. Secondly, no corresponding population data by occupation for Northern Ireland existed. Any potential data source would have relied on self-reported information collected for a different time period which could differ significantly from occupation reported on the death certificate by the informant. Given these limitations, providing the absolute number of deaths by occupation was deemed more appropriate and relevant to meet users' informational needs.

55. The work also provided some user guidance on the limitations of this occupation focused analysis, stating: *'Caution should be advised when interpreting occupations reported on death certificates. The occupation recorded on the death certificate is reported by the informant and may reflect the deceased's main lifetime occupation rather than their occupation at time of death. It is also possible that, when they died, the deceased was retired, unemployed or in a different job altogether. The analysis only considers the occupation of the deceased and occupations of other persons in the household have not been taken into account and could increase exposure to Covid-19 for persons in the same household.*' The June 2020 report stated that 'of the 86 COVID-19 related deaths, five were in healthcare or care-related occupations'. This specific analysis was updated by NISRA VSU in September 2024 in response to an ad hoc request and related findings were published on the NISRA website. This reported that from March 2020 to June 2022, 28 of the 515 deaths of health and social care workers during that time-period were covid-related. Of this 28, 14 were reported to be in care occupations, of which 9 were care workers or home carers.

56. Ministers were initially notified of plans for this ASMR focused report on 10 June 2020 **[PW3/19 - INQ000212428]** along with plans for an ONS-led four country comparison report. Pre-release access to this report **[PW3/20 - INQ000212429]** was granted to the DOH Minister and officials on 16 June 2020, the day before publication, and further detail was subsequently provided to them in relation to a query on deaths among health workers. On 17 June 2020, at the request of the DoH, additional operational data was provided in relation to the age, sex and Local Government District of the home address of the reported five deaths of those in healthcare or care related occupations.

57. A separate topic relates to the number of and reasons for 'excess mortality', which was an area of significant public interest and concern during the pandemic and beyond. During the pandemic the UK wide definition for excess mortality was the difference between actual deaths in a period minus the expected number of deaths i.e. the average number of deaths for the corresponding period in the previous years. From the outset, the NISRA weekly deaths report included a comparison of deaths each week relative to the average number of deaths for the corresponding week in the previous years' 2015-2019, i.e. using this average as an indication of the number of deaths one might expect in the same week in 2020. This statistic was first referred to as 'excess deaths' in the weekly report published on 23 April 2020 and from 15 May 2020 a clear weekly excess deaths count was built into the tables. The NISRA approach to calculate excess deaths based on the previous 5-year average (2015-2019) aligned with the ONS and NRS in the first year of the pandemic. From the beginning of 2021, however, the NISRA approach differed slightly to the rest of the UK: NISRA opted for an excess deaths comparator based on the 2016-2020 average, while also including a 2015-2019 average in its tables for those users wishing to understand excess deaths without the impact of the pandemic (the rest of UK retained the 2015-2019 average only). The NI decision was reflective of the different, less severe impact of Covid-19 in NI in 2020 to the rest of the UK (with the pandemic starting later in NI than the rest of the UK, the peak for registered deaths and Covid-19 related deaths was not seen in NI until early 2021) and followed a series of discussions and investigations into the impact of different comparator periods for NI **[PW3/21-INQ000212438] [PW3/22 - INQ000212440],** as well as being informed by an options paper from ONS **[PW3/23 - INQ000212441]** and discussions at the

Mortality Theme Group **[PW3/24 - INQ000212442]**. NISRA maintained a similar approach in 2022, using a 2017-2021 5-year comparator as well as including the comparator (years 2016-2019 and 2021) chosen by ONS and NRS, to enable users to make direct UK comparisons. Given that the NISRA and ONS approaches still closely aligned in terms of how they calculated excess deaths, apart from a difference in the 5-year average used to calculate 'expected deaths', the difference did not give rise to any difficulties; this was aided by the fact that NISRA also presented figures based on a fully ONS aligned approach to allow users to make direct comparisons.

58. Due to the pandemic and ongoing interest in this topic post-pandemic, new measures of excess mortality have become available. As a result of these developments, (outside the period of inquiry interest) a cross-UK 'Excess Mortality Baseline Technical Group' was formed, chaired by the ONS under the guidance of the UK Statistics Authority and the National Statistician. The group benefited from expertise spanning different area of ONS, the Office for Health Improvements and Disparities (OHID), the UK Health Security Agency (UKHSA), Public Health Wales, Welsh Government, NRS, NISRA and members of the actuarial profession. The group's objectives included taking stock of the various excess mortality methodologies being used across Government and to provide clarity on estimates of excess deaths. Resulting from the work of this group, an improved and agreed UK-wide approach to producing national estimates of excess mortality was published by the ONS on 20 February 2024. On the same date NISRA published an information paper on the methodology change and how it impacted previous NI estimates of excess deaths, available in the deaths area of the NISRA website.

59. In addition to the weekly count of excess deaths, NISRA published several detailed statistical reports on 'Excess mortality & Covid-19 related deaths', two of which were published during the period to which the Inquiry relates and covering the following cumulative time periods: March 2020 – June 2020 (published in July 2020), and March- December 2020 (published in March 2021). NISRA has continued to publish excess deaths updates into 2023 given the ongoing interest in understanding excess deaths post-pandemic, as demonstrated through FOI and media requests. The reports have routinely included breakdowns by age, sex, place of death and different geographical areas including Local Government

Districts, area deprivation and urban/rural residence as well as causes of death; in so doing, the outputs have largely mirrored information available in the rest of UK. The statistical Annex (**Annex A**) accompanying this statement presents a graphical visualisation of excess deaths by month and place of death including 'care homes'.

60. NISRA was sighted on a letter from the Welsh Chief Medical Officer to Sir Ian Diamond on 8 July 2020, requesting more four nations analyses on excess deaths, **[PW3/25 - INQ000066195]**. The first NISRA report on 'Excess mortality & Covid-19 related deaths' was published on 28 July 2020 with associated pre-release access **[PW3/26 - INQ000212444]** granted to the DOH Minister and senior DOH officials and was supported by media outreach in the form of a closed media briefing led by the DOF Press Office and NISRA. Following an ONS report comparing European and UK Relative Age Standardised Mortality Rates, published on 30 July 2020, NISRA subsequently provided analytical interpretation of the findings **[PW3/27 - INQ000212447]** to DOH IAD following media interest. At a later date NISRA provided comment to FactCheckNI ahead of the release of their article assessing how COVID-19 had contributed to excess deaths in Northern Ireland **[PW3/28 - INQ000212448]**.

61. 'Excess mortality' is a mathematical concept, that is, it is not possible to identify whether an individual death was an 'excess death' but instead it needs to be considered in aggregate. It also means that excess deaths may, in some cases, be a negative number, when actual deaths are lower than the expected number. Therefore, connecting excess deaths to specific scenarios during the pandemic, such as the impact of lockdowns, or reduced non Covid-19 health services or economic impacts is not feasible. In contrast, the analysis of Covid-19 related deaths is based on individual deaths, where Covid-19 was included on the death certificate. Due to the fundamental differences in how excess deaths and Covid-19 related deaths are measured and what they relate to, throughout the pandemic NISRA advised caution in making comparisons between these two groups.

62. A further area of user interest was around understanding Covid-19 deaths in relation to pre-existing conditions i.e. mentions on the death certificate of a condition that pre-dated or was independent of Covid-19, and the nature of such

conditions **[PW3/29 - INQ000212451] [PW3/30 - INQ000212452]**. The ONS
developed a methodology in April 2020 to identify the pre-existing conditions of deaths involving the coronavirus and applied it to such deaths registered in England and Wales for March 2020. This method was also used by NRS in their weekly deaths reports from 13 May 2020 onwards. NISRA took stock of this methodology and its evolution in later reports **[PW3/31 - INQ000212454]** and consulted with the DOH Chief Medical Officer's office **[PW3/32 - INQ000212456]** for quality assurance purposes. Minor changes to the ONS methodology were made for the analysis of Covid-19 related deaths in Northern Ireland, to take account of DOH advice on the interpretation of the medical certificate of cause of death (MCCD) in a very small number of cases where other conditions appeared on the same line as Covid-19 e.g. pneumonia. NISRA published the first of three statistical reports on Covid-19 and pre-existing conditions on 23 December 2020 (with advance pre-release access to DOH) **[PW3/33 - INQ000212453]**, covering the period March to November 2020, with subsequent reports covering March 2020 to February 2021 (published March 2021) and March 2020 to November 2021 (published December 2021). The analyses focused on the presence, number and type of pre-existing conditions by age and sex. It did not, however, provide breakdowns by place of death. The last of these publications reported that '*Dementia and Alzheimer's disease was the most common pre-existing condition, appearing in 767 deaths (25.5% of Covid-19 deaths). The next most common pre-existing conditions were hypertensive diseases (635) and diabetes (632 deaths).'* This finding inevitably reflects the disproportionate impact of Covid-19 on older people.

63. The final area of detailed Covid-19 related deaths reporting which NISRA covered was in relation to understanding the effect of Covid-19 on equality groupings. The development of this work was informed by a clear user interest for Northern Ireland equivalent information following disparities in Covid-19 deaths being documented by the ONS and particularly in relation to the impact of Covid-19 on BAME groups **[PW3/34 - INQ000212459] [PW3/35- INQ000212462]**. Correspondence between NISRA and the Equality Commission for Northern Ireland **[PW3/36 - INQ000212457] [PW3/37 - INQ000212458]** also evidenced the need to develop local understanding in this evolving space but recognised

that the information could not be produced solely from the administrative data captured on death certificates and would rely on a data linkage solution. The Northern Ireland solution was to use the long- standing NISRA research resource, the NIMS which is ethically approved by the Office for Research Ethics Committees Northern Ireland for approved research. The NIMS is a large-scale mortality focused, data linkage study linking the 2011 Census of Population returns for the whole of the enumerated population (people counted through the Census) to subsequently registered mortality data from the General Register Office (GRO). The NIMS data therefore enabled access to a range of self-reported information from Census 2011 records (including for example, ethnic group, self-reported health problem or disability, religion brought up in or belonged to) connected to subsequent mortality information. The NIMS cannot, however, take into account any changes in circumstances between the Census and time of death. During the pandemic, improvements were also made to the frequency of mortality updates in NIMS with updates moving from annual, pre-pandemic, to quarterly by late 2020 to support more timely and relevant research on the impact of Covid-19. NISRA has maintained these quarterly updates in order to support approved research in relation to post-pandemic effects. Prior to the work using the NIMS, NISRA also published counts of Covid-19 related deaths by country of birth, a detail which is collected as part of the death registration process. While it was acknowledged that country of birth does not equate to ethnic group, this work was completed because any NIMS based work would be limited by the fact that Northern Ireland had a small ethnic minority population at Census Day 2011, with 1.8 per cent (32,400) of the resident population at that time belonging to minority ethnic groups.

64. The first research report based on the NIMS covered the period March to September 2020 (published Dec 2021) with a further update subsequently published outside the timescale of the scope of the inquiry. The analysis, however, was focused on individuals living in households at the time of the Census 2011 in order to assess the role of household-level variables, such as household tenure, access to a car, location etc. and their influence on Covid-19 mortality risk Individuals in communal establishments such as homeless hostels, care homes and prisons were therefore excluded. The work included age-standardised mortality rates as well as statistical modelling to determine the risk of death associated with certain equality characteristics, most notably, having self-reported

disability. This work followed similar work from ONS linking deaths data to Census 2011 in order to ascertain the impact of Covid-19 on BAME groups. However, for the first NISRA report, it was not possible to provide such a breakdown due to the counts being fewer than 10 and thus too low for statistical analysis and to meet privacy controls.

1.6 NISRA Covid-19 death registration data provided under data sharing agreements

65. Throughout the pandemic, NISRA strived to publish a comprehensive suite of mortality related statistics to inform public debate, as outlined above. NISRA also continued to support or enhance existing mortality data flows to support academic and/or government led research. In addition to increasing the frequency of mortality data updates to the NIMS (also outlined above), NISRA also worked in collaboration with the BSO, an administration body for the NI Health and Social Care Trusts, the Honest Broker Service (HBS), which is the Trusted Research Environment for Health and Social Care (HSC) Northern Ireland and which supports provision of anonymised, patient level data for the purposes of research. In particular, NISRA worked with the HBS officials to authorise remote access arrangements for mortality data to researchers conducting important operational research across the UK, in relation to impacts of Covid-19 as well as studies on the safety and efficacy of the Covid- 19 vaccines.

66. In a number of instances new data sharing arrangements were needed between NISRA and organisations leading on pandemic monitoring. Record level data shares between NISRA and DoH and BSO included place of death information in order to support operational need.

1.7 NISRA Covid-19 death registration data provided under the Freedom of Information Act (FOI)

67. FOI requests were managed in addition to the notable developmental work undertaken by NISRA VSU and ARU to place as much Covid-19 deaths information into the public domain, in as timely a way as possible and in a way that was clear and understandable to the general public. NISRA VSU of course responded to FOIs openly and transparently, supporting the provision of data in most cases where data was held. In several instances, already published or planned publication of statistics led to the application of appropriate FOI exemptions i.e. section 21 (information reasonably accessible by another means) and section 22 (information intended for future publication) and indeed helps demonstrate the public demand for the official statistics and research outlined in the sections above.

68. Several FOIs were received seeking the disclosure of the number of Covid-19 deaths either at specific postcodes, or in specified care homes. NISRA considered these requests very carefully and weighed up the risks of both disclosure and non-disclosure, as is required by the FOI Act. In relation to postcode level disclosure NISRA determined that, in balance, the provision of Covid-19 related deaths at four-digit postcode (BTXX) presented minimal risk of harm or disclosure. Four-digit postcode covers 82 postcode districts across Northern Ireland. This information was first released via the DOF FOI 2020- 0160 **[PW3/38 - INQ000212468]** on 3 July 2020.

69. In relation to requests for deaths in specific care homes **[PW3/39 - INQ000212471]**, **[PW3/40 - INQ000212472]** (or other very detailed requests which sought detail around a single Covid-19 death) NISRA Core applied the FOI exemption 38 (disclosure of information would or would be likely to endanger the physical or mental health of any individual, or the safety of any individual). NISRA Core was also mindful in its initial decision that other jurisdictions across the UK had not released such information at the time. This position subsequently changed with NRS publishing individual care home deaths in May 2021, followed by England's Care home Quality Commission (CQC) publishing individual care home deaths in July 2021. Only the CQC data contained contextual information

about the size of the care home, which was limited to whether the home was large, medium or small). NISRA's core argument for non-disclosure was based around the FOI section 38 exemption as set out in the Public Interest Test, however NISRA was also concerned that disclosure of data relating to a single care home would constitute a breach of the Statistics Code of Practice where there is a requirement to protect the privacy of individuals and businesses.

1.8. NISRA Covid-19 death registration data provided in response to Assembly Questions (AQs)

70. A range of questions were also received by NISRA VSU during the period of interest in the form of AQ's and these are set out in **Annex B.** These questions largely reflect similar themes as already addressed above and again, those relating to care homes are highlighted. In addition, NISRA Core regularly provided 'lines to take' for the DOF Minister for Topical Questions (unseen questions) as part of Question Time sessions in the Assembly. Typically, as per example **[PW3/41 - INQ000212474],** these lines covered definitional differences in reporting Covid-19 deaths, the latest position as reported in the NISRA Core weekly deaths statistics and any updates relevant to upcoming releases.

5. NISRA Core's Span of Responsibility

71. In the context of the questions presented to NISRA Core by the Inquiry Team, the narrative above seeks to address these through detailing how some of its key business areas were impacted by Covid-19 during the period in question along with the response to meeting specific information needs that emerged. It also summarises the important collaborative engagement across government including with the other National Statistics Institutes (the ONS and NRS) and the provision of key information that was produced and disseminated to key NI policy officials and Ministerial colleagues to help shape their decision making throughout.

72. Importantly and notwithstanding the evidence provided throughout the narrative, the following bullet points are important in this respect as they highlight areas where NISRA Core was either not directly or significantly involved and/or had limited interaction.

- Beyond the position outlined regarding mortality statistics, NISRA Core had limited interaction with any international bodies, including the relevant data and statistical analysis bodies in the Republic of Ireland in respect of the collection, analysis and dissemination of data and statistics relevant to the response to Covid-19.
- NISRA Core's senior management team were not involved in any informal or private communication with the government in Northern Ireland and/or Ministers or officials about the response to Covid-19.
- NISRA Core's senior management team were not directly involved in any key meetings with the NI Executive, the UK Government or the Scottish or Welsh Governments, where data or statistics which informed key decisions on the management of the pandemic were discussed. Accordingly, recordings of such meetings are not available.
- NISRA Core was not involved in providing any NI or UK committees with oral or written evidence relating to data and statistics concerning COVID-19.
- NISRA Core's senior management team were not participants in any specialist groups such as the SAGE or indeed any of its sub-groups, including

Scientific Pandemic Influenza Group on Modelling (SPI-M-O). In addition, NISRA Core did not provide direct assistance to these specialists in respect of the provision of data (other than in relation to mortality data), statistics, modelling, analysis, advice and/or papers. This was also the case in respect of: (i) Technical Advisory Group or Technical Advisory Cell, including any of its subgroups; (ii) NI Government Specialist Modelling Response Expert Group; (iii) NI Strategic Intelligence Group; and (iv) NI Covid-19 Modelling Group.

- NISRA Core was not consulted by any national or NI-specific groups in relation to the statistical models that were built to predict the spread of Covid-19. As such, NISRA Core is unable to provide an opinion on how effective, 'joined up' and/or collaborative in nature the work undertaken by these specialist groups was.

- Finally, NISRA Core has not made any recommendations to the UK Government and/or the Devolved Administrations in relation to the response of the adult social care sector to the pandemic.

73. This statement steps through the challenges NISRA Core faced to produce consistent, accurate, informative and coherent analyses in an evolving context, on a limited resource footing. Through this process the lack of data integration and interoperability of health and social care data systems was apparent and led to slower responses than ideal to inform both operational decision makers and the public. A recommendation the Chair of the Inquiry may wish to consider is that steps should be taken across the NICS to actively address the lack of integration of health and social care data systems, which currently limits the extent to which cross departmental data insights can be generated quickly and confidently.

Statement of Truth

74. 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: 6 December 2024

Annex A: Statistical data required by the Rule 9 request for Module 6

1. Background

1. This Annex sets out the statistics, analysis and trends covering the specified areas in the Rule 9, as follows:

    a. Deaths in care homes (place of death);

    b. Covid-19 related deaths of care home residents;

    c. Covid-19 deaths of care home residents;

    d. Excess mortality and Covid-19 related deaths by month and place of death.

2. Data presented in this annex **[PW3/42 - INQ000514010]** mainly consist of what was available at the time of the pandemic through the regular publications but has also been supplemented with some bespoke analysis in relation to pandemic waves, which are consistent with the ONS Infection Survey analysis as follows:

    a. Wave 1 – March 2020 to May 2020. Using weekly published data the totals in table 1 use the sum of deaths between week ending 6 March 2020 to week ending 29 May 2020 as a close proxy.

    b. Wave 2 – September 2020 to March 2021. Again, using weekly published data the totals in table 1 use the sum of deaths between week ending 4 September 2020 to week ending 30 April May 2021 as a close proxy.

    c. Wave 3 – May 2021 to Winter 2021/22. For the purposes of this analysis the total in table 1 includes deaths registered between week ending 7 May 2021 and week ending 1 April 2022.

2. Deaths in care homes (place of death)

3. During the pandemic, NISRA Vital Statistics Unit (VSU) expanded an existing, basic, weekly output on the number of deaths registered to include analyses of the number of deaths and specifically, the number of 'Covid-19 related deaths' registered in Northern Ireland.

4. Information relevant to deaths in care homes in the weekly publication included:

a. total number of deaths by week of registration according to where the death took place which included care homes as one of the categories.

b. Covid-19 related deaths according to place of death and week of registration.

c. Covid-19 related deaths that took place in care homes by the Local Government District in which the care home was located.

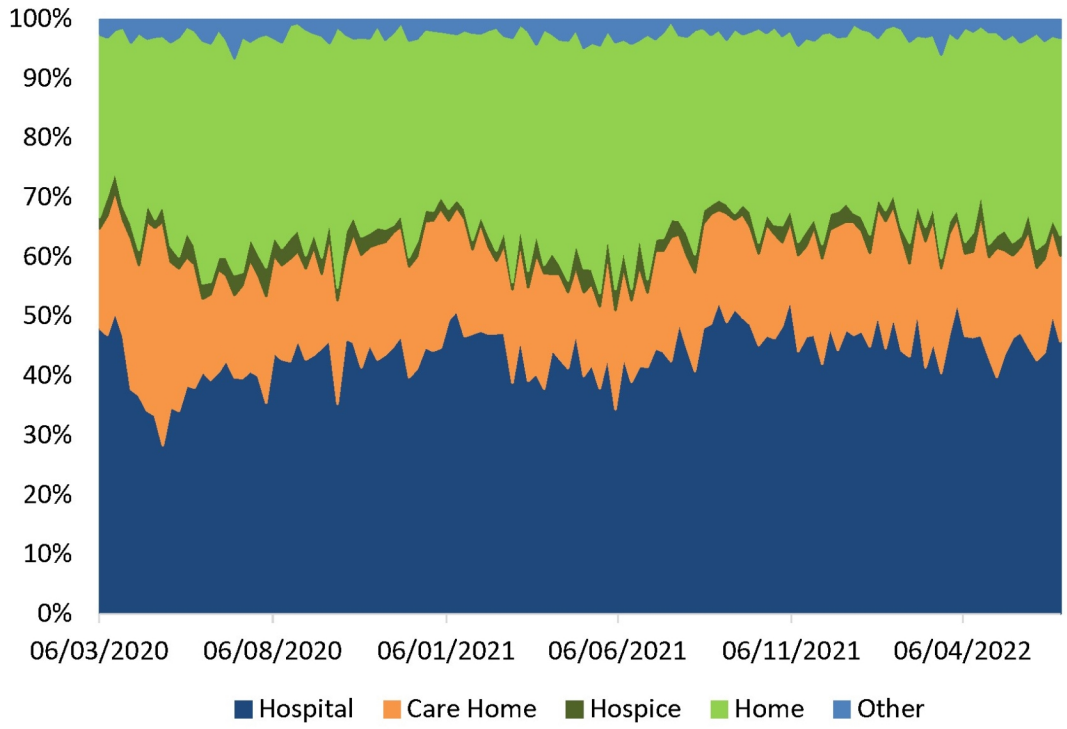
d. A daily count of Covid-19 related deaths taking place in care homes by date of registration.

e. Covid-19 related deaths by place of death category by week the death took place.

f. Covid-19 related deaths of care home residents by place of death and week the death took place.

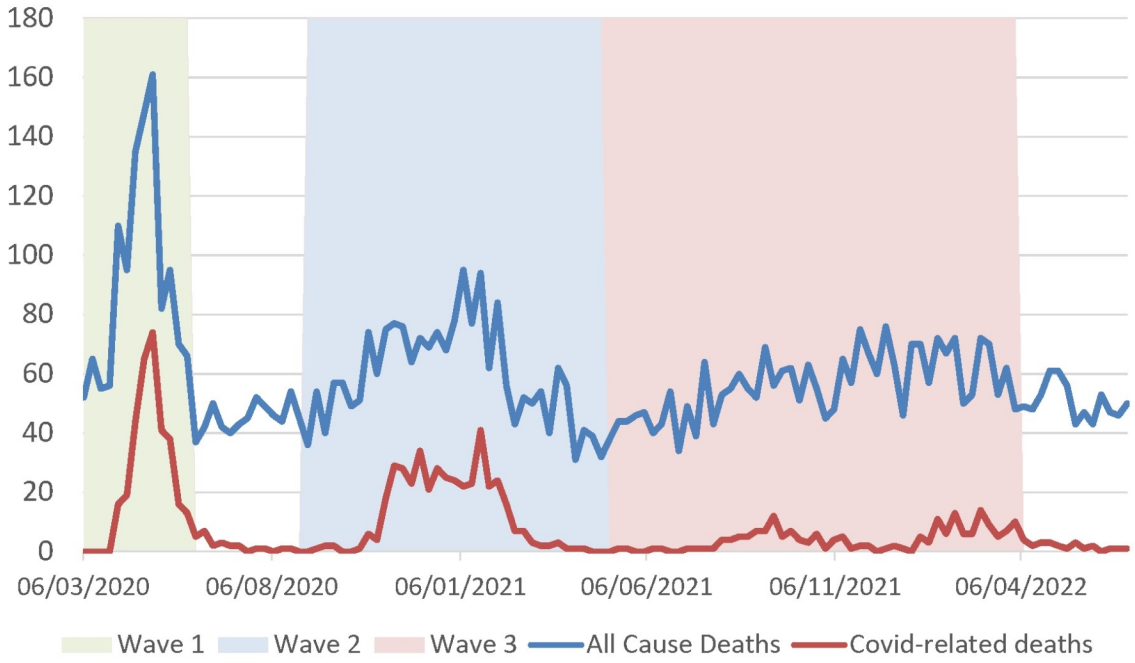
g. A daily count of Covid-19 related deaths taking place in care homes by date the death occurred.

Chart 1: Composition of deaths registered (all causes) according to place of death and week of registration, March 2020 to June 2022



Source: Table 4 in the weekly death registrations tables for week ending December 2022 as published by NISRA on the NISRA website. Also see tab named 'Data for Chart 1' in **PW3/42 - INQ000514010**

Chart 2: Deaths (all causes) and Covid-19 related deaths in care homes in Northern Ireland, March 2020 to June 2022, count



Source: Table 7 in the weekly death registrations tables for week ending December 2022 as published by NISRA on the NISRA website. Also see tab named 'Data for Chart 2' in **PW3/42 - INQ000514010**

Table 1: Deaths and covid-19 related deaths in care homes by pandemic wave

Wave	All deaths	All deaths in care homes	Covid-19 related deaths in care homes	% of all care homes deaths that were Covid-19 related
1	4,757	1,190	326	27.4
2	12,275	2,099	421	20.1
3	16,036	2,695	191	7.1

Source: Tables 4 and 7 in the weekly death registrations tables for week ending December 2022 as published by NISRA on the NISRA website.

2.1 Key Points

5. Chart 1 shows a proportional breakdown of all deaths registered throughout the period of the pandemic according to where they took place. Taking total deaths as 100%, it shows the percentage composition by place of death for each week. In April 2020 it is possible to see that the proportion of deaths that took place in care homes was higher than at any other time. Almost one in every three deaths registered in April

2020 took place in a care home, when the typical proportion would previously have been around one in every five.

6. However, the proportion of deaths taking place in care homes decreased slightly after the first wave of the pandemic, with a weekly average of 17% (for the entire period following the first wave, June 2020 to June 2022).

7. The first Covid-19 related death in Northern Ireland was registered in the week ending 20 March 2020 (occurred on 18 March and registered on 19 March 2020). The first Covid-19 related death that took place in a care home was registered in the week ending 3 April 2020 (however it occurred in the previous reference week ending 27 March 2020).

8. Chart 2 shows deaths in care homes from all causes and Covid-19 related deaths by the week they were registered, between March 2020 and June 2022. The waves of the pandemic can be clearly seen when looking at the line showing Covid-19 related deaths.

9. Chart 2 clearly shows a peak of care home deaths in April and May 2020 during the first wave of the pandemic (74 Covid-19 related deaths in care homes registered in the week ending 1 May 2020). The second wave then showed a lower peak of care home deaths (which differs to the general population where the peak was highest in the second wave). The wave 2 peak can be seen in early 2021 (41 Covid-19 related deaths in care homes registered in the week ending 22 January). Wave 3 was on a smaller scale again, peaking in early 2022 (14 care home Covid-19 related deaths registered in the week ending 4 March 2022).

10. To set the context more generally, the first lockdown came into force on 27 March 2020, ahead of the first peak of Covid-19 related deaths in care homes.

11. There was an easing of restrictions over the summer of 2020 where lower weekly Covid-19 related deaths can be observed.

12. Vaccination rollouts began in early December 2020 in the second wave of the pandemic, and ahead of the second lockdown which came into effect at the end of December 2020.

13. Restrictions began easing again in May 2021 where lower numbers of Covid-19 related deaths can again be observed.

2.2 Methodology

14. As mentioned in paragraph 35 of the main statement, NISRA weekly provisional death statistics published each Friday on the NISRA website count all deaths registered in the previous week and provide various breakdowns of those deaths including where the death took place (place of death) as recorded during the death registration process. The number of deaths were summed for each week and published in the form of tables and a report. A standard reference week runs from Saturday to Friday, which is consistent with the reference week definition used by the ONS when reported for England and Wales (paragraph 48 in the main statement gives more detail on reference weeks across the UK).

15. The establishment of the 'place of death' identifiers from the NI Registration Office System (NIROS) standard categories is outlined in the main statement.

2.3 Limitations

16. There is a potential for the care home name field in NIROS to not be completed by the registrar where place of death was a care home. Several checks were incorporated into the processing to identify any cases where care home name was blank but the address fields for place of death mention a care home.

17. There is a chance that deaths counted as taking place in care homes may include a small number of deaths that took place in sheltered accommodation. This is because some care homes also have residential units for assisted independent living. There is no way for NISRA to differentiate between these areas from death registration data.

18. A potential limitation is the scope for human error during the checking process referred to above for identifying a Covid-19 related death, place of death, and care home resident; however, the process was significantly automated and subject to repeated checks.

19. Production of Covid-19 related deaths information on a weekly basis required a search for specific key words rather than a search for relevant ICD-10 codes because

the coded cause of death data for Northern Ireland was not available in a timescale to allow the production of the weekly report. Both NRS and ONS used a definition that was consistent with that used by NISRA (i.e. any mention of Covid-19 among causes listed on the death certificate). However, both NRS and ONS use ICD-10 codes upon which to base searches as opposed to a key word/term search as used by NISRA to identify Covid-19 related deaths. It has been accepted that despite this minor difference in the methodology for identifying cases, the data across the UK remain comparable.

20. The Office for National Statistics (ONS) produced comparable data on deaths in care homes in the weekly reports of death registrations published on the ONS website, and for care home residents via a separate report, titled 'Care home resident deaths registered in England and Wales, provisional' also released on a weekly basis.

21. The ONS method for identifying place of death was based on the information provided by the informant registering the death, consistent with NISRA and ONS definitions of 'care home residents' also aligned.

22. Similarly, the NRS produced and published weekly data on the NRS website on deaths registered by location of death, which is the basis of care home deaths, along with their main weekly deaths registered tables. However, there is a slight difference in processes in that NRS identify locations after they have been allocated an institution code given by the Public Health Scotland (PHS). As hospices do not have an allocated institution code, some may have been grouped in with care homes in NRS outputs as is consistent with PHS and previous practice.

23. NRS separately, produced a one-off analysis of deaths of care home residents involving Covid-19 in response to an ad hoc request which is available from the deaths involving coronavirus in Scotland page on the NRS website.

3. Covid-19 related Deaths and Deaths due to Covid-19 among care home residents

24. NISRA produced data on deaths of care home residents as part of the weekly deaths registered publication.

25. During the pandemic there was no specific analysis completed or data published on deaths of care home residents where the *underlying cause* was Covid-19 (as set out

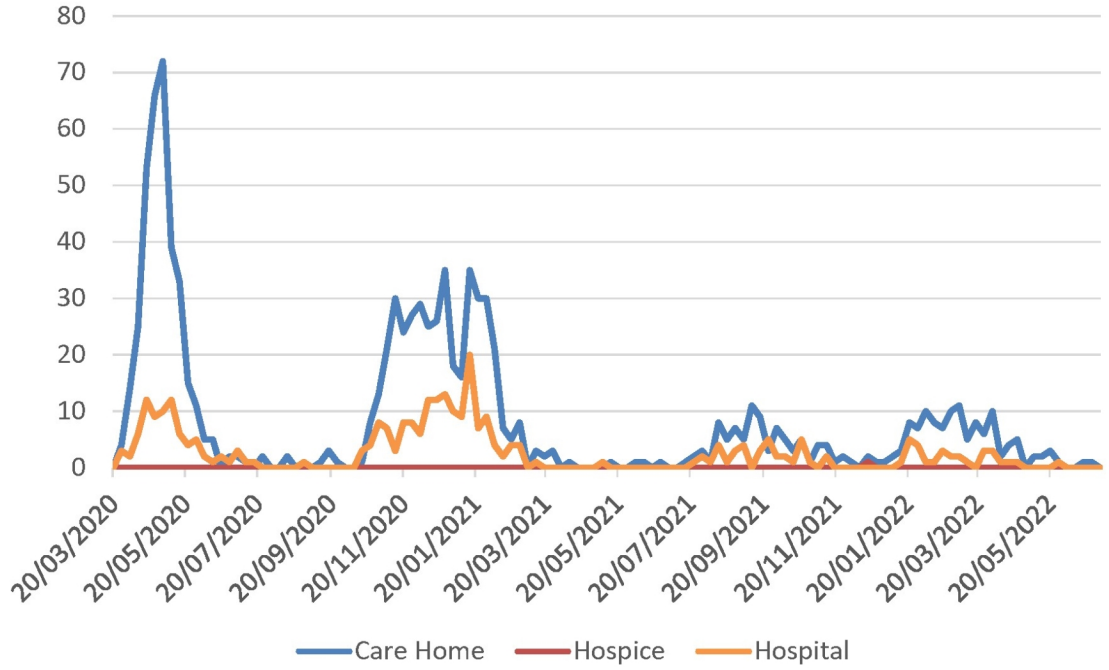
in paragraph 49 in the main statement. NISRA has therefore produced bespoke analysis on underlying cause of death of care home residents.

Table 2: Covid-19 related deaths and deaths of care home residents due to Covid-19, by place of death and waves based on death occurrence date

Wave	Care Home		Hospital		Hospice	
	Covid-19 related deaths	Deaths due to Covid-19	Covid-19 related deaths	Deaths due to Covid-19	Covid-19 related deaths	Deaths due to Covid-19
1	332	318	69	62	0	0
2	423	375	154	141	0	0
3	191	144	64	50	1	0

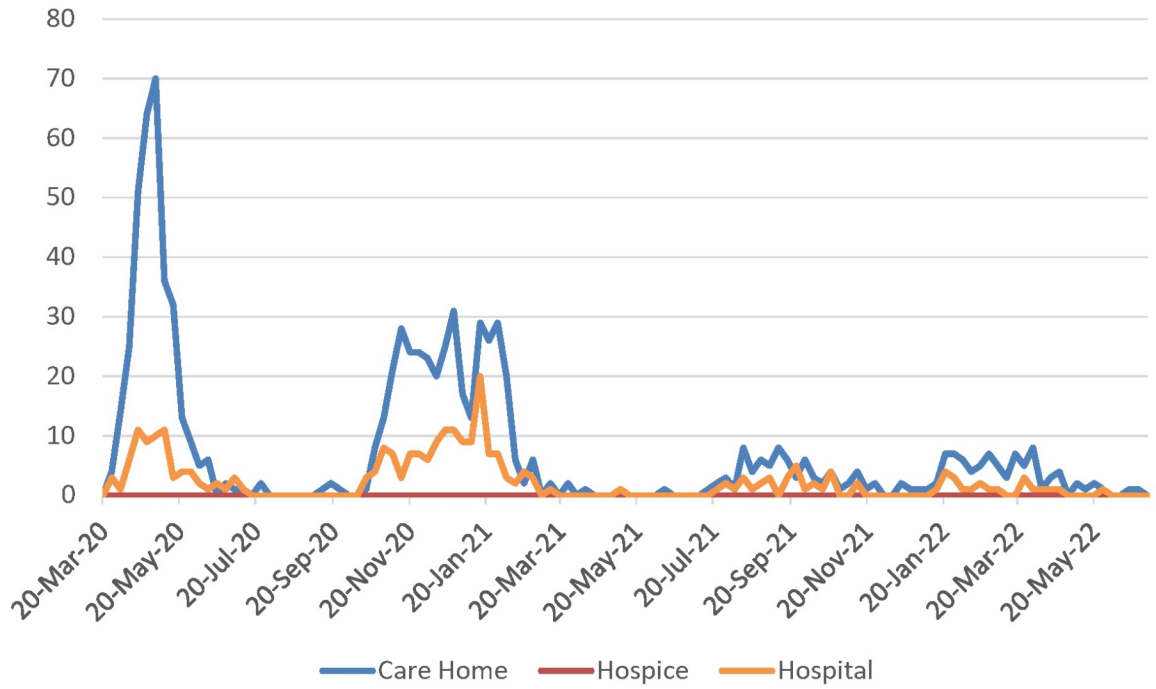
Sources: Covid-19 related deaths come from Table 12 in the Weekly death registrations tables for week ending December 2022 as published by NISRA on the NISRA website. Deaths of care home residents due to Covid-19 were bespoke analysis for the inquiry.

Chart 3: Covid-19 related deaths of care home residents according to where the death took place and by week the death took place, count



Source: Table 12 in the Weekly death registrations tables for week ending December 2022 as published by NISRA on the NISRA website. Also see tab named 'Data for Chart 3' in **PW3/42 - INQ000514010**

Chart 4: Deaths of care home residents due to Covid-19 according to where the death took place and by week the death took place, count



Source: NISRA Bespoke analysis. See tab named 'Data for Chart 4' in **PW3/42 - INQ000514010**

3.1 Key Points

26. A total of 1,290 care home residents died **with** a Covid-19 related cause between the week ending 6 March 2020 and week ending 1 July 2022 (this total includes deaths that occurred between the end of wave 1 and the beginning of wave 2). Further analysis has found that 1,137 care home residents died **from** Covid-19 (i.e. where Covid-19 was the underlying cause of death) over the same period. This means that, of all Covid-19 related deaths of care home residents, 88% of these went on to have Covid-19 identified as the underlying cause of death.

27. Within the waves of the pandemic, the second wave saw the highest number of care home resident deaths with 577 taking place between the week ending 4 September 2020 and the week ending 30 April 2021.

28. The majority of care home residents died in care homes, however, a sizable number died in hospital. Over 17% of care home resident, Covid-19 related deaths occurred

in hospital in wave 1, almost 27% in wave 2 and a quarter (25%) of deaths occurred in hospitals in wave 3.

29. Chart 4 shows a similar picture to that of all Covid-19 related deaths of care home residents (shown in chart 3). Between March 2020 and June 2022, three quarters of Covid-19 deaths of care home residents took place in a care home. However, it is apparent that the biggest impact was during the early stages of pandemic (April and May 2020).

3.2 Methodology

30. Care home resident analyses recognise that place of death statistics did not take account of care home residents who died elsewhere.

31. A '***Care Home Resident***' marker was developed on a weekly basis using the following criteria which also aligned with the ONS approach:

    a. The deceased's record showed the place of death was a care home; OR

    b. Place of death was not a care home, but their usual address contained the words 'Nursing', 'Care' or 'Residential' (text search along with verification checks); OR

    c. Place of death was not a care home, but their usual address contained specific care home names not captured in 'b' above, which were known to VSU.

32. Deaths due to Covid-19 are published as part of quarterly vital event statistics tables by NISRA VSU. However, there is no breakdown by place of death or for care home **residents** specifically in the current or historical tables. The analysis in this section has been produced as bespoke analysis for this statement but was not available as standard during the pandemic unless specifically requested.

33. The data used in the weekly reports and occasional papers looking specifically at Covid-19 related deaths, were produced using data in a provisional form compared to the less frequent publications. The statement outlines the process required to move from statistics using text on the death certificate to ICD-10 coded cause of death.

NISRA published the number of deaths due to Covid-19 in the Registrar General quarterly tables on the NISRA website, usually released 10 to 12 weeks after the close of each quarter.

34. Beginning in Quarter 2 2020 (released in November 2020) the quarterly release was accompanied by a Ministerial Brief and statistical press release. From quarter 1 2021 (published in June 2021) the statistical press release contained specific information on the number of deaths due to Covid-19 and how that compared with the number of Covid-19 related deaths. As previously stated, around 84% of deaths that had Covid-19 mentioned on the death certificate, resulted in Covid-19 being the underlying cause of death.

3.3 Limitations

35. In addition to the previously mentioned place of death potential limitations, there was also scope for human error during the checking process for identifying a Covid-19 related death, and care home resident. However, as before, the process was significantly automated and subject to repeated checks.

36. As previously outlined, the production of Covid-19 related deaths information on a weekly basis required a search for specific key words rather than a search for relevant ICD-10 codes because the coded cause of death data for Northern Ireland was not available in a timescale to allow the production of the weekly report.

37. The care home resident definition was the best method available at the time, to give a provisional proxy of care home residents deaths. However, it is possible (though unlikely) that it may be subject to a small level of overcount - as it includes all deaths where place of death was a care home, and it is possible that this will also include non-residents (e.g. visitors or staff).

38. This potential for a small overcount may be somewhat offset by the possibility of an undercount: address information for the deceased is dependent upon what is supplied by the informant. It is possible that family members registering the death could supply a private address and former residence of the deceased, particularly if the individual had been at their private home address for many years, or not been resident in the care home for long or had been a temporary resident of the care home.

39. For deaths of care residents **due to** Covid-19 the same limitations already described for identifying care home residents apply to this information. However, as this analysis of underlying cause of death uses the ICD-10 coded cause of death data, there is not the same need to use a word search-based approach and therefore there is a higher level of accuracy and consistency.

With the limited resources available at the beginning of the pandemic and a focus on producing the weekly reports and responding to all data requests there was a temporary delay with the production of quarterly reports in 2020. Tables for quarter 2 2020 (April to June) were not available until September 2020. There was therefore a longer than usual wait for information on underlying causes of death as the priority and emphasis was on the need for almost real time information on deaths registered, and Covid-19 related deaths in particular

4. Excess Mortality and Covid-19 related deaths by month and place of death

4.1 Key points

40. NISRA published ad-hoc reports on monthly Covid-19 related deaths and excess deaths, broken down by age, sex, geography and place of death. Over the period January 2020 to June 2022, there were 4,690 Covid-19 related deaths – of these, 3,915 (83.5%) had Covid-19 coded as the underlying cause of death. In the same period, there were an estimated 3,557 excess deaths.

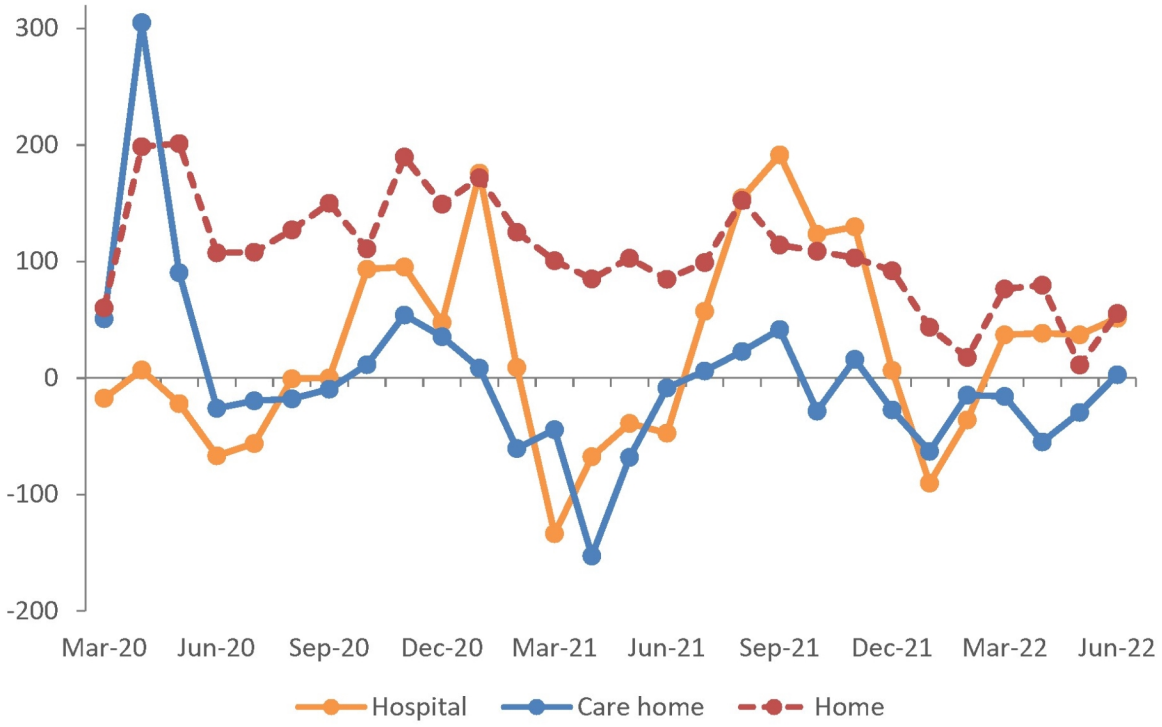
41. Most reported figures on excess deaths started in March 2020, when the first Covid-19 related deaths in Northern Ireland occurred. There were an estimated 3,557 excess deaths from March 2020 to June 2022.

Table 3: Monthly excess deaths, January 2020 to February 2022

Year	Month	Number of excess deaths	Average deaths from previous 5 years	Excess deaths as a proportion of average deaths
2020	January	-95.8	1621.6	-5.9%
2020	February	-30.4	1371.8	-2.2%
2020	March	85.0	1391.4	6.1%
2020	April	517.4	1267.0	40.8%
2020	May	273.6	1243.4	22.0%
2020	June	10.2	1195.8	0.9%
2020	July	29.4	1185.6	2.5%
2020	August	101.0	1173.0	8.6%
2020	September	125.0	1195.8	10.5%
2020	October	210.2	1295.2	16.2%
2020	November	338.6	1298.4	26.1%
2020	December	218.8	1531.6	14.3%
2021	January	350.0	1602.0	21.8%
2021	February	52.4	1359.6	3.9%
2021	March	-88.6	1407.0	-6.3%
2021	April	-151.8	1368.2	-11.1%
2021	May	-7.2	1299.6	-0.6%
2021	June	30.0	1188.0	2.5%
2021	July	150.6	1202.6	12.5%
2021	August	328.8	1206.8	27.2%
2021	September	333.0	1217.0	27.4%
2021	October	191.4	1337.6	14.3%
2021	November	258.2	1380.2	18.7%
2021	December	79.6	1589.6	5.0%
2022	January	-120.2	1,695.2	-7.1%
2022	February	-43.8	1,378.2	-3.2%
2022	March	93.8	1,401.8	6.7%
2022	April	53.2	1,364.2	3.9%
2022	May	3.6	1,309.8	0.3%
2022	June	106.0	1,188.8	8.9%

Source: Table 1 in the Excess mortality & Covid-19 related deaths - December 2022 research report published by NISRA on the NISRA website.

Chart 5: Excess deaths by month and place of death



Source: Chart 9 in the Excess mortality & Covid-19 related deaths - December 2022 research report published by NISRA on the NISRA website. Also see tab named 'Data for Chart 5' in **PW3/42 - INQ000514010**

Table 4: Covid-19 related deaths and excess mortality by place of death, March 2020 to June 2022, count

Place of death	Covid-19 related deaths	Number of excess deaths	Average deaths from previous 5 years	Excess deaths as a proportion of average deaths
Hospital	3,267	679.6	17,301.8	3.9%
Care home	988	6.0	7,196.8	0.1%
Home	395	3,028.8	10,565.8	28.7%
Other places	40	-186.2	2,209.0	-8.4%
Total	**4,690**	**3,528.2**	**37,273.4**	**9.5%**

Source: Table 6 in the Excess mortality & Covid-19 related deaths - December 2022

research report published by NISRA on the NISRA website

42. Table 3 shows that the number (517.4) and proportion (40.8%) of excess deaths peaked in Wave 1 (April 2020), with excess deaths remaining high in May 2020. Numbers of excess deaths began to increase steadily from August 2020 to November 2020, reaching 338.6 excess deaths (26.1% as a proportion of average deaths) that month and peaking at 350 (21.8%) excess deaths in January 2021. A period of negative excess deaths through March – May 2021 was followed by increases from June to September 2021, the latter month recording the peak of excess deaths (333.0) in wave 3.

43. As shown in Table 4, the majority of Covid-19 related deaths (69.7% of 4,690 Covid-19 related deaths up to June 2022) occurred in hospital. The number of Covid-19 related deaths in hospital (3,267) was nearly six times larger than estimated excess deaths in hospitals (680) from March 2020 to June 2022. There were 988 Covid-19 related deaths in care comes compared to an estimated six excess deaths. In contrast, estimates of excess deaths at home formed most overall excess deaths (3,029 or 85.8% of 3,528). In this period, there appeared to be a shift in the number of non-Covid-19 related deaths from hospitals and to a lesser extent care homes, towards private homes.

44. It should be noted that the biggest impact to excess deaths in care homes was during wave 1 of the pandemic, particularly April 2020. On the whole, care homes experienced negative excess deaths over 2021 and in every month between January to June 2022.

4.2 Methodology

45. 'Excess deaths' are defined as the difference between the observed number of deaths in a period and the expected number of deaths for the same period. The expected number of deaths is approximated by the average of the previous five years. This analysis uses the date of occurrence, not date of registration which is used in the weekly excess death calculation. This means there may have been deaths that occurred in the period of interest but were not registered at the time the research took place. This is most likely for the more recent months. An adjustment was made to account for any such registration delays.

46. It is not possible to identify if an individual death was an 'excess death'. For example, to determine the estimate of excess deaths which occurred in Belfast, we look at the number of deaths which occurred in Belfast for the period of interest and subtract from this the average number of deaths in the previous five years. This means that excess deaths may in some cases be a negative number. In contrast, the analysis of Covid-19 related deaths is based on individual deaths where Covid-19 was included on the death certificate; these cannot be automatically classed as excess deaths.

4.3 Limitations

47. The Northern Ireland population has been growing and aging over recent years. Using the average number of deaths in the previous five years could therefore underestimate the expected number of deaths and thus overestimate excess deaths.

48. There is a variation in the number of deaths between years due to, for example, seasonal weather. This could particularly affect the winter months. Using the average number of deaths in a five-year period aims to counter such variability.

49. Excess deaths in Northern Ireland are calculated using the average deaths in the previous five years. In contrast, other UK countries used the average deaths in 2015-19 to derive excess deaths in 2021, thus omitting 2020 as it was perceived to be an outlier. Similarly, they used the average of 2016-19 and 2021 as a comparator for deaths in 2022.

50. The statement outlines how a pan-UK approach has been taken to improving the measurement of excess deaths, taking account of lessons learned during the pandemic.

51. Most data in this section (3) were based on registrations up to 22 February 2023. This was to consider possible delays between occurrence and registration for the period of interest (January 2020 to February 2022). Although the methodology tries to account for this, estimates of excess mortality and Covid-19 related deaths can still be subject to minor changes.

Annex B: Assembly Question relating to Covid-19 responded to by NISRA

Request/Question	Type of request	Asked by	Date Answered
AQW 3941/17-22 To ask the Minister of Finance how many deaths have been certified as COVID-19 deaths without positive tests for the disease.	AQW [Priority Written]	Mr Jim Allister KC *(TUV - North Antrim)*	01/05/2020
AQW 3938/17-22 To ask the Minister of Finance, since the COVID-19 lockdown, how does the number of deaths, excluding those related to COVID-19, compare with this period in a normal year; and whether the non-deployment of regular hospital care is considered to be a factor.	AQW	Mr Jim Allister KC *(TUV - North Antrim)*	13/05/2020
AQW 4252/17-22 To ask the Minister of Finance when the Northern Ireland Statistics Research Agency will release a breakdown of the age profile of total deaths during the period from the week ending 30 March to the week ending 1 May.	AQW	Ms Paula Bradshaw *(APNI - South Belfast)*	22/05/2020
AQW 4144/17-22 To ask the Minister of Finance for an update on the information provided pursuant to AQW 3941/17-22.	AQW	Mr Jim Allister KC *(TUV - North Antrim)*	26/05/2020
AQW 4155/17-22 To ask the Minister of Finance to detail the number of deaths in March and April 2019 compared with March and April 2020.	AQW	Mr Alex Easton *(DUP - North Down)*	29/05/2020
AQW 4601/17-22 **To ask the Minister of Finance to detail the number of COVID-19 related deaths in (i) private; and (ii) public nursing and care homes.**	**AQW**	**Miss Jemma Dolan *(SF - Fermanagh and South Tyrone)***	**12/06/2020**
AQW 4717/17-22 To ask the Minister of Finance how many people, who were detained under (i) the Mental Capacity Act 2016; and (ii) the Mental Health Order 1986, have died, or are suspected to have died, from COVID-19.	AQW [Priority Written]	Miss Órlaithí Flynn *(SF - West Belfast)*	19/06/2020
AQW 6851/17-22 To ask the Minister of Finance how many people have died since 1 June 2020 of (i) cancer; (ii) heart disease; (iii) stroke; (iv) COVID-19; and (v) other causes.	AQW	Mr Jim Allister KC *(TUV - North Antrim)*	23/09/2020

AQW 8120/17-22 To ask the Minister of Finance to detail the number of deaths for each week from the 1 March 2020 until 1 September 2020, were COVID-19 was given as the sole cause of death.	AQW	Mr Keith Buchanan *(DUP - Mid Ulster)*	20/10/2020
AQW 8355/17-22 To ask the Minister of Finance what is the death rate as a result of COVID-19.	AQW	Ms Joanne Bunting *(DUP - East Belfast)*	15/10/2020
AQW 9017/17-22 To ask the Minister of Finance what steps his Department has taken to ensure that those registered as having died from COVID-19 have actually died as a result of COVID-19.	AQW	Ms Joanne Bunting *(DUP - East Belfast)*	02/11/2020
AQW 9016/17-22 To ask the Minister of Finance for a breakdown of the age profile of people who have died from COVID-19.	AQW	Ms Joanne Bunting *(DUP - East Belfast)*	28/10/2020
AQW 8965/17-22 To ask the Minister of Finance how many people have died from (i) cancer; (ii) stroke; (iii) heart problems; (iv) dementia; (v) suicide; and (vi) COVID-19, in each of the last 6 months.	AQW	Mr Tom Buchanan *(DUP - West Tyrone)*	28/10/2020
AQW 10175/17-22 To ask the Minister of Finance to detail (i) the number of COVID-19-related deaths that have comorbidities; (ii) the comorbidities by category; and (iii) the categories of comorbidity by number.	AQW	Mr Christopher Stalford *(DUP - South Belfast)*	20/11/2020
AQW 10150/17-22 To ask the Minister of Finance how many registered COVID-19 deaths there has been amongst staff in Health and Social Care Trusts.	AQW [Priority Written]	Mr Fra McCann *(SF - West Belfast)*	12/11/2020
AQW 10288/17-22 To ask the Minister of Finance, following the Public Health England report that identified the COVID-19 death rate for adults with learning disabilities was 3.1 times the rates for adults without, whether his Department will review and produce the death rate in Northern Ireland for people with learning disabilities compared with adults without; and whether priority access to a future vaccine will be provided to this group.	AQW	Ms Kellie Armstrong *(APNI - Strangford)*	01/12/2020
AQW 11583/17-22 To ask the Minister of Finance what are the five most common pre-existing conditions involved with those dying (i) as a result of COVID-19; and (ii) with COVID-19 as a factor.	AQW	Mr Colin McGrath *(SDLP - South Down)*	15/12/2020

AQW 12461/17-22 To ask the Minister of Finance how many people have died of COVID-19, without any underlying conditions.	AQW	Mr Christopher Stalford *(DUP - South Belfast)*	26/01/2021
AQW 14017/17-22 To ask the Minister of Finance to detail the number of people under the age of 60 years who have died of COVID–19.	AQW	Mr Christopher Stalford *(DUP - South Belfast)*	12/02/2021
AQW 14016/17-22 To ask the Minister of Finance how many people who had no previously identified underlying health conditions have died of COVID-19.	AQW	Mr Christopher Stalford *(DUP - South Belfast)*	12/02/2021
AQW 14009/17-22 To ask the Minister of Finance (i) how many deaths by suicide has there been for each week since the start of lockdown in March; and (ii) how this compares with similar periods in each of the previous four years.	AQW	Mr Paul Frew *(DUP - North Antrim)*	11/02/2021
AQW 14882/17-22 To ask the Minister of Finance how many people with (i) learning disabilities; and (ii) dementia have died with COVID-19.	AQW	Mr William Humphrey *(DUP - North Belfast)*	25/02/2021
AQW 14880/17-22 **To ask the Minister of Finance how many people in care homes in the North Belfast constituency have died with COVID-19.**	**AQW**	**Mr William Humphrey** ***(DUP - North Belfast)***	**26/02/2021**
AQW 21433/17-22 To ask the Minister of Finance for a breakdown of the deaths attributed to (i) cancer; (ii) heart disease; (iii) dementia and Alzheimer disease; (iv) suicide; and (v) COVID-19, in each month since January 2020.	AQW	Mr Jim Allister KC *(TUV - North Antrim)*	14/07/2021
AQW 21699/17-22 To ask the Minister of Finance to detail the number of deaths in which COVID-19 alone was mentioned on the death certificate in each month since March 2020, broken down by Health and Social Care Trust area.	AQW	Mr Jim Allister KC *(TUV - North Antrim)*	22/07/2021
AQW 21698/17-22 To ask the Minister of Finance what is the average age of those to die from COVID-19 in each Health and Social Care Trust area.	AQW	Mr Jim Allister KC *(TUV - North Antrim)*	19/07/2021
AQW 24572/17-22 To ask the Minister of Finance to detail the number of COVID-19 deaths of people with a learning disability, broken down by setting.	AQW	Mr Colm Gildernew *(SF - Fermanagh and South Tyrone)*	26/10/2021
AQW 24868/17-22	AQW	Mr Paul Frew *(DUP - North Antrim)*	27/10/2021

To ask the Minister of Finance (i) how many people died with COVID-19 between 1 September 2021 and 13 October 2021; and (ii) how many of these were (a) vaccinated; and (b) unvaccinated.			
AQW 27439/17-22 To ask the Minister of Finance to detail the number of (i) d/Deaf; and (ii) disabled people who have died within 28 days of testing positive for COVID-19 since the start of the pandemic.	AQW	Mr Pádraig Delargy *(SF - Foyle)*	22/12/2021
AQW 27766/17-22 To ask the Minister of Finance, during the course of the pandemic, what action has been taken to (i) discern the distinction between; and (ii) accurately record, those who have died from COVID-19 and those who have died with COVID-19.	AQW	Ms Joanne Bunting *(DUP - East Belfast)*	25/01/2022
AQW 29210/17-22 To ask the Minister of Finance how many people in Northern Ireland to date have died solely of COVID-19.	AQW	Mr Paul Frew *(DUP - North Antrim)*	09/02/2022
AQW 3360/22-27 To ask the Minister of Finance to detail the total excess deaths in each of the last five years, compared to (i) the Republic of Ireland; (ii) England; (iii) Scotland; and (iv) Wales.	AQW	Mr Justin McNulty *(SDLP - Newry and Armagh)*	29/09/2022