

# **Mapping National Adult Social Care and Care Home Data Sources in Scotland**

**Baseline understanding & future potential**

**September 2022**

**November 2022**

## Context

This summary document has been prepared to provide a baseline summary of national adult social care and care home data sources in Scotland. It is intended to provide technical data users with high-level accessible information on key products, to enable and aid clarity on the availability of social care data. The document presents national social care data collections, the vast majority of which are published data sources. However, this note also provides summary information on management information sources, and identifies social care and care home flags held within other national datasets. It also identifies priority areas for development, and the potential benefits to be realised, as collated by a Scottish Government-led group which provided advice to clinicians on data, analysis and research on COVID-19 in social care settings. It is based on information from the data providers, controllers and processors involved in national data collections and the experiences of a range of academics and practitioners who have sought to use these data for public benefit.

This report was originally collated in 2021, however, with the commencement of a Scottish Government national review of care home data, the information has been updated in 2022 and is now published to provide a comprehensive background to the current evidence base. All data sources are correct as at September 2022, and may have undergone subsequent development.

## Contents

Context.....	2
Adult Social Care Data Sources .....	5
National Data Collections .....	5
SOURCE Social Care Data.....	5
Social Care Survey.....	6
Learning Disability Statistics Scotland (LDSS) .....	6
Free Personal & Nursing Care.....	6
Eligibility Criteria & Waiting times.....	6
Carers Census.....	7
Care Inspectorate Register .....	7
Care Inspectorate Datastore.....	7
Care Inspectorate Annual Returns.....	7
Scottish Social Services Council Data.....	8
Flags in National Data Sources .....	9
Priority Development Areas in Adult Social Care Data Capture .....	9
Adult Care Home Data Sources.....	10
National Data Collections .....	10
Care Inspectorate Register .....	10
Care Inspectorate Datastore.....	10
Care Inspectorate Annual Return Data.....	10
Complaints about care services.....	10
Care Inspectorate (other reporting) .....	10
SOURCE Social Care Data .....	10
Scottish Care Home Census (adults).....	11
TURAS Care Management Tool ‘Safety Huddle’ .....	11
Inpatient Census: includes Out of Scotland NHS Placements and Hospital Based Complex Clinical Care and Long Stay .....	12
Care Home Data Review 2022 .....	13
Selected Other Sources .....	13
Local Data Dashboards.....	13
Flags in National Data Sources .....	13
CHI Institution Flag .....	13

Other flags in national datasets.....	14
Hospital admission/discharge data .....	14
National Records of Scotland death registration data .....	15
Scottish Ambulance Service (SAS) & Patient Transport Service (PTS) Data .....	15
Delayed Discharge Data.....	15
Public Health Scotland .....	15
NHS24 .....	15
Alternative Methods .....	16
Address matching .....	16
Priority Development Areas in Adult Care Homes Data Capture .....	17
Useful Links & References.....	17
Reference documents.....	17
Web links .....	18
Publications contextualising national data sources and challenges .....	19
Publications showcasing applications of national data .....	19
Contributors .....	20
Other contributory organisations.....	20
Other academic authors .....	20

# Adult Social Care Data Sources

## National Data Collections

This section presents information on the range of national adult social care collections.

Collections included here are mainly based on *formal* social care services. That is, care that is provided by paid adult social care providers. Formal care can be provided by local authority funded providers, voluntary organisations or by private firms. Formal care services include care at home (i.e. personal care, help with tidying, shopping and laundry, and reablement services), self-directed-support (SDS) and housing support services.

It is important to note that informal or unpaid carers contribute significantly to the overall provision of adult social care. However, by its very nature, *unpaid care* is virtually absent from routine data sources. SOURCE (and the historic Social Care Survey (SCS)) does contain a question on whether or not the care recipient is receiving unpaid care, however it was an optional and poorly completed data item until April 2018 (when it became mandatory) and is currently 50% complete. Instead, the census, the Health and Care Experience Survey, [Scottish Health Survey \(SHeS\)](#) and other longitudinal surveys like the [Scottish Longitudinal Study \(SLS\)](#) are the primary sources for this type of information and are only briefly covered in this document (See a [2015 report on Scotland's carers](#) using Census and SHeS).

### SOURCE Social Care Data

- Public Health Scotland (PHS) data collection.
- Published on the [Insights in social care: statistics for Scotland](#) page on the PHS website. Most recent publication 26<sup>th</sup> April 2022 covering data for financial years 2017/18 up to 2020/21 (most up-to-date data at 31/03/2021).
- Based on data submitted by Health and Social Care Partnerships (HSCPs) on all individuals receiving services and support up to 2020/21. Summary statistics are detailed in the 'People Supported' section, while care services are split into the following four sections:
  - Self-Directed Support,
  - Home care (or its broadly equivalent term 'Care at Home'; Quarterly),
  - Technology enabled care (Annually; this includes community alarms/ telecare),
  - Care home residents (Quarterly) (see later for more information on this aspect).
- Misses those not known to HSCPs (likely to be small number due to Free Personal and Nursing Care and centralised telecare/alarm services).
- For backwards comparison with Social Care Survey (SCS; see below) reports home care figures for a "census week" at the end of March.
- Publications to date are incomplete with various HSCPs unable to complete part or all data fields affecting all reported figures. Glasgow City HSCP only returned aggregate (not individual level) data in 2017/18.
- SOURCE is an individual level dataset. An individual's demographic information can be linked to the CHI database to obtain a CHI number (a unique identifier in NHS data sources) to enable data linkage. The most recent return (for 2020/21 data) had an average 99.5% match rate to CHI for those receiving home care and those in care homes.
- Frequency is to be established, and varies on data items:
  - Demographics – can be quarterly or annually

- Clients – quarterly pre and post the COVID-19 pandemic, but was changed to annually during the pandemic
- SDS, IoRN, technology enabled care and LDSS – annually
- Care at home and care homes - quarterly
- Potential for linkage to other national data sources.

### Social Care Survey

- Precursor of SOURCE.
- The [Social Care Survey](#) was collected by Scottish Government (2010 to 2016) and includes individual-level data.
- Similar reporting to above.
- Data reported on variable time periods as collection matured. Main point is data initially collected for all individuals receiving care during a “census week” at the end of March. Over time, this developed to include people receiving telecare and alarms at any time in the financial year. Also includes Self-directed Support data for the full financial year.
- Linked to CHI for a PhD project<sup>1</sup> but variable match rates across LAs (76%-99%) meant meaningful cross-authority comparison problematic although national analysis was possible<sup>2</sup>.

### Learning Disability Statistics Scotland (LDSS)

- [Scottish Commission for People with Learning Disabilities](#) (SCLD) data collection (2008 to 2019).
- SCLD reports statistics about adults with learning disabilities and/ or autism who are known to local authorities (not just people who are using services) in Scotland.
- Published annually in multiple formats.
- SCLD have been working with Public Health Scotland since 2018, to merge LDSS into the Source Social Care data collection to recognise the changing policy context and meet the needs of data suppliers and data users. However, this process has been challenging and SCLD has made the decision, supported by the Office For Statistics Regulation, to temporarily suspend the National Statistics badging for the 2021 collection.

### Free Personal & Nursing Care

- Client and expenditure figures for Free Personal and Nursing Care.
- Aggregate data only. Some figures available at Local Authority level, some are reported annually and some quarterly.
- Published data from Financial Year 2010/11 to 2020/21 for clients aged 65 and over, and 2018/19 to 2020/21 for clients aged 18 to 64 after the extension of personal care to all adults in April 2019 (Available here: [Free Personal & Nursing Care](#)).

### Eligibility Criteria & Waiting times

- Aggregate statistics broken down at Local Authority level, with Quarter 4, representing the financial year.

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<sup>1</sup> Henderson, D (2019) [Multimorbidity and social care](#): exploiting emerging administrative data sources in Scotland. (<http://theses.gla.ac.uk/76786/>)

<sup>2</sup> Henderson D et al (2021) [Linkage of national health and social care data](#): a cross-sectional study of multimorbidity and social care use in people aged over 65 years in Scotland. *Age & Ageing* 50(1). (<https://doi.org/10.1093/ageing/afaa134>)

- Tables of: new clients receiving care assessment, new personal care clients, time between a) first contact and assessment and b) between assessment and service delivery.
- Substantial missing data.
- Most recent [eligibility criteria and waiting times report](#) to March 2021.

### **Carers Census**

- Aggregate statistics of carers who receive local authority support, broken down by age, gender, ability and willingness to care, impact of care, hours of care provided, support plans, support needs and support provided.
- Aggregate statistics of the Cared for People, broken down by age, gender and client type.
- Many data providers were in the midst of implementing new systems to collect and record the required data during the latest collection period. As a result, there are a number of data quality issues that have been identified, including substantial missing data.
- Most recent [Carers Census report](#) to March 2021.

### **Care Inspectorate Register**

- There is a legal requirement for all services providing care to be registered with the Care Inspectorate (CI), and for the CI to hold a public register of these.
- The CI register includes details of individual services which each have a unique ID – the Care Service (CS) number. The register also holds details of the people/organisations that provide these services – “the Provider” which also has a unique ID – the SP number. Each provider can provide multiple services.
- The register includes details of addresses, contact details, registered capacity, service managers, date registered, date cancelled (if cancelled).
- The register is dynamic, and is updated on an ongoing basis, and is available and searchable on the [CI website](#).

### **Care Inspectorate Datastore**

- Snapshot of ALL current registered care and support services in Scotland, updated monthly.
- Services are identified by CS number based on service registration.
- The [CI Datastore](#) is publicly available online, and includes address data, service information and quality ratings based on inspection outcomes, whether there have been any complaints or enforcements about the service, and details of any recent requirements or recommendations: [CI Datastore](#).

### **Care Inspectorate Annual Returns**

- Each registered care service must complete an annual return capturing data for the previous calendar year. This includes care home (see more below), housing support services and support services (including care at home and adult day care), nurse agencies, offender accommodation, adult placement.
- Some housing support and care at home services must have separate registrations but operate as a single service – these are referred to as combined services. There is a separate annual returns for combined services so that only one must be submitted, and these are usually submitted under the housing support registration.
- Annual returns vary by service type, but include some core elements such as staffing, service usage, and types of clients.

- The staffing section in each annual return includes details of each staff member as well as a range of summary data. Data includes all staff, covering those registered with Scottish Social Services Council (SSSC), Nursing and Midwifery Council (NMC) etc., and ancillary staff such as kitchen and cleaning staff. Data about individual staff members is structured around the SSSC's core minimum dataset (CMDS). This data is shared with SSSC and forms the basis of their workforce intelligence reports about registered services.
- More information is available on the [CI annual returns website](#).

### Scottish Social Services Council Data

- Two main sources of data: Workforce Data and SSSC Register
  - Workforce data via two sources
    - [Local Authority Social Work Services \(LASWS\) Census](#)
      - Snapshot taken in December. Covers all staff in Local Authority social work. Individual-level.
      - Collects information on social care service staff including demographic information, their role, area of service provision, type of contract, job dates, working hours etc.
    - CI annual returns (shared with SSSC via Data Sharing Agreement and Data Processing Agreement)
      - Includes all those working in a registered care service, including nurses. Individual-level data also available. Most recent report on [2021 Workforce Data](#) combines these two sources. The report includes information on the number of people working in the social service sector, broken down by sub sector (including housing support and care at home) and across employer types (private, public, voluntary).
    - The LASWS Census and the relevant workforce extract from the Care Inspectorate annual returns, combine to form the SSSC Scottish Social Service Workforce Core Minimum Dataset.
  - [SSSC Register](#)
    - Collected as part of SSSC regulatory role (mandatory registration).
    - A registry of most social service workers, social workers and social work students in Scotland. Individuals register according to the job they are doing e.g. working for a care at home service.
    - Now 160,000+ registrants.
    - Updated daily by registrants.
    - The SSSC register doesn't include ancillary/auxiliary staff or those registered with another body, for example nurses employed in social care services. The register doesn't include staff in some service or post types (e.g. non-managerial staff in adult day care, staff in adoption, fostering, offender accommodation services, childminders, social work assistants in local authority social work services etc.), and has other gaps including: a) personal assistants (PAs) employed directly by recipients of self-directed support as an alternative to receiving their care from an existing registered care service, b) staff employed by providers commissioned by a local authority to discharge parts of the authority's social work functions, and c) staff located



in "headquarters" of private and voluntary sector care providers (i.e. not those employed within a registered care service).

## Flags in National Data Sources

This section presents information on the flags in data of national adult social care collections.

There are no flags in national healthcare data sources (e.g. inpatient episodes (SMR01)) for identifying those in receipt of care at home or other domiciliary social care services. A flag for social care does exist in Primary Care systems, but is poorly completed.

## Priority Development Areas in Adult Social Care Data Capture

This section presents information on the priority development areas in national adult social care collections. As collated by members of the 2021 Scottish Government Data, Analysis and Research Steering Group for Care Homes and Social Care in 2021.

- **Reliable indicator of social care receipt.** Any development in the intelligence that can be garnered from social care data will be hindered until we are able to count accurately.
- **Good measures of social care client need** – current measures (such as hours of care at home received) reflect supply of, rather than need for, social care. The Indicator of Relative Need (IoRN) score is very poorly completed in SOURCE. An accurate electronic Frailty Index score could also fill this gap but would require linkage to Primary Care data and this is an evolving area in Scottish Primary Care systems.
- **Eligibility criteria and assessment.** Data pertaining to needs assessments carried out by local authorities when checking the eligibility of individuals and the outcomes of these assessments could be linked to outcomes to explore what does and doesn't work.
- **Linkage to disability benefits data.** Could also help to understand how needs are changing over time and to ensure needs are being met.
- **Unpaid care provision.** The [most recent report on unpaid care in Scotland](#) relies on information from the 2001 & 2011 census as well as [2019 SHeS](#). Apart from the few questions and the carers census (detailed below), other data collections either do not collect information on carers or contain data fields that are poorly completed. This is an important part of the social care sector of which very little is currently known. Other surveys and publications that include further information on unpaid care:
  - The [2020/21 Health and Care Experience survey \(HACE\)](#) includes a small number of questions relating to care received or caring responsibilities. In 2020/21, 46% of those that responded identified unpaid care as their main source of funding.
  - The [2020 Scottish Health Survey](#) also asks some questions about caring responsibilities. In 2020, 19% adults reported that they provided regular unpaid care.
  - The [2019/20 and 2020/21 Carers Census](#) is the second carers census published, covering unpaid carers being supported by local services across Scotland. Around 31,760 individual carers were supported by local services in 2020/21.

Additional development areas have been identified in the [2020 OSR report](#), and will also be identified through the 2022 care home data review, and subsequent wider social care data review.

These projects will focus on the development of data sources which will improve the evidence base, supporting the inception of the National Care Service and meeting the future needs of data users.

## Adult Care Home Data Sources

### National Data Collections

This section presents information on the range of national adult care home collections.

#### Care Inspectorate Register

- Detailed [above](#), there is a legal requirement for all care homes to be registered with the Care Inspectorate (CI).

#### Care Inspectorate Datastore

- Data file including a list of ALL currently registered care home services in Scotland, updated monthly.
- Each service receives a CS number upon registration. If a service changes ownership, it will be removed from the register and will need to be re-registered, whilst other service changes may be updated in the registration information.
- Publicly available online: [CI Datastore](#). Includes address data, service information and quality ratings based on inspection outcomes.
- No information on staffing models available within the public data.

#### Care Inspectorate Annual Return Data

- Includes ALL Care Home Services.
- Lengthy, detailed aggregate data by each care home service, unpublished but accessible by Care Inspectorate team to inform inspections and bespoke pieces of work.
- Includes data on staffing, shared with Scottish Social Services Council (SSSC) who publish the official statistics on the social service workforce.
- Includes data on staff vacancies published annually in a joint CI SSSC publication.

#### Complaints about care services

- CI receives over 4,000 [complaints about care services](#) per year, and publish this data annually.
- It holds detailed information about the nature of concerns and complaints received.

#### Care Inspectorate (other reporting)

- Mandatory reporting of outbreaks of infectious disease, mortality events – reported by service-level, unpublished (during pandemic, mortality, staff absence and outbreak data shared with Scottish Government and now [COVID-19 statistics are published by CI](#)).
- Additional enhanced surveillance during pandemic to inform organisational/regulatory response including RAG ratings about staffing (shared with Scottish Government).

#### SOURCE Social Care Data

- Public Health Scotland data collection.
- [Original consultation document](#) available.

- Based on data submitted by Health and Social Care Partnerships (HSCPs) on individuals receiving funding for care home places (including those claiming free personal care allowance/nursing care allowance).
- Misses those funding their own care/not known to HSCPs /those receiving continuing care in a hospital bed / placements funded by an NHS Board.
- Data are submitted with demographics, but require to be CHI seeded from the identifiers shared with SOURCE team. The most recent return (for 2020/21 data) had an average 99.5% match rate to CHI for those people in a Care Home (excluding Orkney who did not return any information).
- Initial data publication did not include individual level data from Glasgow City Health and Social Care Partnership.
- Previous publications in June 2019 on all social care data ([PHS Social Care Report](#)), including care homes, and data for 2019/20 and 2020/21 ([PHS Insights in Social Care Statistics](#)) published in April 2022.
- Potential for linkage to other national data sources where CHI numbers can be added.

### **Scottish Care Home Census (adults)**

- Annual data collection of care home numbers, registered places, residents and activity (admissions, discharges), submitted by care home staff.
- Registered places and number of residents are as at the census point. Whereas the survey also attempts to capture and summarise activity throughout the year (not on single 'census' point).
- Important source of trend data as collections date back to 2003, albeit format has changed over time. The census has been undertaken in eForms since 2010.
- Data submitted to CI, collected on behalf of Scottish Government, annual publication produced by Public Health Scotland Care Homes Team.
- Last [care home census](#) publication is for financial year to March 2022, published September 2022.
- Aggregate information on every care home service including total admissions, discharges, deaths, respite stays, weekly charges.
- Individual data requested on long-stay residents (defined as those anticipated to stay ≥6 weeks).
- Historic individual-resident data 2010-2016 has been linked to CHI<sup>3</sup>, however surname and forename have only been collected since 2013, impacting the linkage to CHI.
- Limited range of population/clinical variables collected.
- Data collection for April 2019-March 2020 suspended due to competing pressures of data collection in response to COVID-19 response and burden to the sector, data collection for April 2020-March 2021 resumed July 2021.

### **TURAS Care Management Tool 'Safety Huddle'**

- In response to the COVID-19 pandemic and with care homes reporting significant resource pressures from multiple data requests, the Scottish Government, in collaboration with care homes, the Care Inspectorate, Scottish Care and the Scottish Social Services Council,

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<sup>3</sup> Research project ongoing using linked dataset – PBPP-1516-0438 – it is hoped this will provide insights into data quality of SCHC data and quantify variation in recording across Scotland in SMR01, SMR04, PIS etc

developed the 'safety huddle tool' (SHT) as a management tool for care homes to monitor the pandemic, is hosted on the TURAS platform and launched in August 2020.

- The SHT was designed for use both during and post COVID-19 to provide collection of pertinent data (e.g. visiting, PPE, Infection Protection and Control (IPC) measures, occupancy, staffing and outbreak levels) and enables both situational awareness and risk assessment for care homes, to support timely escalation and early intervention where appropriate.
- Usage and information compliance input has been positive but varied over time, with electronic, daily data submission on key domains for pandemic response.
- Completion rates for the SHT were high during the pandemic (consistently above 90%).
- Data sharing restricted to care homes themselves (can see own data only), providers (can see data for the homes in their group), local oversight teams, health and social care partnerships, Public Health Scotland, Care Inspectorate and Scottish Government.
- Management information tool, including escalation and involvement of other agencies.
- Domains focused on safety and pandemic response including: occupancy, staffing, testing, outbreaks (confirmed and awaiting confirmation), adequacy of Personal Protective Equipment, Infection Prevention and Control measures, count of deaths (COVID and Non-COVID), transfers to hospital, 1:1 care, end of life care, cognitive impairment, dependency/complexity.
- Expanded to include vaccinations data (resident and staff, collated from data captured within the vaccination programme dataset) and data on visiting practices to support monitoring implementation of evolving guidance.
- The SHT was initially created for monitoring the impact of COVID-19, but as the pandemic response moves to a 'living with COVID' phase, the tool will likely be adapted, and this is subject to consideration via the Care Home Data Review.
- The SHT is under consistent evaluation and review (July 2022 – onwards) to ensure it meets the needs of users/providers and reflects present and future pandemic/endemic status. This aims to determine its future frequency and usage, alongside potential evolution 'post-pandemic' to serve as a supportive improvement tool with additional functions. The July 2022 plan for the SHT review is to look at the SHT in 2 phases:
  - a) The short term immediate future for the tool –COVID-19 focus and actionable information gathered, especially in relation to winter planning – looking to reduce and revise questions.
  - b) The long-term strategic view for the future of evolving the SHT (or an alternative tool) – for enhanced usage to support care homes with additional functionalities (determined through the 2022 care home data review).

### **Inpatient Census: includes Out of Scotland NHS Placements and Hospital Based Complex Clinical Care and Long Stay**

- The census' part 1 includes patients with a main diagnosis of a mental health condition, learning disability or addiction who are treated in an NHS Scotland bed. Some patients may be treated in NHS beds in care homes.
- Part 2 patients with a main diagnosis of a mental health condition, learning disability or addiction are NHS Scotland funded but treated either out of Scotland (e.g. by NHS England) or out of NHS (e.g. in a private/voluntary/local authority care home).

- The census also includes a section on hospital-based complex clinical care and long stay hospital patients, although in the 2019 census none of these patients were recorded to be in care homes.
- Annual census snapshot. However, the census was paused in 2020 and 2021 due to the pandemic.
- Although a declining model of care, this population and needs in terms of length of stay, funding and clinical model vary across different NHS Boards.
- Most recent [inpatient bed census report](#) to March 2019.

### Care Home Data Review 2022

Scottish Government, working with analysts in partner organisations, are conducting a review into the care home data landscape and are considering improvements around the content, quality and frequency of current data collections, and/or alternative methods of data collection. The aims of the review are to ensure a coherent suite of data collections, reduce the burden on data providers and meet the existing and emerging needs of data users. The review is being undertaken as it is recognised that the current evidence base relating to care homes is neither complete nor coherent and does not provide the level of insight required to meet the needs of the sector/policy makers.

### Selected Other Sources

These sources have been identified due to their use and relevance as a care home data source.

UK wide [Laing & Buisson Care Homes for Older People Market Report](#) – annual, costs £1,345-3,450 for access, print and digital formats (not inclusive of all care home services) [parallel reports for Homecare and Supported Living UK market report and Retirement Housing UK market report].

[Knight Frank Care Home Trading Performance Review](#) (not inclusive of all care home services).

### Local Data Dashboards

This section presents information on local dashboards of national adult care home collections.

Several NHS boards have developed and use ‘care home dashboards’. Both NHS Greater Glasgow and Clyde & NHS Lothian use these internally. They have underlying algorithms based on address matching to identify and include the care home population. Using these data it is possible to look at trends around admissions, attendances and identify which care homes use more unscheduled care than others.

There are data quality issues around over-inclusion of those in neighbouring postcodes and the timeliness of snapshots when looking for longitudinal data (e.g. residents are included based on current residency not historic/temporary care home placement - historic placements may be counted separately or also counted by another health board). Data not available real-time (in National Health Service Greater Glasgow and Clyde).

### Flags in National Data Sources

This section presents information on the flags relating to adult care home clients in other national data collections.

#### CHI Institution Flag

- Coded variable to identify institutional addresses including schools, universities, prisons and care homes.

- Applied based on discretion of those manually coding change of address forms at Practitioner Services Division received from Primary Care.
- Inconsistent definitions of care homes are being used and, in some cases, based on the judgement of coder whether address is an Institution and not based on Care Inspectorate list of registered services. Not all adult care home services are flagged as care homes.
- Two care home codes which are reported as 'residential' or 'nursing' flag (codes 93 and 98 respectively although do not accurately denote as these classifications not used in Scotland).
- Decision to label as care home based on whether care home services receives GP capitation.
- Accuracy varies between NHS Boards – sensitivity 55-89% between Fife and Tayside – incomplete for whole care home population.
- Positive predictive value is high – so likely address is a care home if flagged as a care home, but this classification does include some sheltered housing and residential addresses erroneously.
- Reliant on GP change of address notifications thus time-lag in an individual moving-in to a care home and this being reflected in nationally available data. The length of the time lag is unclear, likely to be 1-2 months on assumption of need for regular prescription, may be improved from January 2021 as weekly updates are being made to CHI.
- Caution when using in specialist care home populations (e.g. substance misuse) as manual review work suggests individuals may have changed their address subsequent to receiving care in these settings, but their GP record in CHI is not necessarily updated to reflect this, thus risk of over-inclusiveness of younger adults no longer resident in specialist care homes.

#### **Other flags in national datasets**

- Prescribing Information System Care Home flag – community prescribing dataset uses CHI Institution Flag. The CHI Institution Flag is applied to indicate care home residency if the 'paid date' of the prescription is within the period in which an individual is resident in a care home according to CHI. Paid date is the last day of the month in which dispensing of the prescription was completed, rather than dispensed date (when the prescription was dispensed). There may be a lag in data accuracy for those receiving weekly dispensing as the paid date will be when the prescription completes rather than starts.
- Scottish Patients at Risk of Admission and Readmission dataset – uses CHI Institution flag.
- Unscheduled Care Datamart – uses CHI Institution flag.

#### **Hospital admission/discharge data**

- SMR01/01E/04 and other national data do not contain address data fields beyond admission postcode.
- Coded fields of 'admitted/transferred from' and 'discharged/transferred to' available with meaning described in [SMR Data Manual](#) and [SMR Crib Sheets](#).
- Variable accuracy as wide range of options and often completed by administrative staff or clinicians without appreciation of role in data intelligence/national statistics.
- Multiple options available depending on clinical system being used, with 'private residence' frequently selected.

- Recent [Public Health Scotland Hospital Discharges](#) publication suggests 30% of discharges to care homes not identified using this approach and 3% of non-care home addresses incorrectly flagged using these codes.
- Admission from codes not formally evaluated for accuracy in identifying hospital admissions from care homes, but concerns around data quality have been expressed previously in [Assessments of SMR01 data](#).

#### **National Records of Scotland death registration data**

- Death certificate data includes address fields of location of death.
- Identifies those dying in a care home based on [Institution Location Codes](#).
- Multiple codes which can denote care home [J joint user hospitals, K contractual hospital, R homes for the elderly, S other homes, T miscellaneous premises, U care home and V private nursing home].
- Note PHS Institution locations do not align directly with CI list of registered services, particularly where a service name has changed over time. Not all adult care homes registered with the Care Inspectorate have an Institution code.
- Most standalone hospices in Scotland have a V location code, meaning that summaries of deaths occurring in care homes will include some hospice deaths.
- However, NRS use a consistent methodology in classifying locations across their published National Statistics on deaths.
- Additional effort used to identify deaths of care home residents in hospital during pandemic, based on internal use of additional data fields – data not routinely available/published due to issues identifying care homes accurately.

#### **Scottish Ambulance Service (SAS) & Patient Transport Service (PTS) Data**

- SAS for emergency transport, PTS for scheduled journeys.
- Both include fields about where individuals are collected from and taken to.
- These are based on address lookups to improve accuracy and quality.
- It is therefore possible to use these data to extract address information which is of high quality, but requires access to identifiable information.

#### **Delayed Discharge Data**

- Includes variable to indicate if individual's stay in hospital is delayed due to waiting for placement (note this category is broader than care homes and includes intermediate care which may be provided in other designated locations than care homes).
- Annual detailed publication with monthly updates published by Public Health Scotland.

#### **Public Health Scotland**

- Internal method available to identify care home residents within data and link records to CHI – via CHI Linkage (CHILI) team – methodology not in public domain.
- Additional methods developed using clinical details fields to identify care home COVID tests.

#### **NHS24**

- Record address of callers (based on address lookup for quality/consistency).
- Since end August 2020 – are asking if call is about a care home resident, so building a 'care home flag' which is being reported on daily basis to Public Health Scotland.

## Alternative Methods

This section presents information on other methods for identifying flags of national adult care home collections.

### Address matching

Address matching has been the traditional method used (for research and evaluation studies) to identify care home addresses and thus residents living in care homes. However, address matching for care homes is problematic as they do not have unique postcodes and care home names are not presented in standard formats – often containing room number, house within the home, care provider/company name, care home name and street name or a combination thereof. They often contain colloquialisms about how a home is referred-to locally, or may be recorded in clinical datasets based on what the home was previously called under earlier management. To explain, these are all address records for the same care home):

Abbotsford, Kinglassie, KY5 0XT
Abbotsford, Kinglassie, KY5 0XT
Abbotsford, Kinglassie
Abbotsford Care, Lochgelly KY5 0XT
Abbotsford, Mina Crescent, Kinglassie KY5 0XT
Abbots Ford, Meany Cres, Kinglassie, KY5 0XT
Care Home, Kinglassie, KY500RC
Nursing Home, Kinglassie KY5 0XT
Abbotsford Residential Home, KY5 0XT

Access to Master CHI has allowed detailed examination of care home addresses and development of techniques/algorithms to assist - within appropriate Safe Haven environments. However, while these have been able to improve identification of care home residency, they have not allowed allocation to a specific care home service, without manual allocation.

The newest and most promising development is the use of **Unique Property Reference Number (UPRN)**. This is an Ordnance Survey identifier for all properties across the UK. Public Health Scotland and the Scottish Centre for Administrative Data Research have undertaken [work to match UPRN to Master CHI to improve identification of care homes](#) and, most advantageously, identify which care home an individual resides in.

This work has been facilitated by the Improvement Service matching algorithm. It emphasises the need for dedicated work to improve care home addressing within national datasets (helped by more systematic use of address lookups) and the over-representation of care home addresses among those which cannot be matched by algorithmic/automated means.

The Improvement Service receive regular updates from the Care Inspectorate regarding their services through One Scotland Gazetteer. Discussions are underway around adoption of UPRN within the Care Inspectorate data, as this would be transformative for addressing changes of service and could sit alongside CSNumber (to preserve insights about specific services), to allow understanding of service changes moving forwards. Ideally, all services should use a looked-up address which can label records with UPRN, but this would require investment to facilitate. Need to undertake specific work to resolve/manage care home addresses with multiple UPRNs and ensure UPRNs for care home services are accurate and contemporaneous.



## Priority Development Areas in Adult Care Homes Data Capture

This section presents information on the development areas of national adult care home collections. As collated by members of the 2021 Scottish Government Data, Analysis and Research Steering Group for Care Homes and Social Care in 2021.

- **Reliable identification of who lives in a care home** – likely to require national dataset in which all admissions, discharges and deaths are recorded. Incorporating CHI as a linkable identifier which could be used to join to other national datasets.
- **Changing role of care homes** – there is no national data collection on the provision of intermediate care and step-up/step-down models of care to support individuals on a temporary basis. NHS England has an annual audit of Intermediate Care which helps provide useful evidence on role of services in wider care landscape.
- **Short stays:** it would be useful to collect individual-level data on respite, short stays and emergency care home stays. This would help in understanding the level of need, access, timeliness, funding and utility of such services and how these link to other models of care and support.
- **Links to primary care data** – to enable assessment of frailty (using electronic Frailty Index) within the population and record multimorbidity based on conditions not recorded in acute hospital datasets, but which are important markers of chronic disease, disability and functional impairment (e.g. arthritis, visual and hearing loss etc.).
- **Outcomes and experiences for those living in care homes** – moving towards a much more nuanced and detailed form of data capture but one which could tell us some of the most valuable data about our care home services. Will require bespoke measures and appropriate methods of data collection and synthesis, sensitive and appropriate to the environment. Adult Social Care Outcomes Tool (ASCOT) as one existing approach and exemplar of what can be possible.

## Useful Links & References

This section presents information and links to documents detailing progression, development and decision making for national adult care home and all adult social care collections.

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<https://www.gov.scot/collections/national-care-service/>

### **Web links**

Early Career Researchers Using Scottish Administrative Data. eCRUSADers. <https://ecrusad.co.uk/>

CENTRIC Administrative Data Training. <https://centrictraining.org/>

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<https://www.isdscotland.org/Health-Topics/Health-and-Social-Community-Care/Publications/2017-02-28/2017-02-28-The-changing-functional-needs-and-dependency-of-people-living-in-care-homes-Report.pdf>

Public Health Scotland. Care Homes. Care Home Census. <https://www.isdscotland.org/Health-Topics/Health-and-Social-Community-Care/Care-Homes/Census/>

Public Health Scotland. Data and Intelligence. eDRIS (electronic Data Research and Innovation Service). <https://www.isdscotland.org/Products-and-Services/EDRIS/>

Public Health Scotland. Measuring Function/Dependency. Older People in the Community. Indicator of Relative Need (ioRN). <https://www.isdscotland.org/Health-Topics/Health-and-Social-Community-Care/Dependency-Relative-Needs/In-the-Community/>

Public Health Scotland. Social and community care. <https://beta.isdscotland.org/find-publications-and-data/health-and-social-care/social-and-community-care/>

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<https://publichealthscotland.scot/publications/?q=&fq=topics%3ASocial+and+community+care%2>

[3](https://publichealthscotland.scot/publications/?q=&fq=topics%3ASocial+and+community+care%2)

Research Data Scotland. <https://www.researchdata.scot/>

Scottish Centre for Administrative Data Research. <https://www.scadr.ac.uk/>

Scottish Informatics and Linkage Collaboration. <http://www.datalinkagescotland.co.uk/>

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### **Publications showcasing applications of national data**

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