NHS SCOTLAND

The changing functional needs and dependency of people living in care homes

Evidence from use of the Indicator of Relative Need in Scotland

ISD SCOTLAND

The Scottish Government

COSLA

ScottishCare
The voice of the Independent Care Sector in Scotland

care inspectorate

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Mrs Jessie Truscott, 1920-2015

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Preface: Categorisation of functional needs/dependency levels

The description of functional needs/dependency levels used in this report are based on the categorisation used in the Augmented ioRN (Indicator of Relative Need) approach. Augmented ioRN 'Groups' are usually referred to by a letter code (A to H) and throughout this report the different levels of function represented by these Groups will be referred to using these letter codes. The table below describes the Groups according to how they are determined by the scored answers to the Augmented ioRN questions. The diagram in Annex 3 shows the same information pictorially.

Summary description of Augmented ioRN Groups		
Activities of Daily Living (ADL)	**Risk and behavioural support needs/ Continence scores**	**Augmented ioRN Group**
Low score ADL	Low score on Risk & Behavioural support needs	**A**
	High score on Risk & Behavioural support needs	**B**
Medium score ADL	Lower score on Risk & Behavioural support needs	**C**
	Medium score on Risk & Behavioural support needs	**D**
	Higher score on Risk & Behavioural support needs	**E**
High score ADL	Low incontinence/Low score on Risk & Behavioural support needs	**F**
	Low incontinence/High score on Risk & Behavioural support needs	**G**
	High incontinence	**H**

Increasing support needs

Note The Activities of Daily Living 'score' is obtained by combining the answers to six separate questions on the Augmented ioRN questionnaire. The risk and behavioural support needs scores are derived from 4 questions. The continence score is based on answers to two questions.

Acknowledgements

The preparation of this report has only been possible as a direct result of the collaboration of a wide range of people who are involved in the care and support of older people. First and foremost the project itself would not have happened without the explicit permissions given by each of the participating care homes to use their data. Unreservedly I want to thank all the managers who have been involved at company, local authority and care home level.

I am also indebted to my long-standing colleague Adam Redpath for his management of the data and his expert interpretation of my requests and carrying out of multiple data analyses.

The arrangements for safe and secure transfer and anonymisation of the data were skilfully coordinated by Euan Patterson and colleagues at Information Services Division (ISD) - these were critical parts of the project and I am extremely grateful for their contribution. Some analyses of earlier data are also used in this report for comparison purposes – these analyses are possible because of the earlier endeavours of many of my other colleagues at ISD and their indirect contribution is acknowledged with thanks.

I want to offer special thanks to Kirsty Dace of BUPA, to Jo Donnelly of Glasgow Council and to Laura Buchan and Shona Hutchinson at Aberdeenshire Council for their strong commitment to the project.

I am also grateful to the staff at the Care Inspectorate and to Rene Rigby at Scottish Care who together helped identify which homes to approach. Thanks are also due to each of the members of the original Oversight Group who offered advice and encouragement to undertake the project in the first place. As stakeholders for the results I hope they feel this report justifies their initial confidence in the project.

I am very grateful to Rami Okasha of the Care Inspectorate and Becca Gatherum at Scottish Care who read an earlier draft of this report and offered many helpful suggestions for its improvement.

Thanks go to the Web and Graphics Team and to Alison White in ISD who assisted in the final stages of the report's production.

Last but not least I want to note here that whilst this report largely presents information about people in statistical terms the subject matter is about aspects of the actual lives of individual people living in Scotland's care homes. I hope the report proves to be indirectly beneficial to all of them and to residents and their families in the future.

Peter Knight
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Information Services Division

Summary

About the survey

Meeting the individual and combined care needs of residents in care homes are paramount considerations for everyone involved in delivering, commissioning and regulating care for older people. This is particularly important to those who directly provide care and support - for care home staff an up-to-date appreciation of the needs of residents is essential. There are many benefits however in taking a wider perspective on the needs of residents overall such as to inform the development of the care home sector in the longer term, to evidence policy formulation or for cross-sector management of the delivery of care and support to the public. Reliable insights on the characteristics and needs of residents are much less straightforward to obtain for these broader purposes than for direct care.

The proposal to carry out a survey of residents in care homes was intended as a contribution towards remedying the gaps in our wider knowledge about the changing needs of residents. The approach used has utilised data on residents' functional needs that are routinely and systematically recorded by staff in most homes. Specifically one standard method for doing this uses a tool known as the Augmented Indicator of Relative Need (Augmented ioRN), which is a feature of the care home staffing model supported by the Information Services Division. These Augmented ioRN data are the bases of much of the analysis presented in this report [ref 1].

What the report tells us

The specific intention of the project is to obtain reliable evidence on the functional or dependency levels of residents at a point in time and to compare the findings with similar data collected in the past.

This report describes how the project was carried out and presents the main findings. The analyses are based on a sample of 65 care homes and five very sheltered housing facilities. The 65 care homes contributed 97% of the total resident data and because of this predominance the description care home residents is used throughout this report.

The availability of similar information from past surveys allows a comparison to be made between the dependency profile of current residents against past profiles.

In more detail, the analyses in the report:

- Show the range of levels of function (ioRN Groups) of residents in 2014/15.
- Compare the latest (2014/15) findings against equivalent results from a 2006 sample of homes. This shows how the profile of functional needs of care home residents has changed over an 8 year period.
- Offer a comparison over a longer time period by using elements of data from surveys of care homes residents in the past (using the Scottish Care Resource Utilisation Groups or SCRUGs method [ref 2]) alongside use of the ioRN surveys to illustrate how certain characteristics of residents have changed during the past decade and a half.

All the results are based on sample data and for this reason should be seen as indicative rather than exact measures. A legitimate question is how representative the samples used in this report are of the care home population as a whole. We have considered the selection process for possible bias, taken account of the geographical distribution of homes and, in the case of the 2014 data, compared the age characteristics of residents in the sample against residents overall (see Annex 1). On the basis of this assessment we consider that the findings are likely to be sufficiently representative of the wider care home resident population in Scotland to justify the conclusions reached in this report.

The ioRN data were collected by homes for their own local purposes, not exclusively for the purposes of this project. The illustration of how these data might be viewed within an individual care home (see Annex 2) suggests the potential value to care homes of regular collection of these kind of data.

Main findings

The main findings are:

1. 45 per cent of residents in the 2014 sample have a high level of support need in regard to their Activities of Daily Living - that is in ioRN Groups F, G and H.
2. For the further 12 per cent in Group E, who have a medium level score on Activities of Daily Living, their support needs are higher due to a concomitant risk of harm or behavioural issues. Such issues may arise for example in response to the onset of confusion or anxiety associated with advanced stages of dementia.
3. There is considerable variation between homes in a calculated average measure of dependency (expressed as a 'complexity factor').
4. As noted earlier, the ioRN questionnaire seeks information about identified risks and relevant recent behavioural issues of residents. Whilst these are elements in the determination of the ioRN Group the information is also useful in its own right for understanding the range of needs of residents. The survey finds that nearly half of the residents (47%) had had two or more separate risk and behavioural issues recorded, compared with a smaller proportion of residents (39%) who had no issues recorded – an indication of the diverse care and support needs of many residents.
5. A comparison of these findings against the results found in earlier surveys carried out by ISD provides evidence of a rise in the complexity of needs of residents.
6. Specifically there has been a marked reduction since 2006 in the proportion of residents who have few needs with Activities of Daily Living. There has also been a reduction in the proportion of residents who have small or no identified risks or behaviour needs. Conversely there has been a proportionate increase in ioRN Groups (B, E and G) where the risk or behavioural needs characteristics are scored higher.
7. Using data from SCRUGS surveys conducted since 1999 it is possible to gain a longer term perspective on changing needs of residents in care homes. A comparison using the Activities of Daily Living part of the ioRN and the SCRUGS surveys shows increasing proportions over time of people within the higher needs Groups.

8. Based on our assumption that the latest sample profile is broadly representative of all residents in homes in Scotland, we estimate that approximately:
   a) 13,500 care home residents in Scotland have high support needs in regard to Activities of Daily Living.
   b) 3,000 residents have concomitant continence issues in addition to high Activities of Daily Living support needs.
   c) Some 10,000 residents have issues on three or all four of the risk and behavioural issues recorded on the ioRN.
   d) 5,000 residents in Scotland have no or very low Activities of Daily Living scores **and** no identified risk or behavioural support needs reported. This could suggest low support needs but it may also highlight other factors that may lead to admission to a care home - including personal choice, social and emotional needs – that are beyond the scope of the ioRN.

Introduction

About the report

The findings presented in this report offer a perspective on people living in care homes that is both person-centred and objective. Data collected by a sample of homes using the Augmented ioRN form the basis of much of the information shown. That this information is derived entirely from details gathered systematically by care home staff to support the on-going care gives it greater veracity than anecdotal reports alone can provide. The findings should be of interest to all who have the privilege of shaping the future care landscape as part of a wider integrated approach and anyone who has a part to play in providing day to day care and support to many of our frailer citizens.

Background to the project

Most people (but not all) are admitted to care homes because they are unable to continue living in their own home as a result of increasing care needs. The point at which someone's needs have changed such that they would benefit more from moving to a care home rather than living with support in the familiar environment of their own home varies from person to person. In practice this decision is not usually taken until absolutely necessary. Views of the public and of local authorities on exactly when this point has been reached have undoubtedly evolved over the past few decades. One consequence of this is that the overall level of care needs of care home residents has been growing in complexity, though until now evidence of this has been largely anecdotal.

The main aim of the project is to obtain objective information on the functional or dependency levels of residents now. In addition however a project aim is to answer the question of how residents' care needs have been changing in recent years.

An understanding of the characteristics and needs of people who live in care homes is important to achieve consistent high quality care and to inform commissioning of future care delivery. The characteristics of residents addressed here relate in particular to their functional needs or dependency. People's needs in this regard are not static and awareness of how they change can help care home staff to provide the best support at all times – whether for an individual resident or for all the residents in a home. The charts in Annex 2 show the changing characteristics of people living in care homes as described by the ioRN Group.

Care homes are required by regulation to prepare a personal plan for all residents and review this at six month intervals. The Care Inspectorate expects care homes to assess and review the dependency needs of their residents in order to ensure sufficient staff are employed and on shift to meet the needs of residents. In this regard, whilst a number of assessment tools are used for this purpose, a model that uses the ioRN is preferred by many care homes in Scotland.

The ioRN for care homes

The kernel of this report is an analysis of Augmented ioRN (the version of the ioRN designed for care home use) data that has been systematically collected by a sample of homes in Scotland. The ioRN provides a composite rank that indicates how independently an individual resident functions on a defined set of important themes (see below).

Indicators of Relative Need are a **family** of tools of which the Augmented ioRN is one of the widest used. These tools have a common format that comprises answers to a specific range of questions and a summary ioRN Group that is determined by an algorithm. The format of the ioRN tools means that the responses at an individual level can be readily aggregated across many residents to provide a summary profile for a home.

Note that the content and design of the Augmented ioRN is similar to but distinctive from the other ioRN tool - the 'Community ioRN'. The latter has been subject to a programme of redesign recently and the revised version is usually termed the 'ioRN2'.

The themes within the Augmented ioRN questionnaire are:

Activities of Daily Living (ADL): comprising eating, transferring and mobility, toileting and dressing;

Relevant risk and behaviour issues: comprising risk of harm, cooperation with care, the need for immediate intervention and verbal aggression;

Where the person's ADL score is high, account is taken of continence.

The ioRN algorithm allocates the person to an individual ioRN Group, based on the pattern of the answers recorded (see table in the Preface or the diagram in Annex 3).

The design of the Augmented ioRN was completed in 2008 following a period of research and development involving over a hundred care homes. The development was undertaken by ISD with and on behalf of the Scottish Government and supported by a range of stakeholders, including the Care Inspectorate (then Care Commission), Scottish Care and COSLA. The primary aim was to develop a Care Home Staffing Model that individual homes could use to inform decisions about their care staff hours (additional detail is given in Annex 3).

The source of the ioRN data used here is an EXCEL package (the Care Home Staffing Model [ref 1]) that is made available from ISD to homes in Scotland and elsewhere. The EXCEL package allows care homes to record ioRN details about their residents and to use this to benchmark the care hours delivered in the home against a selection of peer homes. The EXCEL package also offers a selection of other reports.

Background and policy context

Care homes provide an important form of residential-based support to people with care needs. This support is delivered continuously to meet the essential needs of individual people and to allow for the best quality of life possible given the person's health and social circumstances.

The purpose and use of residential forms of care has been subject to discussion and review over several decades. Much of this has focussed on the desirability of supporting people at home, with indirect consequences for the use of care homes. For example a documented review on home care by Godfrey et al (2000) [ref 3] examined in depth the long-standing policy to reduce reliance on residential and institutional care by 2000. The authors observed that from the middle of the 1980s there was a growing perspective that '... the policy objective of the [home care] service should be more explicitly defined to prevent or delay institutional admission for those vulnerable people at its boundary.'

This shift in emphasis towards provision of care at home was also noted by Coyte et al (2008) [ref 4]: '[there is] an emerging European trend … to reduce the increase of institutionally based care (residential and nursing home care) while promoting care provided in the home or home environment.'

More recently in Scotland the same intention was underscored in the Reshaping Care For Older People strategy document 'A Programme For Change 2011 – 2021' (Para 3.6) [ref 5] 'Our policy goal is to optimise the independence and wellbeing of older people at home or in a homely setting. This will involve a substantial shift in focus of care from institutional settings to care at home – because it is what people want and provides better value for money.'

In 2014 the 'Review of Residential Care' [ref 6] published by the Scottish Government and COSLA included among its recommendations that 'Strategic commissioning plans should be based on a joint strategic needs assessment in order to plan future capacity [of care homes]. Better understanding of the characteristics of residents would seem to be a matter that would assist future planning of care provision...'

On the question of measurement of function or dependency the latter report noted 'Commissioners will also need to develop clear information on the dependency levels of the current care home population' and explicitly recommended 'Dependency tools, such as the Indicator of Relative Need (IoRN), should be promoted by the Scottish Government, Scottish Care, CCPS and Association of Directors of Social Work in order to obtain a better understanding of the needs of current care home residents to inform the alternative uses described above.'

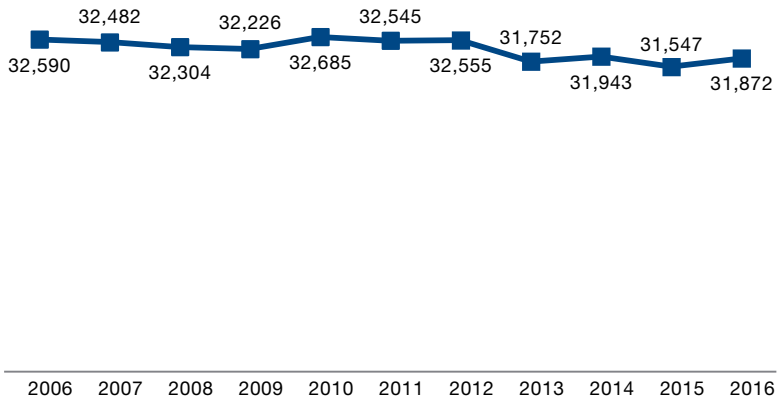
The members of the Review would have been aware of anecdotal reporting that residents living in care homes now are more dependent overall than in the past. Whilst objective evidence to support this is missing it is nevertheless consistent with the policies and practices noted above that are intended to enable people to live at home as long as they can.

The scale of more intensive care delivered in the person's own home is evidenced by a 23% rise in the number of people aged 65+ receiving at least 10 hours of home care per week since 2006 (source: Scottish Government Social Care Statistics [ref 7] (see Annex 4)). This

source also offers other statistics reflecting changing practice such as the rising number of people aged 85 and over who live at home and are provided with a community alarm and/or other form of telecare.

Some limited information on the characteristics of care home residents is available at national and local authority level from the annual statistical survey. This source involves the gathering of data from individual homes by the Care Inspectorate and analysis and publication of output tables by ISD [ref 8]. The annual surveys show inter alia that the number of long stay care home residents in Scotland at the census points has been fairly consistently just above 30,000 people during most of the past decade (Chart 1).

Chart 1 Trend in number of older people resident long stay in care homes, Scotland



Source: ISDScotland Care Home Census Report 2016

This plateau in numbers has occurred during a decade when the population aged 80 and over, the age band that comprises nearly three quarters of residents, has increased in Scotland by around 20%.

Objectives and method

Planning for the survey

The idea of conducting a one-off survey of care homes was initially proposed by Peter Knight, principal researcher ISD in the early part of 2014. Initial soundings on the desirability of the proposal met with a positive response from the Scottish Government, Scottish Care, and the Care Inspectorate. The Scottish Government expressed initial reservations regarding the limited scale of the exercise but were supportive. To develop the project design a group was formed comprising representatives of the main stakeholders above, COSLA and Social Work Scotland (previously known as the Association of Directors of Social Work). The design group met on two occasions and endorsed a final proposal for the project in June 2014. The group members (see Annex 5) also individually gave practical support, especially regarding the identification of care homes and organisations that should be approached to take part.

Discussions were separately held with information specialists at ISD on practical and secure ways of processing the ioRN data that were held by individual care homes across Scotland.

Objectives

The project had two main objectives:

- To describe current functional/dependency levels in Scotland's care homes based on a sample of care homes that use the ioRN, and
- To compare the functional/dependency profile obtained from this sample against the findings of relevant surveys from earlier time periods to show how the profile has changed over time.

Method

The initial step was to identify which homes were using the ioRN. For larger companies Peter Knight made contact with the Scotland Director (or equivalent). Subsequent conversations provided an opportunity to find out whether the homes run by the company were actively using the ioRN and, for those that were, to request general support for the project. Identification of other candidate homes was achieved through the assistance of some Care Inspectorate inspection staff who had knowledge of the recording methods used in homes with whom they had contact. The sample was further augmented by information available to Scottish Care and ISD.

In every case where the initial approach confirmed that the care home/company was actively using the ioRN this was followed up by e-mail and letter that formally explained the purpose of the survey, how it would be carried out in practice, and requested agreement to participate.

Safe handling of data

In support of the survey ISD, an organisation with a world class reputation in the safe handling of confidential patient data, designed a set of procedures that would allow for the safe and secure transfer of the care home data (more detail is given in Annex 6).

Results

The survey sample

Seventy homes participated in the project (Annex 1). Of these, 65 were care homes and five were very sheltered housing. This is a completion rate of nearly 80% of the homes that were originally contacted and identified as users of the ioRN. Reasons for non-participation were not explicitly identified in every case. In some cases during the critical data collection period there had been a change in manager and/or additional workload pressures within the home.

Due to the importance of achieving as large and representative a sample as possible, willing homes that were unable to contribute data during the target month (September 2014) were invited to submit their data as soon as practicable thereafter. The latest data received from a small number of homes were from early 2015. In total the participating homes provided up-to-date ioRN data on 4,462 residents. This sample of residents is included in the analyses presented in all the charts that follow. For brevity we have referred to this cohort of residents as the '2014 survey'.

Note that because many homes routinely update their ioRN records (usually monthly) some also contributed additional data from earlier resident censuses.

The very sheltered housing component of this survey sample is relatively small, accounting for 3% of the residents.

The 2014 survey of residents by ioRN Group

The distribution of percentages falling into each ioRN Group for residents in the latest census is shown below (Charts 2a and 2b).

Chart 2a Summary of dependency levels, Scotland 2014 (Aug_ioRN Groups)

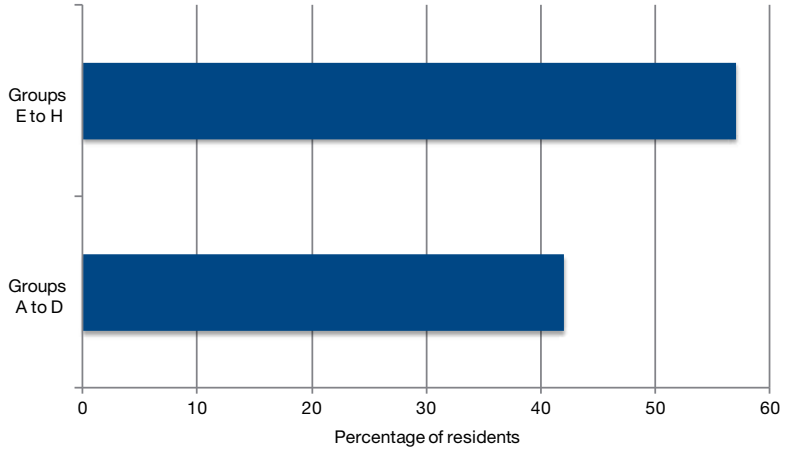
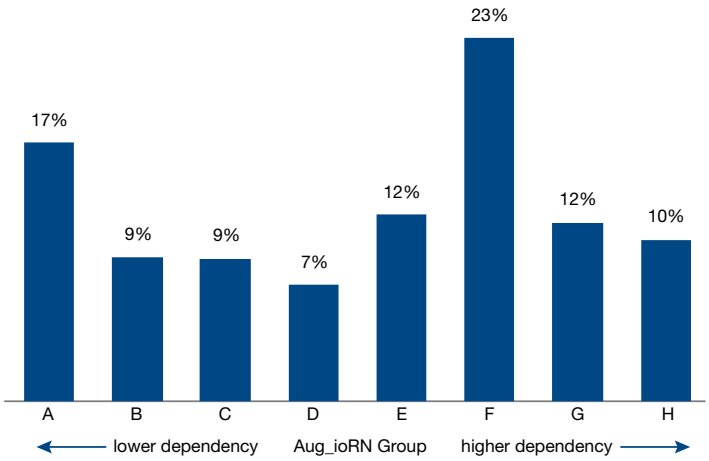


Chart 2b Dependency levels of care home residents, Scotland 2014 survey; by Aug_ioRN Group



These charts show:

Well over half (57%) of residents are in the upper (more functionally dependent) part of the range of ioRN Groups (Groups E to H). Residents within these Groups **either** have some medium support needs with Activities of Daily Living combined with high issues on risk and behaviour (12%), **or** they have high support needs with Activities of Daily Living (45%).

The most populated ioRN Group, accounting for nearly one quarter of residents (23%), are residents in Group F with characteristics that comprise high Activities of Daily Living scores, no special risk or behaviour issues and no issues on continence.

Excepting the two more common Groups (F and A) residents are fairly evenly distributed across the ioRN Groups. This underlines that there is no 'typical' resident per se.

One resident in ten is in Group H, at the highest end of the range of functional needs indentified by the ioRN. Residents in Group H have high Activities of Daily Living scores **and** continence issues.

Around one in six residents were in the most functionally independent Group (Group A). The ioRN information does not say why these individuals are resident in care homes and possible reasons will include personal choices made by people who are funding their own care (self-funders), social and emotional needs or examples where function has improved whilst the person is living in the care home.

Residents in Group B account for nine percent of the sample. Group B is similar to Group A with regard to Activities of Daily Living but differs in that the residents in Group B have higher scores recorded on risk and behaviour support needs.

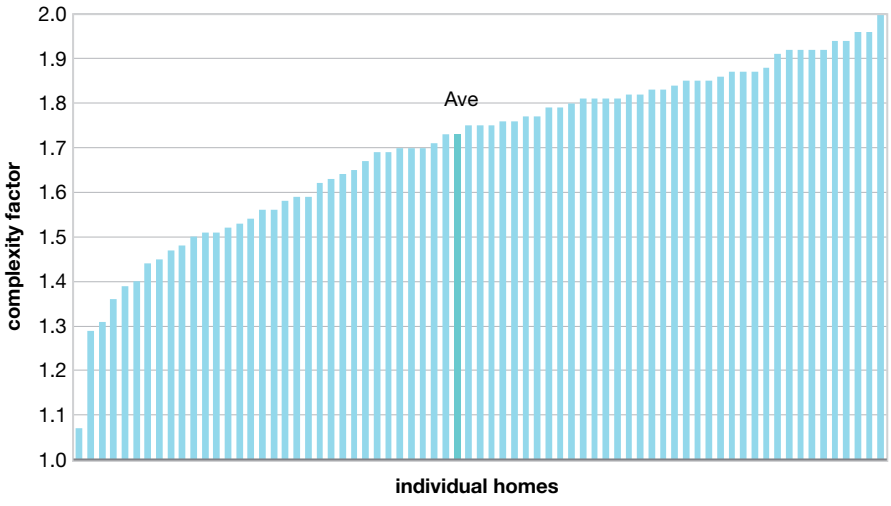
Variation across homes

Variation in the needs of individual residents is to be expected and homes tailor their care and support accordingly. Variation is also inevitable between homes in the aggregate amount of support they must provide to meet the combined needs of residents overall. Using the information from the ioRN it is possible to calculate an average measure of overall needs levels for each home - an "average complexity factor". The complexity factors can be compared across homes, to illustrate the amount of variation there is between homes (Chart 3a).

In interpreting the values of the complexity factor it may be helpful to note that where a home had every resident in Group A the complexity factor would have the value 1. A complexity factor with a value of 2 is equivalent to a home in which all residents are in Group F. In the unlikely event that all residents were in Group H the complexity factor would be higher still. In practice, such is the variation in functional needs of residents, the average value for each of the homes in the survey lies in a range between 1 and 2, as shown in Chart 3a.

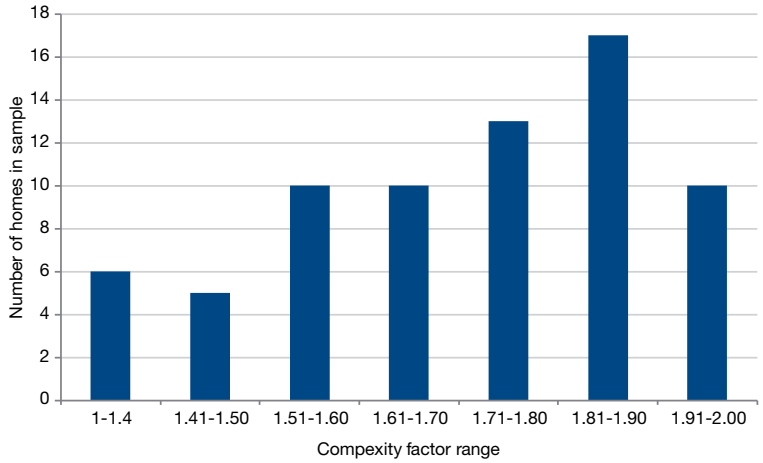
The observed variation between homes is the combined result of a number of factors including the specialisation of certain homes, individual choices made by potential residents and the commissioning preferences of local authorities. Note that the home with the lowest complexity shown (close to 1) is a very sheltered housing facility.

Chart 3a Variation by home in the average complexity of support needs of residents (complexity factor)



The range of complexity factors can also be represented as a summary distribution (Chart 3b). This chart shows that the largest single grouping, comprising 17 out of the 70 homes in the sample, have values in the range 1.81 to 1.9.

Chart 3b Distribution of homes by range of average complexity of residents



Risk and behavioural support needs

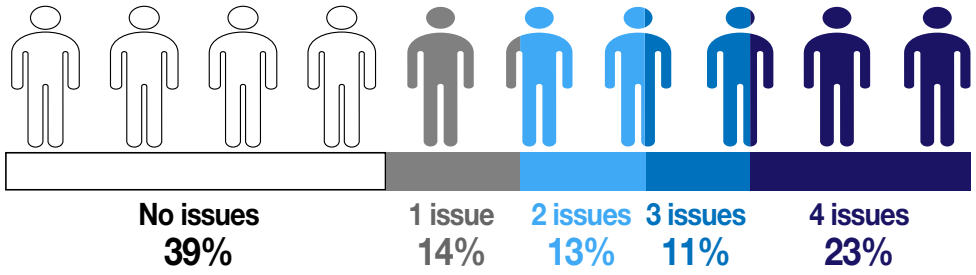
The combined answers to four questions in the ioRN questionnaire are used as part of the ioRN algorithm to identify the contribution of risk and behavioural support needs towards a person's individual care and support (see box). The answers to these questions can provide insights too.

The ioRN questions concerning risk and behavioural issues are about:

- the resident's cooperation with the care offered by home staff;
- behaviour that might pose a risk of harm;
- behaviour that is so severe, risky or disruptive that requires immediate intervention;
- verbal aggression shown.

Chart 4 illustrates that aspects of risk and/or behavioural issues are by no means unusual features within care homes. No issues were recorded on the ioRN for two in five residents (39%) and a further 14% had a single issue. It is noteworthy however that around one third of all residents had issues recorded by care staff on three or four of the ioRN questions and nearly a quarter (23%) had issues recorded on all four questions.

Chart 4 Risk and behavioural issues; count of issues recorded



Using the sample information to estimate a Scotland-wide profile of functional needs of all care home residents

The sample of care home residents in this survey comprises around 14% of the total number of older people resident in care homes in Scotland. On the assumption that the sample residents are sufficiently representative of the total then the statistics can be scaled up to provide point estimates for the whole of the care home population in Scotland. This would mean that for Scotland:

13,500 care home residents in Scotland have high support needs in regard to Activities of Daily Living.

3,000 residents have concomitant continence issues in addition to high Activities of Daily Living support needs.

Some 10,000 residents have issues on three or all four of the risk and behavioural issues recorded on the ioRN.

5,000 residents in Scotland have no or very low Activities of Daily Living scores **and** no identified risk or behavioural support needs reported. This could suggest low support needs but it may also highlight other factors that may lead to admission to a care home - including personal choice, social and emotional needs – that are beyond the scope of the ioRN.

The changing profile of residents

What is especially useful about the ioRN data collected in this project is that we are able to contrast these latest findings against similar data collected in the past. This offers unparalleled factual insight into the way that the dependency levels of care home resident populations in Scotland have changed over time. The lower bar in Chart 5 makes use of ioRN data that was collected during the development of the Care Home Staffing Model in 2006/2007 [ref 1]. The sample gathered then also involved a diverse range of homes. As with the latest 2014 survey there was no particular aspect in the selection of homes that might introduce problematic bias into the sample results.

The comparison made between the findings in the 2006 sample and the 2014 sample of residents provides evidence of an increase in the functional needs or dependency of residents in Scotland's care homes.

Of particular note also is that the percentage of residents in the most functionally independent Group (Group A) has decreased by over one third.

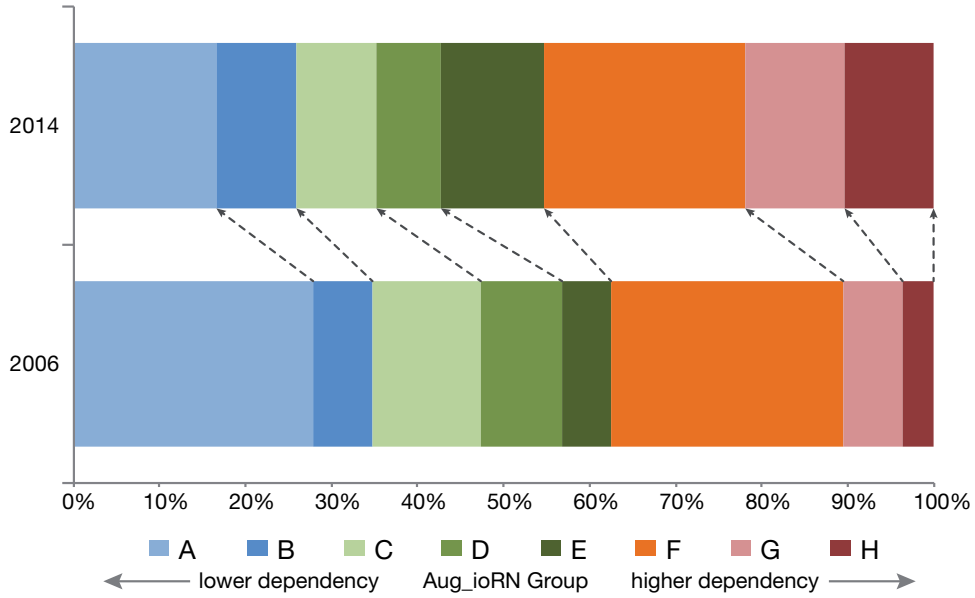
Other notable differences between the samples are the smaller proportion falling into two other Groups – Groups C and F. A common feature of residents in these Groups, shared with people in Group A, is that they have relatively low scores on the risk and behavioural support questions.

An apparent increase in risk and behavioural support needs reflected in the ioRN answers is especially evident among residents who have high support needs on Activities of Daily Living, resulting in a marked rise in the percentage in Group G. The increase in Groups B and E is also a consequence of a higher proportion with identified risk and behavioural needs. It is possible that these differences might reflect a rise in the prevalence of these needs within the general population but they could also be a result of increasing complexity of care needs in care homes as the use of hospital-based long-term care has declined (see Annex 4).

Also noteworthy is a marked rise in continence issues resulting in a large increase of residents in Group H in 2014 compared with 2006 are recorded at a proportionately greater level in 2014 than that reported in the 2006.

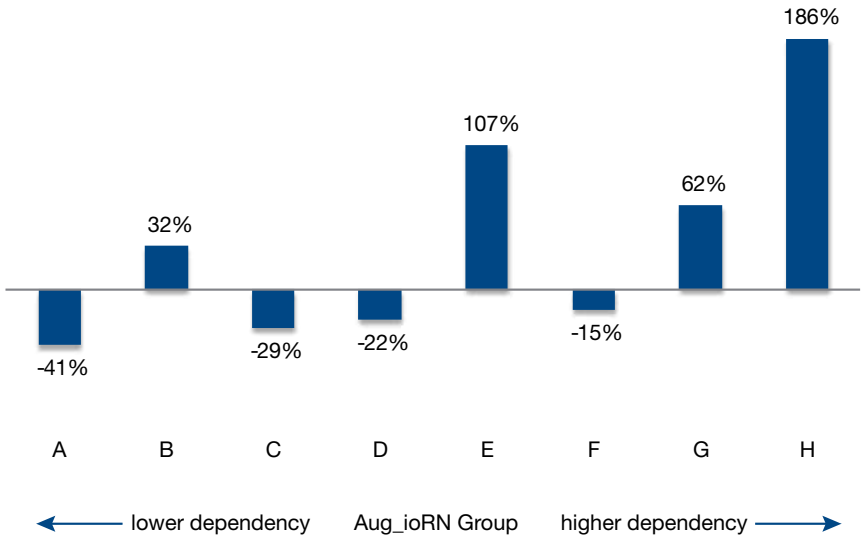
These results are consistent with anecdotal reports of an increasing complexity of support needs of residents.

Chart 5 Change in the percentage of residents by ioRN Group: Comparison between 2006 and 2014 survey samples



If it is assumed that the dependency levels in both samples closely reflects the position in the care home population as a whole in 2006 and 2014, it is possible to quantify what this means for the numbers in each distinct ioRN Group (Chart 6). The largest change occurs in Group H, rising by 186%, with Group E the next largest change at +107%. The largest proportionate reduction has occurred in Group A (-41%), with a reduction of 29% in Group C.

Chart 6 Estimated % change in number of residents by ioRN Group between 2006 and 2014, Scotland

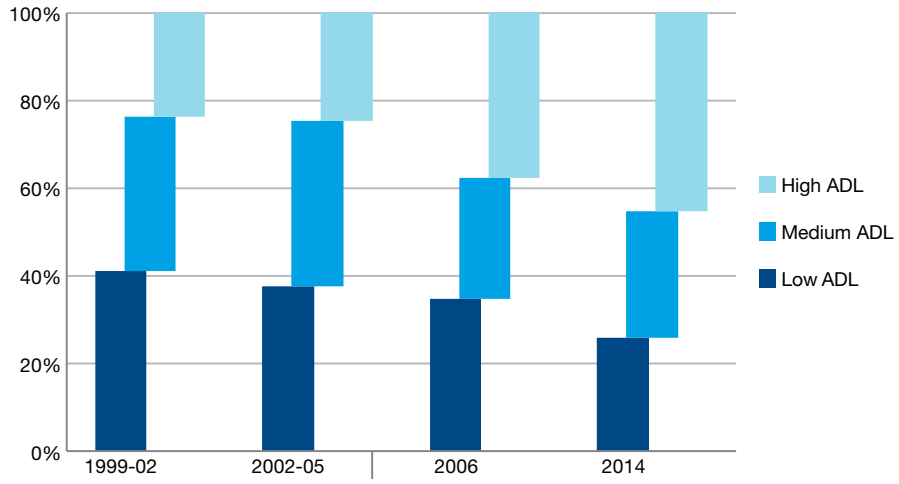


Changes in functional characteristics over a longer time period

Information on the functional characteristics of care home residents has been collected by ISD on a sample basis since the late 1990s. Prior to the introduction of the ioRN, such data were gathered using the interviewer-led approach known as SCRUGS. SCRUGS is no longer supported by ISD. There are some differences in the questions and algorithm used in SCRUGS and the ioRN but the overall design is in fact broadly similar. Importantly, the component part of the questionnaires that concern Activities of Daily Living (ADL) are very closely related in the ioRN and in SCRUGS and in composite terms are largely measuring the same aspect of function. It is therefore reasonable to compare and contrast the results from the two instruments insofar as they address ADL specifically. Summary results from the SCRUGS survey were historically published annually by ISD on a rolling period basis (usually three years aggregated) from 1999. The reports are retained on ISD's website. To produce a trend for comparison over time, two sets of SCRUGS figures (1999–2002 and 2002–2005) are compared with the data from the ioRN for 2006 and 2014.

What the findings of these different samples show is a consistent period by period shift in the profile of care home residents in Scotland towards higher functional dependency as measured by ADL, with a corresponding reduction in the proportion of residents who are relatively functionally independent (Chart 7). The direction of flow revealed by these results reinforces the observation made earlier in the comparison between the two ioRN samples alone. They strongly affirm the shift away from the use of care homes for people with relatively low ADL scores and they confirm that the complexity of need, albeit here limited to the measure of ADL, has been rising during the past decade and a half.

Chart 7 Care Home residents 1999-2014 - Changing needs on Activities for Daily Living (ADL)



Sources: ISDScotland SHRUGS & 2006 Aug_ioRN Surveys

Conclusions and recommendations

General

This project has been possible because of the willingness on behalf of their residents of many individual care homes and parent organisations to supply their information. The unambiguous support of key national bodies with an interest in the delivery and future shaping of care and support for older people has also been essential.

The analyses offer perspectives on the functional needs or dependency of older people living in care homes in Scotland. They provide evidence of the way the dependency of the care home population has been changing over time - as a consequence of deliberate policies, better practice and the changing preferences of individuals and their families.

The active use of the ioRN tool in care homes has meant that it has been possible to draw on information collected systematically in a standardised form in order to paint a national picture of people supported long term in care homes in Scotland. The potential benefits of a universal approach to describing functional needs are reflected in the recommendations below.

Conclusions - findings

The analyses presented here evidence that care homes provide care and support to people with varying levels of support needs; and that these needs, in the majority of cases, are relatively complex. The data demonstrate both the diverse needs of residents at an individual person level and a corresponding variation between homes in terms of an overall level of complexity of need.

The information provided by the ioRN shows that residents' needs relate both to largely physical issues and to aspects of mental well-being that manifest themselves in risk and behavioural support needs.

One example of how the ioRN data can highlight characteristics that may justify specific attention is the estimate that some 3,000 residents in Scotland have identified issues with continence.

The comparison that is possible between the latest ioRN survey (2014) and a large sample of ioRN data collected in 2006 provides evidence that resident needs overall have become more complex in the intervening period. These results are consistent with anecdotal reports.

Residents are likely to have additional needs which are not captured through the ioRN (and are beyond the scope of this project). This is especially relevant when considering the numbers of people who are in the most functionally independent ioRN Group (Group A). Using the 2006 ioRN data, an unpublished report by Peter Knight prepared for the Older People Development Group in 2010 postulated that many possible future residents who were in ioRN Group A could be supported at home if that met their wishes and appropriate alternative care were available. What the 2014 survey shows is that the proportion of residents in Group A has indeed fallen by over one third since 2006. This may indicate that

other options such as informal support, home care and supported housing are enabling more people to live at home for longer, and there may be scope to extend this further in line with people's wishes for where they want their care to be delivered.

Data measuring Activities of Daily Living (ADL) that is available from earlier surveys using SCRUGS and the more recent ioRN samples provide a unique source of quantitative evidence of the changing profile of the care home population over the longer term. The results shown at four time points reveal a growing proportion with high ADL scores, and a corresponding reduction in residents with low ADL scores.

Anticipating how dependency levels might change in the future is difficult as it is subject to many uncertainties including developments in new models of care at scale, personal choices made by people in the future and the wider impact of an ageing population. It might be foreseen that current policies on choice will lead to people choosing to remain at home with support and as a consequence resulting in higher functional dependency overall among those who choose to live in a care home. But it is also possible that many people with characteristics corresponding with ioRN Group A will continue to see benefit to themselves in living in a care home. What seems likely is that the needs of care home residents will probably remain diverse for the foreseeable future.

Recommendations for further work

Access to ioRN data has been possible because of the availability and use of the prototype Care Home Staffing Model software designed by ISD. The software is readily accessible from the ISD website. The software itself was originally intended as a stopgap to test the staffing model. In the absence of any further development the original software has remained in use (despite still being a prototype) within many care homes in Scotland and elsewhere. A replacement for this software is overdue and different design approaches are possible. There is a case also for carrying out a review of the design of the ioRN tool itself to ensure that it meets the future information requirements of care providers and other stakeholders within an integrated care landscape.

Progress on this would be made easier if a consensus across key stakeholders could be reached on the benefits of a standard tool. A small step towards achieving such a consensus was the recommendation of the 2014 Task Force on Residential Care, that a tool like the ioRN should be considered for use across the care home sector. What is likely to be decisive however is if the combined perspectives of Integration Joint Boards, Scottish Care, Coalition of Care and Support Providers in Scotland (CCPS), Care Inspectorate, COSLA and Social Work Scotland, and the Scottish Government were to align in this subject. Perhaps the publication of this report can make this possible through offering a different perspective on some of the benefits it might bring for the citizens of Scotland.

Further commentary on the potential use of the ioRN is offered in Annex 7.

Annex 1: The participating homes

The ioRN data used in much of the analyses in this report have been collected by a range of individual homes. The names of these homes are listed in the table below

Participating Homes 2014 survey

Care Home	Location	Care Home	Location
Abbey Court	Aberdeenshire	Fullerton	North Ayrshire
Ailsa Craig	Glasgow City	Galahill	Borders
Allachburn	Aberdeenshire	Golfhill	Glasgow City
Arran View	North Ayrshire	Grangepark	Aberdeenshire
Ashley Court	Edinburgh City	Greencross	Glasgow City
Balcarres	Dundee City	Greenhills	South Lanarkshire
Balnacarron	Fife	Hallhouse	East Ayrshire
Bank O'Dee	Aberdeen City	Hatton Lea	North Lanarkshire
Belhaven	South Ayrshire	Hawthorn House	Glasgow City
Belleville	Edinburgh City	Haydale	Glasgow City
Bishopton	Renfrewshire	Hillview	Glasgow City
Blythewood	Aberdeenshire	Holmesview	West Lothian
Braemount	Renfrewshire	Jarvis Court	Aberdeenshire
Braid Hills	Edinburgh City	Kirknowe	North Lanarkshire
Carmichael	Dundee City	Lydiafield	D&G
Claremont	Edinburgh City	Mceachran	Glasgow City
Craigbank	Glasgow City	Merrylee Lodge	Glasgow City
Dalvenie Gardens	Aberdeenshire	Millview	Glasgow City
Darnley	Glasgow City	Morningside	North Lanarkshire
Davislea	Glasgow City	Mugdock	Glasgow City
Dawson Court	Aberdeenshire	Netherton Court	North Lanarkshire
Deanfield	Glasgow City	Newcarron	Falkirk
Doocot View	Aberdeenshire	North Merchiston	Edinburgh City
Doonbank House	East Ayrshire	Norwood Braes Unit	East Renfrewshire
Drumry House	Glasgow City	Peebles	Borders
Durnhythe	Aberdeenshire	Pine Villa	Midlothian
Eader Glinn	Argyll & Bute	Rannoch House	Glasgow City
Eastbank	Glasgow City	Southview	South Lanarkshire
Edenholme	Aberdeenshire	St Johns	Borders
Eildon	Edinburgh City	St. Andrew's House	Fife

Care Home	Location	Care Home	Location
Elderslie	Renfrewshire	Victoria Manor	Edinburgh City
Erskine Edinburgh	Edinburgh City	Westbank	Aberdeenshire
Erskine Glasgow	Glasgow City	Whitehills	South Lanarkshire
Erskine Park	Renfrewshire	Windlaw	Glasgow City
Faithlie	Aberdeenshire	Wyndford	Glasgow City
Ferguson Anderson	Glasgow City	Ythanvale	Aberdeenshire
Forfar	Glasgow City		

The majority of the analyses carried out in this report relate to residents rather than homes. These residents are overwhelmingly (97%) living in care homes with the remainder living in very sheltered housing. The homes themselves are geographically wide ranging (see map on page 20) and include homes in urban and rural environments. The homes vary greatly in terms of the number of residents they can support (from under 20 places to about 200 places). The larger homes typically have separately defined houses or units that offer distinctive support such as dementia care, palliative care or residential care.

We have assumed that the sample of residents is similar to all older people who are living in care homes in Scotland and it follows that broad conclusions can be drawn from the sample results. While it is difficult to test this conclusively, there is evidence for this assumption.

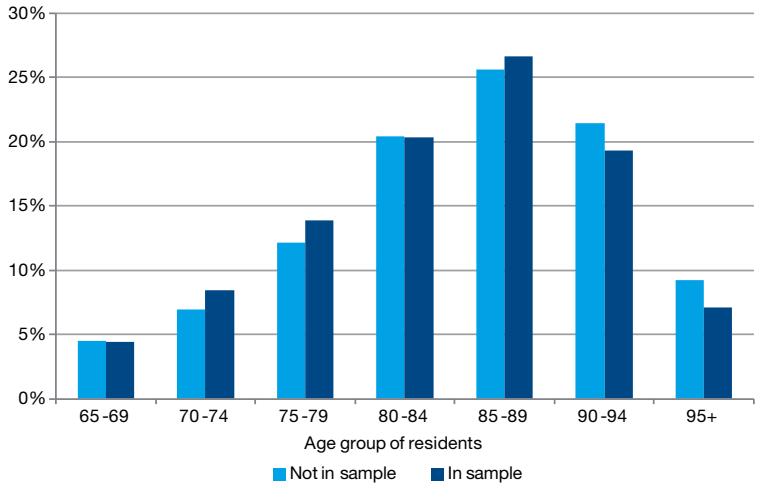
Most importantly the grounds for selection of homes into the sample were exclusively based on the use of the ioRN, not on any criteria about the residents and there is no reason to assume any material selection bias

Age profile

It is possible to test the representativeness of homes by comparing how similar the residents in the sample are to residents in other care homes however imperfect this is on the basis of the age profile. This comparison has particular relevance as age is sometimes viewed as a proxy for need.

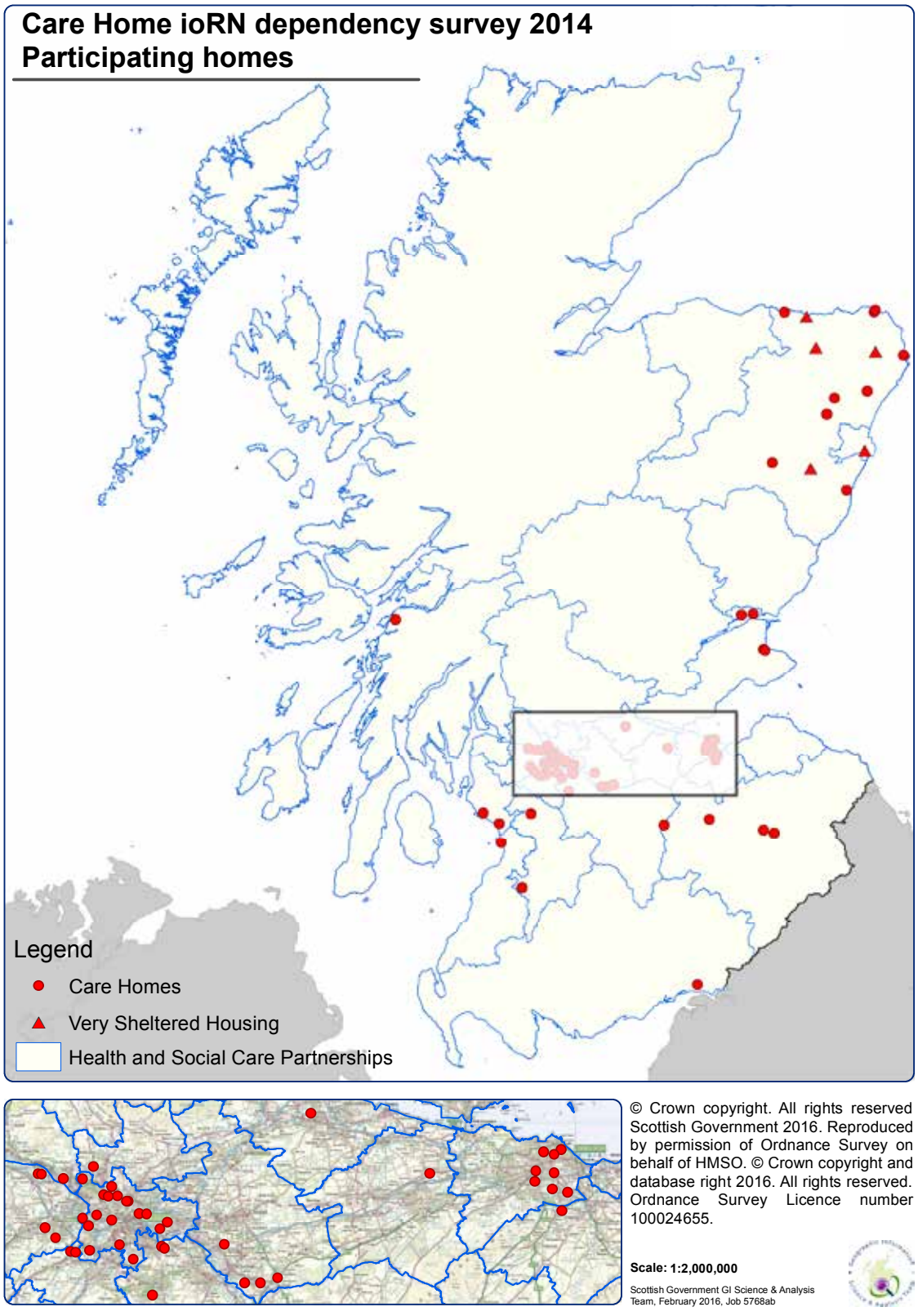
The age of residents is a characteristic collected on the annual national census of care home residents which is carried out jointly by the Care Inspectorate and ISD. It has been possible to look at the age profile of residents in individual homes that are included in the survey and to match this against all other homes that were not in the survey. The results, shown in the bar chart below, were reassuring with virtually no difference in the age profiles of the two groups of homes.

Chart 8 Age profile of care home residents - Homes in sample vs not in sample excluding under 65s (at March 2015)



The geographical spread of the participating homes

The sample homes that have provided ioRN data are geographically dispersed, have a mix of urban and rural and are located in many partnership areas (as shown in the location map).



Scale: 1:2,000,000

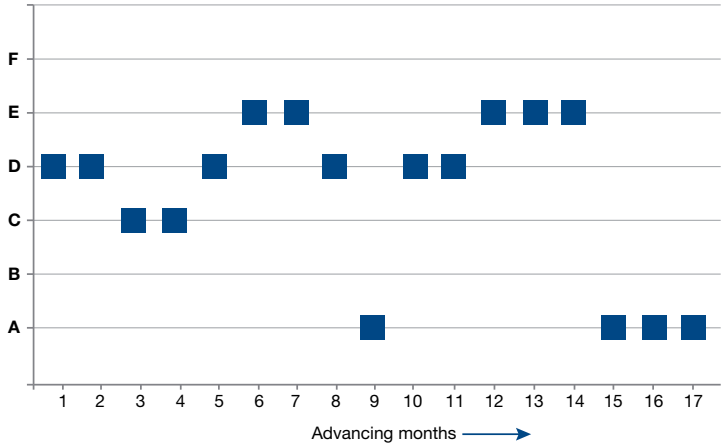
Scottish Government GI Science & Analysis Team, February 2016, Job 5768ab

Annex 2: An example of the benefits of the ioRN to care home staff

For the ioRN recording to be viewed by care home staff and management as a worthwhile exercise there must be clear benefits. One such benefit is the ability to watch how the characteristics of residents change over time. This shows care home staff how changes in a person's health impacts on their support needs and offers insight on ways that staff can anticipate and deliver the individualised care needs of residents.

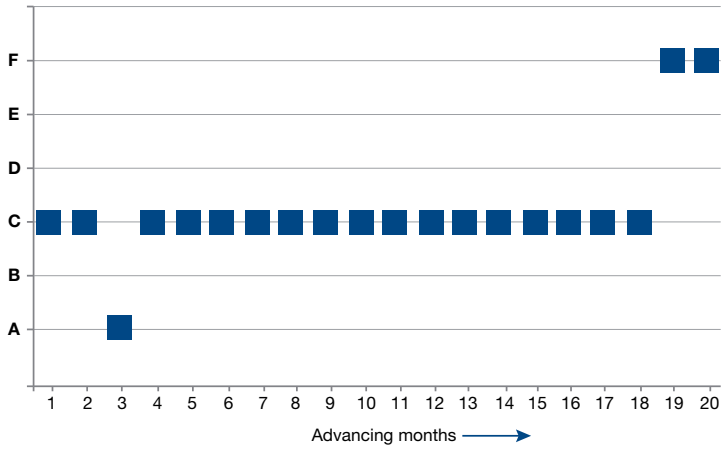
The three charts below are examples of the manner in which the ioRN Groups of three people living in one of the participating homes had changed during the period leading up to the month of the survey.

Chart 9a Individual resident ref 3762



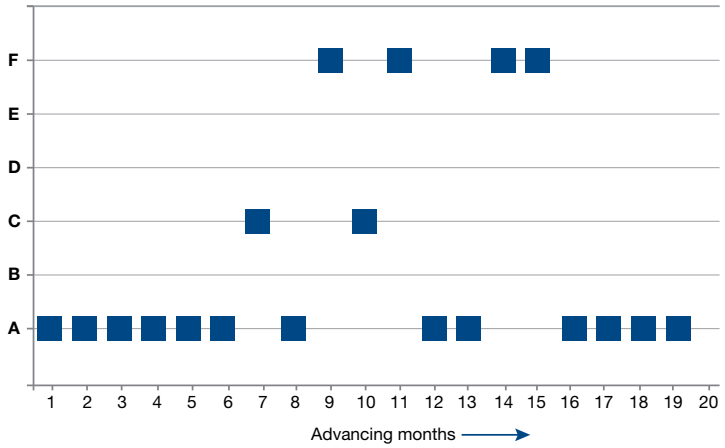
This resident's functional needs fluctuated month by month around ioRN Group D up until the three months prior to the survey. Latterly it seems their function, probably both physical and in terms of risk and behaviour, recovered substantially.

Chart 9b Individual resident ref 902



The second resident was stable in ioRN Group C for 17 out of 18 months (a single recording has shown an improvement in ADL in month three). In the two months prior to the survey this person's ADL deteriorated.

Chart 9c Individual resident ref 1491



The third example is a resident who most of the time presented in ioRN Group A. A variable loss of function affecting ADL and risk and or behaviour occurred from month seven until month 16.

Monthly monitoring cannot fully reflect all the variation that may occur in the health and function of residents but it offers a longer term perspective in the way an individual's overall needs have been progressing. The prototype software and outputs that are currently available to homes through the ISD software is a limiting factor to the potential use of the ioRN.

Annex 3: Current design of the care home version of the ioRN

The development of the Augmented ioRN arose from a suggestion that the Community ioRN might be used in a care home in order to inform staffing. A relationship between the aggregate needs of the residents of a care home and the level of care staff hours was self-evident. The original Community ioRN was designed to enable front line staff to collect standard information about individuals receiving care. This could easily be adapted to enable a care home manager to gather practical data on resident needs.

The subsequent project led by ISD with the support of the Scottish Government found that a variation of the Community ioRN was necessary for use in care homes. By 2008 the project had designed a new care home version of the ioRN (named the Augmented ioRN) and identified a relationship in practice between the overall dependency level of a home and the staff hours delivering care (named the Care Home Staffing Model). The Stakeholder and Technical reports of the development are available here:

http://www.isdscotland.org/Health-Topics/Health-and-Social-Community-Care/Care-Homes/Staffing-Model/

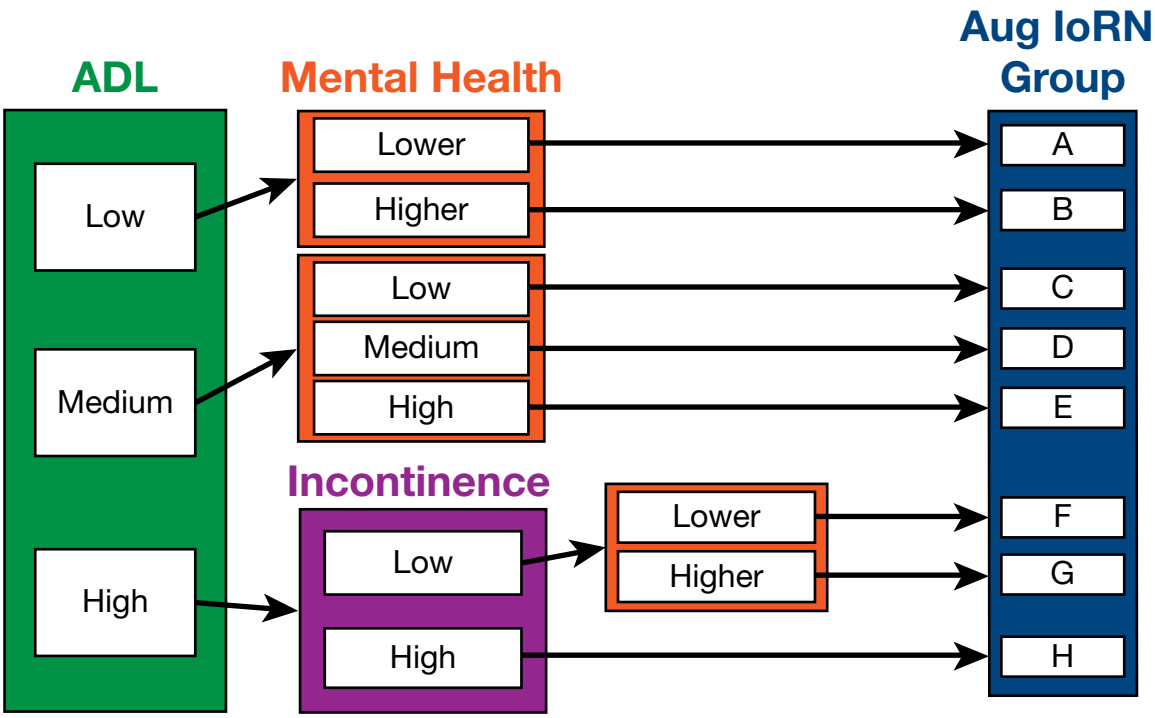
In the testing phase ISD designed a prototype EXCEL model that care homes could use to record their data, extract summary information at person or home level, and compare their home's care staff hours against peer homes with similar aggregate dependency levels.

Since then no further investment has been made to the design of the staffing model or to the prototype EXCEL software. Many organisations across Scotland (and in some other parts of the UK and the Republic of Ireland) however routinely use the current model. The latter is the source of the Augmented ioRN data used in this survey.

ioRN Algorithm

The Augmented ioRN follows the general structure of the ioRN family of tools, providing a set of discrete Groups that depend on key characteristics of the person at a point in time. A description of the Augmented ioRN Groups is provided in the Preface to this report. The diagram below shows the method pictorially. For example if someone is considered to have a medium score for ADL and a medium score on the behaviour and risk questions their Group is D.

Augmented Indicator of Relative Need Algorithm

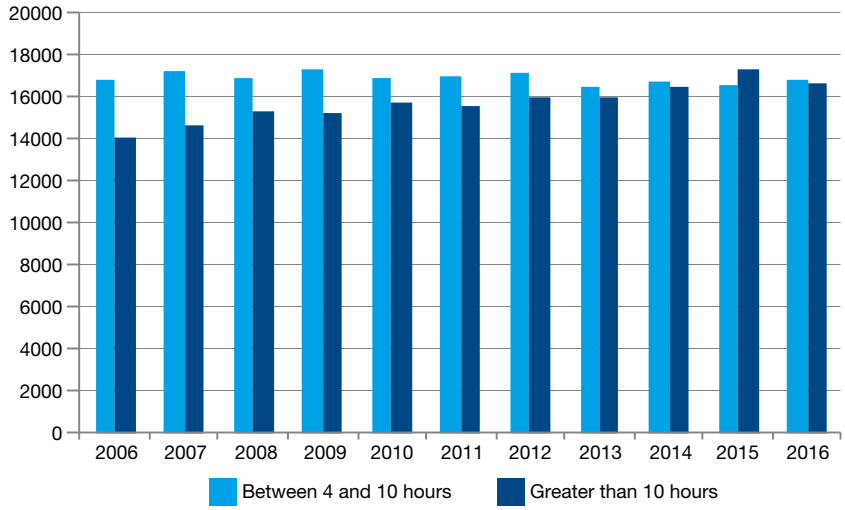


Annex 4: The changing forms of older peoples' care

Homecare: Changing patterns in the way people are supported at home

The profile of the provision of homecare has been changing during the past decade. The number receiving between four and 10 hours of home care per week has been fairly consistent over the decade but the number receiving over 10 hours of care has steadily risen (from about 14,000 to 17,000). These larger homecare packages will usually be provided to people who have high levels of support need. The gradual shift in the profile is consistent with policies and preferences that result in people remaining in their own home for as long as that is possible and in the interest of the individual, taking account of a person's health and social circumstances. This probably explains, in part at least, why our survey has found a decrease in Group A residents in care homes.

Chart 10 Changing profile of home care by hours provided: home care recipients by year of census



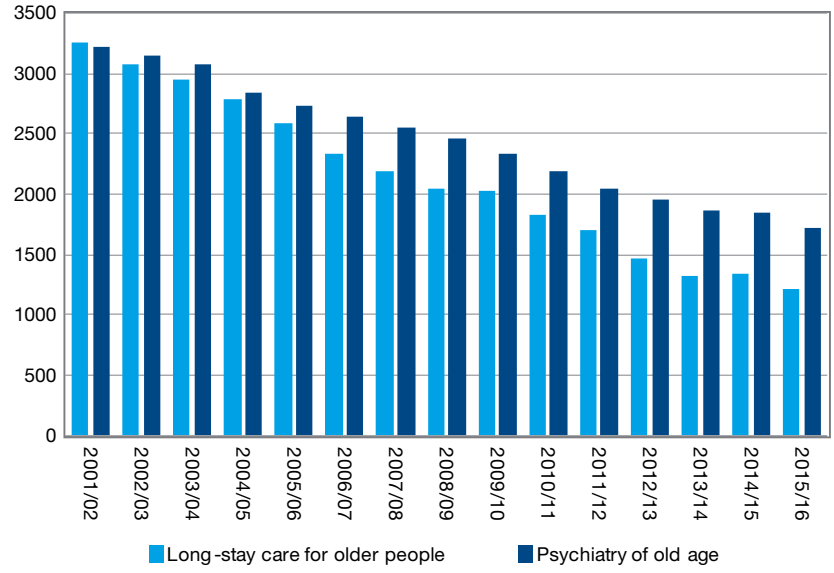
Source: Scottish Government Social care Statistics 2015

Hospital-based long term care for older people

The transformation in longer term care for older people has seen a reduction spanning over several decades in the use of extended stays in hospital under the care of a specialist doctor. The charts below show the available trend data since 2001/02 in the use of long term inpatient care in the care of a geriatric medicine specialist or a psychiatrist for old age. Note that both trends relate to Scotland less Highland and Grampian NHS Board areas – data on the past five years from these two NHS Boards is not available.

Underpinning this reduction in beds available for these purposes is a much shorter length of stay for those admitted.

Chart 11 Trends in the number of staffed beds in geriatric long stay and psychiatry of old age: Scotland[1]



1 Excluding NHS Grampian and NHS Highland.

Annex 5: Advisory & Oversight Group

Name	On behalf of:
Margaret Smith	Care Inspectorate
Ranald Mair	Scottish Care
John Urquhart	COSLA
Louise Barker	Social Work Scotland
Margaret Whoriskey	Joint Improvement Team (JIT)
Brian Slater	Scottish Government
Rene Rigby	Scottish Care
Peter Knight	Information Services Division / JIT

Annex 6: More detail on the handling of the data

In support of the survey ISD, an organisation with a world class reputation in the safe handling of confidential patient data, designed a set of procedures that would allow for the secure transfer of the care home data. It was agreed that ISD staff would manage the transfer of data where the files may actually or potentially include personal information. An alternative procedure that involved the complete removal of any identifiers before submitting the data was also designed by ISD.

As well as performing the task of removing the identifying information ISD were also able to assign a non-identifying number to each individual resident to support some of the analyses. On successful completion of the data transfer and anonymisation ISD provided a file that contained no personal identifiers to the JIT research team who were responsible for performing the statistical analyses and reporting.

Annex 7: Postscript on the ioRN

Care homes are by no means the only users of information and evidence on function or dependency. The use of the ioRN tools provide important insights about care and support needs irrespective of where these needs are met. ioRN data can help show what we mean by outcomes, irrespective of the service type.

The ioRN can be viewed as a family of easy-to-use information tools for multiple and varied uses across the whole system of care. Detailed uses are still being discovered. The evidencing or evaluation across the diverse approaches to the delivery of support and care are an important part of that range of uses. Whether promoting independence, personalised care and choice, or supporting people to live with long term conditions, growing frailty or dementia, IoRN information has a contribution to make. One of the ioRN family of tools can be used in the person's own home, another can be used in a care home or even a hospital. The ioRN is widely used to measure change in a person who is in transition within intermediate care or reablement.

We have referred earlier to the use of SCRUGS in care homes. The SCRUGS surveys were commissioned by NHS or social work departments who were interested in understanding the changing characteristics of residents in their local care homes. More recently a comprehensive ioRN survey (with additional information added) of residents in homes in Edinburgh has been carried out (source: correspondence with M Callander, NHS Lothian). Aberdeenshire Council encourages its own care homes and very sheltered housing facilities to use the ioRN: Each resident has an annual IoRN score sheet where monthly IoRN scores are monitored for changes... 'These are kept within the service user's personal plan along with their Palliative Performance Scale (PPS) score. Changes to resident's IoRN scores can help in identifying where resident need is less due to enablement or conversely can identify areas where client need is increasing.'

As part of a vision that sees wider benefit gained from routine linkage of health and social care data the potential to put the ioRN "in the frame" as part of the overall intelligence has considerable merit. Proactive support of ISD is especially advantageous in regard to this ambition. As the population of Scotland ages and the number of people in the age groups that typically use care homes rises markedly the benefit in having good information about people living in and moving across different environments is likely to shift rapidly from optional to essential.

References

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