Prevalence rates for those with dual sensory loss and dementia in Scotland

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Foreword

Sara Redmond, Chief Officer, the Health and Social Care Alliance Scotland (the ALLIANCE)

This research report on the prevalence rates of those with dementia and dual sensory loss comes at a time when Scotland is managing its way forward post pandemic, facing economic constraints with the rising cost of living crisis and uncertainty in world politics with further international conflict. There is a strongly felt collective will to commit to a recovery which makes the changes necessary for all people in Scotland to thrive.

In Scotland the ageing population challenges us to keep people active, working longer and enjoying life. Along with the many positives of living longer, age can be often associated with living with and managing long term conditions.

Dementia is a long term and progressive condition and over time abilities and skills may deteriorate. There is a significant element of sensory loss that is age related and the report highlights the estimated numbers with dual sensory loss. A conservative estimate of 1.4 million Scots with hearing and/or sight loss is a significant proportion of the population to ensure services and support work well for.

We believe society needs to move further towards the social model of disability to enhance and assist this change positively. By identifying the barriers which prevent people from participating fully in society and removing these barriers. The mainstreaming of these issues would also address a range of communication and language barriers our future, diverse Scotland faces.

This report provides prevalence estimates for the number of people living with sensory loss and dementia in Scotland. Separate figures have been calculated for each Local Authority and are broken down into age and gender. Using future population estimates from the National Records Office of Scotland (NRS), it has been possible to project these figures, giving an indication of where future service provision would be needed. The findings can contribute to both national and local planning and ensure the lived experience of people experiencing sensory loss and who are living with dementia is at the heart of any change.

1.Introduction

This research on dual sensory loss (also known as deafblindness) and dementia has been commissioned to address the lack of prevalence data in Scotland. Chapter two of this report provides background on the definition and categories of dual sensory loss/deafblindness. For the purposes of this research, which is essentially dealing with gathering data on an ageing population, the term 'dual sensory loss' was considered to be more applicable and is the term that will be used throughout this report. There is currently no record of how many people in Scotland are living with dementia and dual sensory loss. How can the needs of this group of people and their unpaid carers be met if numbers are not known? This collaborative research aims to provide robust prevalence estimates for the number of people living with dual sensory loss and dementia for each Local Authority in Scotland.

> "To plan health and social care management for an increasingly older population, it is essential to have a detailed understanding of the regional prevalence of dual sensory loss and dementia."

There is a known association between hearing loss and dementia, and it is thought that untreated hearing loss may be a risk factor for cognitive decline (Dawes, et al., 2019; Shen, et al., 2018). Hearing loss has been considered to be a potentially modifiable risk factor for dementia (Livingston, et al., 2017; Livingston, et al., 2020)

The link between hearing loss and dementia is now known, leading to an increasing body of research on the topic. Research studies exploring issues around dual sensory loss and dementia are being undertaken Worldwide. However, there is a noticeable gap in research specific to Scotland. In order to plan health and social care support and services for an increasingly older population, it is essential to have an understanding of the regional prevalence of dual sensory loss and dementia.

2. Deafblindness / dual sensory loss

The definition of deafblindness (or dual sensory loss) is problematic. While there is no global consensus, the Nordic definition, revised in June 2016, is widely accepted. Recently endorsed by the World Health Organisation's International Classification of Functioning, Disability and Health (ICF), the definition is noted below:

> Deafblindness is a combined vision and hearing impairment of such severity that it is hard for the impaired senses to compensate for each other. Thus, deafblindness is a distinct disability (The Nordic Definition of Deafblindness)
> Nordic Welfare

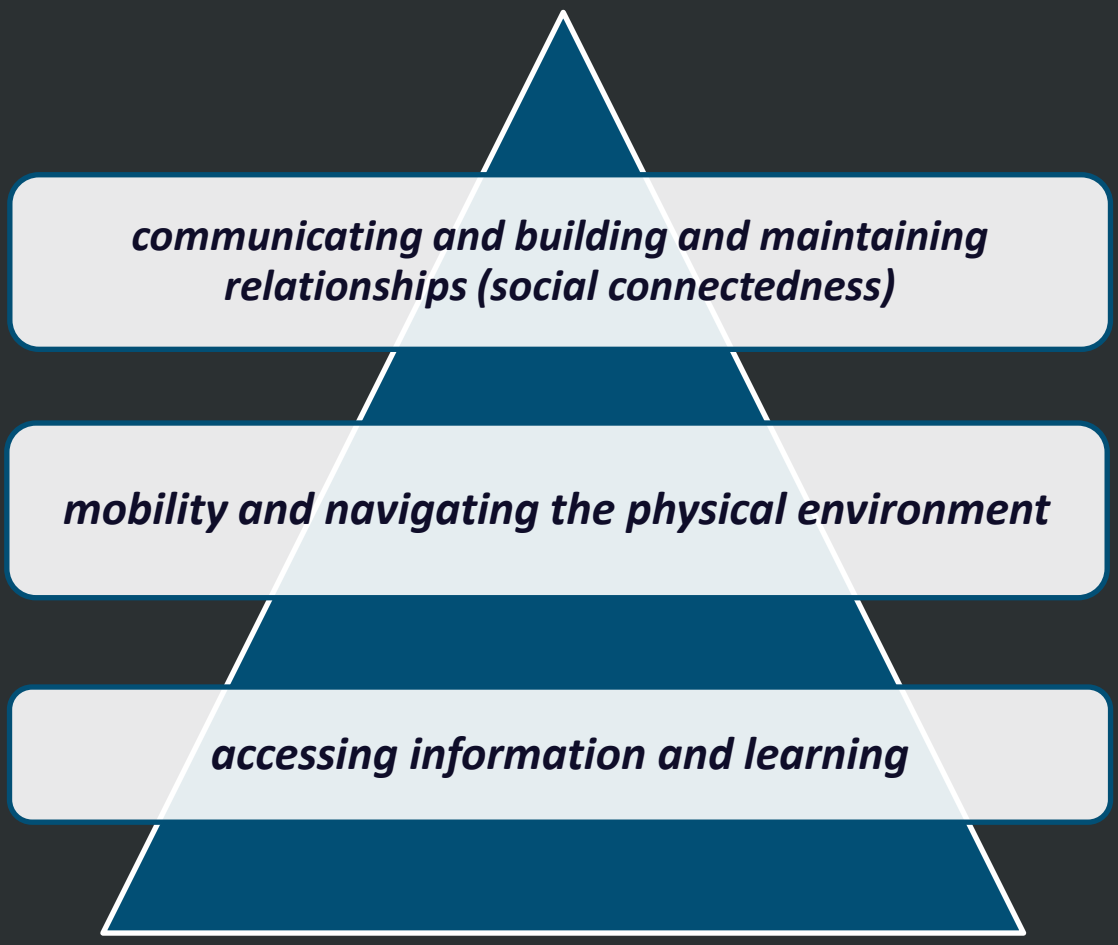
The definition goes on to state:

> To varying degrees, deafblindness limits activities and restricts full participation in society. It affects social life, communication, access to information, orientation, and the ability to move around freely and safely. To help compensate for the combined vision and hearing impairment, especially the tactile sense becomes important. (The Nordic Definition of Deafblindness)
> Nordic Welfare

For the purposes of this project, the definition of deafblindness as set out in the Deafblind Scotland toolkit will be used, and is noted below:

> Deafblindness is the combined loss of both vision and hearing. For some people this may be a complete sensory loss whilst for others there may be some residual sight or hearing that can be used. Deafblindness has been defined in several ways but in understanding the impact on people's lives it is important that it is not thought of in terms of two single sensory losses as this uniquely disabling condition is greater than the sum of its parts. When an individual experiences a single sensory loss or are Deaf from birth they often cope by making the best use of their other senses however, with a **dual sensory loss** this coping strategy becomes less effective.

The combination of sensory losses can result in significant difficulties in areas of everyday life, including:



[**Graphic** showing a pyramid with three text boxes in front. Each text box contains one of the three significant difficulties people with dual sensory loss face in everyday life: 'communicating and building and maintaining relationships (social connectedness); 'mobility and navigating the physical environment' and 'accessing information and learning'.]

Deafblindness can happen at different stages of life and the age of onset of a person's visual impairment and hearing loss (or Deafness) can have a

profound impact on the consequences of deafblindness. This is particularly the case in relation to communication and language development. It therefore can be important to distinguish between:-

Congenital deafblindness – where a child is born Deaf with a visual impairment or where a child acquires hearing loss and a visual impairment at an early stage in life before the development of language. Occurring at a pre-lingual stage this form of deafblindness requires the child to develop language whilst deafblind.

Acquired deafblindness – where vision and/or hearing loss is acquired during the course of life following language development, where language maintenance or adaption is the focus. An individual may already have one sensory loss and acquire a second during their life or both senses may deteriorate across life.

Usher Syndrome – is a genetic condition which causes hearing loss from birth, and a later progressive loss of vision due to Retinitis Pigmentosa (RP). There are three types of Usher Syndrome (see **Part 3 Tools and Resources** for Key Terminology).

CHARGE – is a genetic syndrome, each individual will have a varying degree of impairments and medical conditions, that can be linked to a recognised pattern. Most people with CHARGE will develop hearing impairment, vision impairment, and balance problems, along with life-limiting medical conditions from birth.

While, as has been stated, the Nordic definition is endorsed by the World Health Organisation, has wide support globally and most professionals in the field adhere to the Nordic model, there is as yet no consensus on a clinical definition of deafblindness in Scotland, Deafblind Scotland state:

> In the absence of this a commonly adopted definition is that deafblindness is: ‘The loss of functioning in one sense [that] cannot be compensated for with the other sense, resulting in a distinct disability’ (Guthrie, et al., 2016).
>
> Deafblind Scotland

3.Background and rationale

Since the work of the Lancet Commission (Livingston, et al., 2017; Livingston, et al., 2020), a strong evidence base demonstrating the potential link between age related deafness and dementia has been established. In 2021, The Life Changes Trust funded a deafscotland project to find out the prevalence of deafness and dementia in Scotland. It was clear that, in order to plan health and social care for an increasingly older population, there needed to be a detailed understanding of the regional prevalence of these conditions. Being increasingly aware of the links between deafness and dementia, it became apparent that research into the regional prevalence rates for both was necessary to inform anticipatory planning.

The deafscotland research project looked at the four pillars of deafness: namely Deaf people who are British Sign Language users; those who are hard of hearing, those who are deafened and those who are deafblind (have dual sensory loss) and gained estimated figures for those with hearing loss and dementia.

It was found that no data is kept on these conditions at GP level and so no prevalence rates are at present known. It was however possible to use robust modelling techniques to obtain figures for the largest 'hard of hearing' category of deafness. Using population statistics, it was possible to break down age-specific incidence rates for each of the 32 Local Authorities. It was further possible to provide future detailed estimates for each Local Authority (again using population statistics) to enable them to plan for future service provision.

The 'Deafness and Dementia: Predicting the Future for Scotland' report highlighted the need for robust prevalence figures across the spectrum of deafness. Due to funding constraints, it was only possible to model figures for the largest of the pillars of deafness – people who are hard of hearing. Having modelled the prevalence figures for this category, however, it was evident that it would be possible to build upon the learning and apply the same methodology to produce likely numbers for those with dual sensory loss and dementia for each of the 32 Local Authorities in Scotland. These figures would be broken down by age and, using official population statistics, future estimates could be

provided, enabling anticipatory planning, and ensuring service provision to suit the needs of each Local Authority.

There still needs to be greater awareness of how dual sensory loss affects people with dementia, so that health and social care services, as well as community support services, can be accessible for and meet the needs of people with dementia and dual sensory loss. For this reason, it is important to establish a knowledge of the number of people living with dementia and sensory loss in Scotland at present and the future projection.

The modelling used to produce these figures could be updated on a continuous basis as soon as new Scottish government data is released, thereby ensuring a legacy of robust estimates continued.

4.Literature overview

To show how the findings within this report fit into the wider research evidence base, this section will provide a general overview of recent literature themes on the topic of dual sensory loss and dementia.

Firstly, there is lack of consensus on the actual definition of dual sensory loss and this is reflected in literature. For example, an excellent summary of the debate around definition can be found in a 2019 editorial piece by Dr Saskia Damen which appeared in the British Journal of Visual Impairment. Here, it is argued that, apart from the Nordic countries, there is no consensus in definition and identification of dual sensory loss:

> “The prevalence and incidence rates of deafblindness are unknown in many countries and deafblindness can be overlooked, especially in settings for people with intellectual disabilities” see (Fellinger, et al., 2009) **and older adults** (Roets-Merken, et al., 2017) see (Roets-Merken, et al., 2014) (Ravenscroft & Damen, 2019).

A good example of argument on the need for clear guidelines on definition can be found in Damen’s earlier work, co-authored with Ask Larsen in 2014, where it is stated:

> “The results of this study call attention to a scientifically inadequate approach to the study of DB [Deafblindness] and CDB [Congenital Deafblindness]. Findings indicate that clear guidelines for sample descriptions of the DB and/or CDB populations are needed” (Larsen & Damen, 2014).

The findings from this work go on to state specific recommendations:

> “It is suggested that studies including DB and CDB participants provide the following information: definitions of DB and CDB used; severity of sensory impairments; level of sensory ability in relation to mobility, access to information, and communication; age at onset of DB; and communication as well as language ability at onset of DB” (Larsen & Damen, 2014)

In a study published this year, the same arguments are echoed. Minhas et al argue that ‘there is a lack of clarity for objective criteria or accepted definition for deafblindness or dual-sensory loss’ (Minhas, et al., 2022).

There is a tranche of research that discusses the potential effectiveness of interventions in potentially delaying the onset of dementia in people with dual sensory loss. For example, a recent study into the association of dual sensory loss and limitations of function argued that adults who have dual sensory loss had more functional limitations in comparison to those either with a single sensory loss or with no sensory loss. The study recommends that:

> “Strategies to improve visual and/or hearing function (e.g., sensory aids, rehabilitation) could potentially help prevent or minimize disability, even among those with dementia.” (Assi, et al., 2021)

Furthermore, in a study of US Medicare beneficiaries, it was found dual sensory impairment was prevalent in older adults and associated with increased risk of dementia. The findings suggested that sensory interventions for older people with dual sensory loss were a viable option to consider in terms of potentially delaying the onset of dementia (Kuo, et al., 2021).

The link between dual sensory loss and dementia and cognitive decline has been gaining momentum. For example, in an extensive study which involved 19,618 respondents who were part of the Health and Retirement Survey. Respondents self-reported sensory loss and the study looked at the link between self-reported sensory loss and risk of later cognitive decline. Results of the study argue that:

> "Respondents with dual sensory impairment at baseline were 38% and 26% more likely to develop possible CIND and probable dementia, respectively, than those with no sensory impairment."

It was suggested that further research into the association between single and dual sensory loss should be carried out in order to determine if any interventions would be beneficial. Consideration was also given to at what age these interventions would be most helpful in potentially reducing the impact of cognitive impairment and dementia (Maharani, et al., 2020).

Systematic Scoping reviews provide a wealth of information and the recent study 'Cognitive Impairment in Older Adults with Concurrent Hearing and Vision Impairment: A Systematic Scoping Review Protocol' is no exception. While this review does not deal with dementia per se, there is obvious relevance with cognitive impairment. The review concludes that:

> "…individuals with DSI [dual sensory loss] experience varying degrees of functional limitations, which impede communication, information access, independent travel, and other activities of daily living These limitations contribute to reduced social participation and pose a higher risk of social isolation, depression, and cognitive impairment. Evidence suggests a strong association between sensory impairment and cognitive impairment." (Jaiswal, et al., 2021).

In a 2020 study, Hwang et al argue that, while hearing loss and loss of vision have been associated with dementia, there is more research needed to establish the association between dementia and dual sensory loss. A total of

2,051 respondents took part in this research which used the Gingko Evaluation of Memory Study (GEM) as a base line measure. It was found that:

> "Older adults with DSI [dual sensory impairment (sic.)] are at a significantly increased risk for dementia. Further studies are needed to evaluate whether treatments can modify this risk" (Hwang, et al., 2020) .

Research looking at how dual sensory loss is managed in Care Homes has been growing in recent years. For example, the need for social engagement of nursing home residents with dual sensory loss was emphasised in a 2016 study which monitored a cohort of care home residents for a year. It was found that residents with dual sensory loss had a larger amount of decline in cognition over the year. This was in comparison to residents who had hearing or vision loss and those without sensory loss. The study found that social engagement lessened cognitive decline in residents with dual sensory loss, arguing that

> "… residents with dual sensory loss might cognitively benefit from interventions to improve involvement in social life at nursing homes" (Yamada, et al., 2016).

On a similar theme, discussion focusses on the risk of social isolation for older people with dual sensory loss and the impact that has on health and cognitive decline. Within this qualitative study involving long term care residents who use a self-management programme, where findings show:

> "older adults [with dual sensory loss] feel threatened in their existence as a social human being; they feel unable to reach out to others, to be aware of what is happening in their environment, or to discuss and negotiate about the care they receive" (Roets-Merken, et al., 2017).

Interestingly, this study also highlights that, care home residents with dual sensory loss report similar experiences to that of young adults with congenital dual sensory loss. Despite having very different experience of life with dual sensory loss, both groups report feelings of being socially isolated and being out of control of their environment (Roets-Merken, et al., 2017).

It has been observed that loss of hearing and vision among care home residents often goes unnoticed and consequently dementia goes unnoticed and untreated. This impacts negatively on the quality of life of residents who may not be given the correct care and resources to be able to have a good quality of life in care (McGilton, et al., 2016).

As has been stated, dementia can be misdiagnosed or undiagnosed in those with dual sensory loss. Add to this, the fact that residents in care homes are not always screened for sensory loss, it becomes apparent that these two co-morbidities are under-reported. A Canadian qualitative study from 2018 sought to explore the experience nurses had of sensory screening in care home residents and found that respondents were aware of the adequacy of current visual and hearing screening processes and welcomed the development and introduction of these services. They also welcomed the necessary education to make such processes feasible (Wittich, et al., 2018; Höbler, et al., 2018).

Research investigating screening and general health provision for people with dual sensory loss, moreover, has been prominent in the last 5 years, at international level. For example, the first international study on the topic specifically sought the views of health care professionals on the efficacy of the care provided for older people with sensory loss (Leroi, et al., 2019). It was argued that “findings will inform the adaptation of assessments, the development of supportive interventions, and the new provision of services” (Leroi, et al., 2019).

Moreover, in 2021, the first set of international recommendations were published. These recommendations are across disciplines and are intended to hasten:

> “the development of multidisciplinary services and policy to improve the lives of people with dementia and hearing and vision impairment” (Littlejohn, et al., 2021).

These recommendations form extensive work, and it is argued a priority is the detection and diagnosis of dual sensory loss in people with dementia. It is pointed out that the World Health Organisation (WHO) has recently produced a

guide on redesigning care for older people (Thiyagarajan, et al., 2019). These WHO guidelines have “recommended the maintenance of sensory health to preserve physical and mental capacity” and in addition it has been stated that the “recommendation reinforces the need for more specific guidance on hearing and vision impairment” (Littlejohn, et al., 2021).

A qualitative study across three European countries sought the views of people with dual sensory loss and mild to moderate dementia and their carers on the interaction they had received from health care professionals and whether information was accessible for them. Participants reported that assessments were not accessible for them, and the study concluded:

> “…more comprehensive, yet easy to understand, information regarding these linked to conditions and corrective device use is needed. Communication among health care professionals relevant to hearing, vision and cognition needs to be improved” (Wolski, et al., 2019).

Finally, supporting this line of argument, a 2019 survey of health care professionals who work with patients with dual sensory loss and cognitive impairment found that clear assessment guidelines and patient-based solutions were needed (Leroi, et al., 2019).

5. Dual sensory loss - one of the four pillars

While the prime focus of this report is on those with dual sensory loss, it is important to remember that dual sensory loss is one of four types (or pillars) of deafness. Although each of the pillars of deafness is unique, there are areas were issues either run parallel or cross -over and it is helpful to consider dual sensory loss and dementia within this context. Specific resources for those with dual sensory loss and dementia in Scotland are noted also. The 3 other pillars of deafness are:

Deaf, British Sign Language users

People who identify as Deaf, BSL users would have been born deaf or became deaf in early childhood and therefore British Sign Language (BSL) is their first

language. To a greater extent than any of the other categories of deafness, Deaf, BSL users normally identify with a unique Deaf Culture.

Current research and resources on dementia specifically for Deaf, British Sign Language Users in Scotland:

Information on the ‘Transforming the Deaf Experience’
BDA

‘The Deaf Experience user-friendly toolkit for Deaf people who use BSL and who are living with dementia, their families, carers, and staff who are supporting them’
BDA

The toolkit has recently been supplemented by the outcome of research specific to the experience of Deaf people in care homes. In March 2022 a comprehensive report and guide was produced from the outcome of the research:

‘Deaf people with dementia and care homes in Scotland: Navigating effective care home service provision in Scotland for Deaf people with dementia and their families. (March 2022).
BDA

People who are Deafened

People who are Deafened are those who become deaf after learning to speak. Deafness here can be the result of an accident or trauma or might be a side-effect of an illness. People in this category can lose their hearing suddenly or over time and are sometimes described as having "Acquired Profound Hearing Loss" (APHL).

Current research and resources on dementia specifically for people who are Deafened in Scotland:

There are no current information resources on dementia available for people who are deafened, however, the general guide below contains a relevant

section. ’Dementia and Deafness: What you Need to Know’, 2015. This is a useful resource from Deaf Action, which deals with all pillars of deafness.
Deaf Action

People who are Hard of Hearing

The term ‘Hard of Hearing’ is used to describe those whose hearing loss is mild to moderate. In general terms, those who are Hard of Hearing lose their hearing gradually over time. The category includes those with age-related hearing loss and as such potentially most affected by dementia.

Current research and resources on dementia specifically for people who are hard of hearing in Scotland:

There are no current information resources on dementia available specifically for people who are hard of hearing, however, the general guide below contains a relevant section.

’Dementia and Deafness: What you Need to Know’, 2015. This is a useful resource from Deaf Action, which deals with all pillars of deafness.
Deaf Action

Prevalence research carried out by deafscotland in 2019 provides a review of deafness and dementia in Scotland:
Life Changes Trust

Sensory loss – visual

In addition, a relevant set of guidelines has been produced by research undertaken by Sight Scotland. While this addresses visual sensory loss only, again, as with deafness, there will be information that is pertinent to those with dual sensory loss.

“Dementia and Sight Loss: A guide on activities and care of people living with dementia and sight loss” (Sight Scotland, 2019):

6.Modelling prevalence estimates: the main findings

As stated, previous research carried out by deafscotland on prevalence figures for people with dementia who are hard of hearing were modelled (McMenemy & Johnson, 2020). It was evident from this research that it would be possible to build upon the learning and apply a similar methodology to produce likely numbers for those with dual sensory loss and dementia for each of the 32 Local Authorities in Scotland.

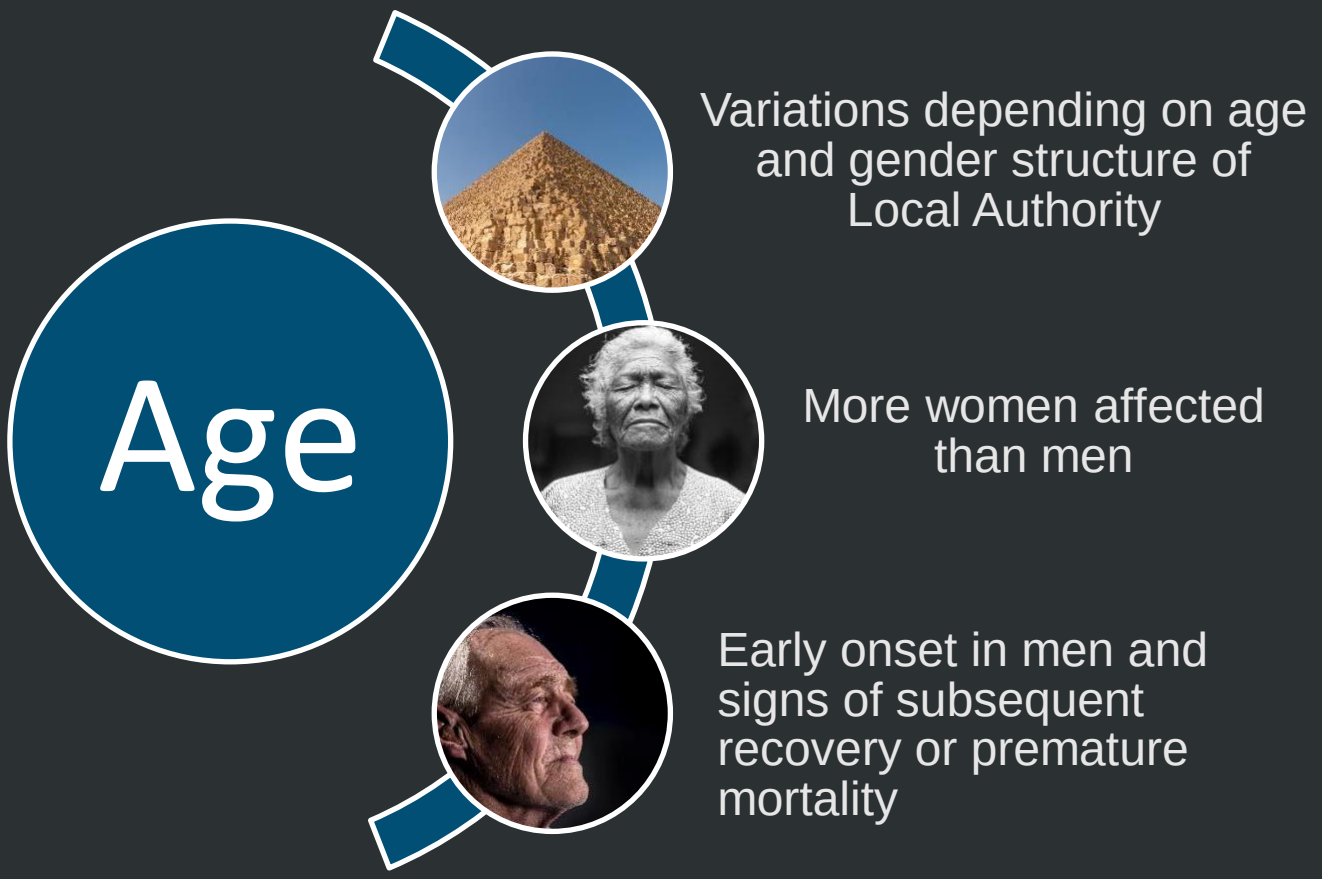


Figure 1 Main Findings

[Figure 1 is a graphic showing the main findings of the research. The image contains one large circle with 'age' written in it, alongside this to the right are three additional smaller circles curving around the larger circle. Each of the circles has a separate image and text.

The top circle has a photo of a pyramid and states the first finding as “variations depending on age and gender structure of Local Authority”; the second circle has an image of an older woman with closed eyes and the second finding states “more women affected than men”; the third circle contains an image of an older man and the third finding states “early onset in men and signs of subsequent recovery or premature mortality”.]

Using a combination of databases, Robertson & Emerson developed an excellent methodology in a 2010 report and provided estimates for people with dual sensory loss for the UK. The prevalence rates in Robertson & Emerson’s work are a comprehensive and robust set of estimates and formed the starting point for the prevalence estimates and modelling within this project. Additionally, (Koesters, et al., 2021) developed a robust framework to model the progression of dementia as people get older for any age structured data set. The combination of both made the results in this report possible. A detailed methodology of the modelling techniques used can be found in Appendix A.

Using this methodology, it was possible to produce detailed age structured prevalence estimates for each Local Authority in Scotland and these are attached as Appendix B.

Summary graphics of the prevalence rates for Scotland are detailed in Figure 2 and Figure 3. These graphics are also shown in Table 1. In depth discussion on prevalence rates can also be found in Appendix B.

Table 1 Estimates of numbers of people with dual sensory loss and dementia in Scottish Local Authorities

Council	female	male	both
Aberdeen City	66	39	105
Aberdeenshire	84	55	139
Angus	53	30	83
Argyll and Bute	37	23	60
City of Edinburgh	165	94	259
Clackmannanshire	14	10	24
Dumfries and Galloway	63	43	106
Dundee City	51	28	79
East Ayrshire	38	24	62
East Dunbartonshire	50	32	82
East Lothian	38	24	62
East Renfrewshire	43	24	67
Falkirk	48	32	80
Fife	132	84	216
Glasgow City	159	78	237
Highland	94	61	155
Inverclyde	30	16	46
Midlothian	27	19	46
Moray	38	25	63
Na h-Eileanan Siar	13	8	21
North Ayrshire	50	30	80
North Lanarkshire	87	51	138
Orkney Islands	10	6	16
Perth and Kinross	70	47	117
Renfrewshire	57	35	92
Scottish Borders	47	30	77
Shetland Islands	7	6	13
South Ayrshire	52	32	84
South Lanarkshire	107	64	171
Stirling	34	20	54
West Dunbartonshire	26	15	41
West Lothian	45	31	76
Sum:	1835	1116	2951

[**Table 1** Lists the numbers of people with dual sensory loss and dementia in Scottish Local Authorities. Numbers are displayed in a separate row for each Local Authority, sorted by

gender and a sum total provided for each Authority. The table shows that: Aberdeen City has 66 female, 39 male and these sum to 105 people with dual sensory loss and dementia. Aberdeenshire has 84 female, 55 male and these sum to 139 people with dual sensory loss and dementia. Angus has 53 female, 30 male and these sum to 83 people with dual sensory loss and dementia. Argyll and Bute have 37 female, 23 male and these sum to 60 people with dual sensory loss and dementia. City of Edinburgh has 165 female, 94 male and these sum to 259 people with dual sensory loss and dementia. Clackmannanshire has 14 female, 10 male and these sum to 24 people with dual sensory loss and dementia. Dumfries and Galloway have 63 female, 43 male and these sum to 106 people with dual sensory loss and dementia. Dundee City has 51 female, 28 male and these sum to 79 people with dual sensory loss and dementia. East Ayrshire has 38 female, 24 male and these sum to 62 people with dual sensory loss and dementia. East Dunbartonshire has 50 female, 32 male and these sum to 82 people with dual sensory loss and dementia. East Lothian has 38 female, 24 male and these sum to 62 people with dual sensory loss and dementia. East Renfrewshire has 43 female, 24 male and these sum to 67 people with dual sensory loss and dementia. Falkirk has 48 female, 32 male and these sum to 80 people with dual sensory loss and dementia. Fife has 132 female, 84 male and these sum to 216 people with dual sensory loss and dementia. Glasgow City has 159 female, 78 male and these sum to 237 people with dual sensory loss and dementia. Highland has 94 female, 61 male and these sum to 155 people with dual sensory loss and dementia. Inverclyde has 30 female, 16 male and these sum to 46 people with dual sensory loss and dementia. Midlothian has 27 female, 19 male and these sum to 46 people with dual sensory loss and dementia. Moray has 38 female, 25 male and these sum to 63 people with dual sensory loss and dementia. Na h-Eileanan Siar has 13 female, 8 male and these sum to 21 people with dual sensory loss and dementia. North Ayrshire has 50 female, 30 male and these sum to 80 people with dual sensory loss and dementia. North Lanarkshire has 87 female, 51 male and these sum to 138 people with dual sensory loss and dementia. Orkney Islands has 10 female, 6 male and these sum to 16 people with dual sensory loss and dementia. Perth and Kinross have 70 female, 47 male and these sum to 117 people with dual sensory loss and dementia. Renfrewshire has 57 female, 35 male and these sum to 92 people with dual sensory loss and dementia. Scottish Borders has 47 female, 30 male and these sum to 77 people with dual sensory loss and dementia. Shetland Islands has 7 female, 6 male and these sum to 13 people with dual sensory loss and dementia. South Ayrshire has 52 female, 32 male and these sum to 84 people with dual sensory loss and dementia. South Lanarkshire has 107 female, 64 male and these sum to 171 people with dual sensory loss and dementia. Stirling has 34 female, 20 male and these sum to 54 people with dual sensory loss and dementia. West Dunbartonshire has 26 female, 15 male and these sum to 41 people with dual sensory loss and dementia. West Lothian has 45 female, 31 male and these sum to 76 people with dual sensory loss and dementia. All of these sum to 1835 men, 1116 women and give a total prevalence figure of 2951 people with dual sensory loss and dementia in Scotland.]

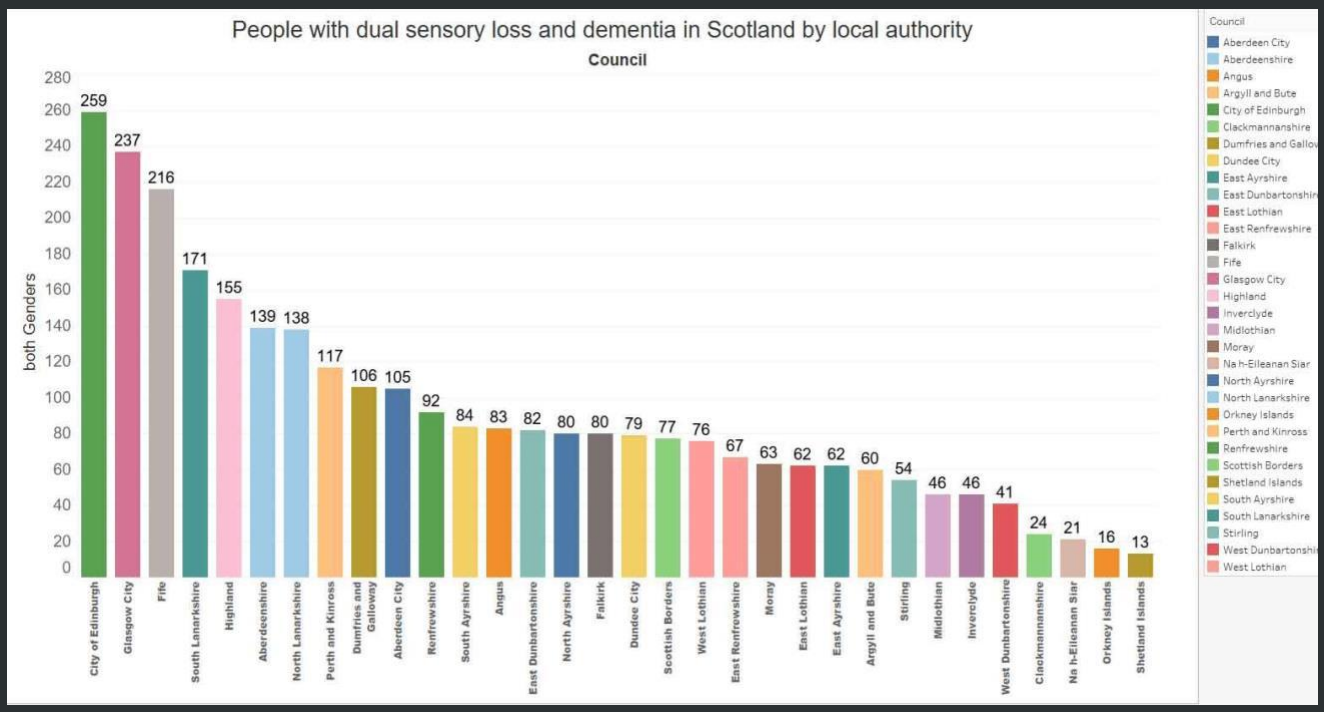


Figure 2 Estimates of total numbers of people with dual sensory loss and dementia in Scottish Local Authorities

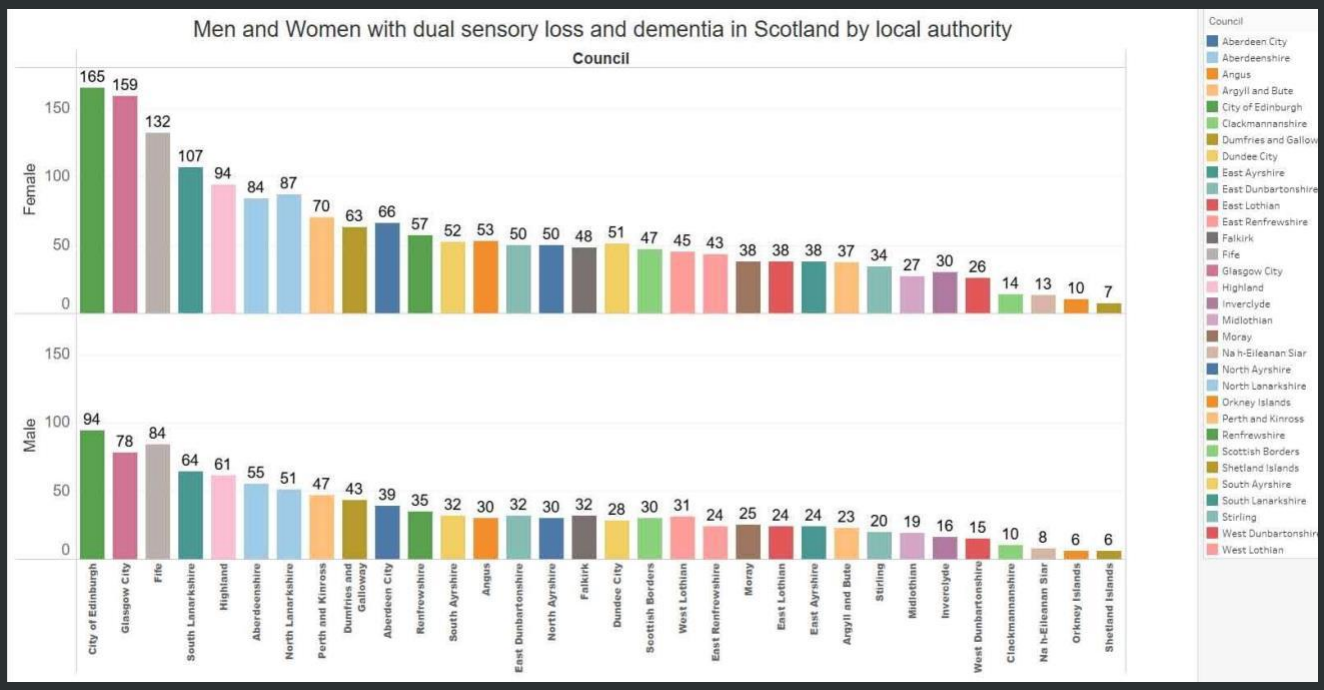


Figure 3 Estimates of number of people with dual sensory loss and dementia in Scottish Local Authorities

[Figure 2 **is a graphic of the information contained in Table 1, giving prevalence rates for those with sensory loss and dementia in each Local Authority in Scotland. This figure gives the overall numbers and is not broken down by gender.]**

[Figure 3 **is a graphic of the information contained in Table 1, giving prevalence rates for those with sensory loss and dementia in each Local Authority in Scotland. Here the numbers for each Local Authority are sorted by gender.]**

7. Conclusion

The main barrier to gathering data on those with dual sensory loss and dementia is the lack of consensus in the definition. Definition is of pivotal importance. Lack of a robust definition hinders identification of cases and allows people to fall through the net. Addressing this, (Minhas, et al., 2022) set out a list of recommendations needed to ensure research on dual sensory loss is fit for purpose:

> "It is recommended that future research studies about individuals with deafblindness include coordinated data-collection tools such as (a) standardized definitions of deafblindness or dual-sensory loss; (b) severity levels of visual and hearing impairments; (c) level of sensory functioning in relation to access to information, communication, and mobility; (d) age of onset of deafblindness or dual-sensory loss; and (e) language and communication ability at the onset of deafblindness or dual sensory loss" (Minhas, et al., 2022).

Alongside this, it is evident that screening and diagnostic processes need to have a multi-agency approach, with data being shared across the sectors. In terms of screening and diagnosis also, it is imperative that identification of dual sensory loss is considered so that misdiagnosis of dementia is lessened.

Dual sensory screening processes need to be nuanced. This will ensure cases are identified as early as possible, resulting in optimum and timely service provision.

Diagnostic technology in relation to dementia must take into consideration that dual sensory loss may provide clinicians with skewed results. As such, diagnostic procedure must be nuanced and adapted to suit individual need.

‘Social isolation’ is a term that has become well-known across society because of COVID-19. During the pandemic, measures put in place to protect wider society caused distress to those with dual sensory loss. From masks which made it impossible to lip read; the 2-metre rule for social distancing rendering hearing aids useless or the loneliness and isolation caused by shielding. All measures made communication impossible, resulting in exclusion and isolation. There can be no doubt that post-pandemic society will have a greater awareness of the term ‘social isolation’. Those with sensory loss experience social isolation as part of their daily lives.

Individuals with dual sensory loss are in danger of being socially isolated due to the many communication barriers that sensory loss brings with it. As with mid-life hearing loss, social isolation is a potentially modifiable causal factor in dementia. The relevance of the need to tackle this social isolation is clear.

In summation, it is evident that individuals with sensory loss and dementia and the people who care for them need to be able to access several health and social care services – both specialist and more accessible mainstream services and support. But, as has been argued – how can this be done effectively and efficiently if the numbers of these individuals are not known?

In this research, modelling has been added to existing prevalence work to obtain robust estimates for those with dual sensory loss and dementia for all 32 Councils in Scotland. It is hoped that these figures can assist with service provision, both now and in the future.

Future Research:

Building upon the regional prevalence research for Scotland outlined in this report, a comparative study with Norway would enrich learning and add to wider understanding in the field. The two countries are similar in population size, are in the same part of the world and have the same access to immunisations, MMR vaccines etc.

In addition, as stated, Norway has a definition for deafblindness, has identification teams and a healthcare infrastructure that recognises deafblindness. At present Scotland does not. To what extent, then, do the prevalence rates of the two countries compare?

There is the potential for a strong cross-national comparative study that would add to and strengthen current dual sensory loss and dementia evidence base.

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9.Appendices

A: Modelling Detail
B: Dual Sensory Loss and Dementia in Scotland Individual Local Authorities report
C: Dual Sensory Loss in Scotland Individual Local Authorities report

Appendix A

Dual Sensory Loss and Dementia in Scotland

Appendix: Modelling Background

Dr Nils Kösters, Andrena McMenemy, Dr Christine Johnson

April 2022

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1 Introduction

The numbers in the individual authorities reports are compiled from several mathematical models, the EUROCODE[1] dementia model (as sent to Datafakts Ltd by Alzheimer Scotland) and the most recent (at the time of writing) Scottish government forecast model[2] that had local authorities based predictions. These numbers have been generated for Datafakts Ltd's "Dual Sensory Loss and Dementia in Scotland" main report, where dual sensory is discussed in detail. These dual sensory models are based on a 2010 report that studied several UK wide concurring Vision and Hearing Impairments in the UK[3].

2 Background

Having previously modelled the prevalence figures for people with dementia who are hard of hearing, it was evident that it would be possible to build upon the learning and apply a similar methodology to produce likely numbers for those with dual sensory loss and dementia for each of the 32 Local Authorities in Scotland.
It was planned to use these figures, combine them with NRS population projections for Scotland, and dementia rates to provide estimates of those with dual sensory loss and dementia for each Local Authority in Scotland.
Using a combination of databases, (Robertson, Janet and Emerson, Eric 2010) developed an excellent methodology in a 2010 report and provided estimates for people with dual sensory loss for the UK. The prevalence rates in (Robertson, Janet and Emerson, Eric

[1] European Cooperation on Dementia
[2] Population Projections (2018-based)
[3] Estimating the number of people with co occurring vision and hearing impairments in the UK

2010) work are a comprehensive and robust set of estimates and form the starting point for the work within this project. There was disparity in age groupings between the sources and so, to combine them effectively, a mathematical model was devised.
Why use a mathematical model? There are two reasons.
1.) To amalgamate different data sources with variation in age ranges used.
2.) Formulate a hypothesis with the formula we use.
Modelling any framework, ultimately depends firstly upon the data source. There are several data sources available to model dementia prevalence (see tables 1, 2 and 3).
Since it was necessary to combine three conditions (dual sensory loss and dementia), over two genders, it was essential to ensure that detail was lost in having to deal with multiple age classes.

Table 1: EUROCODE (European Collaboration on Dementia) data on dementia by age group

	Gender	
Age	Men	Females
30-34	0.07%	0.07%
35-39	0.07%	0.07%
40-44	0.07%	0.07%
45-49	0.07%	0.07%
50-54	0.07%	0.07%
55-59	0.07%	0.07%
60-64	0.20%	0.90%
65-69	1.80%	1.40%
70-74	3.20%	3.80%
75-79	7.00%	7.60%
80-84	14.50%	16.40%
85-89	20.90%	28.50%
90-94	29.20%	44.40%
95-99	32.40%	48.80%
100+	32.40%	48.80%

An example of how diverse the age ranges used in data can be is illustrated in Table 1. EUROCODE [European Collaboration on dementia] (as used by Alzscot.org) is the most precise with fifteen age-groups over two genders (Table 1). Alzheimer Europe publishes a seven age-group model over two genders (Table 2). The Scottish Government's published table has 8 age groups with no gender specification. (Table 3).
Moving on specifically to dual sensory loss, (Robertson, Janet and Emerson, Eric 2010) use the term 'co occurring vision or hearing

Table 2: Dementia Prevalence for 2018, calculated for each age range and presented as a percentage for the overall population and broken down by sex by Alzheimer Europe (www.alzheimer-europe.org)

Age range	Overall prevalence	Prevalence in females	Prevalence in males
60-64	0.60%	0.90%	0.20%
65-69	1.30%	1.50%	1.10%
70-74	3.30%	3.40%	3.10%
75-79	8%	8.90%	7%
80-84	12.10%	13.10%	10.70%
85-89	21.90%	24.90%	16.30%
90+	40.80%	44.80%	29.70%

loss' and this data is sorted into ten age groups covering two genders (Robertson, Janet and Emerson, Eric 2010).
In order to find a solution that would allow matching the modelling of the (Robertson, Janet and Emerson, Eric 2010) data of with the precise EUROCODE data it was necessary to fix age points. We then used the mean of the age group (for example the 10-year age group between 50 and 60 was fixed as (50+59)/2. The loosely based 90+ age group was based on the longest living person in Scotland (112) years.
With this procedure it was possible to match the prevalence rates of dementia and dual sensory loss. Now – on to the next piece in the puzzle: population estimates in Scotland. This data also comes in many forms, in many diverse age groups, and is some not split into genders. Sometimes it is for the whole of Scotland and sometimes only geographical regions.

Table 3: https://www.gov.scot/publications/estimated-projected-diagnosis-rates-dementia-scotland-2014-2020)

NHS Board	Under 60	60-64	65-69	70-74	75 -79	80-84	85-89	90+
NHS Ayrshire & Arran	0.1	0.9	2.1	6.4	14.3	28.7	43.9	49.9
NHS Greater Glasgow & Clyde	0.1	1.1	3.4	8.3	18	32.4	48.8	54
NHS Lanarkshire	0.1	1.2	2.6	7.3	17.5	35.9	53.7	65.6
Combined Rate	0.1	1.1	2.9	7.6	17.1	32.7	49.2	56.2

In order to obtain reliable numbers on prevalence data for any condition it is necessary to match these with population estimates. If all age groups for dual sensory loss, dementia and population data matched theoretically it would not be necessary to model to obtain estimates at all. However, age groups often do not match. In addition, it is necessary to develop a framework that describes the underlying process. The ageing of a population would come under a biological process that is called senescence. Senescence is essentially the reverse of growth. As such to model an efficient framework to estimate reliable numbers on how dual sensory loss and dementia in relation to age, we parameterised an established growth model.

As aforementioned, mid-life hearing loss, vision loss and dementia are ageing processes that can be mathematically modelled (Koesters et al. 2021) just as with other ageing processes (V. N. Novoseltsev and A. I. Mikhalskii 2011). Mathematical Modelling has a class of models that describe growth processes. An overview can be found in (Desta Fekedulegn and Mairitin Mac Siurtain and Jim Colbert 1999, M Kaps and W O Herring and W R Lamberson 2000, A. Tsoularis and J. Wallace 2002, Khamiz 2005, Michael J. Panik 2014). Models of this class are often logistic based, meaning they start off slowly, go through rapid expansion and then level off at an asymptote.

To get a good fit to the EUROCODE data (table 1) and data from (Robertson, Janet and Emerson, Eric 2010), we used parameter optimisation in R 4.1.2 on the Stannard [all (Khamiz 2005)] growth model. It best encapsulated that, eventually, all reverse growth models will level off prevalence.

After closer inspection of the data it was decided to calculate on the mean of the two boundary condition estimates used by (Robertson, Janet and Emerson, Eric 2010) for each age/gender group. They used a lower estimate (more severe impairment) and an upper estimate (more severe and less severe impairment). The mean, as such, expresses the vagueness in definition of dual sensory loss that has previously been discussed. Both extremes are used and a compromise is made on the middle.

To make the model the upper and lower bounds from (Robertson, Janet and Emerson, Eric 2010) were added and then divided through 2 to give the arithmetic mean. Parameterisation was then carried out to establish the optimal model for people with dual sensory loss and was then multiplied with the dementia model (Koesters et al. 2021) derived from the data from EUROCODE Table 1. This combined model was then multiplied with the latest population prediction from the Scottish government that included local authorities[4].

3 Results

While some of the models had an adequate fit, the best fit for dementia proved to be the Stannard Model see equation 1. The Stannard model was also a good descriptor for the progression of dual sensory loss in women. For men we found a specific, early onset and subsequent decline between the ages 55 and 70 see figure 4.

[4] Scottish Government Forecast Model

$$y_t \approx \frac{M}{\left(1 - e^{\frac{-(\beta + k \ cdott)}{m}}\right)^m} \quad (1)$$

where M = upper asymptote, β = growth displacement, k = growth rate, m = slope of growth and t = time

This phenomenon was found in the prevalence rates that were detailed in (Robertson, Janet and Emerson, Eric 2010)'s report.

The male data therefore indicates that there could underlying prevalence rate divergences in men that cannot be explained by ageing alone. Several factors could influence this divergence. Shorter male life expectancy (V S Raleigh and V A Kiri 1997), a theoretically assumed better supply of hearing aids or visual medical intervention in men, a differing dropout rate (Mark D. Chatfield and Carol E. Brayne and Fiona E. Matthews 2005) or a yet undiscovered reason that should be investigated.

As can be seen in Figure 4, there is a distinct rise and fall in the male development of dual sensory loss in the original (Robertson, Janet and Emerson, Eric 2010) data from around 55 to 75 years that is not represented in women see figure 1. In this case we parameterised a Fourier model.

The main anomaly this model highlights is that there is a need to investigate in more detail, why there is an early onset of dual sensory loss in men, and why it declines to a certain extent.

Alongside the individual council's calculation, a score depicting how many people are likely to have dual sensory loss and dementia in comparison to their population size has been added. This score shows where there is a greater need of service need in comparison to the population. The result of this score can be found in figure 2 . The score shows us that the Western Isles has the biggest percentage of people with dual sensory loss and dementia in comparison to its population size, whereas Glasgow has the fewest.

In total absolute numbers the situation is basically dependent on population size, but the influence of old vs new people can still have an impact, where the slightly smaller City of Edinburgh has more overall people with dual sensory loss and dementia that Glasgow City. Please see Figure 3 for more detail.

The modelling used to produce these figures should be updated on a continuous basis as soon as new Scottish government data is released, thereby ensuring a legacy of robust estimates continued.

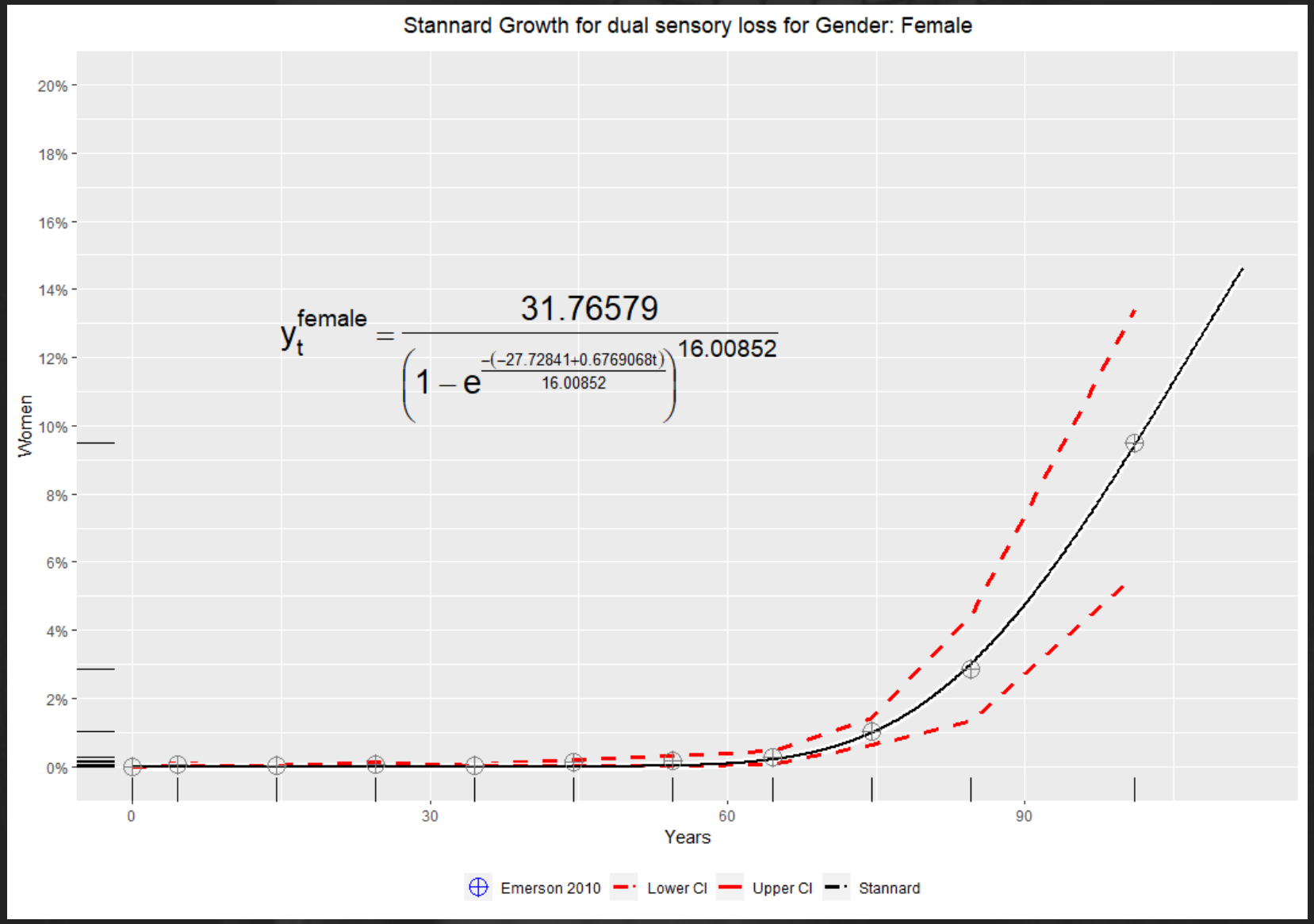

Figure 1: Result of the Stannard parameterisation for Women for Dual Sensory Loss within the boundaries of (Robertson, Janet and Emerson, Eric 2010) table 1

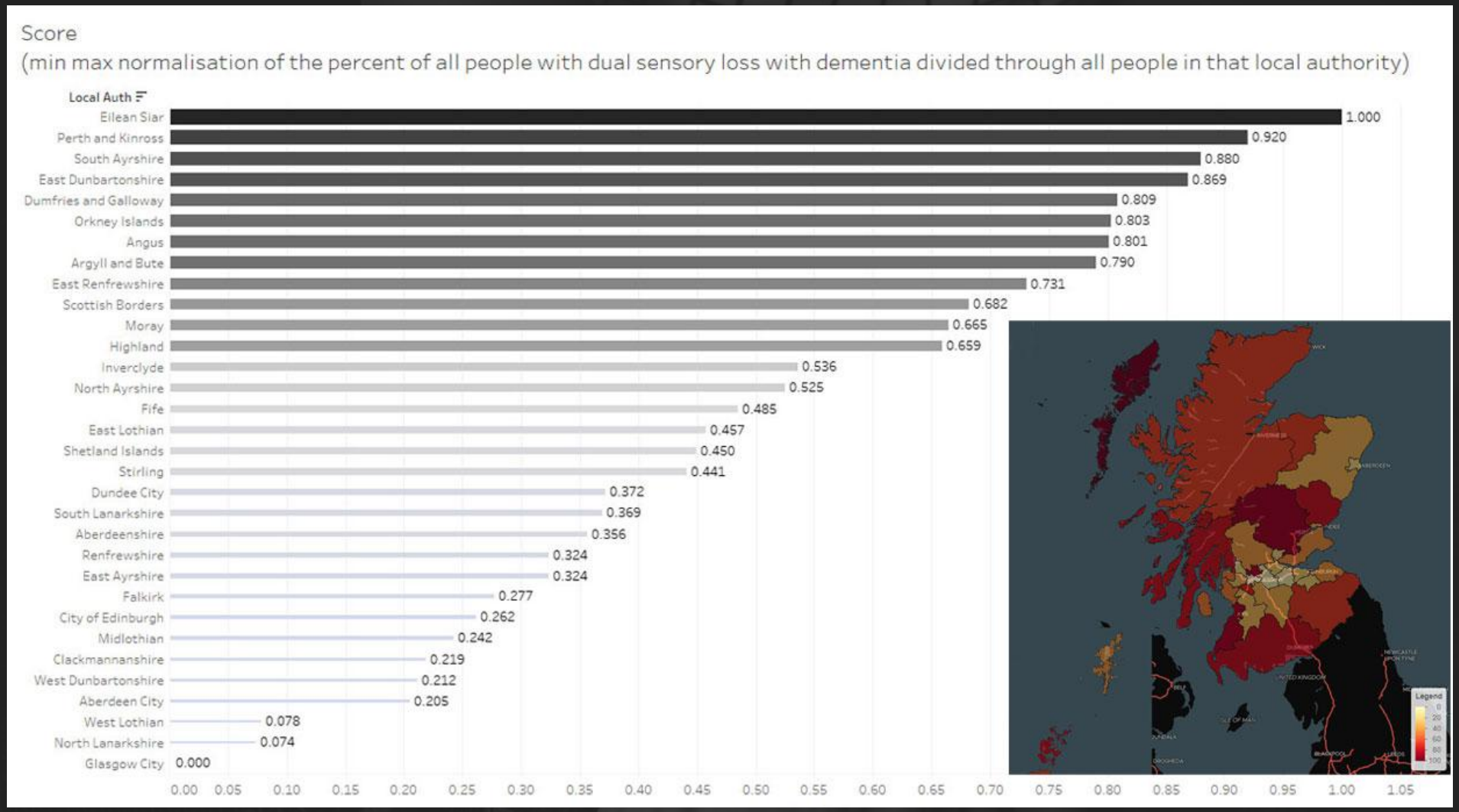

Figure 2: A bar chart and a map that shows our scoring mechanism, based on the min max normalisation of the percent of people with dementia and dual sensory loss in that Local Authority

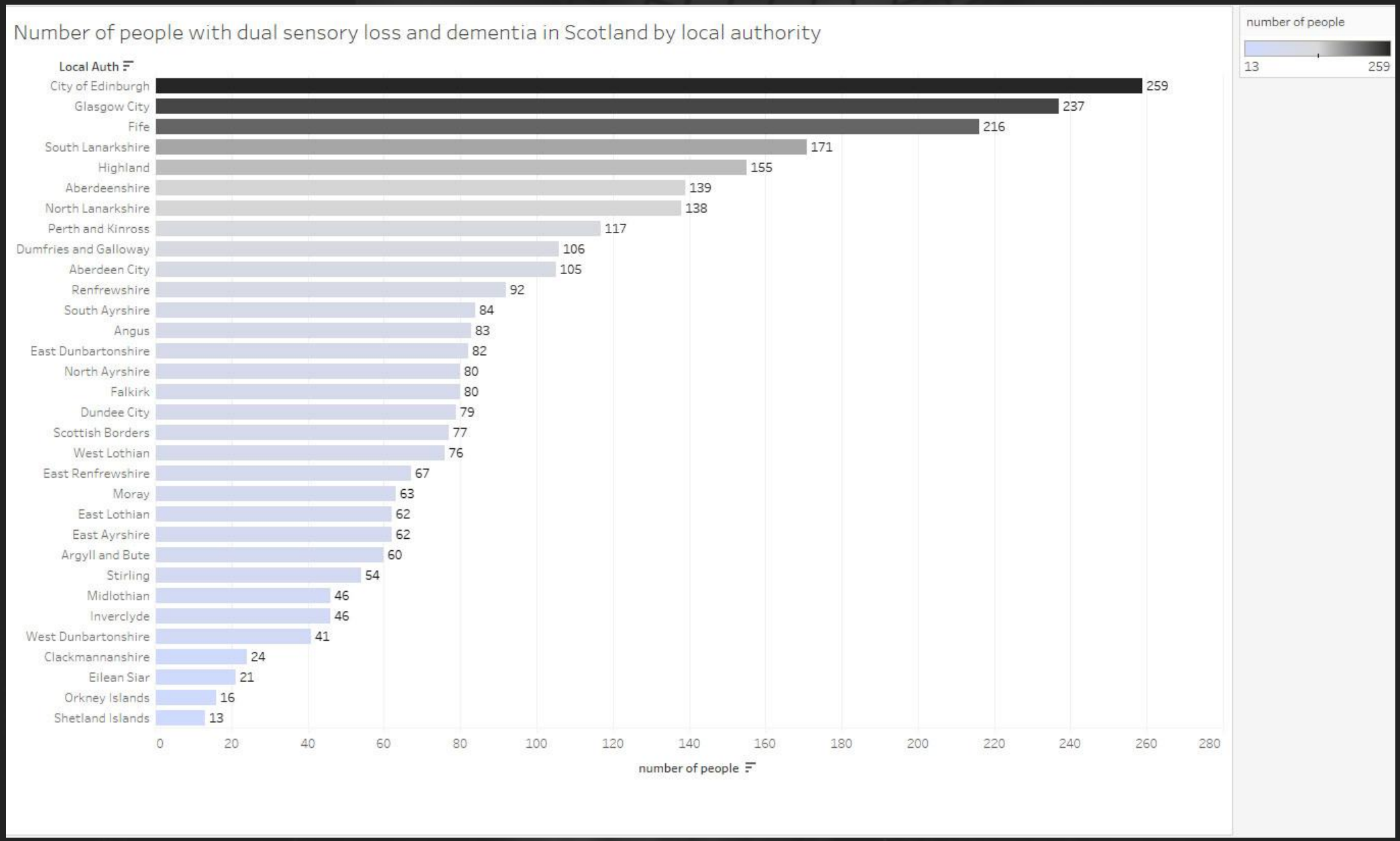

Figure 3: 7 Absolute numbers of people with Dual Sensory Loss and Dementia in Scotland listed by Local Authority.

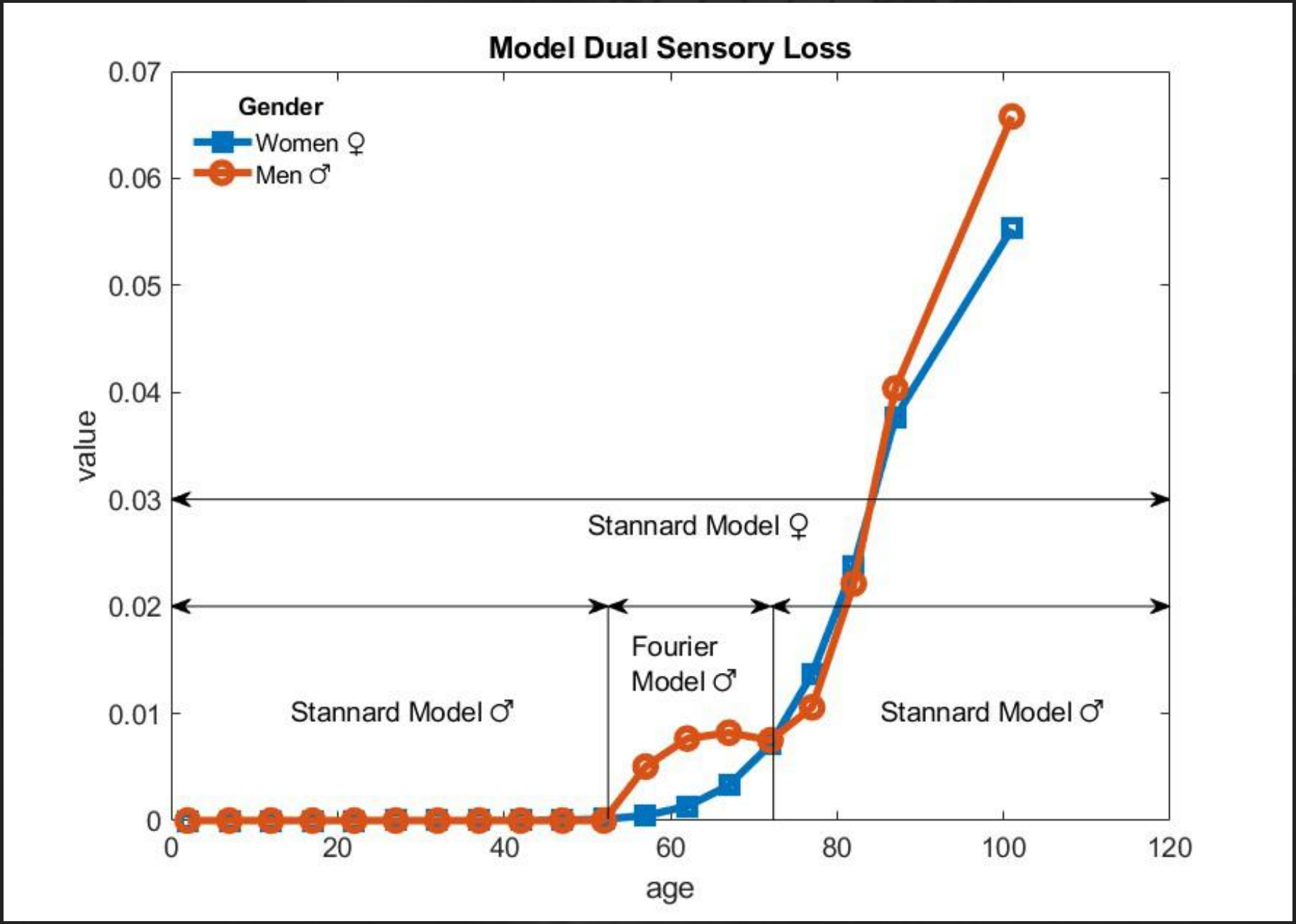

Figure 4: Explanatory graphic on how the models have been fit. Only the dual sensory loss models are shown.

4 The Models

The models are for men between 0 and 54 and 71 - 90+ years of age as shown in formula 2 and between 55 and 70 years of age as shown in formula 3. The second part of the equation

$$\frac{33.1750186}{\left(1-e^{\frac{-(-13.5505501+0.1565214\cdot t)}{0.6319895}}\right)^{0.6319895}}$$

is a dementia model[5] for men.

$$y_{men} \approx \frac{52.256111}{\left(1-e^{\frac{-(7.882052+4.97653\cdot t)}{116.021313}}\right)^{116.021313}}\cdot \frac{33.1750186}{\left(1-e^{\frac{-(-13.5505501+0.1565214\cdot t)}{0.6319895}}\right)^{0.6319895}} \tag{2}$$

$$\begin{aligned} y_{men} \approx (&2.949 - 0.4851\cdot cos(x\cdot 0.04425) \\ &- 4.886\cdot sin(x\cdot 0.04425) \\ &- 3.223\cdot cos(2\cdot x\cdot 0.04425) \\ &+ 0.3011\cdot sin(2\cdot x\cdot 0.04425) \\ &+ 0.113\cdot cos(3\cdot x\cdot 0.04425) \\ &+ 1.837\cdot sin(3\cdot x\cdot 0.04425) \\ &+ 0.6546\cdot cos(4\cdot x\cdot 0.04425) \\ &- 0.09044\cdot sin(4\cdot x\cdot 0.04425))\cdot \\ &\frac{33.1750186}{\left(1-e^{\frac{-(-13.5505501+0.1565214\cdot t)}{0.6319895}}\right)^{0.6319895}} \end{aligned} \tag{3}$$

[5] Modelling Prevalence of Dementia and Hearing Loss in Scotland

For women the case is much simpler as their dual sensory loss does not display a bump of cases between 55 and 70 and as such we can use formula 4 between 0 and 90+ years of age, where

$$\frac{49.0542126}{\left(1-e^{\frac{-(-12.2099512+0.1347699\ cdott)}{0.2643167}}\right)^{0.2643167}}$$

is a dementia model.

$$y_{women} \approx \frac{31.765791}{\left(1-e^{\frac{-(-27.7284146+0.6769068\ cdott)}{16.0085245}}\right)^{16.0085245}} \cdot \frac{49.0542126}{\left(1-e^{\frac{-(-12.2099512+0.1347699\ cdott)}{0.2643167}}\right)^{0.2643167}} \tag{4}$$

In all equations y stands for the number of people in the subclass that is denoted by a subscript for men ∨ women. So y_{women} is the estimated number of women with dual sensory loss and dementia. All values are estimated on the mean between the upper and lower bounds of an unclear defined spectrum of what dual sensory loss is exactly and what it is for age related sensory loss. The upper and lower bounds are defined in [6].
A short overview on how the models were deployed is shown in figure 4.

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Appendix B

Dual Sensory Loss and Dementia in Scotland

Individual Local Authorities report

Dr Nils Kösters, Andrena McMenemy, Dr Christine Johnson

April 2022

The numbers in this document are compiled from several mathematical models, the details of which are explained in the Modelling Background Report. This document gives an overview of what Scottish Local Authorities can generally expect over the next 20 years. While this adequately identifies developments in the individual councils, more resources need to be invested by each council to identify the areas within their local authority that are of highest need. A short representation on how this could achieve a more detailed outlook is presented in figure 1.

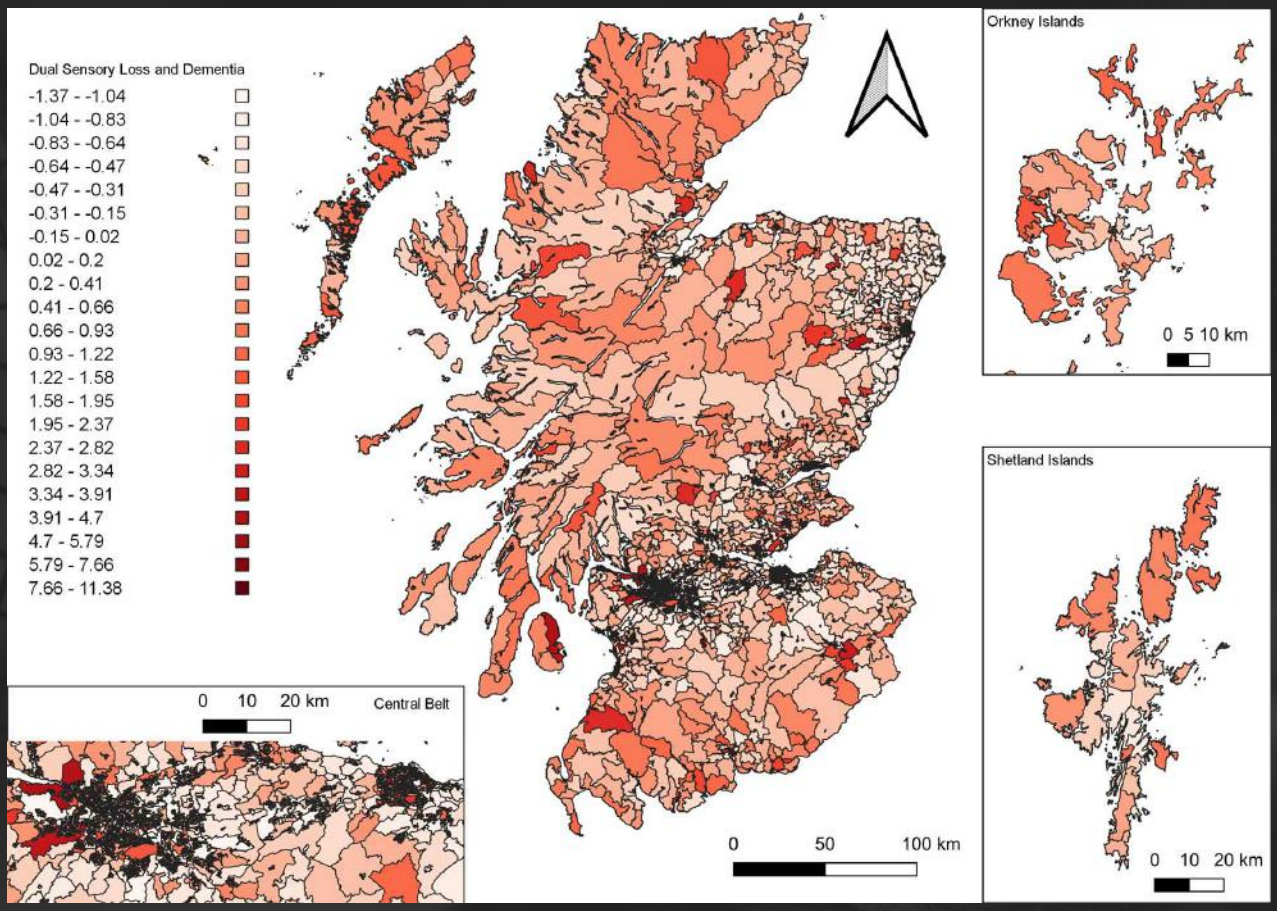

Figure 1: Z-Scores: Dual Sensory Loss and Dementia Heat map based on Scottish Government SAPE* Data Zones Population Estimates. *SAPE = Small Area Population Estimates

The three most affected places in Scotland are the data zones *Ayr South Harbour and Town Centre - 07* close to the Ayrshire Hospice, *Dundyvan - 08* which contains the Woodside Care Home and *Paisley West - 05* with has the Elderslie Care Home within it. Ideally future research should not just focus on Council areas and include the Scottish Index of Multiple Deprivation to identify the areas with highest needs [1].

[1] SIMD

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	female
2	75-79	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	female
3	80-84	11	11	11	11	11	12	12	13	13	14	13	13	13	13	14	14	14	15	15	15	16	16	female
4	85-89	22	22	22	22	21	21	21	21	21	21	23	25	26	27	27	26	26	26	27	28	29	30	female
5	90+	28	28	28	28	28	28	29	29	29	29	29	30	30	30	31	33	35	36	36	36	37	37	female
6	sum	66	67	67	67	66	67	69	70	70	71	72	75	76	77	79	81	83	85	86	87	90	91	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	male
8	75-79	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	male
9	80-84	8	8	8	8	8	9	9	10	11	11	10	10	11	11	11	11	12	12	12	12	12	13	male
10	85-89	13	13	13	13	13	13	13	14	13	14	16	17	18	19	20	19	19	20	20	21	22	22	male
11	90+	13	13	13	13	14	14	14	15	15	15	15	15	16	16	17	19	20	20	21	21	21	22	male
12	sum	39	39	39	39	40	41	41	44	44	45	46	48	51	53	55	55	57	58	59	60	61	63	male
13	Total	105	106	106	106	106	108	110	114	114	116	118	123	127	130	134	136	140	143	145	147	151	154	Both

Table 1: Estimated number of people with dual sensory loss and dementia in Aberdeen City. Age categories without people (0 people) have been omitted. Results are rounded.

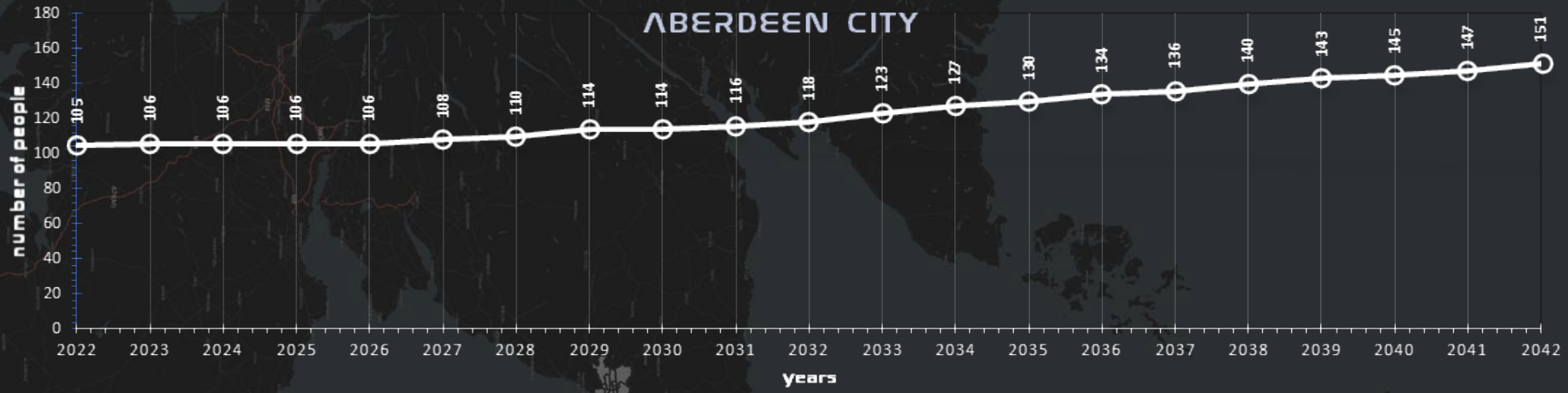

Figure 2: Projection of people with dual sensory loss and dementia in Aberdeen City from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	70-74	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	2	female
3	75-79	6	7	7	7	7	7	7	7	7	7	8	8	8	8	8	8	8	9	9	9	9	9	female
4	80-84	14	15	15	16	16	18	19	20	21	21	20	20	20	21	21	21	22	22	22	23	23	24	female
5	85-89	26	27	27	28	28	30	31	31	32	34	38	40	42	43	44	43	43	43	44	45	46	47	female
6	90+	35	35	36	36	37	37	38	39	40	40	41	42	44	45	46	51	54	56	58	59	61	62	female
7	sum	84	87	88	90	91	95	98	100	103	105	110	113	117	121	123	127	131	134	137	140	143	145	female
8	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
9	70-74	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	male
10	75-79	6	6	7	7	7	7	6	6	6	7	7	7	7	7	7	7	7	8	8	8	8	8	male
11	80-84	11	12	12	13	13	15	17	17	18	18	18	17	17	17	17	18	18	19	19	19	20	20	male
12	85-89	18	19	19	20	20	20	21	22	23	25	28	31	33	34	34	33	32	32	33	34	34	36	male
13	90+	17	18	18	19	20	21	21	22	23	23	24	25	26	27	29	33	35	37	38	39	40	40	male
14	sum	55	58	59	62	63	66	68	70	73	76	80	83	86	88	90	94	95	99	101	103	105	107	male
15	Total	139	145	147	152	154	161	166	170	176	181	190	196	203	209	213	221	226	233	238	243	248	252	Both

Table 2: Estimated number of people with dual sensory loss and dementia in Aberdeenshire. Age categories without people (0 people) have been omitted. Results are rounded.

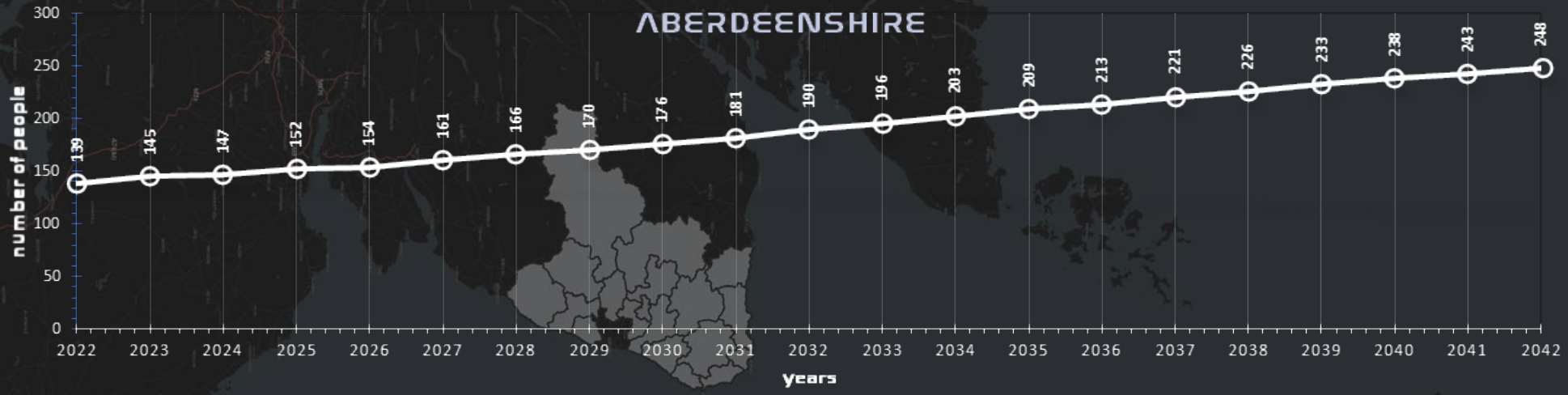

Figure 3: Projection of people with dual sensory loss and dementia in Aberdeenshire from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	female
3	80-84	8	8	8	9	9	10	10	11	11	11	10	10	10	10	10	10	10	11	11	11	12	12	female
4	85-89	16	16	16	17	17	17	17	18	18	19	21	22	23	23	24	22	22	22	22	22	23	23	female
5	90+	24	24	24	25	26	26	27	27	28	28	29	30	30	31	32	35	37	38	39	40	40	41	female
6	sum	53	53	53	56	57	58	59	61	62	63	65	67	68	69	71	72	74	76	77	78	80	81	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	3	3	3	4	4	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	male
9	80-84	6	6	7	7	7	8	9	9	9	9	9	9	9	8	8	9	9	9	9	9	10	10	male
10	85-89	10	11	11	11	12	12	12	13	13	14	15	17	17	18	18	17	17	17	17	17	17	17	male
11	90+	10	11	11	12	12	13	13	14	14	14	15	15	16	17	18	20	21	22	23	23	24	24	male
12	sum	30	32	33	35	36	37	38	40	40	41	43	45	46	47	48	51	52	53	54	54	56	56	male
13	Total	83	85	86	91	93	95	97	101	102	104	108	112	114	116	119	123	126	129	131	132	136	137	Both

Table 3: Estimated number of people with dual sensory loss and dementia in Angus. Age categories without people (0 people) have been omitted. Results are rounded.

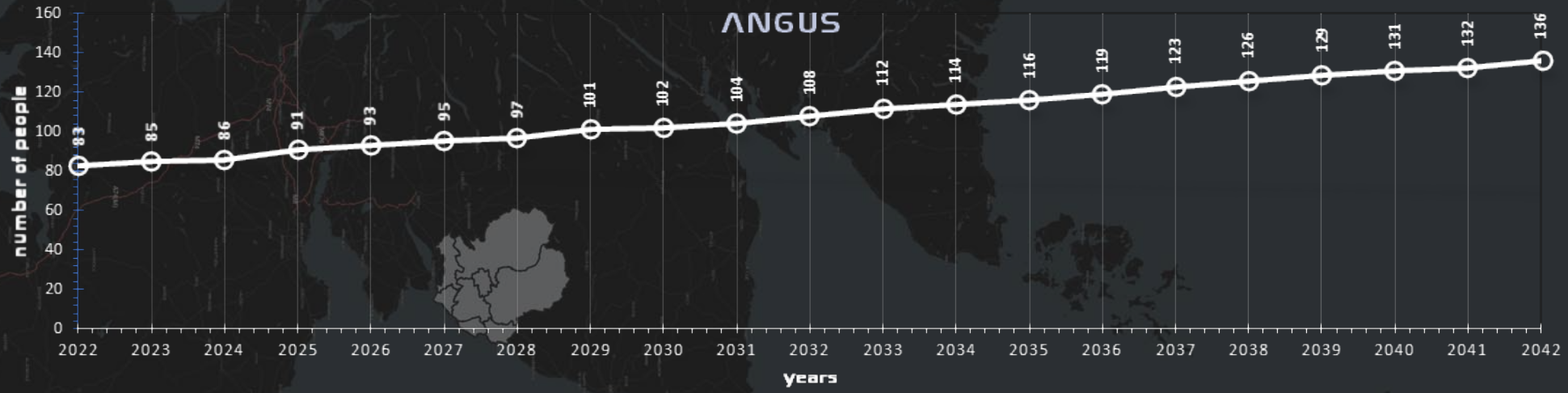

Figure 4: Projection of people with dual sensory loss and dementia in Angus from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	female
3	80-84	6	7	7	7	7	8	8	8	8	8	8	8	8	7	7	8	8	8	8	8	8	9	female
4	85-89	12	12	13	13	13	13	13	13	14	14	16	17	17	17	17	16	16	16	15	16	16	16	female
5	90+	15	15	15	15	16	16	16	16	17	17	17	18	18	18	19	21	22	23	23	24	24	24	female
6	sum	37	38	39	39	40	41	41	41	43	43	45	47	47	46	47	49	50	51	50	52	52	53	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	2	3	3	3	3	3	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	male
9	80-84	5	5	5	6	6	6	6	7	7	7	6	6	6	6	6	7	7	7	7	7	8	8	male
10	85-89	8	8	9	9	9	9	10	10	10	11	11	12	12	13	13	12	12	12	12	13	13	13	male
11	90+	7	8	8	8	9	9	10	10	10	11	11	12	12	13	14	15	16	17	17	18	18	19	male
12	sum	23	25	26	27	28	28	29	30	30	32	32	34	34	36	37	38	39	40	40	42	43	44	male
13	Total	60	63	65	66	68	69	70	71	73	75	77	81	81	82	84	87	89	91	90	94	95	97	Both

Table 4: Estimated number of people with dual sensory loss and dementia in Argyll and Bute. Age categories without people (0 people) have been omitted. Results are rounded.

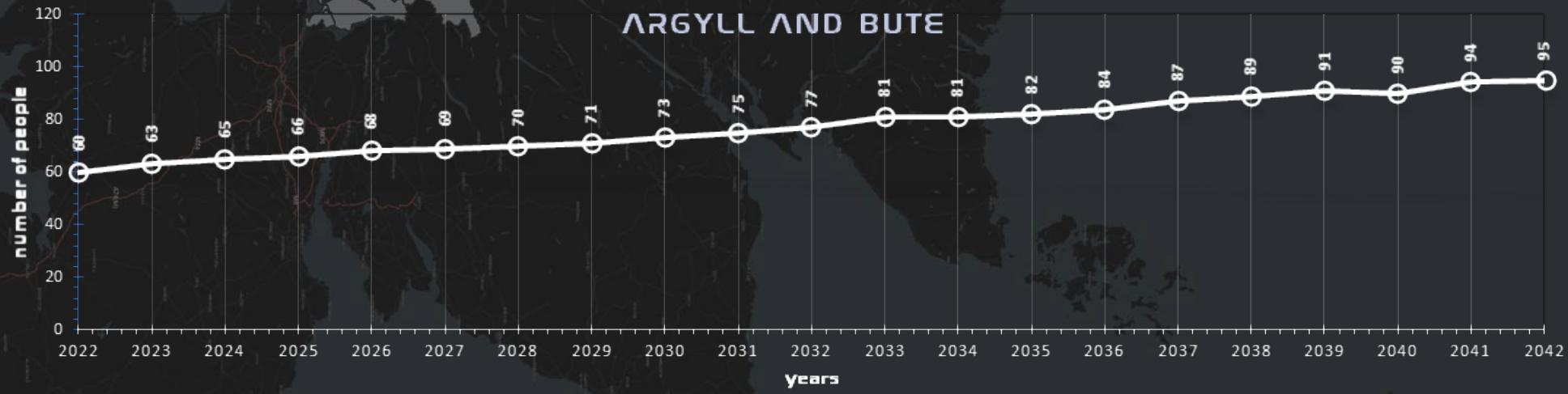

Figure 5: Projection of people with dual sensory loss and dementia in Argyll and Bute from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	70-74	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	female
3	75-79	10	10	11	11	11	11	11	11	11	11	11	12	12	13	13	13	13	14	14	14	14	14	female
4	80-84	24	24	24	24	25	28	29	30	31	32	31	31	31	31	31	33	34	35	36	37	38	39	female
5	85-89	49	50	51	50	50	50	50	50	51	53	59	62	64	67	68	66	66	66	67	68	71	74	female
6	90+	78	79	80	82	84	86	88	89	91	92	93	95	98	99	102	110	115	118	121	124	126	129	female
7	sum	165	167	170	171	174	179	182	185	189	193	199	205	210	215	219	227	233	238	243	248	254	261	female
8	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
9	70-74	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	male
10	75-79	8	8	9	9	9	9	9	9	9	10	10	10	10	11	11	11	11	12	12	12	12	12	male
11	80-84	16	17	17	18	19	21	22	23	24	25	24	24	24	25	26	26	27	28	29	30	30	32	male
12	85-89	31	31	31	31	31	31	31	33	34	35	40	43	45	47	48	47	48	48	49	51	53	55	male
13	90+	35	36	38	39	41	42	43	44	46	46	47	49	51	53	55	60	64	67	69	71	72	74	male
14	sum	94	96	99	101	104	107	109	113	117	120	125	130	135	141	145	149	155	160	164	169	172	178	male
15	Total	259	263	269	272	278	286	291	298	306	313	324	335	345	356	364	376	388	398	407	417	426	439	Both

Table 5: Estimated number of people with dual sensory loss and dementia in City of Edinburgh. Age categories without people (0 people) have been omitted. Results are rounded.

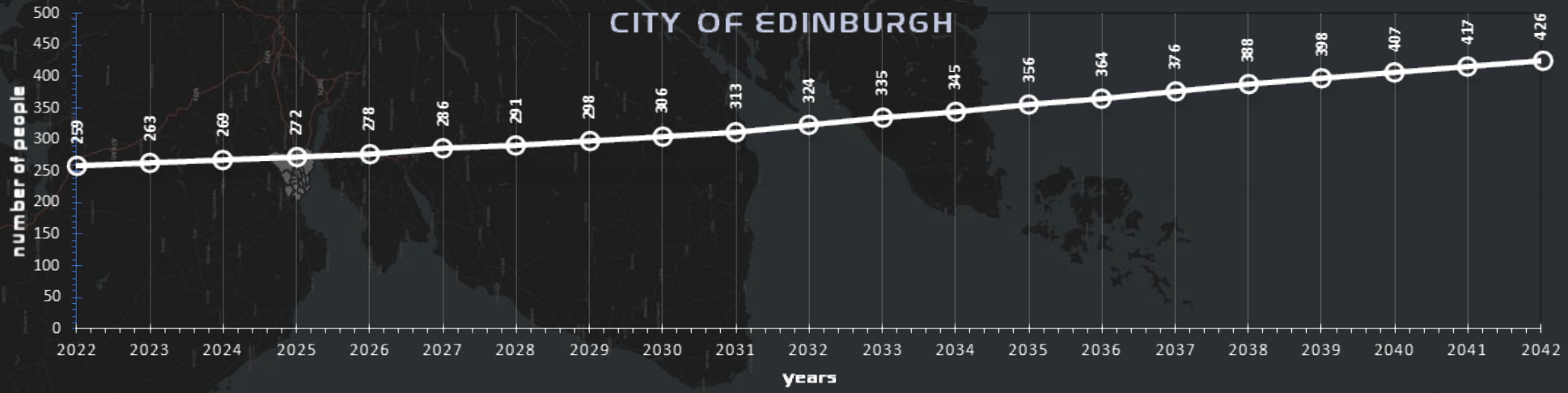

Figure 6: Projection of people with dual sensory loss and dementia in City of Edinburgh from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	female
2	75-79	1	1	1	2	2	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	female
3	80-84	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	female
4	85-89	5	5	5	5	6	6	6	7	7	7	8	8	8	8	9	8	8	8	8	8	8	9	female
5	90+	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	7	7	8	8	8	8	8	female
6	sum	14	14	14	15	17	16	16	17	17	17	19	20	20	21	22	22	22	23	23	23	23	24	female
7	75-79	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	male
8	80-84	2	2	3	3	3	3	3	3	4	4	4	4	3	3	3	3	3	4	4	4	4	4	male
9	85-89	4	4	4	4	4	4	5	5	5	5	6	6	7	7	7	7	7	7	7	7	7	7	male
10	90+	3	3	4	4	4	4	5	5	5	5	5	6	6	6	7	7	8	8	9	9	9	10	male
11	sum	10	10	12	12	12	12	14	14	15	15	16	17	17	17	18	18	20	21	22	22	22	23	male
12	Total	24	24	26	27	29	28	30	31	32	32	35	37	37	38	40	40	42	44	45	45	45	47	Both

Table 6: Estimated number of people with dual sensory loss and dementia in Clackmannanshire. Age categories without people (0 people) have been omitted. Results are rounded.

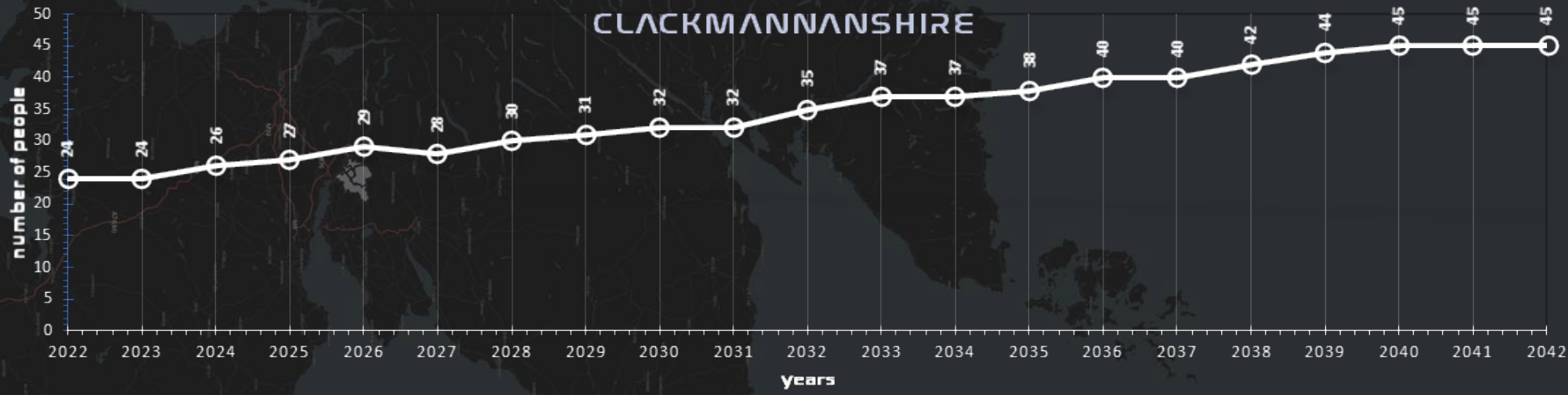

Figure 7: Projection of people with dual sensory loss and dementia in Clackmannanshire from 2022-2042

Dumfries and Galloway

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	female
2	75-79	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	female
3	80-84	11	12	12	12	12	13	13	14	14	14	14	13	13	14	14	14	14	15	15	15	16	17	female
4	85-89	21	21	21	21	21	22	23	24	24	25	27	28	28	28	29	28	28	28	28	29	30	30	female
5	90+	25	25	25	26	26	26	27	27	27	27	28	29	30	30	31	34	36	37	37	38	38	39	female
6	sum	63	64	64	65	65	68	70	72	72	73	76	77	78	79	82	84	86	88	88	90	92	94	female
7	70-74	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	1	1	male
8	75-79	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	5	male
9	80-84	9	9	10	10	10	11	12	12	13	13	12	12	12	12	12	12	13	13	13	14	14	14	male
10	85-89	15	16	16	16	16	17	17	18	18	19	21	22	23	24	24	23	23	23	23	23	24	24	male
11	90+	14	15	15	16	16	17	17	18	19	19	19	20	21	22	23	25	27	28	29	30	30	31	male
12	sum	43	46	47	48	48	51	52	54	56	58	59	61	63	65	66	67	70	71	73	75	75	75	male
13	Total	106	110	111	113	113	119	122	126	128	131	135	138	141	144	148	151	156	159	161	165	167	169	Both

Table 7: Estimated number of people with dual sensory loss and dementia in Dumfries and Galloway. Age categories without people (0 people) have been omitted. Results are rounded.

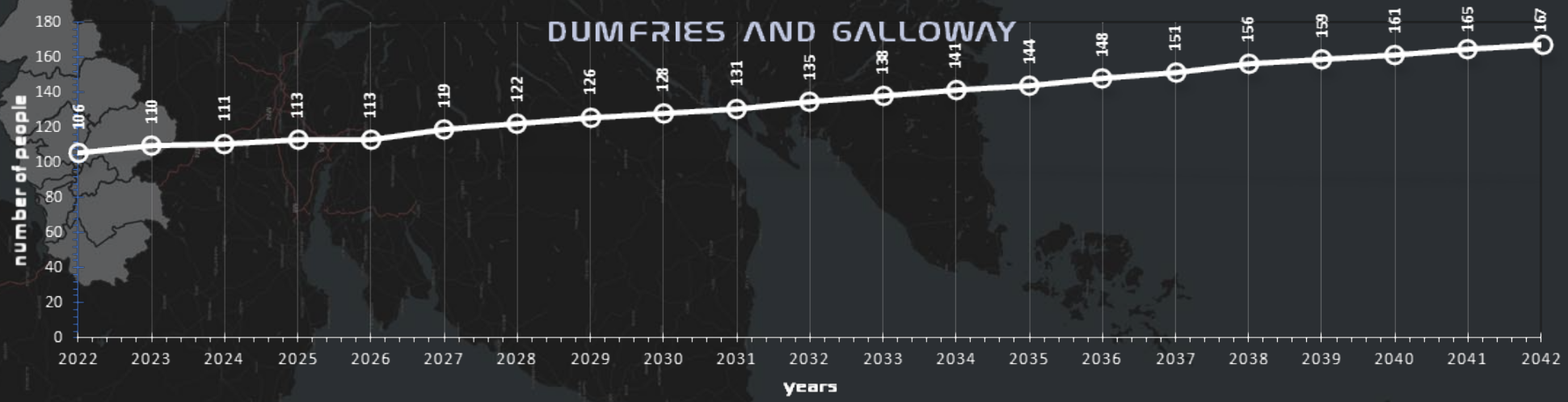

Figure 8: Projection of people with dual sensory loss and dementia in Dumfries and Galloway from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	3	3	3	4	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	female
3	80-84	8	8	8	8	8	9	9	9	9	9	9	9	9	9	9	9	9	10	10	11	11	11	female
4	85-89	17	17	17	16	16	16	15	15	15	16	17	18	19	19	19	18	18	18	18	18	19	20	female
5	90+	22	22	22	23	23	23	24	24	24	24	24	25	25	25	26	28	29	30	30	30	30	31	female
6	sum	51	51	51	52	51	52	52	52	52	53	54	56	58	58	59	60	61	63	63	64	65	67	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	male
9	80-84	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	7	8	8	8	8	9	9	male
10	85-89	9	9	9	10	9	9	9	9	9	10	11	12	12	12	12	12	12	12	12	13	13	14	male
11	90+	9	9	9	9	9	9	10	10	10	9	9	10	10	10	10	11	12	12	12	12	12	12	male
12	sum	28	28	28	29	28	28	30	30	30	30	31	33	33	33	33	34	36	36	36	37	38	39	male
13	Total	79	79	79	81	79	80	82	82	82	83	85	89	91	91	92	94	97	99	99	101	103	106	Both

Table 8: Estimated number of people with dual sensory loss and dementia in Dundee City. Age categories without people (0 people) have been omitted. Results are rounded.

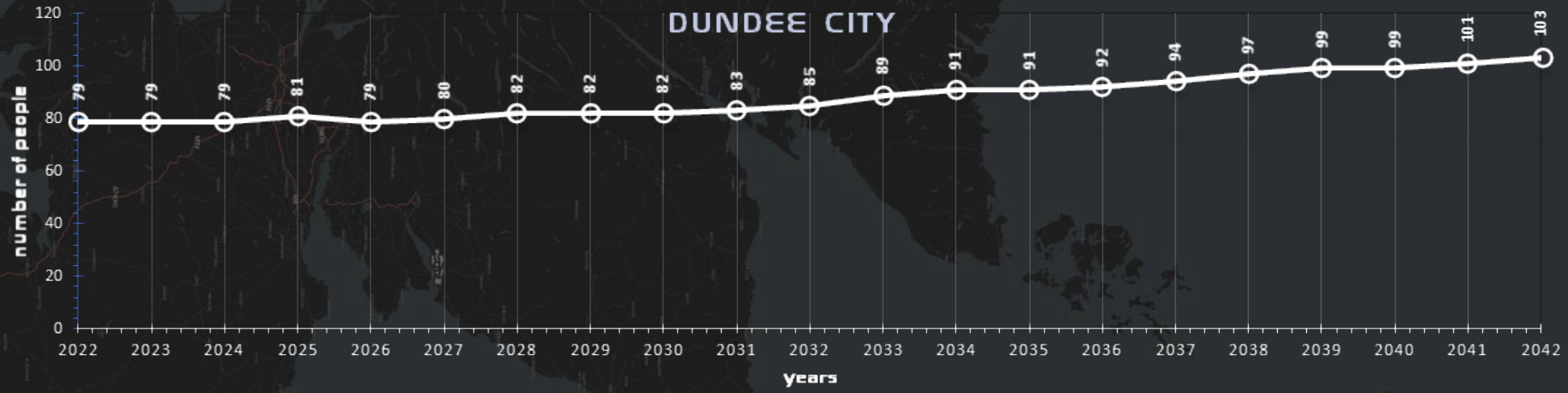

Figure 9: Projection of people with dual sensory loss and dementia in Dundee City from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	3	3	3	3	4	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	female
3	80-84	7	7	7	8	8	8	9	9	9	9	9	9	9	9	9	9	10	10	10	10	11	11	female
4	85-89	13	13	13	13	13	13	13	14	14	15	16	17	18	18	18	17	17	17	18	18	19	19	female
5	90+	14	14	14	13	13	13	13	13	13	13	12	13	13	13	13	14	15	15	16	16	15	15	female
6	sum	38	38	38	38	39	38	39	40	40	41	41	43	45	45	45	45	47	47	49	49	50	50	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	male
9	80-84	5	6	6	6	6	7	7	7	7	8	7	7	7	7	7	8	8	8	8	9	9	9	male
10	85-89	8	9	9	9	9	9	9	10	10	11	12	13	13	13	13	13	13	13	13	14	14	14	male
11	90+	7	7	7	8	8	8	8	9	9	9	9	9	10	10	10	12	12	13	13	13	13	14	male
12	sum	24	26	26	27	27	28	28	30	30	32	32	33	34	34	34	37	37	38	39	41	41	42	male
13	Total	62	64	64	65	66	66	67	70	70	73	73	76	79	79	79	82	84	85	88	90	91	92	Both

Table 9: Estimated number of people with dual sensory loss and dementia in East Ayrshire. Age categories without people (0 people) have been omitted. Results are rounded.

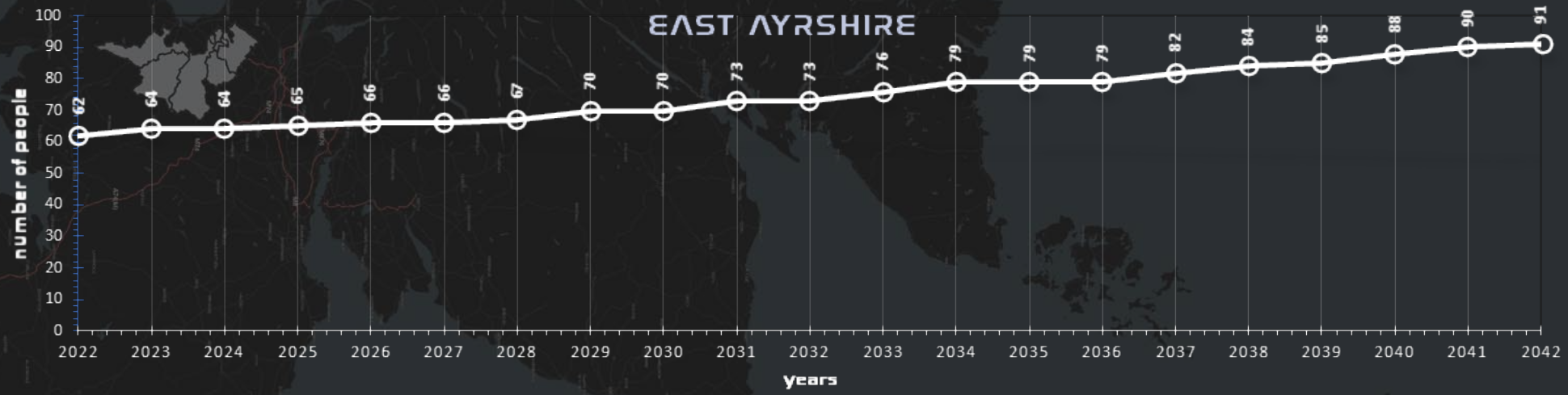

Figure 10: Projection of people with dual sensory loss and dementia in East Ayrshire from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	female
3	80-84	8	8	8	8	8	9	9	9	10	10	9	9	9	9	10	10	10	11	11	11	11	12	female
4	85-89	16	16	17	17	17	17	17	17	18	18	19	20	21	21	21	21	21	21	21	22	23	23	female
5	90+	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	39	41	42	44	45	46	47	female
6	sum	50	51	53	54	55	57	58	59	62	63	64	67	69	70	72	75	77	79	81	83	85	87	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	male
9	80-84	6	6	6	6	6	7	7	7	7	8	7	7	7	8	8	8	8	8	8	9	9	9	male
10	85-89	11	12	12	12	12	11	11	12	12	13	14	15	15	15	16	15	15	16	16	16	17	17	male
11	90+	11	12	13	14	15	16	17	18	19	19	20	21	22	23	24	26	28	29	30	31	32	33	male
12	sum	32	34	35	36	37	38	39	41	42	44	45	47	48	50	52	53	55	57	58	60	62	63	male
13	Total	82	85	88	90	92	95	97	100	104	107	109	114	117	120	124	128	132	136	139	143	147	150	Both

Table 10: Estimated number of people with dual sensory loss and dementia in East Dunbartonshire. Age categories without people (0 people) have been omitted. Results are rounded.

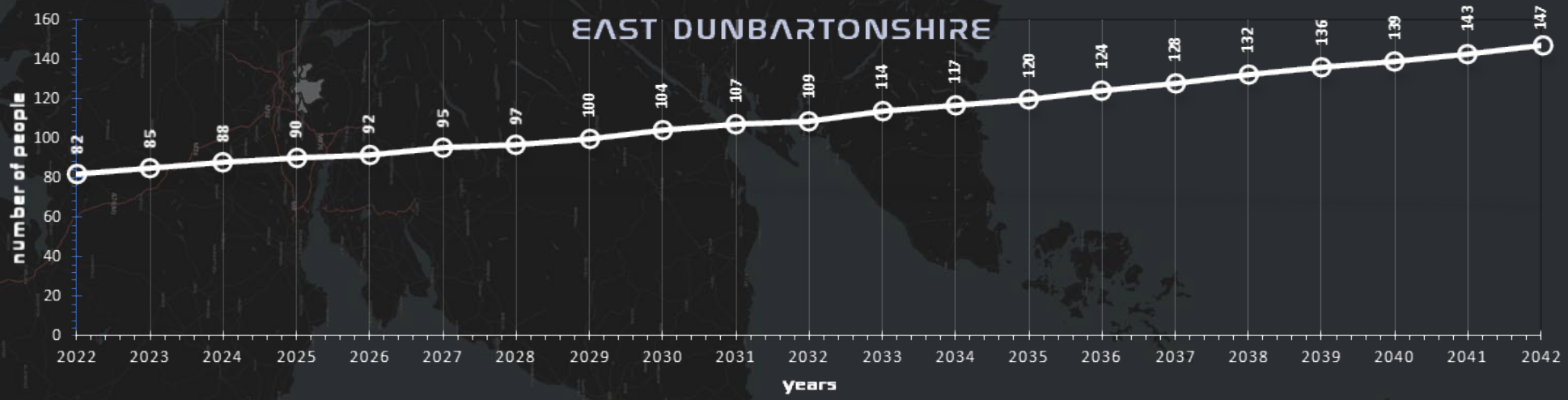

Figure 11: Projection of people with dual sensory loss and dementia in East Dunbartonshire from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	female
3	80-84	7	7	7	7	7	8	9	9	9	9	9	9	9	9	9	10	10	10	11	11	12	12	female
4	85-89	12	12	12	13	13	13	13	14	14	15	16	17	18	18	19	18	18	18	19	19	20	21	female
5	90+	15	15	15	15	16	16	16	17	17	17	18	18	19	19	20	22	23	24	25	25	26	26	female
6	sum	38	38	38	39	40	41	42	44	44	45	47	48	51	51	53	55	56	57	60	60	63	64	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	male
9	80-84	5	5	5	6	6	7	7	7	7	7	7	7	7	7	7	8	8	9	9	9	9	10	male
10	85-89	8	8	8	8	8	9	9	10	10	11	12	13	13	13	14	13	13	13	14	14	15	16	male
11	90+	8	8	8	8	9	9	9	10	10	10	10	11	11	12	12	14	15	15	16	16	16	17	male
12	sum	24	25	25	26	27	29	29	31	31	32	33	35	35	36	37	39	41	42	44	44	45	48	male
13	Total	62	63	63	65	67	70	71	75	75	77	80	83	86	87	90	94	97	99	104	104	108	112	Both

Table 11: Estimated number of people with dual sensory loss and dementia in East Lothian. Age categories without people (0 people) have been omitted. Results are rounded.

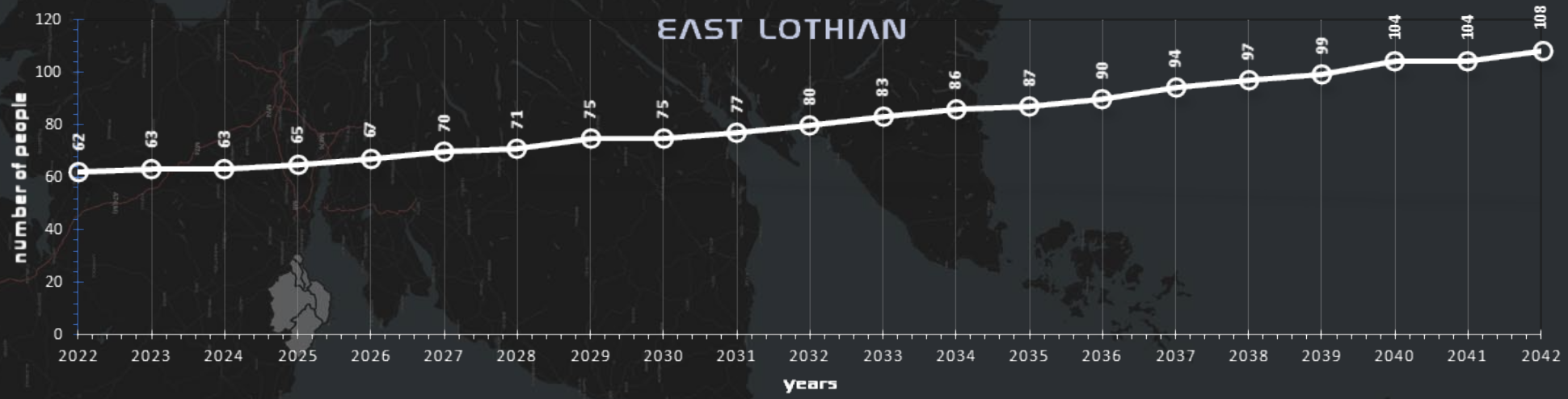

Figure 12: Projection of people with dual sensory loss and dementia in East Lothian from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	female
3	80-84	6	6	7	7	7	7	8	8	8	8	8	8	8	8	8	8	9	9	9	9	9	10	female
4	85-89	13	13	13	13	13	13	14	14	15	15	16	17	17	17	17	17	17	17	18	18	19	20	female
5	90+	20	21	21	22	23	24	25	25	26	27	27	28	29	30	31	33	35	36	37	38	39	40	female
6	sum	43	44	45	46	47	48	51	51	53	54	55	57	58	59	60	62	65	66	68	69	71	74	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	male
9	80-84	4	4	4	5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	male
10	85-89	8	8	8	8	8	8	8	8	9	9	10	11	11	12	12	12	12	12	12	13	13	14	male
11	90+	9	9	10	10	11	11	12	12	12	13	13	14	14	15	15	17	18	19	19	20	20	21	male
12	sum	24	24	25	26	27	27	29	29	30	31	32	34	35	37	37	39	41	42	42	44	44	46	male
13	Total	67	68	70	72	74	75	80	80	83	85	87	91	93	96	97	101	106	108	110	113	115	120	Both

Table 12: Estimated number of people with dual sensory loss and dementia in East Renfrewshire. Age categories without people (0 people) have been omitted. Results are rounded.

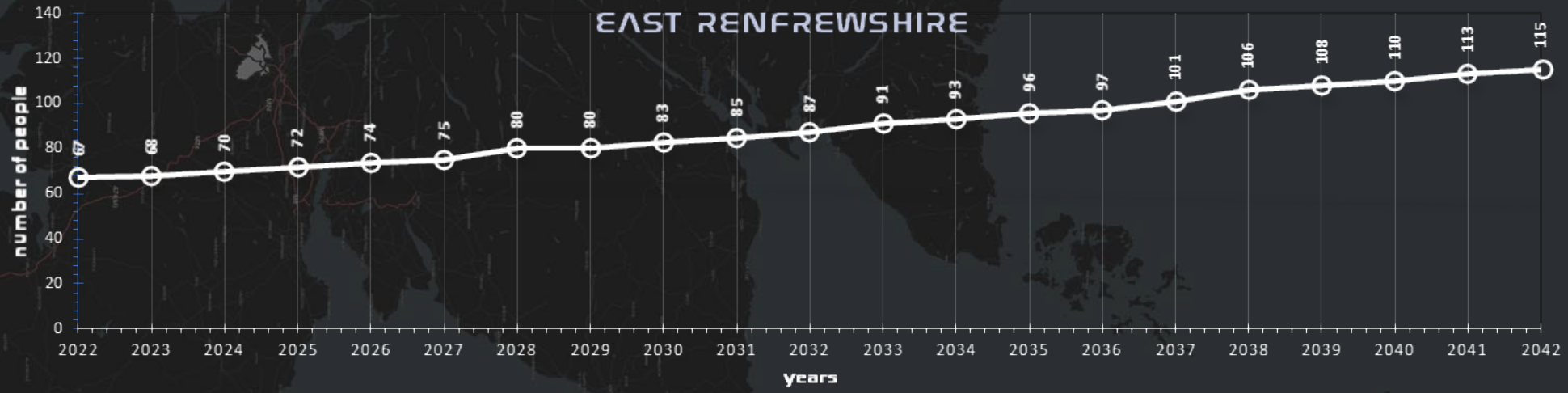

Figure 13: Projection of people with dual sensory loss and dementia in East Renfrewshire from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	female
2	75-79	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	6	6	6	female
3	80-84	9	9	9	9	10	10	11	11	12	12	12	12	12	12	12	12	12	13	13	14	14	14	female
4	85-89	16	17	18	18	18	18	18	18	18	19	21	22	22	23	24	23	23	23	24	24	25	26	female
5	90+	18	18	19	19	19	19	20	20	20	20	20	21	21	22	22	24	26	26	27	28	28	28	female
6	sum	48	49	51	51	52	52	54	54	55	56	58	61	62	64	65	66	68	69	71	74	75	76	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	male
8	75-79	3	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	5	5	5	5	5	5	male
9	80-84	7	7	7	7	8	9	9	10	10	10	9	9	9	9	9	10	10	10	11	11	12	12	male
10	85-89	11	11	12	12	12	12	13	13	14	14	16	17	18	18	19	18	18	18	18	18	19	20	male
11	90+	10	10	11	11	12	12	13	13	13	14	14	15	15	16	17	19	20	21	22	22	23	23	male
12	sum	32	33	35	35	37	38	40	41	41	43	44	46	47	48	50	53	55	56	58	58	61	61	male
13	Total	80	82	86	86	89	90	94	95	96	99	102	107	109	112	115	119	123	125	129	132	136	137	Both

Table 13: Estimated number of people with dual sensory loss and dementia in Falkirk. Age categories without people (0 people) have been omitted. Results are rounded.

Figure 14: Projection of people with dual sensory loss and dementia in Falkirk from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	70-74	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	female
3	75-79	10	11	11	11	11	11	10	10	10	11	11	11	11	12	12	12	13	13	13	13	13	13	female
4	80-84	22	23	24	24	25	28	29	30	30	31	30	29	29	29	29	30	31	32	33	34	35	36	female
5	85-89	42	43	43	44	44	44	46	48	49	51	57	60	61	62	63	61	60	60	61	62	64	66	female
6	90+	54	54	55	56	57	58	59	61	62	62	63	65	67	69	70	77	82	85	87	88	90	92	female
7	sum	132	135	137	139	141	145	148	153	155	159	166	170	173	177	179	185	191	195	199	202	207	212	female
8	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
9	70-74	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	male
10	75-79	9	9	9	10	10	9	9	9	9	9	9	10	10	10	10	11	11	11	11	11	11	11	male
11	80-84	17	18	19	19	20	23	24	24	25	25	24	23	23	24	24	25	26	26	27	28	29	29	male
12	85-89	27	28	29	30	30	32	33	34	36	38	42	45	46	47	47	45	44	45	46	47	49	51	male
13	90+	27	28	28	30	31	32	33	34	35	36	37	39	41	42	44	50	53	56	57	58	59	60	male
14	sum	84	87	89	93	95	100	103	105	109	112	116	121	124	127	129	135	138	142	145	148	152	155	male
15	Total	216	222	226	232	236	245	251	258	264	271	282	291	297	304	308	320	329	337	344	350	359	367	Both

Table 14: Estimated number of people with dual sensory loss and dementia in Fife. Age categories without people (0 people) have been omitted. Results are rounded.

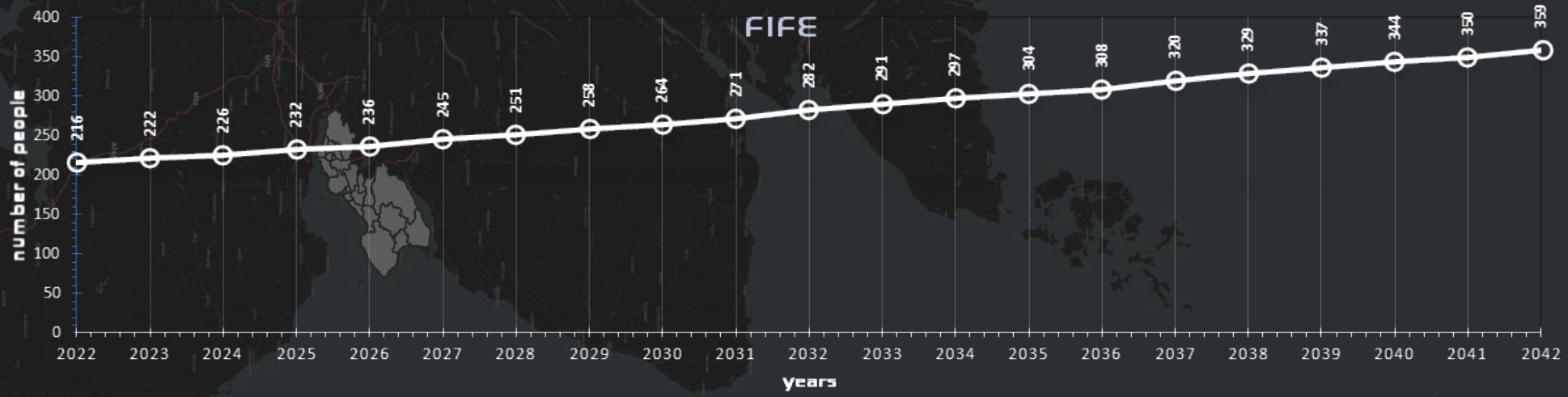

Figure 15: Projection of people with dual sensory loss and dementia in Fife from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	70-74	3	3	3	3	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	female
3	75-79	10	10	10	11	11	10	10	11	11	12	12	13	13	14	14	15	15	16	16	16	16	16	female
4	80-84	26	25	24	24	24	26	26	27	27	28	27	27	28	29	31	32	34	36	37	39	40	42	female
5	85-89	53	53	53	52	51	49	48	47	46	46	50	51	53	54	54	53	54	55	58	62	66	70	female
6	90+	66	65	64	64	64	64	64	64	63	62	62	62	62	62	62	66	68	69	69	69	69	70	female
7	sum	159	157	155	155	155	154	153	154	152	153	157	159	162	165	167	172	177	182	186	192	197	204	female
8	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
9	70-74	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	male
10	75-79	8	8	8	9	9	9	9	9	9	9	10	10	10	11	11	11	12	12	12	12	12	12	male
11	80-84	16	16	17	17	17	19	19	20	20	21	20	21	21	22	23	24	25	26	27	27	29	30	male
12	85-89	26	26	27	27	26	26	27	28	28	29	32	34	34	35	36	36	36	37	39	41	43	45	male
13	90+	24	24	24	24	24	24	24	24	24	23	23	23	24	24	24	27	29	29	29	29	28	28	male
14	sum	78	78	80	81	80	82	83	85	86	87	90	93	94	97	99	103	107	109	112	114	117	120	male
15	Total	237	235	235	236	235	236	236	239	238	240	247	252	256	262	266	275	284	291	298	306	314	324	Both

Table 15: Estimated number of people with dual sensory loss and dementia in Glasgow City. Age categories without people (0 people) have been omitted. Results are rounded.

Figure 16: Projection of people with dual sensory loss and dementia in Glasgow City from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	female
2	70-74	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2	2	female
3	75-79	7	7	7	7	7	7	7	7	7	7	7	7	8	8	8	8	8	9	9	9	9	9	female
4	80-84	16	16	17	17	17	19	20	20	21	21	21	20	20	20	21	21	21	22	22	23	24	24	female
5	85-89	29	30	30	31	31	32	34	35	35	36	39	41	42	44	45	44	44	44	44	45	46	47	female
6	90+	39	40	41	42	43	45	46	47	49	50	51	53	55	57	59	64	67	70	72	74	76	78	female
7	sum	94	96	98	100	101	106	110	112	115	117	121	124	128	133	137	141	144	149	151	154	158	160	female
8	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	male
9	70-74	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	male
10	75-79	6	6	6	7	7	6	6	6	6	6	7	7	7	7	7	7	7	7	8	8	8	8	male
11	80-84	12	12	13	14	14	15	16	17	17	17	17	17	17	17	17	18	18	18	19	19	20	20	male
12	85-89	20	20	21	21	22	23	24	25	26	28	30	32	33	34	34	34	33	33	34	34	36	37	male
13	90+	20	21	23	24	25	26	28	29	30	31	32	34	36	38	40	44	47	49	51	53	54	56	male
14	sum	61	62	66	69	71	73	77	80	82	85	89	93	96	99	101	106	108	110	114	116	120	123	male
15	Total	155	158	164	169	172	179	187	192	197	202	210	217	224	232	238	247	252	259	265	270	278	283	Both

Table 16: Estimated number of people with dual sensory loss and dementia in Highland. Age categories without people (0 people) have been omitted. Results are rounded.

Figure 17: Projection of people with dual sensory loss and dementia in Highland from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	female
3	80-84	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	7	7	7	7	8	8	8	female
4	85-89	10	10	10	10	10	9	10	10	10	10	11	12	12	12	13	12	12	12	12	13	13	14	female
5	90+	12	12	12	12	12	12	12	12	12	12	12	12	13	13	13	14	14	15	15	15	15	15	female
6	sum	30	30	30	30	30	30	31	31	31	31	32	33	35	35	36	37	37	38	38	40	40	41	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	male
9	80-84	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	6	6	male
10	85-89	5	6	6	6	6	6	6	7	7	7	8	8	8	8	8	8	8	8	8	9	9	9	male
11	90+	5	5	5	5	5	6	6	6	6	6	6	6	7	7	7	8	8	8	9	9	9	9	male
12	sum	16	17	18	18	18	19	19	20	20	20	21	21	22	22	22	24	24	24	25	26	27	27	male
13	Total	46	47	48	48	48	49	50	51	51	51	53	54	57	57	58	61	61	62	63	66	67	68	Both

Table 17: Estimated number of people with dual sensory loss and dementia in Inverclyde. Age categories without people (0 people) have been omitted. Results are rounded.

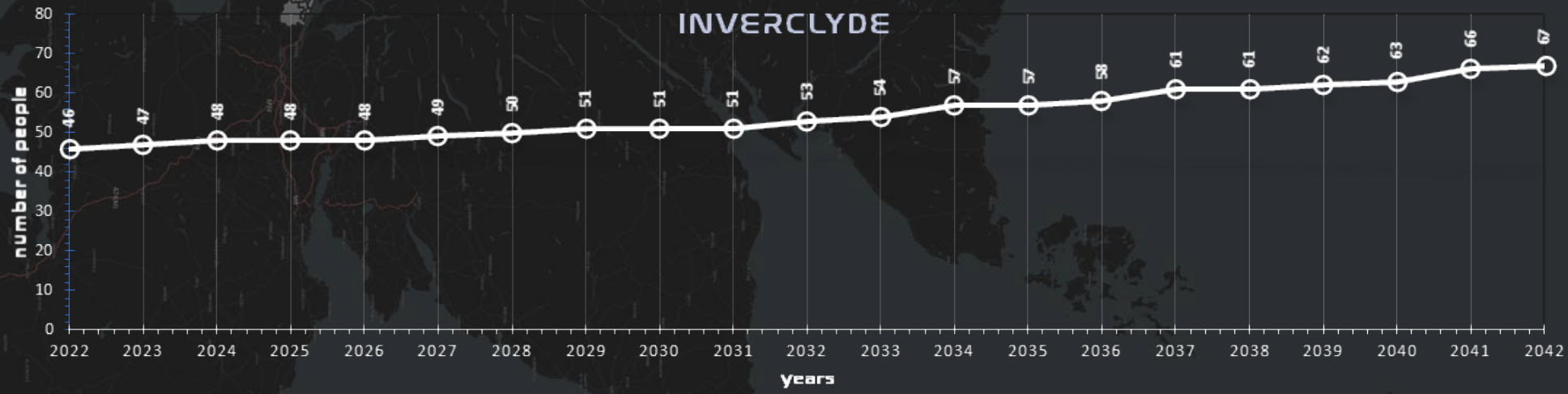

Figure 18: Projection of people with dual sensory loss and dementia in Inverclyde from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	female
3	80-84	5	5	5	6	6	7	7	7	7	8	7	7	7	7	7	8	8	8	8	9	9	9	female
4	85-89	9	9	9	9	10	10	10	11	11	11	13	14	14	14	15	14	14	14	14	14	15	16	female
5	90+	10	10	10	10	10	11	11	11	11	11	11	12	12	12	13	14	15	16	16	17	17	17	female
6	sum	27	28	28	29	30	32	32	33	33	34	35	37	37	37	39	40	41	42	42	44	45	46	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	male
9	80-84	4	4	4	4	5	5	5	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	male
10	85-89	6	6	7	7	7	7	7	8	8	9	10	10	11	11	11	11	11	11	11	12	12	12	male
11	90+	6	6	6	6	7	7	7	8	8	8	8	9	9	10	10	12	13	13	14	14	15	15	male
12	sum	19	19	20	20	22	22	22	25	25	26	27	28	29	30	30	33	34	34	36	37	38	38	male
13	Total	46	47	48	49	52	54	54	58	58	60	62	65	66	67	69	73	75	76	78	81	83	84	Both

Table 18: Estimated number of people with dual sensory loss and dementia in Midlothian. Age categories without people (0 people) have been omitted. Results are rounded.

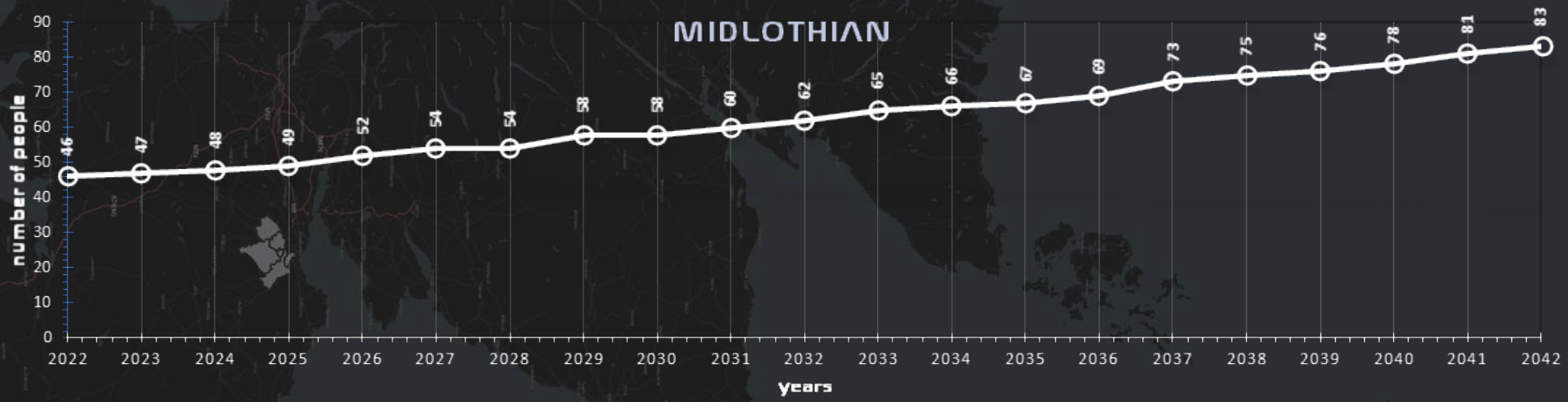

Figure 19: Projection of people with dual sensory loss and dementia in Midlothian from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	female
3	80-84	6	6	7	7	7	8	8	8	8	9	8	8	8	8	8	9	9	9	9	10	10	10	female
4	85-89	12	12	12	12	13	13	13	14	15	15	17	17	18	18	19	18	18	18	18	19	20	20	female
5	90+	16	16	17	17	18	18	19	19	20	20	21	22	23	23	24	26	28	29	30	31	32	32	female
6	sum	38	38	40	40	42	43	44	45	47	48	50	51	53	53	55	57	59	61	62	65	67	67	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	2	2	2	3	3	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	male
9	80-84	5	5	5	5	5	6	6	6	7	7	7	7	7	7	7	7	7	7	8	8	8	8	male
10	85-89	8	9	9	9	9	10	10	10	11	11	12	13	13	13	14	14	14	14	14	14	15	15	male
11	90+	9	10	10	11	11	12	12	13	13	14	14	15	16	16	17	19	20	21	22	22	23	24	male
12	sum	25	27	27	29	29	31	31	32	34	36	37	39	40	40	42	44	45	46	48	48	50	51	male
13	Total	63	65	67	69	71	74	75	77	81	84	87	90	93	93	97	101	104	107	110	113	117	118	Both

Table 19: Estimated number of people with dual sensory loss and dementia in Moray. Age categories without people (0 people) have been omitted. Results are rounded.

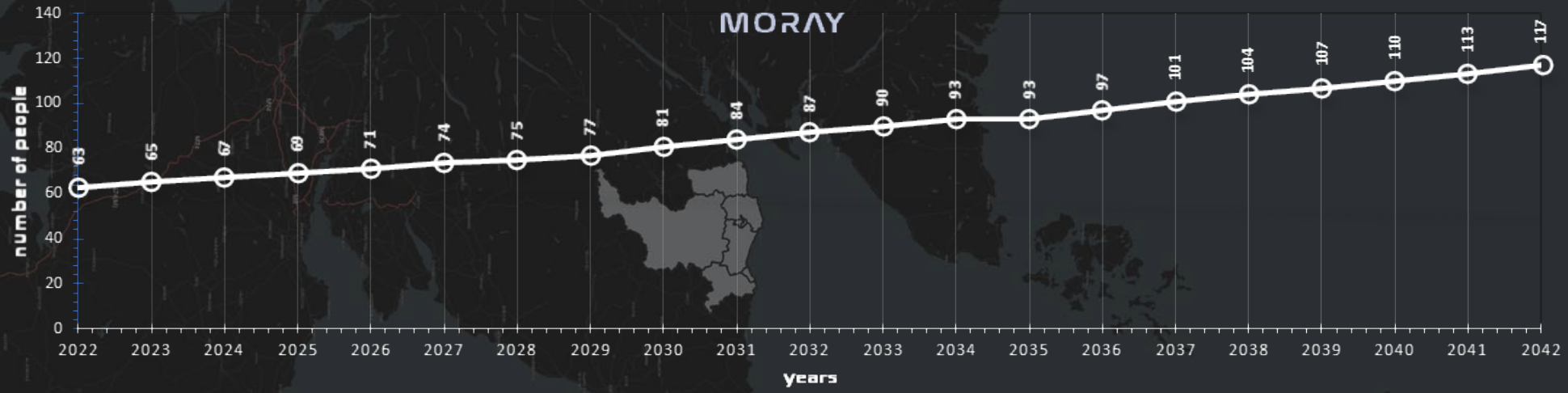

Figure 20: Projection of people with dual sensory loss and dementia in Moray from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	75-79	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	80-84	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	female
3	85-89	4	4	4	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	5	5	female
4	90+	6	7	7	7	7	8	8	8	8	9	9	9	9	9	10	10	11	11	12	12	12	13	female
5	sum	13	14	14	15	15	16	16	17	17	18	18	18	19	19	20	19	21	21	22	22	21	22	female
6	75-79	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
7	80-84	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	male
8	85-89	2	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	male
9	90+	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	5	5	5	5	5	5	6	male
10	sum	8	9	9	9	9	9	9	9	9	10	11	11	11	11	11	12	12	12	12	12	12	13	male
11	Total	21	23	23	24	24	25	25	26	26	28	29	29	30	30	31	31	33	33	34	34	33	35	Both

Table 20: Estimated number of people with dual sensory loss and dementia in Na h-Eileanan Siar. Age categories without people (0 people) have been omitted. Results are rounded.

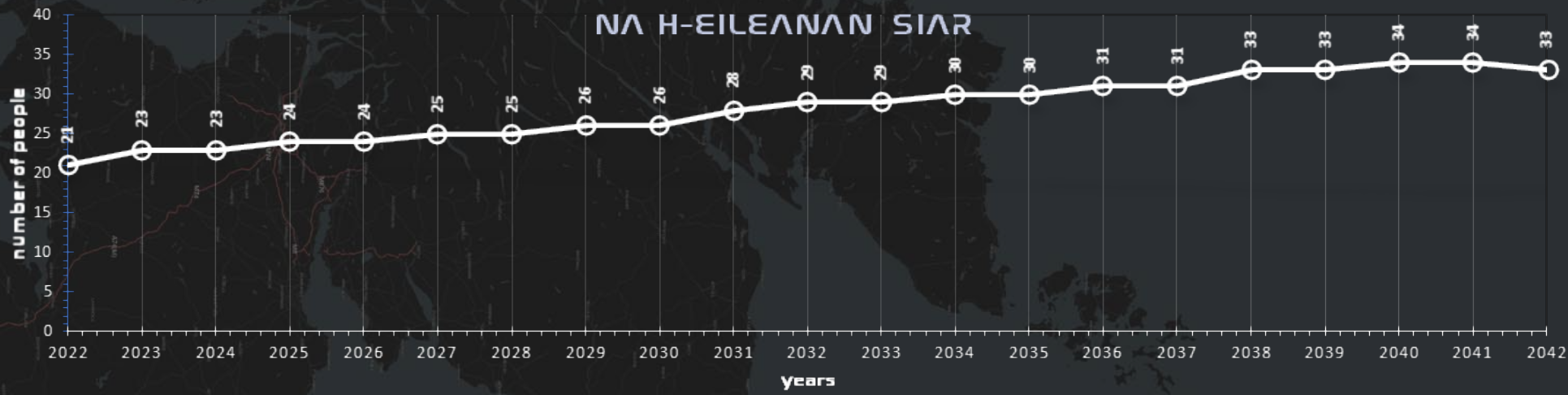

Figure 21: Projection of people with dual sensory loss and dementia in Na h-Eileanan Siar from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	1	1	1	female
2	75-79	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	female
3	80-84	9	9	10	10	10	11	11	12	12	12	11	11	11	11	12	12	12	13	13	13	13	14	female
4	85-89	16	16	16	17	17	18	18	19	19	20	22	23	23	24	24	23	23	23	23	24	25	26	female
5	90+	20	20	20	20	20	20	21	21	21	21	21	22	22	23	23	26	27	28	28	29	29	29	female
6	sum	50	50	51	52	52	54	55	57	57	58	59	61	62	65	66	68	69	71	71	72	73	75	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	3	4	4	4	4	4	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	male
9	80-84	7	7	7	7	8	8	9	9	9	9	9	9	9	9	9	9	9	10	10	10	11	11	male
10	85-89	10	10	11	11	11	12	12	13	13	14	15	16	16	17	17	16	16	16	16	17	17	18	male
11	90+	9	9	9	10	10	10	11	11	11	11	12	12	13	13	14	16	17	17	18	18	18	19	male
12	sum	30	31	32	33	34	35	36	37	37	39	41	42	43	44	45	46	47	48	49	50	51	53	male
13	Total	80	81	83	85	86	89	91	94	94	97	100	103	105	109	111	114	116	119	120	122	124	128	Both

Table 21: Estimated number of people with dual sensory loss and dementia in North Ayrshire. Age categories without people (0 people) have been omitted. Results are rounded.

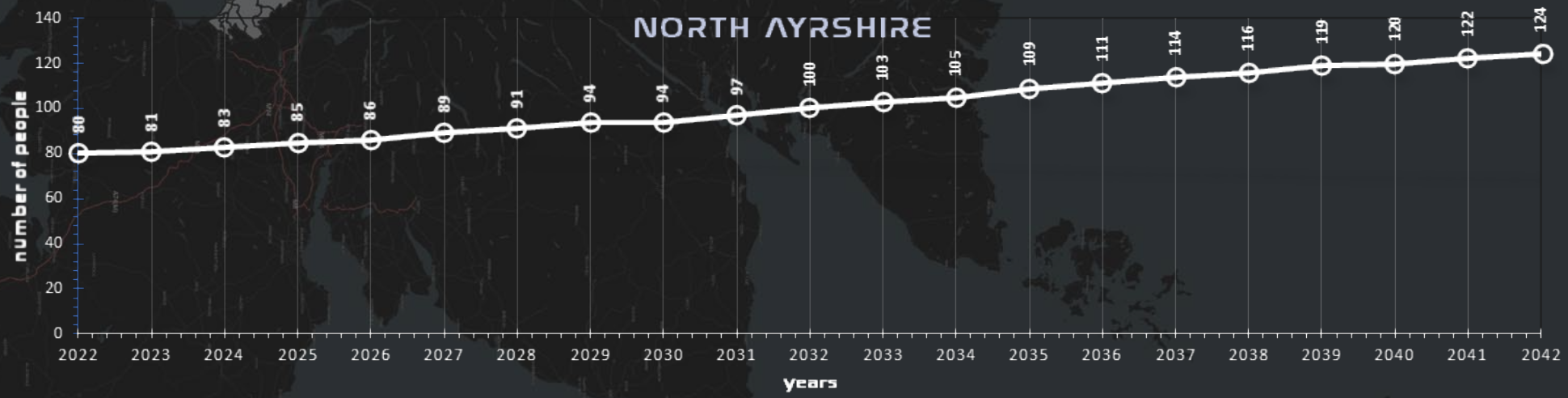

Figure 22: Projection of people with dual sensory loss and dementia in North Ayrshire from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	70-74	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	female
3	75-79	8	8	8	8	8	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	11	11	female
4	80-84	17	18	18	18	19	20	21	21	22	22	22	22	22	22	23	24	25	25	26	27	28	29	female
5	85-89	31	32	33	33	32	32	33	34	34	35	38	39	41	42	42	42	42	43	44	46	48	50	female
6	90+	27	27	26	26	26	26	26	26	25	25	24	25	25	25	26	29	31	31	32	32	31	32	female
7	sum	87	89	89	89	89	90	92	93	93	95	97	99	101	103	105	109	112	114	117	120	122	126	female
8	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
9	70-74	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	male
10	75-79	6	6	7	7	7	7	7	7	7	7	7	7	7	8	8	8	8	9	9	9	9	9	male
11	80-84	12	13	13	13	14	15	15	16	17	17	16	16	17	17	17	18	18	19	20	20	21	22	male
12	85-89	17	18	19	20	20	20	21	21	22	23	25	26	27	29	29	28	28	29	30	31	32	33	male
13	90+	13	14	14	14	14	14	14	15	15	14	14	15	16	16	16	19	20	21	21	21	21	21	male
14	sum	51	54	56	57	58	59	60	62	64	65	66	68	71	74	74	77	78	82	84	85	87	89	male
15	Total	138	143	145	146	147	149	152	155	157	160	163	167	172	177	179	186	190	196	201	205	209	215	Both

Table 22: Estimated number of people with dual sensory loss and dementia in North Lanarkshire. Age categories without people (0 people) have been omitted. Results are rounded.

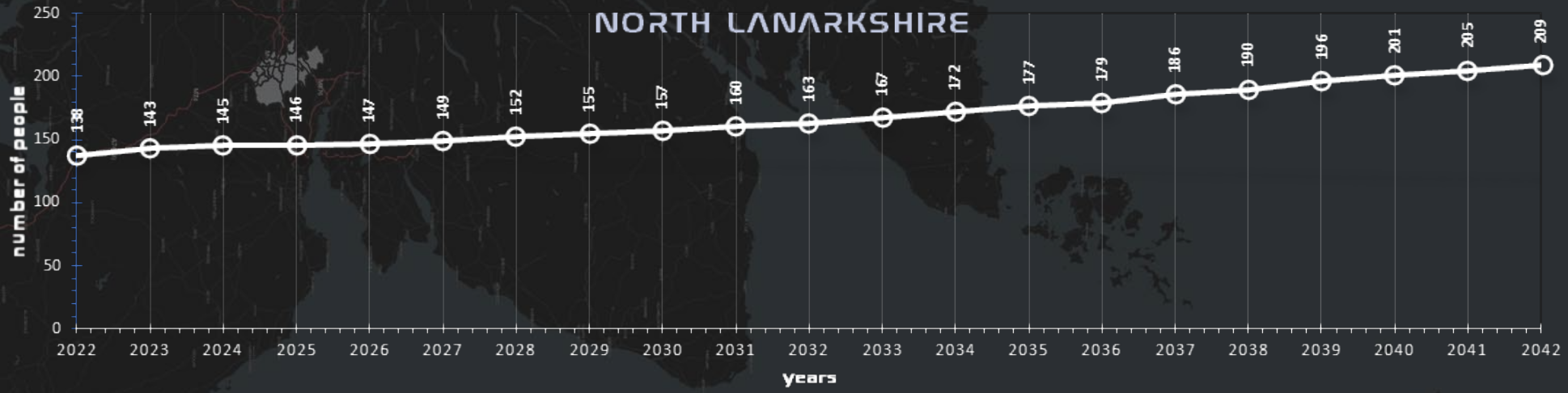

Figure 23: Projection of people with dual sensory loss and dementia in North Lanarkshire from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	75-79	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	80-84	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	female
3	85-89	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	5	5	4	4	5	5	5	female
4	90+	4	4	4	4	4	5	5	5	5	5	6	6	6	6	6	7	7	8	8	8	9	9	female
5	sum	10	10	10	10	10	12	12	12	12	12	13	13	13	13	14	15	15	15	15	16	17	17	female
6	75-79	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
7	80-84	1	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	male
8	85-89	2	2	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	male
9	90+	2	3	3	3	3	3	4	4	4	4	5	5	5	5	6	6	7	7	7	8	8	8	male
10	sum	6	7	9	8	9	9	10	10	10	10	12	12	12	12	13	13	14	14	14	15	15	15	male
11	Total	16	17	19	18	19	21	22	22	22	22	25	25	25	25	27	28	29	29	29	31	32	32	Both

Table 23: Estimated number of people with dual sensory loss and dementia in Orkney Islands. Age categories without people (0 people) have been omitted. Results are rounded.

Figure 24: Projection of people with dual sensory loss and dementia in Orkney Islands from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	female
2	75-79	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	female
3	80-84	11	11	11	11	12	13	13	13	14	14	13	13	13	13	14	14	14	15	15	15	15	16	female
4	85-89	21	21	22	22	22	23	24	24	24	25	27	28	28	29	30	29	29	29	29	30	31	31	female
5	90+	33	34	34	35	37	38	39	40	41	42	43	45	46	47	49	52	55	57	58	60	61	63	female
6	sum	70	72	73	74	77	80	82	83	85	88	90	93	94	96	100	102	105	109	110	113	115	118	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	1	1	male
8	75-79	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	5	male
9	80-84	9	9	9	9	10	11	11	12	12	12	12	12	12	12	12	12	12	13	13	13	14	14	male
10	85-89	15	16	16	17	17	17	18	19	19	20	22	24	25	25	25	25	25	25	25	26	26	27	male
11	90+	18	20	21	22	23	25	26	27	29	30	31	32	34	36	38	41	44	46	48	50	51	53	male
12	sum	47	50	51	53	55	58	60	63	65	67	70	73	78	80	82	85	88	91	93	95	97	100	male
13	Total	117	122	124	127	132	138	142	146	150	155	160	166	172	176	182	187	193	200	203	208	212	218	Both

Table 24: Estimated number of people with dual sensory loss and dementia in Perth and Kinross. Age categories without people (0 people) have been omitted. Results are rounded.

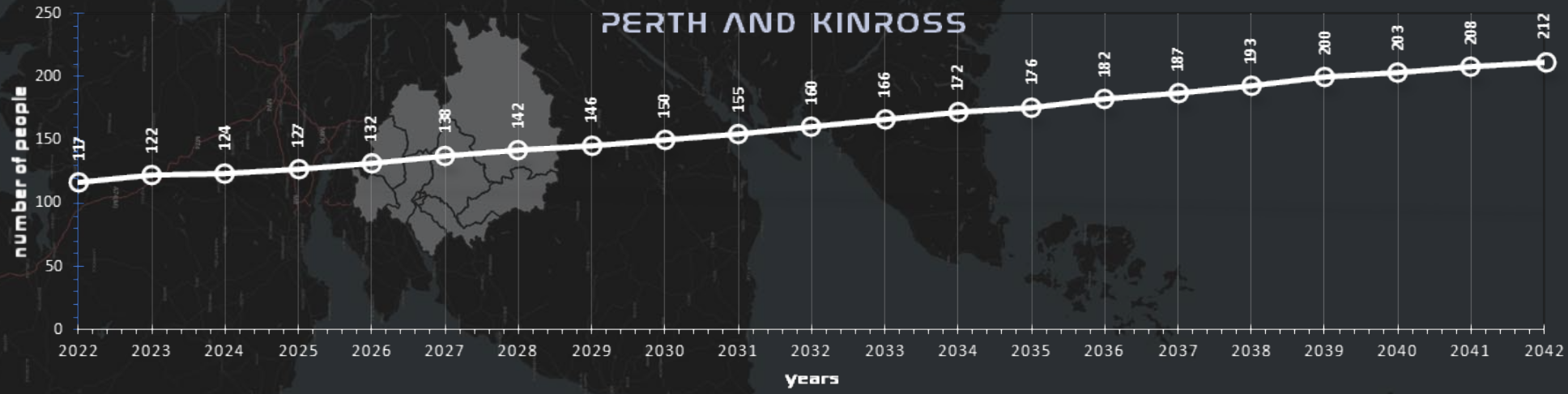

Figure 25: Projection of people with dual sensory loss and dementia in Perth and Kinross from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	female
2	75-79	4	5	5	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	6	6	female
3	80-84	10	10	11	11	11	12	12	13	13	13	13	13	13	13	13	14	14	15	15	16	17	17	female
4	85-89	20	21	21	21	20	20	20	21	22	22	24	25	26	26	27	26	26	26	27	28	29	30	female
5	90+	22	22	22	23	23	23	24	24	24	24	24	25	25	25	26	29	30	31	32	32	32	33	female
6	sum	57	59	60	61	60	61	63	65	66	66	68	70	71	71	74	77	78	80	82	84	86	88	female
7	70-74	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	male
8	75-79	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	5	male
9	80-84	7	7	8	8	8	9	9	9	10	10	9	10	10	10	10	11	11	12	12	13	13	13	male
10	85-89	12	12	12	12	13	13	13	14	14	14	16	17	17	17	18	17	18	18	18	19	20	21	male
11	90+	11	11	11	11	12	12	12	12	12	12	12	13	13	14	14	16	17	17	17	17	17	18	male
12	sum	35	35	36	36	38	39	39	40	41	41	43	46	46	48	49	51	53	54	54	56	56	58	male
13	Total	92	94	96	97	98	100	102	105	107	107	111	116	117	119	123	128	131	134	136	140	142	146	Both

Table 25: Estimated number of people with dual sensory loss and dementia in Renfrewshire. Age categories without people (0 people) have been omitted. Results are rounded.

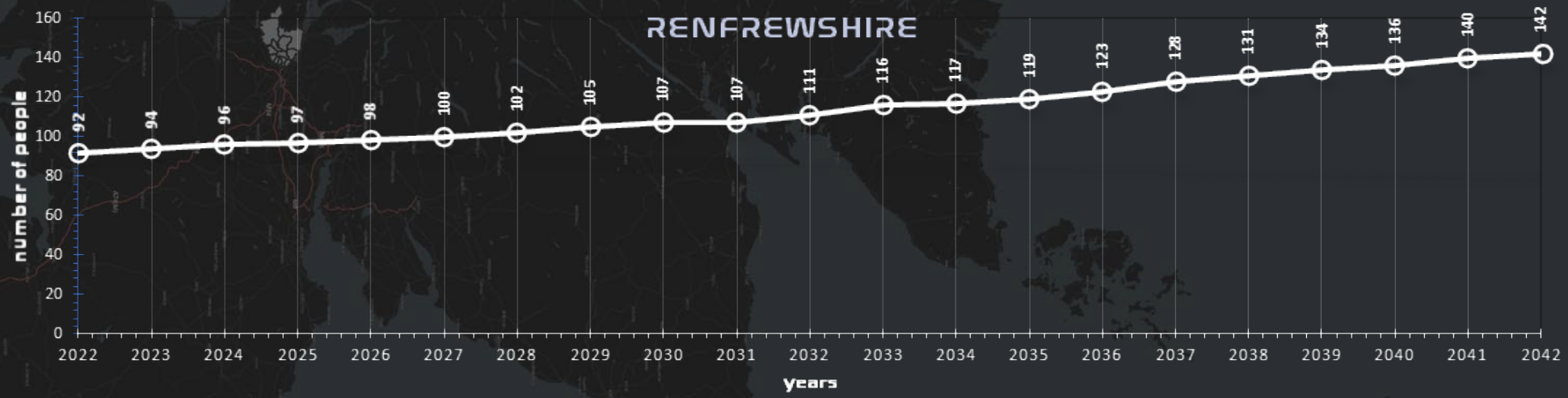

Figure 26: Projection of people with dual sensory loss and dementia in Renfrewshire from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	female
3	80-84	8	8	9	9	9	10	11	11	11	11	11	10	10	10	11	11	11	12	12	12	12	13	female
4	85-89	15	15	16	16	16	16	17	17	18	18	20	21	22	22	23	21	21	21	21	22	23	23	female
5	90+	19	19	20	20	20	21	21	22	22	22	23	24	24	25	26	28	30	31	32	32	33	34	female
6	sum	47	47	50	50	50	52	54	55	56	56	59	60	61	62	65	65	68	70	71	72	74	76	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	3	4	4	4	4	4	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	male
9	80-84	7	7	7	7	8	9	9	9	10	10	9	9	9	9	9	10	10	10	10	11	11	11	male
10	85-89	10	10	11	11	11	11	12	12	12	13	15	16	17	17	17	16	16	16	17	17	18	18	male
11	90+	9	9	10	10	10	10	11	11	11	11	12	12	13	13	14	16	17	18	18	18	19	19	male
12	sum	30	31	33	33	34	35	36	36	37	39	41	42	44	44	45	47	48	49	50	51	53	53	male
13	Total	77	78	83	83	84	87	90	91	93	95	100	102	105	106	110	112	116	119	121	123	127	129	Both

Table 26: Estimated number of people with dual sensory loss and dementia in Scottish Borders. Age categories without people (0 people) have been omitted. Results are rounded.

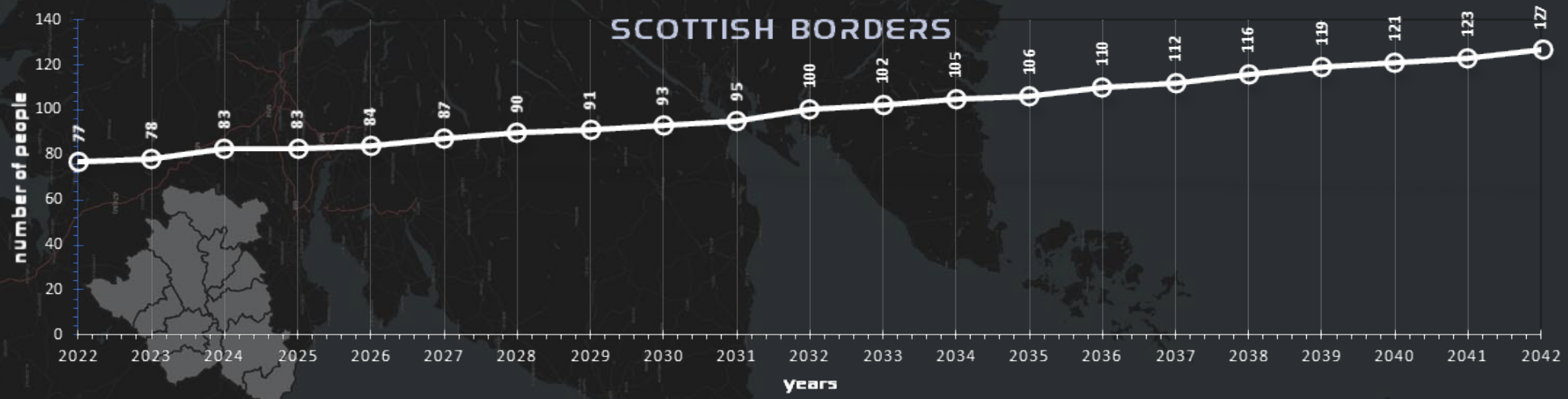

Figure 27: Projection of people with dual sensory loss and dementia in Scottish Borders from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	75-79	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	80-84	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	female
3	85-89	2	2	2	2	2	3	3	3	3	3	3	3	3	3	4	3	4	3	4	4	4	4	female
4	90+	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	female
5	sum	7	7	7	8	8	9	9	9	9	9	9	9	9	9	10	9	10	9	10	10	10	10	female
6	75-79	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
7	80-84	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	male
8	85-89	2	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	male
9	90+	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	4	4	4	5	5	5	5	male
10	sum	6	6	6	6	6	6	7	8	8	9	9	9	9	9	9	10	10	10	11	11	11	11	male
11	Total	13	13	13	14	14	15	16	17	17	18	18	18	18	18	19	19	20	19	21	21	21	21	Both

Table 27: Estimated number of people with dual sensory loss and dementia in Shetland Islands. Age categories without people (0 people) have been omitted. Results are rounded.

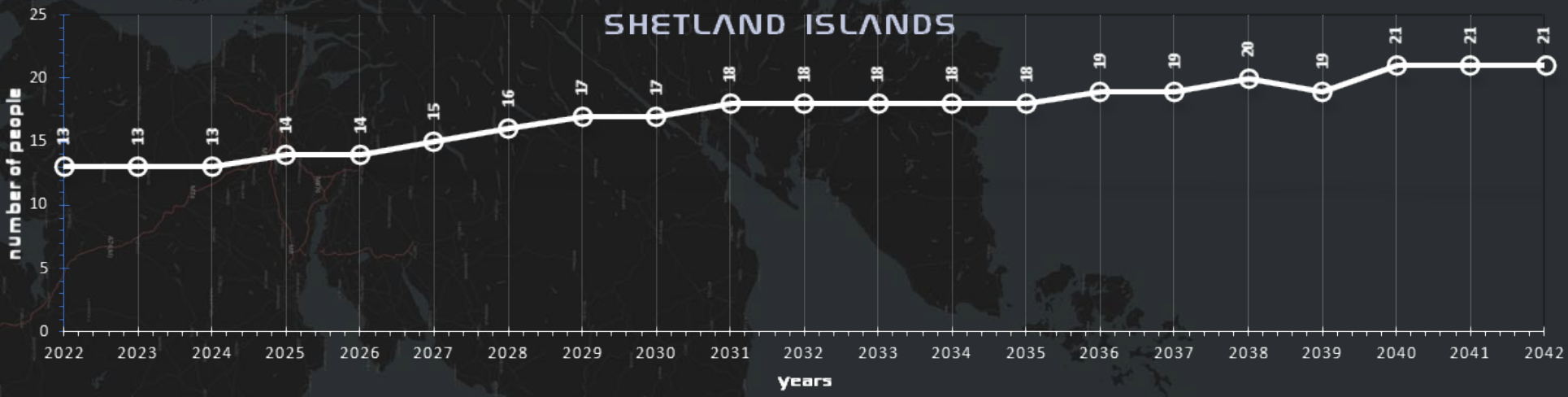

Figure 28: Projection of people with dual sensory loss and dementia in Shetland Islands from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	female
3	80-84	9	9	9	9	10	10	11	11	11	11	11	11	11	11	11	11	12	12	12	13	13	13	female
4	85-89	16	17	17	17	17	18	18	18	19	20	22	22	23	23	23	22	22	23	23	24	24	25	female
5	90+	22	23	23	23	24	24	25	25	26	26	26	27	28	28	29	32	33	34	35	36	36	37	female
6	sum	52	54	54	54	56	57	59	59	61	62	64	65	67	67	68	70	73	75	76	79	79	81	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	3	3	3	3	4	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	male
9	80-84	6	7	7	7	8	8	9	9	9	9	9	9	9	9	9	9	9	10	10	10	10	11	male
10	85-89	11	12	12	12	12	12	13	14	14	14	16	17	17	18	18	17	18	18	18	18	19	19	male
11	90+	11	12	12	13	13	14	15	15	16	16	16	17	18	19	20	22	23	24	25	25	26	27	male
12	sum	32	35	35	36	38	38	41	42	43	43	45	47	49	51	52	53	55	57	58	58	60	62	male
13	Total	84	89	89	90	94	95	100	101	104	105	109	112	116	118	120	123	128	132	134	137	139	143	Both

Table 28: Estimated number of people with dual sensory loss and dementia in South Ayrshire. Age categories without people (0 people) have been omitted. Results are rounded.

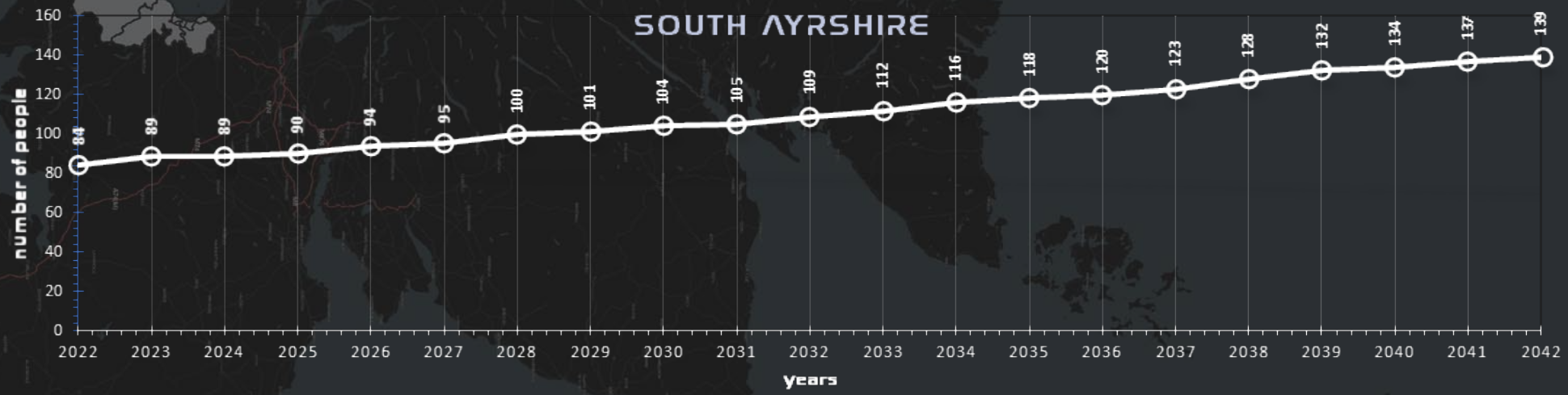

Figure 29: Projection of people with dual sensory loss and dementia in South Ayrshire from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	70-74	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	female
3	75-79	8	8	8	9	9	9	8	9	9	9	9	10	10	10	10	11	11	11	11	11	11	12	female
4	80-84	19	19	19	19	20	21	22	23	23	24	23	23	24	24	25	26	27	28	29	29	30	31	female
5	85-89	35	35	35	36	36	36	37	38	38	39	42	44	45	47	47	47	47	48	50	52	54	56	female
6	90+	41	41	41	41	41	42	42	42	43	42	43	44	45	45	46	50	53	54	55	56	56	57	female
7	sum	107	107	107	109	110	112	113	116	117	118	121	125	128	130	132	138	142	145	149	152	155	160	female
8	65-69	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
9	70-74	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	male
10	75-79	7	7	7	7	7	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	10	male
11	80-84	13	14	15	15	16	17	18	18	19	19	19	19	19	20	20	21	22	22	23	24	25	25	male
12	85-89	22	23	23	24	24	24	25	27	28	29	32	34	34	35	36	35	36	37	38	39	41	42	male
13	90+	19	20	20	21	22	23	24	25	25	26	26	28	29	30	32	36	38	40	41	42	42	43	male
14	sum	64	67	68	70	72	74	78	81	83	86	89	93	94	98	101	105	109	113	116	119	122	124	male
15	Total	171	174	175	179	182	186	191	197	200	204	210	218	222	228	233	243	251	258	265	271	277	284	Both

Table 29: Estimated number of people with dual sensory loss and dementia in South Lanarkshire. Age categories without people (0 people) have been omitted. Results are rounded.

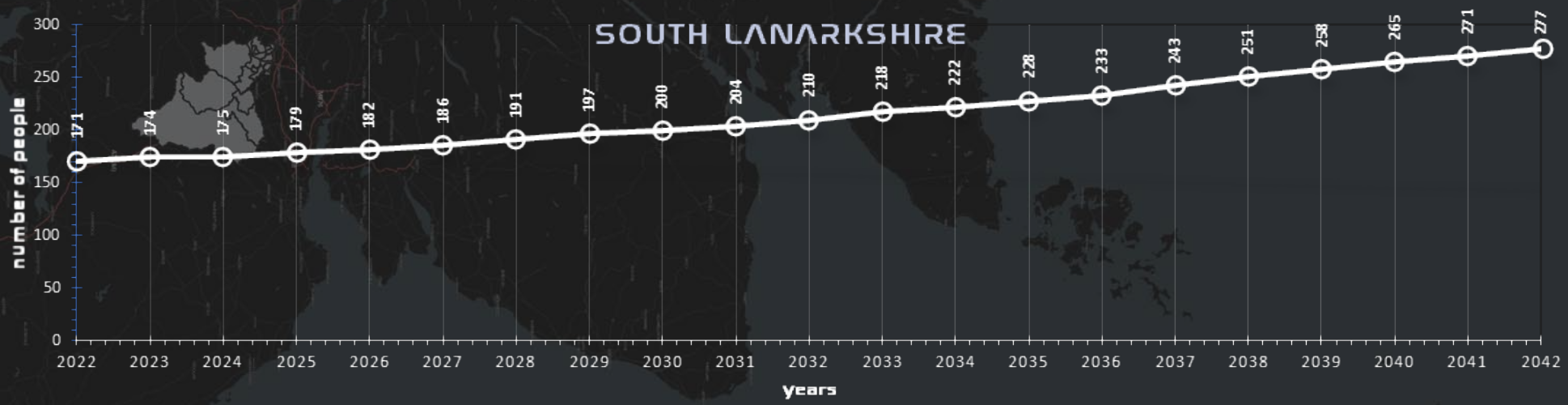

Figure 30: Projection of people with dual sensory loss and dementia in South Lanarkshire from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	female
3	80-84	6	6	6	6	6	7	7	7	7	7	6	6	6	7	7	7	7	7	7	8	8	8	female
4	85-89	11	11	11	11	12	11	12	12	12	13	14	14	14	14	14	14	13	14	14	14	15	15	female
5	90+	14	14	15	15	16	16	17	17	18	18	18	19	20	20	21	23	24	25	25	26	26	27	female
6	sum	34	34	35	35	37	37	39	39	40	41	41	42	43	45	46	48	48	50	50	52	53	54	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	male
9	80-84	4	4	5	4	5	5	5	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	male
10	85-89	7	7	8	8	8	8	8	9	8	9	10	10	11	11	11	11	11	11	11	11	12	12	male
11	90+	6	7	7	8	8	9	9	9	10	10	11	11	12	12	13	14	15	16	17	17	18	18	male
12	sum	20	21	23	23	24	25	25	27	27	28	30	30	32	32	34	35	36	37	39	39	41	41	male
13	Total	54	55	58	58	61	62	64	66	67	69	71	72	75	77	80	83	84	87	89	91	94	95	Both

Table 30: Estimated number of people with dual sensory loss and dementia in Stirling. Age categories without people (0 people) have been omitted. Results are rounded.

Figure 31: Projection of people with dual sensory loss and dementia in Stirling from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	female
2	75-79	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	female
3	80-84	5	5	5	5	5	5	6	6	6	6	6	6	6	6	7	7	7	8	8	8	8	8	female
4	85-89	9	9	9	9	9	9	9	9	9	9	10	11	11	12	12	12	12	12	12	13	14	14	female
5	90+	9	9	8	8	8	8	8	8	7	7	7	7	7	7	7	8	8	8	8	8	8	8	female
6	sum	26	26	25	25	25	25	26	26	25	25	27	28	28	29	30	31	31	32	32	33	34	34	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	male
8	75-79	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	male
9	80-84	3	3	3	4	4	4	4	5	5	5	5	5	5	5	5	5	6	6	6	6	6	6	male
10	85-89	5	5	5	5	5	5	5	6	6	7	7	8	8	8	8	8	8	8	9	9	9	10	male
11	90+	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	6	6	6	6	6	6	male
12	sum	15	15	15	16	16	16	16	18	18	19	19	20	21	21	21	21	23	23	25	25	25	25	male
13	Total	41	41	40	41	41	41	42	44	43	44	46	48	49	50	51	52	54	55	57	58	59	59	Both

Table 31: Estimated number of people with dual sensory loss and dementia in West Dunbartonshire. Age categories without people (0 people) have been omitted. Results are rounded.

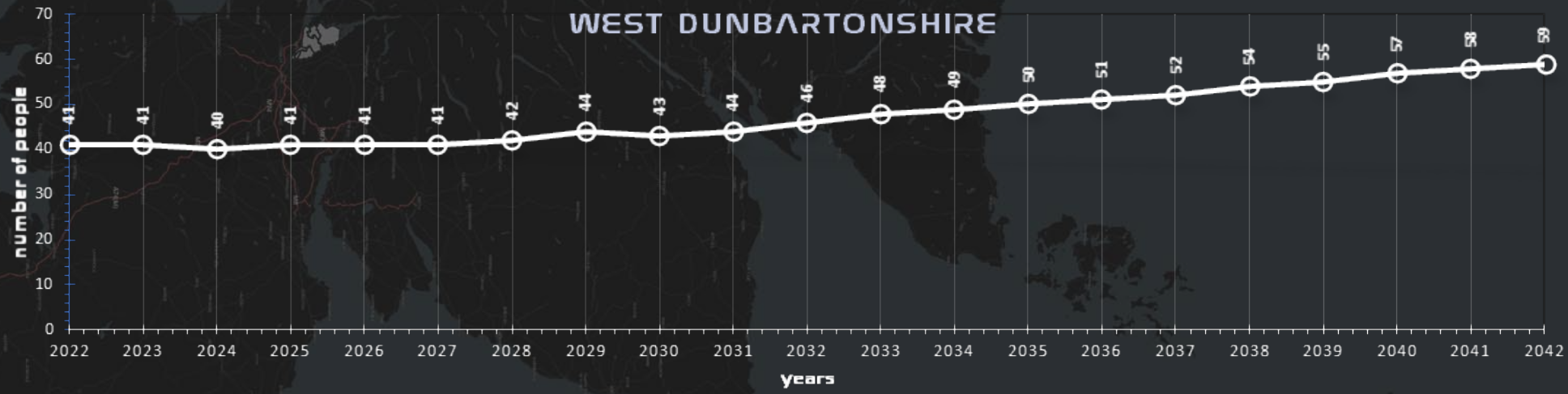

Figure 32: Projection of people with dual sensory loss and dementia in West Dunbartonshire from 2022-2042

	Age	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	Gender
1	70-74	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	female
2	75-79	4	4	4	4	5	4	4	4	4	4	5	5	5	5	5	5	6	6	6	6	6	6	female
3	80-84	9	9	10	10	10	11	12	12	12	13	12	12	12	12	13	13	13	14	14	15	16	16	female
4	85-89	15	16	17	17	18	18	19	20	20	21	23	24	25	26	26	26	26	26	26	27	28	28	female
5	90+	16	17	17	17	17	18	18	19	19	19	20	21	21	22	23	25	27	28	29	30	30	31	female
6	sum	45	47	49	49	51	52	54	56	56	59	62	64	65	67	69	71	74	76	77	80	82	83	female
7	70-74	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	male
8	75-79	3	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	5	5	male
9	80-84	7	7	7	8	8	9	9	10	10	10	10	10	10	10	10	10	11	11	12	12	13	13	male
10	85-89	11	11	12	12	13	13	14	14	15	15	17	18	19	19	19	19	19	19	19	20	21	22	male
11	90+	9	10	10	11	11	12	13	13	14	14	15	16	17	18	19	21	23	24	25	25	26	27	male
12	sum	31	33	34	36	37	39	41	42	44	44	47	50	52	53	55	57	60	61	63	64	67	69	male
13	Total	76	80	83	85	88	91	95	98	100	103	109	114	117	120	124	128	134	137	140	144	149	152	Both

Table 32: Estimated number of people with dual sensory loss and dementia in West Lothian. Age categories without people (0 people) have been omitted. Results are rounded.

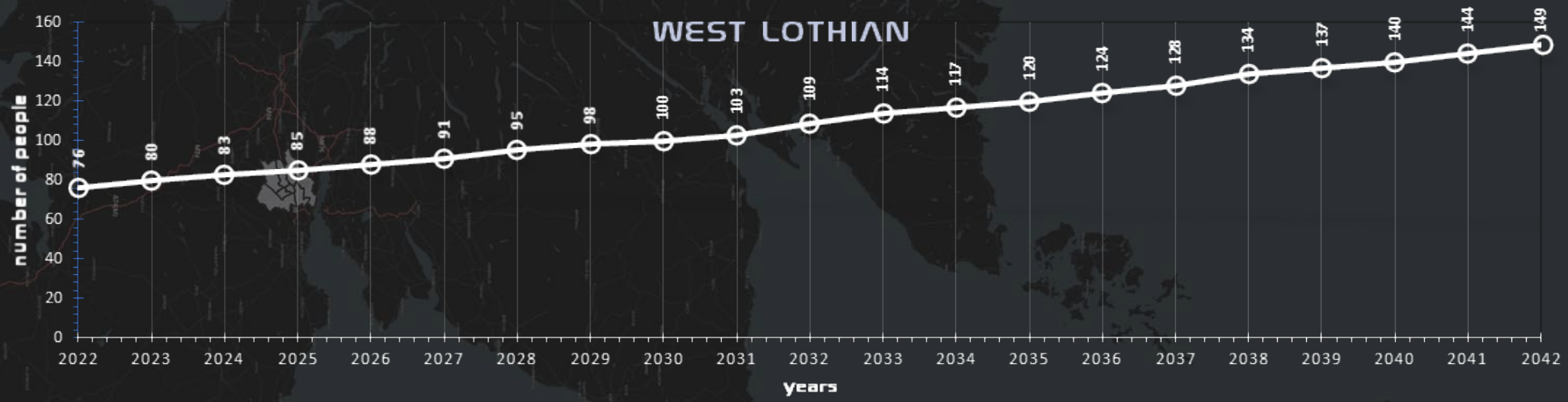

Figure 33: Projection of people with dual sensory loss and dementia in West Lothian from 2022-2042

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3 Estimated number of people with dual sensory loss and dementia in Angus. Age categories without people (0 people) have been omitted. Results are rounded. . . 4

4 Estimated number of people with dual sensory loss and dementia in Argyll and Bute. Age categories without people (0 people) have been omitted. Results are rounded. 5
5 Estimated number of people with dual sensory loss and dementia in City of Edinburgh. Age categories without people (0 people) have been omitted. Results are rounded. 6
6 Estimated number of people with dual sensory loss and dementia in Clackmannanshire. Age categories without people (0 people) have been omitted. Results are rounded. 7
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11 Estimated number of people with dual sensory loss and dementia in East Lothian. Age categories without people (0 people) have been omitted. Results are rounded. 12
12 Estimated number of people with dual sensory loss and dementia in East Renfrewshire. Age categories without people (0 people) have been omitted. Results are rounded. 13
13 Estimated number of people with dual sensory loss and dementia in Falkirk. Age categories without people (0 people) have been omitted. Results are rounded. . . 14
14 Estimated number of people with dual sensory loss and dementia in Fife. Age categories without people (0 people) have been omitted. Results are rounded. . 15

15 Estimated number of people with dual sensory loss and dementia in Glasgow City. Age categories without people (0 people) have been omitted. Results are rounded. 16
16 Estimated number of people with dual sensory loss and dementia in Highland. Age categories without people (0 people) have been omitted. Results are rounded. . 17
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21 Estimated number of people with dual sensory loss and dementia in North Ayrshire. Age categories without people (0 people) have been omitted. Results are rounded. 22
22 Estimated number of people with dual sensory loss and dementia in North Lanarkshire. Age categories without people (0 people) have been omitted. Results are rounded. 23
23 Estimated number of people with dual sensory loss and dementia in Orkney Islands. Age categories without people (0 people) have been omitted. Results are rounded. 24
24 Estimated number of people with dual sensory loss and dementia in Perth and Kinross. Age categories without people (0 people) have been omitted. Results are rounded. 25
25 Estimated number of people with dual sensory loss and dementia in Renfrewshire. Age categories without people (0 people) have been omitted. Results are rounded. 26
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29 Estimated number of people with dual sensory loss and dementia in South Lanarkshire. Age categories without people (0 people) have been omitted. Results are rounded. 30
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Appendix C

Dual Sensory Loss in Scotland

Individual Local Authorities report

Dr Nils Kösters, Andrena McMenemy, Dr Christine Johnson

April 2022

picture by Zoe Holling

The data in this supplemental report is based on Table 1 (see table 1 of this document) of Robertson and Emerson's 2010 [1] report and the Scottish Government's Population Estimates Detailed (Current Geographic Boundaries).

This geographical based data comes in 2 forms: in age groups of 5 years and in a broad spectrum "young", working people and "old".

We used the 5 year intervals and matched these age groups to the 10 year age groups in the Robertson and Emerson report.

The newest and most detailed data comes in small regional statistical sections, so-called data zones (the Scottish Governments smallest unit of geographical area, where data is published).

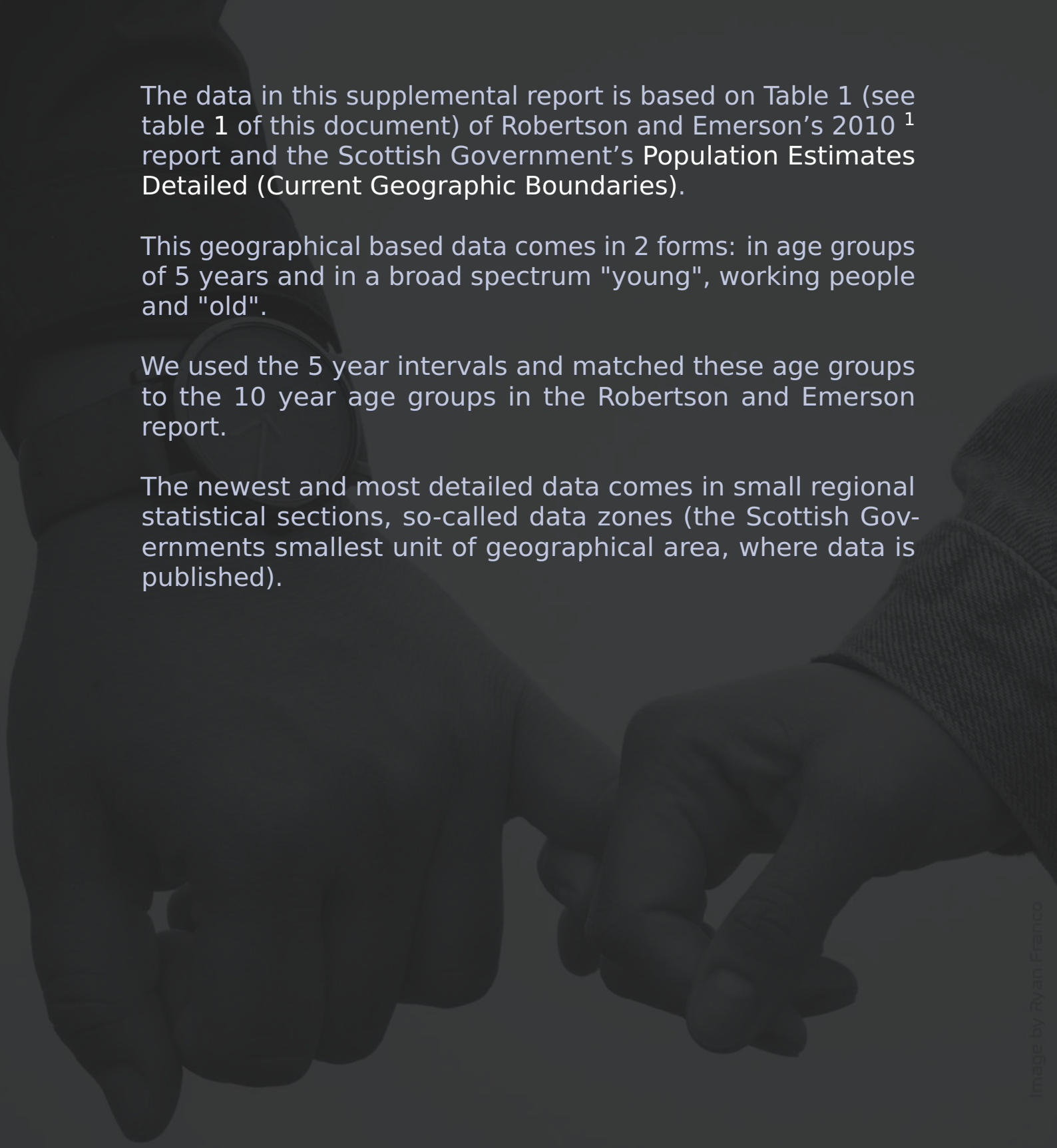

Image by Ryan Franco

[1] Robertson, Janet and Emerson, Eric (2010) Estimating the number of people with co-occurring vision and hearing impairments in the UK. Centre for Disability Research, Lancaster University, Lancaster.

Table 1: First table in Robertson, Janet and Emerson, Eric (2010) . https://eprints.lancs.ac.uk/id/eprint/53364/. All data in %.

	men		women	
age	lower	upper	*lower*	upper
0-9	0.052	0.334	0.02	0.085
10-19	0.016	0.11	0.029	0.047
20-29	0.036	0.063	0.034	0.124
30-39	0.009	0.066	0.013	0.056
40-49	0.02	0.128	0.029	0.223
50-59	0.053	0.498	0.043	0.316
60-69	0.499	1.253	0.073	0.471
70-79	0.413	1.064	0.628	1.445
80-89	1.77	4.029	1.305	4.419
90+	12.623	12.757	5.571	13.405

Image by Ryan Franco

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	40	23	6	10	6	2
10-19	12	7	2	5	4	3
20-29	12	10	7	24	16	7
30-39	14	8	2	10	6	2
40-49	19	11	3	31	18	4
50-59	69	38	7	45	26	6
60-69	144	101	58	55	32	9
70-79	80	56	31	125	90	54
80-89	128	92	56	222	144	66
90+	64	64	63	158	112	66

Table 2: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Aberdeen City. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	50	29	8	12	8	3
10-19	17	10	2	7	6	4
20-29	8	6	5	14	9	4
30-39	10	6	1	9	6	2
40-49	23	14	4	40	22	5
50-59	98	54	10	64	36	9
60-69	202	141	80	78	45	12
70-79	125	86	48	182	130	79
80-89	181	130	80	265	172	78
90+	80	80	79	178	126	74

Table 3: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government's most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Aberdeenshire. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	20	12	3	5	3	1
10-19	7	4	1	3	2	2
20-29	4	3	2	7	4	2
30-39	4	2	1	4	2	1
40-49	8	4	1	16	9	2
50-59	43	24	5	28	16	4
60-69	95	66	38	38	22	6
70-79	66	46	26	101	72	44
80-89	103	74	45	157	102	46
90+	50	50	49	121	86	50

Table 4: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Angus. upper=upper boundary, lower= lower boundary

Argyll and Bute

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	13	8	2	3	2	1
10-19	5	3	1	2	2	1
20-29	3	2	2	4	2	1
30-39	3	2	0	2	2	1
40-49	6	4	1	11	6	1
50-59	33	18	4	22	12	3
60-69	79	55	31	31	18	5
70-79	53	37	21	80	58	35
80-89	82	59	36	124	80	37
90+	35	35	35	73	52	30

Table 5: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Argyll and Bute. upper=upper boundary, lower= lower boundary

City of Edinburgh

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	86	50	13	21	13	5
10-19	27	16	4	11	9	7
20-29	29	23	17	64	41	18
30-39	31	18	4	27	16	6
40-49	43	25	7	74	42	10
50-59	156	86	17	99	56	13
60-69	300	210	120	120	70	19
70-79	170	118	66	277	198	120
80-89	291	210	128	489	317	145
90+	158	157	156	382	270	159

Table 6: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in City of Edinburgh. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	9	5	1	2	2	1
10-19	3	2	0	1	1	1
20-29	2	2	1	3	2	1
30-39	2	1	0	2	1	0
40-49	4	2	1	8	4	1
50-59	20	11	2	13	8	2
60-69	39	28	16	16	9	2
70-79	26	18	10	40	28	17
80-89	34	24	15	50	32	15
90+	18	18	17	33	24	14

Table 7: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Clackmannanshire. upper=upper boundary, lower= lower boundary

Dumfries and Galloway

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	23	14	4	6	4	1
10-19	9	5	1	3	2	2
20-29	5	4	3	9	6	2
30-39	5	3	1	4	2	1
40-49	10	6	1	19	10	2
50-59	57	32	6	39	22	5
60-69	135	94	54	53	30	8
70-79	94	65	36	137	98	60
80-89	152	110	67	210	136	62
90+	67	67	67	137	97	57

Table 8: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Dumfries and Galloway. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	26	15	4	6	4	1
10-19	9	5	1	4	3	2
20-29	8	6	5	17	11	5
30-39	7	4	1	6	4	1
40-49	10	6	1	18	10	2
50-59	44	24	5	31	18	4
60-69	95	66	38	38	22	6
70-79	56	39	22	93	66	40
80-89	98	70	43	164	106	48
90+	48	48	48	119	84	49

Table 9: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Dundee City. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	22	12	3	5	3	1
10-19	7	4	1	3	2	2
20-29	4	3	2	8	5	2
30-39	5	3	1	4	2	1
40-49	9	5	1	17	10	2
50-59	45	25	5	31	18	4
60-69	96	67	38	38	22	6
70-79	59	41	23	91	65	39
80-89	89	64	39	132	86	39
90+	34	34	34	84	60	35

Table 10: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in East Ayrshire. upper=upper boundary, lower= lower boundary

East Dunbartonshire

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	20	12	3	5	3	1
10-19	7	4	1	3	2	2
20-29	4	3	2	6	4	2
30-39	4	2	0	3	2	1
40-49	8	4	1	16	9	2
50-59	39	22	4	28	16	4
60-69	85	60	34	35	20	5
70-79	53	37	21	88	63	38
80-89	100	72	44	156	101	46
90+	46	46	45	101	72	42

Table 11: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in East Dunbartonshire. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	21	12	3	5	3	1
10-19	7	4	1	3	2	2
20-29	4	3	2	7	4	2
30-39	4	2	1	4	2	1
40-49	9	5	1	16	9	2
50-59	40	22	4	28	16	4
60-69	81	56	32	34	20	5
70-79	51	36	20	80	58	35
80-89	79	57	35	125	81	37
90+	39	39	39	83	58	34

Table 12: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in East Lothian. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	20	12	3	5	3	1
10-19	7	4	1	3	2	2
20-29	3	2	2	6	4	2
30-39	3	2	0	3	2	1
40-49	8	4	1	15	8	2
50-59	33	18	3	24	14	3
60-69	69	48	27	29	16	4
70-79	41	28	16	70	50	30
80-89	73	52	32	122	79	36
90+	38	38	37	93	66	39

Table 13: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in East Renfrewshire. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	29	17	5	7	4	2
10-19	10	6	1	4	4	3
20-29	6	4	3	11	7	3
30-39	6	4	1	6	4	1
40-49	14	8	2	25	14	3
50-59	61	34	6	40	22	5
60-69	115	80	46	47	27	7
70-79	72	50	28	109	78	47
80-89	106	76	47	169	110	50
90+	48	48	48	102	72	43

Table 14: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Falkirk. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	67	38	10	16	10	4
10-19	24	14	3	10	8	6
20-29	14	11	8	28	18	8
30-39	14	8	2	13	8	3
40-49	28	16	4	53	30	7
50-59	133	74	14	90	51	12
60-69	284	198	113	114	66	18
70-79	184	128	71	283	203	123
80-89	273	196	120	420	272	124
90+	132	131	130	297	210	123

Table 15: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Fife. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	111	64	17	27	16	6
10-19	34	20	5	14	12	9
20-29	38	30	22	75	48	21
30-39	39	22	5	31	19	7
40-49	48	28	8	84	48	11
50-59	190	105	20	134	76	18
60-69	356	249	142	147	85	23
70-79	179	124	69	291	208	126
80-89	270	194	119	538	348	159
90+	130	130	129	388	274	161

Table 16: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Glasgow City. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	39	22	6	9	6	2
10-19	14	8	2	6	5	4
20-29	8	6	4	14	9	4
30-39	9	5	1	8	5	2
40-49	18	10	3	33	18	4
50-59	88	48	9	60	34	8
60-69	199	139	79	78	45	12
70-79	127	88	49	189	136	82
80-89	193	139	85	292	189	86
90+	95	94	94	195	138	81

Table 17: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Highland. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	13	8	2	3	2	1
10-19	5	3	1	2	2	1
20-29	3	2	2	5	3	1
30-39	3	2	0	3	2	1
40-49	5	3	1	11	6	1
50-59	30	16	3	21	12	3
60-69	62	44	25	26	15	4
70-79	37	26	14	59	42	26
80-89	53	38	23	100	65	30
90+	26	26	26	68	48	28

Table 18: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Inverclyde. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	20	12	3	5	3	1
10-19	6	4	1	2	2	1
20-29	3	2	2	7	4	2
30-39	4	2	1	4	2	1
40-49	7	4	1	14	8	2
50-59	31	17	3	22	12	3
60-69	66	46	26	27	16	4
70-79	42	29	16	65	46	28
80-89	57	41	25	92	60	27
90+	27	27	27	55	39	23

Table 19: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Midlothian. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	16	10	3	4	2	1
10-19	6	4	1	2	2	2
20-29	4	3	2	6	4	2
30-39	4	2	0	3	2	1
40-49	8	4	1	13	8	2
50-59	36	20	4	23	13	3
60-69	76	53	30	30	18	5
70-79	48	34	19	75	54	33
80-89	80	58	35	118	76	35
90+	42	42	41	78	56	33

Table 20: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Moray. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	4	2	1	1	0	0
10-19	2	1	0	1	0	0
20-29	1	0	0	1	0	0
30-39	1	0	0	1	0	0
40-49	2	1	0	4	2	0
50-59	10	6	1	7	4	1
60-69	25	18	10	9	5	1
70-79	16	11	6	24	17	10
80-89	26	18	11	43	28	13
90+	15	15	15	30	21	12

Table 21: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Na h-Eileanan Siar. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	23	14	4	5	3	1
10-19	8	4	1	3	2	2
20-29	5	4	3	9	6	3
30-39	4	2	1	4	2	1
40-49	9	5	1	19	10	2
50-59	48	26	5	35	20	5
60-69	111	78	44	46	26	7
70-79	72	50	28	114	82	50
80-89	107	77	47	163	106	48
90+	40	40	39	106	75	44

Table 22: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in North Ayrshire. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	64	37	10	16	10	4
10-19	23	13	3	9	8	6
20-29	13	10	8	25	16	7
30-39	14	8	2	13	8	3
40-49	28	16	4	51	29	7
50-59	125	69	13	85	48	12
60-69	234	164	93	99	57	15
70-79	133	92	52	218	156	95
80-89	194	140	85	331	214	98
90+	75	74	74	171	121	71

Table 23: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in North Lanarkshire. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	4	2	1	1	0	0
10-19	1	0	0	1	0	0
20-29	1	0	0	1	0	0
30-39	1	0	0	1	0	0
40-49	2	1	0	3	2	0
50-59	9	5	1	6	4	1
60-69	20	14	8	7	4	1
70-79	13	9	5	19	14	8
80-89	22	16	10	28	18	8
90+	11	11	11	21	15	9

Table 24: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Orkney Islands. upper=upper boundary, lower= lower boundary

Perth and Kinross

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	25	14	4	6	4	1
10-19	9	5	1	4	3	2
20-29	5	4	3	9	6	3
30-39	6	4	1	5	3	1
40-49	11	6	2	21	12	3
50-59	57	32	6	38	22	5
60-69	126	88	50	49	28	8
70-79	82	57	32	124	89	54
80-89	145	104	64	207	134	61
90+	75	74	74	165	116	68

Table 25: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Perth and Kinross. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	32	18	5	8	5	2
10-19	11	6	2	4	4	3
20-29	7	6	4	14	9	4
30-39	8	4	1	7	4	2
40-49	13	8	2	25	14	3
50-59	66	36	7	46	26	6
60-69	131	92	52	53	30	8
70-79	75	52	29	123	88	53
80-89	119	86	52	202	131	60
90+	65	64	64	126	90	53

Table 26: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Renfrewshire. upper=upper boundary, lower= lower boundary

Scottish Borders

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	20	12	3	5	3	1
10-19	7	4	1	3	2	2
20-29	3	2	2	7	4	2
30-39	3	2	0	3	2	1
40-49	8	4	1	16	9	2
50-59	46	26	5	30	17	4
60-69	104	72	41	41	24	6
70-79	71	49	27	103	74	45
80-89	108	78	47	159	103	47
90+	44	44	43	95	68	40

Table 27: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Scottish Borders. upper=upper boundary, lower= lower boundary

Shetland Islands

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	4	2	1	1	0	0
10-19	2	1	0	1	0	0
20-29	1	0	0	1	0	0
30-39	1	0	0	1	0	0
40-49	2	1	0	3	2	0
50-59	9	5	1	5	3	1
60-69	18	12	7	7	4	1
70-79	12	8	5	16	12	7
80-89	18	13	8	24	16	7
90+	7	7	7	17	12	7

Table 28: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Shetland Islands. upper=upper boundary, lower= lower boundary

South Ayrshire

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	18	10	3	4	2	1
10-19	6	4	1	3	2	2
20-29	4	3	2	7	4	2
30-39	3	2	0	3	2	1
40-49	8	4	1	15	8	2
50-59	41	22	4	29	16	4
60-69	97	68	39	41	24	6
70-79	67	46	26	103	74	45
80-89	106	76	47	164	106	49
90+	51	50	50	117	82	48

Table 29: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in South Ayrshire. upper=upper boundary, lower= lower boundary

South Lanarkshire

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	59	34	9	14	8	3
10-19	19	11	3	8	6	5
20-29	12	10	7	22	14	6
30-39	12	7	2	11	7	3
40-49	26	15	4	47	26	6
50-59	119	66	13	81	46	11
60-69	248	174	99	102	59	16
70-79	142	98	55	224	160	97
80-89	213	154	94	357	231	105
90+	91	90	90	226	160	94

Table 30: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in South Lanarkshire. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	15	8	2	4	2	1
10-19	6	4	1	3	2	2
20-29	4	3	2	9	6	2
30-39	3	2	0	3	2	1
40-49	7	4	1	13	8	2
50-59	34	19	4	23	13	3
60-69	67	47	27	26	15	4
70-79	42	29	16	66	48	29
80-89	70	50	31	106	68	31
90+	27	27	27	73	52	30

Table 31: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in Stirling. upper=upper boundary, lower= lower boundary

West Dunbartonshire

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	16	10	3	4	2	1
10-19	5	3	1	2	2	1
20-29	3	2	2	7	4	2
30-39	4	2	0	3	2	1
40-49	6	4	1	12	7	2
50-59	32	18	3	23	13	3
60-69	68	48	27	29	16	4
70-79	37	26	14	60	43	26
80-89	53	38	23	97	63	29
90+	22	22	22	54	38	22

Table 32: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in West Dunbartonshire. upper=upper boundary, lower= lower boundary

	men			women		
Age	upper	average	lower	upper	average	lower
0-9	37	22	6	9	6	2
10-19	13	8	2	5	4	3
20-29	7	6	4	13	8	3
30-39	8	4	1	7	4	2
40-49	16	9	2	28	16	4
50-59	67	37	7	45	26	6
60-69	122	86	49	49	28	8
70-79	73	50	28	113	81	49
80-89	104	74	45	156	101	46
90+	45	45	45	90	64	37

Table 33: Estimated people with Dual Sensory Loss in 2022 based on Robertson & Emerson 2010 and the Scottish Government’ss most recent age structured population estimates (Population Estimates Detailed (Current Geographic Boundaries)) upper, mean and lower boundaries in West Lothian. upper=upper boundary, lower= lower boundary

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Image by Ryan Franco

[2] Robertson, Janet ; Emerson, Eric. / Estimating the number of people with co-occurring vision and hearing impairments in the UK. Lancaster : Centre for Disability Research, Lancaster University, 2010. 31 p.

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