**Supplementary material: Contents**

**Appendix A: Care Home Data Sets**

**Appendix B: Topic Guide for Interviews with Care Home Managers on collection and use of data**

**Appendix C: Examples of the components for care planning on a resident’s admission in two care homes**

**Appendix D: Proposed constituents of a Care Home Data Platform, with individual resident level data as key foundation**

**Appendix A: Care Home Data Sets**

Below we provide details of five sources of care home data or data sets of relevance to the development of a national care home data platform in Scotland.

***The Social Care Survey (SCS) and Scottish Care Home Census (SCHC)***

Historically, there were two national data sources relevant to care home residents – The Social Care Survey (SCS) and Scottish Care Home Census (SCHC). The exact content of these sources and their potential strengths and limitations are detailed elsewhere (Henderson, DAG, et al., 2019). These have now been superseded by the SOURCE data collection curated by Public Health Scotland.

Neither source collects any clinical measures or key diagnoses but recorded only broad clinical variables (SCHC) and client group category (SCS), and the data collected is not standardised SOURCE addresses some of the limitations, but contains less information about care homes.

**Table S1: Data variables in Social Care Survey and Scottish Care Home Census**

|  |  |  |
| --- | --- | --- |
| **Data Variable** | **Social Care Survey** | **Scottish Care Home Census** |
| **Date of Birth** | Date of Birth | Date of Birth |
| **Age** | Age | Age |
| **Gender/Sex** | Male or Female | Male, Female, or other |
| **Ethnicity** | White | White |
|  | Mixed of multiple ethnic groups | Mixed of multiple ethnic groups |
|  | Asian, Asian Scottish, or Asian British | Asian, Asian Scottish, or Asian British |
|  | African, Caribbean, or Black | African, Caribbean, or Black |
|  | Other | Other |
|  | Ethnic Background not disclosed | Ethnic Background not disclosed |
| **Client Characteristics** | Dementia | Requires Nursing care |
|  | Mental Health Problems | Dementia - medically diagnosed |
|  | Learning Disability | Dementia - not medically diagnosed |
|  | Physical Disability | Visual Impairment |
|  | Addiction | Hearing Impairment |
|  | Palliative Care | Acquired brain injury |
|  | Carers | Learning Disability |
|  | Problems arising due to infirmity of age | Other physical or chronic illness |
|  | Other | Mental Health Problems |
|  |  | Alcohol Dependency |
|  |  | Drug Dependency |
|  |  | None of these |
| Colours denote agreement across sources: Green - exact match, Amber = Similar match, Red = No match | | |

***Safety Huddle Template***

The Safety Huddle Template [18] b) aims to provide COVID-19 specific and related workforce information to the Scottish Government.

Information to aid staffing decision-making was specified as:

* Number requiring 1:1 care
* Number receiving End of Life Care
* Number of residents with significant cognitive impairment
* Number of residents transferred to hospital (non-COVID related)

A digital version of the Template was made available in August 2020 (Scottish Government 2020b) to assist care homes complete the template, however it is not mandatory to do so. Under consideration for future versions of the Safety Huddle Template is the inclusion of data for indicators based largely on Care Inspectorate returns/e-form).

***Data specified by RAI-MDS 2.0 Quality Indicators and LPZ Care Indicators***

The InterRAI LTCF developed a Minimum Date Set (MDS) and uses a standardised assessment tool to “collect the minimum amount of data to guide care planning and monitoring for residents” [8] It includes a core set of data on specified prevalence and incidence across a number of domains for each assessed individual. Its use and development is guided by an international consortium of researchers and clinicians from over 30 countries, known as the interRAI network ([www.interrai.org](http://www.interrai.org)). This data set is generated mostly by care homes in mainly northern Europe and America, Asia and the Pacific Rim.

LPZ is operated as an annual measurement of the quality of care provided by subscribing institutions. Six Care Indicators are included in the measurement, with institutions providing data on one or any number of the indicators, depending on the local focus of quality improvement. Five of the LPZ Care Indicators overlap to a large degree with those specified byRAI-MDS. In 2016 LPZ added the Care Indicator of ‘pain’ to its suite of measurements. In the UK only around 65 care homes currently use LPZ, mainly in the East Midlands [9].

**Table S2: Care indicators in interRAI and LPZ**

|  |  |  |
| --- | --- | --- |
| **Domain** | **RAI-MDS Indicator** | **LPZ Care Indicator** |
| **Accidents** | 1. Incidence of new fractures 2. Prevalence of falls | Falls |
| **Behavioural and emotional patterns** | 1. Prevalence of behavioural symptoms affecting others  2. Prevalence of symptoms of depression  3. Prevalence of symptoms of depression without ant-depressant therapy |  |
| **Clinical Management** | Use of nine or more medications |  |
| **Cognitive Patterns** | Incidence of cognitive impairment |  |
| **Elimination and continence** | 1. Prevalence of bladder/bowel incontinence  2. Prevalence of indwelling catheters  3. Prevalence of faecal impaction | Incontinence (urine, faecal, double) |
| **Infection Control** | Prevalence of urinary tract infections |  |
| **Nutrition and eating** | 1. Prevalence of weight loss  2. Prevalence of tube feeding  3. Prevalence of dehydration | Malnutrition |
| **Physical functioning** | 1. Prevalence of bedfast residents  2. Incidence of decline in late-loss ADLs  3. Incidence of declined in range-of-motion |  |
| **Psychotropic drug use** | 1. Prevalence of antipsychotic use in the absence of psychotic and related conditions  2. Prevalence of anxiety/hypnotic use  3. Prevalence of hypnotic use more than two times in the last week |  |
| **Quality of life** | 1. Prevalence of daily physical restraints  2. Prevalence of little or no activity | Physical restraints |
| **Skin care** | Prevalence of stage 1-4 pressure ulcers | Pressure ulcers |
| **Pain** |  | Pain |

**Appendix B: Topic Guide for Interviews with Care Home Managers on collection and use of data**

**Introductions**

1. Introductions/best contact details
   1. Permission to record/consent if appropriate etc.
2. Care Home - Overall familiarisation / introduction
   1. Profile of services/residents, description, features, characteristics, current issues

**Data**

1. Main data sources (key software package used/others ie for medication, data submissions to (i) census; (ii) inspectorate if different
2. Inventory of Data available - ie ‘fields’/ domains (quantitative and text)
   1. Consider Routine (daily?) data and exception/non-routine data
   2. Discuss how to ‘list’ and pass to lucy (in what format?)
3. Data collection (again routine/non-routine - during care, end of shift/handover, manager input?)
4. Data sharing - what is shared, how, governance issues etc?
5. Using data within the care home
   1. Reporting
   2. Quality monitoring (formal submissions to census etc, inspectorate)
   3. Evaluation/monitoring - internal
   4. Daily record of care
   5. Recording/alerting changes in residents condition/care
   6. Informing care decisions - (prompt for specifics)
   7. Training Needs
   8. Outcome monitoring…..key outcomes for care home
   9. Others (prompt for specifics)
6. Data ‘issues’
   1. Completion/accuracy
   2. Gaps in data - i.e. does the available data answer the questions manager/staff have/provide the information they need about services, residents, other things to help them in their work? (consider by data areas/domains)
   3. What additional information would they like to collect?
7. Minimum Data Sets
   1. Initial discussion only on key content, feasibility and utility

Note: The researcher asked the care home manager to describe in detail how data were collected. This included meta data fields from the electronic care management software used. No residents’ notes were viewed, however blank assessment and care plan templates were*.*

**Appendix C: Examples of the components for care planning on a resident’s admission in two care homes**

As an illustration of the variability between care homes, Table S2 lists the separate assessments used by two care homes on a resident’s admission to construct an individual resident’s care plan.

**Table S2: Examples of the components for care planning on a resident’s admission in two care homes** (alphabetical order)

|  |  |
| --- | --- |
| **Example A** | **Example B** |
| Acute Infection Care Plan | Behaviour |
| Anticipatory Care Planning/End of Life Care | Bladder & Bowel |
| Breathing and Smoking | Choking |
| Bowel & Bladder | Communication |
| Communication | Dependency Rating Scale |
| Eating & Drinking | DNACPR/End of life decisions |
| Falls | Eating & Drinking |
| Hearing/Vision | Falls Risk |
| Life History/This is me | Mood |
| Medication and Treatment | Oral Health |
| Mental Health, Cognition, (Memory/Understanding), and Personal Safety | Personal Care  Waterlow Risk |
| Mobility |  |
| Oral & Dental |  |
| Personal Hygiene |  |
| Restraint Risk |  |
| Sleep & Resting |  |
| Waterlow/Pressure Ulcer Assessment |  |

**Appendix D: Proposed constituents of a Care Home Data Platform, with individual resident level data as key foundation**

