

# Dementia in Yorkshire & Humber

## A Demographic Profile

A Report for the  
Dementia Strategy Lead for the Yorkshire & Humber Improvement Partnership

By  
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## **For Further Information**

*Dementia in the Yorkshire & Humber – A Demographic Profile* report will be available via the following web address [www.yhip.org.uk](http://www.yhip.org.uk)

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## Content

	Page No	
Executive Summary	4	
Introduction	7	
Section 1	Dementia and the Prevalence Rates within the UK Population	9
1.1	Prevalence Rates for Early On-set Dementia	9
1.2	Prevalence Rates for Late On-set Dementia	10
1.3	Dementia Sub-type Proportions for Late On-set Diagnosis	10
1.4	Proportion of Dementia Cases by Severity of Condition	11
Section 2	People with Dementia in the Yorkshire & Humber Region	12
2.1	Early On- set Dementia	13
2.2	Late On-set Dementia	16
2.3	Sub-types of Dementia	20
2.4	Severity of Dementia	21
2.5	Residential Status of People with Dementia	23
2.6	Dementia Amongst People With Learning Disabilities	25
Section 3	Service Provision in the Yorkshire & Humber Region	26
3.1	Residential Care & Nursing Homes - Services for All Aged 65 Years and Over	27
3.2	Community Services Homes - Services for All Aged 65 Years and Over	29
3.3	Drug Treatments for People with Dementia	32
Appendix 1	What is Dementia?	33
Appendix 2	Dementia Sub-types	35
Appendix 3	About the Yorkshire & Humber Region	37

## Executive Summary

### Headlines

- 51% increase in the number of people with late on-set dementia in the Yorkshire & Humber region: rising from 59,207 individuals in 2008 to 89,314 in 2025
- 15% increase in the numbers with early on-set dementia in the region: rising from 1,327 individuals in 2008 to 1,523 in 2025
- By 2025 approximately 71% of all people with dementia in the Yorkshire & Humber region will be aged 80 years and over: increasing from 40,793 in 2008 to 63,484 in 2025
- 55% increase in the predicted numbers of people with dementia across the region requiring some form of care home provision: a predicted additional 12,055 places - given current social care policies

### Key findings of the research for the Yorkshire & Humber

- In 2008 the number of people in the Yorkshire & Humber region with dementia is estimated to be 60,500 some 9% of the national total. Currently 60% of this estimated population in the region remain undiagnosed.
- Early on-set dementia accounts for 2.2% of all people with dementia in the UK, amounting to an estimated 1,327 individuals in the Yorkshire & Humber region. The predicted increase in the number of cases of early on-set dementia between 2008 and 2025 is 15%, in-line with the national growth.
- The number of people with late on-set dementia is predicted to increase by 30,107 from the 2008 level to 89,314 in 2025, an increase of 51% and again in-line with national growth predictions. The Yorkshire & Humber region could see an increase in the number males with late on-set dementia of 74%, twice that of females (37%) over the period. However in absolute numbers, the number of females increase by 15,234, while the number of males increase by 14,873 cases.
- North Yorkshire, Leeds and Sheffield are the local authority districts in the region with the highest estimated number of people with late on-set dementia in 2008, of between 8,264 and 6,084 individuals, while the smaller districts of North Lincolnshire and NE Lincolnshire have estimated numbers of 1,950 cases. In all districts in the region the numbers of people with late on-set dementia is predicted to increase by 2025, with the increases on the 2008 levels for districts ranging from 78% in East Riding to 31% in Hull. The predicted increases in the number of cases of late on-set dementia in seven of the fifteen local authority districts in the region exceed the national growth of 51%.
- 58% of males and 74% of females with late on-set dementia in the region are aged 80 years and over in 2008, while by 2025 65% of males and 75% females with the condition will be in this age group, resulting in an increase of those aged 80 years and over in the region of 11,041 males and 11,650 females.
- In 2008 it is estimated that in the Yorkshire & Humber region over 90% of people with late on-set dementia are likely to have Alzheimer's disease (63% - 37,254), vascular dementia (17% - 9,887) or a combination of the two (10% - 6,122).
- In the region in 2008 approximately 55% (32,714) of people with late on-set dementia have the mild form of the condition and 32% (19,023) have a moderate form. Around 13% of the cases in the Yorkshire & Humber region are classed as severe, with 77% of those being aged over 80 years of age.
- In the Yorkshire & Humber region it was estimated that in 2008 around 21,938 individuals with late on-set dementia resided in some form of care home, 58% being aged 85 years

and over. By 2025 and assuming no change in policies, the demand for care home accommodation for people with dementia across the region is predicted to increase by 55% to 33,994 places, with the greatest percentage increases in East Riding (83%), North Lincolnshire (74%) and North Yorkshire (72%). In terms of actual numbers, the largest increases are in North Yorkshire (2,235) and East Riding (1,387).

- Overall the provision of social care in the Yorkshire & Humber region is above the national average in terms of proportions of the population accessing services. In particular 15,220 older people reside in council supported residential homes in the region and 5,955 reside in nursing care homes, accounting for 1.8% and 0.7% respectively of the regional population aged 65 years and over. In two-thirds of the local authority districts the total proportions of older people residing in residential homes and nursing care homes is above the national rate of 2.3%, with Hull topping the England ranking with 4.1%, followed closely by NE Lincolnshire at 3.3%. Both districts provide residential care services to at least 3% of their older people. Of the local authority districts below the national rate, York is the lowest at 1.9% in 2008.
- In the Yorkshire & Humber region around 50,000 individuals aged 65 years and over are in receipt of home care services, with seven of the region's local authorities providing services to a greater proportion of the population than the national average 6.1%. The provision in Barnsley is ranked third nationally, with the proportion accessing services (14.0%) being more than twice the national rate. The lowest provision in 2008 was in East Riding where 3.7% of residents aged 65 years and over were in receipt of home care services.
- Local authority day care services are provided to an estimated 15,000 people in the Yorkshire & Humber aged 65 years and older, with nine of the region's local authorities exceeding the English average of 1.6% for the proportion of people of the age group accessing the services. Calderdale had the highest proportion of its residents accessing day care services (2.8%) in 2008 nearly two-fold the national average, while in York, the proportion accessing day care services (0.7%) was less half the national rate.

#### Implications for the Care Provision of Individuals with Dementia

The sheer increase in the predicted numbers of cases of dementia in the UK over the next two decades will provide major challenges (to service commissioners/provider) in the provision of adequate services supporting both carers and people with dementia. These challenges include expansion of service provision to meet demand, whilst maintaining or improving the levels of service quality. The region has a varied, but predominantly good track record in the provision of care for people with dementia compared to other areas within England, but flexible and innovative solutions will be required for the future quality services.

*Greater capacity of current overall service provision.* The expert consensus panel advising on the Dementia UK report concluded that the prevalence of dementia increases dramatically as the population ages. As improvements continue in the life expectancy of people within the region, the number of cases of dementia are likely to increase sharply too. Across the region the number of people with late on-set dementia is predicted to increase by 30,107 (51%), with increases at local authority level ranging from 78% to 31% on the 2008 level. Service commissioners and providers will need to be able to address the increase in demand for services.

*Greater capacity specifically in residential and nursing care homes.* In 2008 the local authorities in the region collectively reported that the number of supported places in residential and nursing care homes available for all individuals aged 65 years and over to be around 21,175. Data generated for the Dementia UK report predicted that by 2025 the

number of individuals with dementia residing in residential and nursing care homes could increase from 21,938 to 33,994 (55%). If current social care admissions policies within the region were maintained, this would lead to an increase in demand of an additional 12,055 places for people with dementia, 71% of whom would be aged 85 year & over.

*Provision of a greater range of services.* The current number of people on GP registers with a diagnosis for dementia is 40% of the total number of people estimated to have dementia in the Yorkshire & Humber region. The majority of the remaining 60% (36,000) may have the mild form of the condition and therefore might require a more “light touch” service than those currently known to clinical services e.g. provision of information, advice, counselling and lifestyle tips.

## Introduction

In Spring 2009 the UK Government launched *Living Well with Dementia: A National Dementia Strategy*<sup>1</sup>, which is the 5-year plan for improving health and social care services in England for everyone with dementia and their carers. To support the implementation of this national strategy, the Dementia Strategy Lead for the Yorkshire & Humber Improvement Partnership commissioned this report *Dementia in Yorkshire & Humber - A Demographic Profile* explores the implications for the region of the issues highlighted in *Dementia UK*<sup>2</sup>, the 2007 publication for the Alzheimer's Society produced by Kings College London and the London School of Economics.

This report for the Yorkshire & Humber region draws heavily on the work undertaken for the national report and in particular focuses on chapter 3 – *Number of People with Dementia in the UK* and chapter 5 – *Mapping Social Services Provision*. A number of the data sets developed for the national report have been utilised in this regional report and have been sourced through the Projecting Adult Needs & Services Information System (PANSI) and the Projecting Older People Population Information System (POPPI) resource. In addition and where available, this Yorkshire & Humber report utilises more contemporary data on local authority service level activity sourced from The Health & Social Care Information Centre.

Data used in this report should be viewed with caution and have been included for indicative purposes only. Accurate population estimates and population projections of people with dementia are not a routinely produced national statistic. In developing the data sets to support the production of the Dementia UK report, the authors undertook a Delphi consensus exercise with academic experts, the majority of who had previously been involved in population based dementia research in the UK. The panel was tasked to derive “best” estimates based on available evidence<sup>3</sup>, for the prevalence rates for a number of topics around the on-set dementia. In this report for the Yorkshire & Humber region, for example the national rates for the on-set of dementia have been applied to the official population estimates and sub-national population projections, to produce a prediction of the numbers of people with dementia in the region. In applying the national prevalence rates, no account has been made in the regional data for the effects of life expectancy, health status, lifestyle or socio-economic background, which may vary significantly across not only Yorkshire & Humber, but also the UK as a whole. The data for the regional level statistics are the aggregation of local authorities data within the Yorkshire & Humber region and therefore are also subject to rounding errors.

*Dementia in Yorkshire & Humber - a Demographic Profile* provides an illustration of the impact and challenges that dementia may have on the current and future populations in the region. The data have been collated and are illustrated at the Yorkshire & Humber government office regional level and for the fifteen local authority areas in the region that are Councils with Social Services Responsibilities (CSSR)<sup>4</sup>. The base year of illustration used in the report is 2008 (or otherwise stated), with data for 2025 being used as the forward projection. There are three sections to this report –

- *Dementia and the Prevalence Rates within the UK Population* provides the details of the national rates for people with dementia by age and gender, severity of the condition and sub-types

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<sup>1</sup> Living well with dementia: A National Dementia Strategy – Department of Health 2009 [www.dh.gov.uk/dementia](http://www.dh.gov.uk/dementia)

<sup>2</sup> [http://alzheimers.org.uk/site/scripts/download\\_info.php?fileID=2](http://alzheimers.org.uk/site/scripts/download_info.php?fileID=2)

<sup>3</sup> More detail of the methodology used can be found in Chapter 2 – Dementia UK p7

<sup>4</sup> Appendix 3 contains more details on the demography and administrative geographies of the Yorkshire & Humber region

- *People with Dementia in the Yorkshire & Humber Region* describes the predicted numbers of people with dementia, with the various prevalence and proportion rates have been applied to the population estimates and projections for the region
- *Service Provision in the Yorkshire & Humber Region* describes the mapping of key services data relating to the support of older people with dementia

In addition, this report contains three appendices –

- *Appendix 1 What is dementia?* taken from the Dementia UK report outlines the definition of the condition
- *Appendix 2 Dementia sub-types* describes the four main forms of dementia discussed in the Dementia UK report.
- *About the Yorkshire & Humber Region* a brief outline of the size, demographic and geographic distribution of the population of the region

## Section 1 Dementia and the Prevalence Rates within the UK Population

The Dementia UK report documents well the need for good quality estimates of the numbers of people with dementia, on which to base health and social policy decisions that influence the national and local service provision.

In delivering the Dementia UK report, the authors undertook a more sophisticated approach to estimating the numbers of people with dementia in the population, than had been used in previous studies. The approach taken was a detailed Delphi consensus exercise, which is a useful method for making estimates where an evidence base exists but data are incomplete, scanty or otherwise imperfect. The essence of the method is deriving quantitative estimates through the qualitative assessment of research evidence<sup>5</sup>.

The expert consensus panel was asked to address three main areas of interest -

- The prevalence of dementia
  - The population prevalence of early on-set dementia in the UK (onset before the age of 65)
  - The population prevalence of late on-set dementia in the UK (for those aged 65 and over)
- The relative frequency of dementia subtypes – the proportion of dementia cases that would fall into different diagnostic subtype categories.
- The severity of dementia – the proportion of dementia cases that could be considered to be mild, moderate and severe.

The findings of the Delphi consensus exercise for the prevalence rates are documented in the following sections.

### 1.1 Prevalence Rates for Early On-set Dementia

Early on-set dementia in this report is defined as the on-set of dementia in people under the age of 65 years. The prevalence rates (Table 1) of early on-set dementia are greatest amongst the older age groups, with rates for males being twice as big for 50-54 year group as for the 45-49, and then tripling again by 55-59 years. Prevalence rates for females increase less rapidly than for males, although for the 60-64 years age band, the rates have increased more than four-fold on the rates for the 45-49 year olds.

<b>Table 1: Early On-set Dementia Prevalence Rates for UK</b>		
<b>Age Group</b>	<b>Male</b> (Per 100,000 population)	<b>Females</b> (Per 100,000 Population)
30-34 year olds	8.9	9.5
35-39 year olds	6.3	9.3
40-44 year olds	8.1	19.6
45-49 year olds	31.8	27.3
50-54 year olds	62.7	55.1
55-59 year olds	179.5	97.1
60-64 year olds	198.9	118

Source: PANSI – Crown Copyright 2007

<sup>5</sup> More detail of the methodology used can be found in Chapter 2 – Dementia UK p7

## 1.2 Prevalence Rates for Late On-set Dementia

Late on-set dementia is defined in this report as the on-set of dementia in those aged 65 years and over. The prevalence rates amongst males aged 65 to 75 years are greater than for females, by approximately 50%. However, the rates for females increase more rapidly than males for the older age groups, with the prevalence amongst females age 85 years and older, being one-quarter greater at 25.2%. Table 2 illustrates the prevalence rates for both genders by age group.

Age Group	Male	Females
65-69 year olds	1.5%	1%
70-74 year olds	3.1%	2.4%
75-79 year olds	5.1%	6.5%
80-84 year olds	10.2%	13.3%
85 and over	19.7%	25.2%

Source: POPPI – Crown Copyright 2007

## 1.3 Dementia Sub-type<sup>6</sup> Proportions for Late On-set Diagnosis

The consensus panel conclude in their work that dementia cannot be easily and neatly categorised into discrete sub-types. Therefore after reviewing the evidence the panel proposed that the proportion of each sub-type, contained in Table 3, is a *tentative estimate of the relative prominence of these different pathologies for both males and females with dementia at different ages*<sup>7</sup>

Forms of Dementia	Male	Females
Alzheimer's Disease	55%	67%
Vascular Dementia	20%	15%
Vascular Dementia & Alzheimer's	11%	10%
Lewy Bodies	6%	3%
Frontotemporal Dementia	2%	1%
Parkinson's Dementia	3%	1%
Other	3%	3%

Source: Dementia UK

Alzheimer's Disease is by far the most prominent diagnosed form of dementia, accounting for two-thirds of cases in males and three-quarters of cases in females (summing individual and mixed forms of the disease). Vascular Dementia is the second most common form of dementia for both males (20%) and females (15%), while the remaining forms account for 14% of male cases and 8% of female cases.

<sup>6</sup> Appendix 2 contains a more detailed description of the four main sub-types of dementia

<sup>7</sup> Section 2.3 Dementia UK p19

#### 1.4 Proportion of Dementia Cases by Severity of Condition

The consensus panels that advised on the Dementia UK report defined the severity of dementia using a three level classification approach of *mild, moderate and severe*, which is consistent with the descriptors used by both the CAMDEX and CDR system severity classifications and are considered roughly equivalent across the two systems of classifications<sup>8</sup>.

Using this approach, the consensus panel were able to estimate that overall 55% of people with late on-set dementia in the UK have the mild form of the condition, 32% have the moderate form and 13% have the most severe form of the condition. However the panel did indicate that there was likely to be an age dependent factor relating to the proportions of severity type as illustrated in Table 4 and concluded that *the proportion considered to have severe dementia increases with increasing age, from 6.3% for those aged 65 to 69 years to 23.3% for those aged 95 years and over*<sup>9</sup>.

	<b>Mild</b>	<b>Moderate</b>	<b>Severe</b>
Aged 65-69	62%	32%	6%
Aged 70-74	63%	30%	7%
Aged 75-79	57%	31%	12%
Aged 80-84	57%	32%	11%
Aged 85 & over	51%	33%	16%

Source: Dementia UK

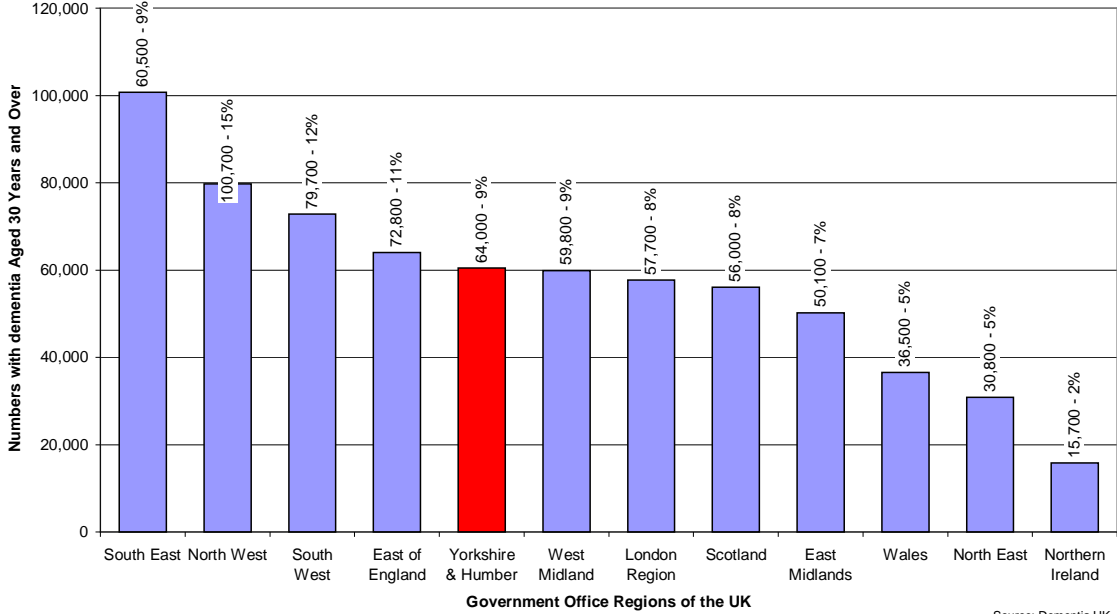
<sup>8</sup> CAMDEX – *minimal dementia rating*. CDR system – *questionable dementia*. Discussed in Section 2.3 – Dementia UK p18

<sup>9</sup> Section 3.2 - Dementia UK p33

## Section 2 People with Dementia in the Yorkshire & Humber Region

In 2005 it was estimated that there were around 683,600<sup>10</sup> people in the UK with dementia, accounting for 1.1% of the entire UK population. The latest estimate for the number of people resident in the Yorkshire & Humber region in 2008 with dementia was in total approximately 60,500<sup>11</sup>. The number of cases in the region accounts for some 9% of the national total and Yorkshire & Humber region has the fifth largest number of people estimated to have dementia in the UK, as illustrated in Chart 0.

**Chart 0: Numbers Predicted to have Dementia by Regions of the UK**



The actual recorded prevalence of dementia on GP registers<sup>12</sup> in the region in 2008 was 23,600, 0.4% of the population. This figure is considerably lower than the estimates in Dementia UK report, but will be illustrative of the moderate and severe cases of the condition that require professional clinical services. However it does illustrate the gap between the known cases and the undiagnosed cases of dementia - for every two people diagnosed with dementia in the Yorkshire & Humber region, there are likely to be three others unknown to the clinical services.

<sup>10</sup> Prediction using the 2005 based mid-year estimates produced by the Office for National Statistics – sum of early and late on-set population predictions – Dementia UK report

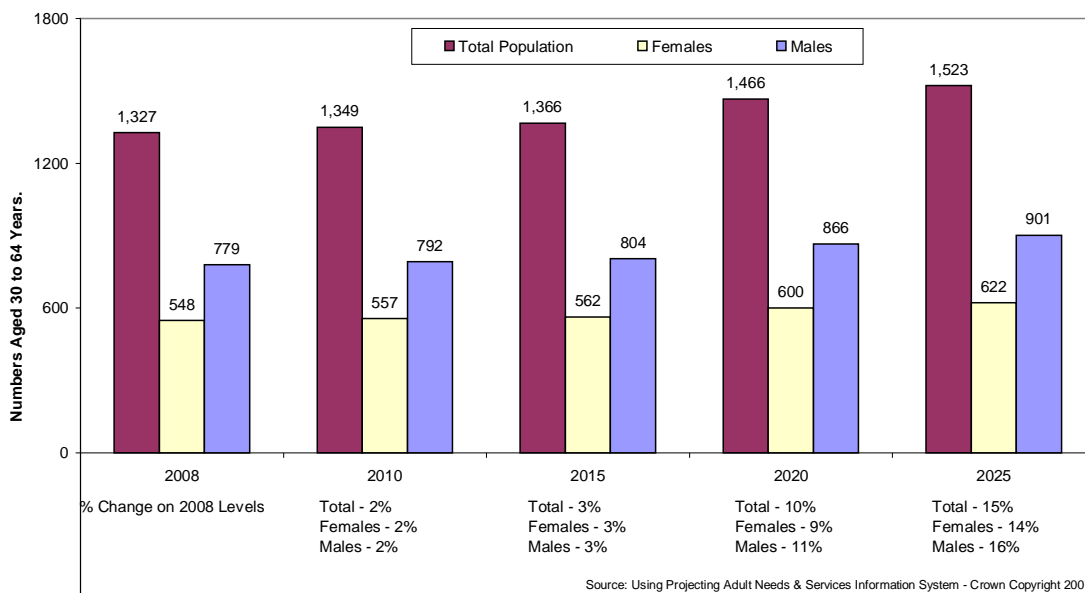
<sup>11</sup> Prediction using the 2006 based mid-year estimates produced by the Office for National Statistics – sum of early and late on-set population predictions

<sup>12</sup> Prevalence of Dementia on GP Registers - Quality & Outcomes Framework April 07 to March 08  
[www.ic.nhs.uk/webfiles/QOF/2007-08/NewFilesGS/QOF0708\\_SHAs\\_Prevalence.xls](http://www.ic.nhs.uk/webfiles/QOF/2007-08/NewFilesGS/QOF0708_SHAs_Prevalence.xls)

## 2.1 Early On-set Dementia

In the UK approximately 2.2% of all people with dementia are aged less than 65 years at onset of the condition, defined as early on-set. By applying the UK prevalence rates from Table 1 to the population estimates for the Yorkshire & Humber region, it is possible to estimate that in 2008 there were 1,327 individuals with early on-set dementia resident the region. Around 59% (779) of this group are male and 41% (548) are female – as illustrated in Chart 1.

**Chart 1: Numbers Predicted to have Early On-set Dementia  
Yorkshire & Humber 2008 - 2025 by Gender**



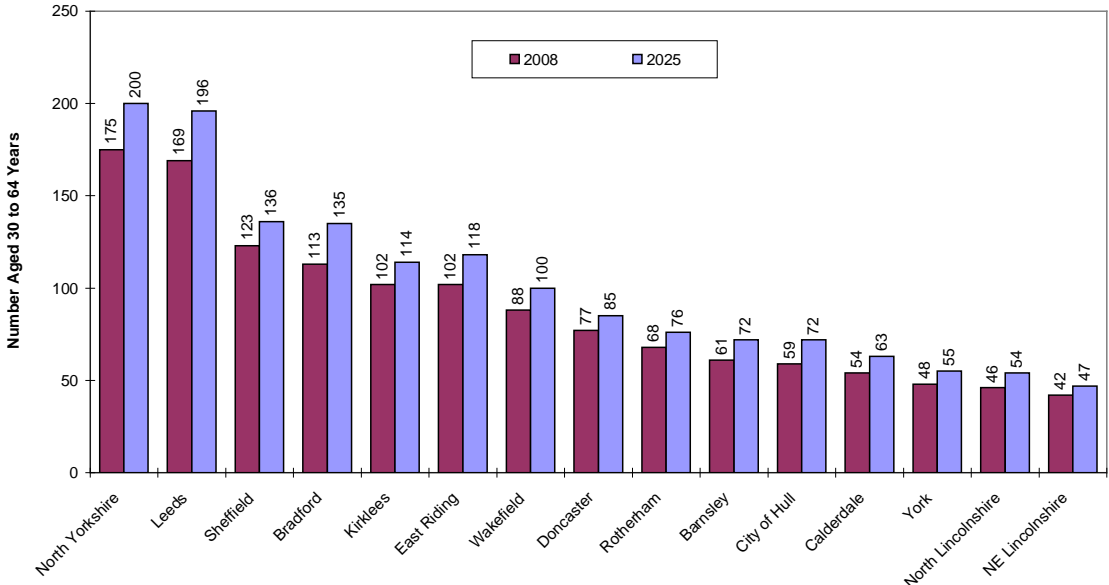
By again applying the prevalence rates in Table 1 to the population projections for 2025 in the region, it is possible to predict that the number of individuals resident in the Yorkshire & Humber region with early on-set dementia is 1,523 an increase of 196, with the number of males and females increasing to 901 and 622 respectively. The percentage growth in the numbers between 2008 and 2025 is expected to be 15%, with the increase in males with early on-set dementia being marginally higher at 16% and for female lower at 14%. The rates of increase for this population in the Yorkshire & Humber region are in line with national predictions of growth of 15% in England<sup>13</sup>.

<sup>13</sup> Difference between total number of individuals with early on-set dementia in 2008 and 2025 using data from PANSI.

Chart 2 illustrates the distribution across the fifteen local authorities of the region for the population with early on-set dementia. The City of Leeds and the County of North Yorkshire are the local authorities in the region with the largest populations<sup>14</sup> and thus have the largest numbers of individuals estimated to have early on-set dementia, 169 and 175 respectively, both accounting for 13% of the region's numbers. It is also estimated that between 42 and 48 individuals with early on-set dementia are resident in the smaller local authorities of York, North Lincolnshire and North East Lincolnshire.

By 2025 it is predicted that there will be increases in the number of individuals with early on-set dementia in all local authorities in the Yorkshire & Humber region. The largest absolute increases are in the City of Leeds (27) and County of North Yorkshire (25). The smallest increase is likely to be in North East Lincolnshire with 5 additional cases.

**Chart 2: Number Predicted to have Early On-set Dementia  
Yorkshire & Humber 2008 & 2025 by Local Authority District**

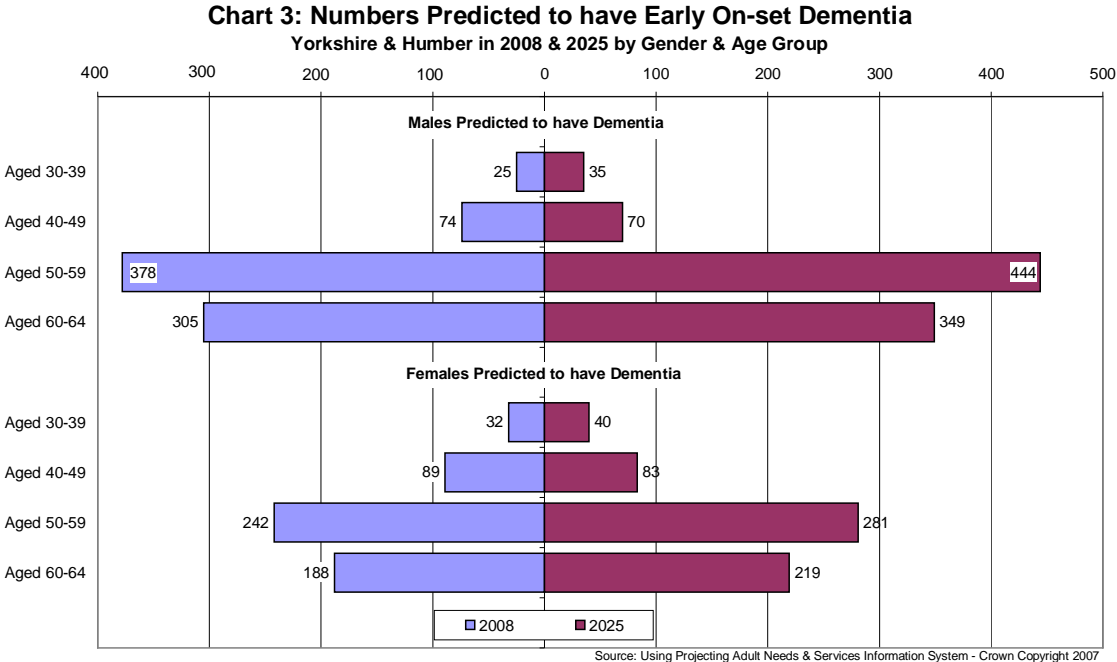


Source: Using Projecting Adult Needs & Services Information System - Crown Copyright 2007

It is worth noting that although the City of Leeds has a population 28% larger than that of the County of North Yorkshire, the numbers of individuals with early on-set dementia is estimated to be greater in the latter local authority. It could be suggested that the larger percentage of older people in North Yorkshire account for this finding.

<sup>14</sup> See Table A3.1 in Appendix 3

Further analysis of the population estimates and projections for the region are presented in Chart 3. The prevalence rates for early on-set dementia, discussed previously and contained in Table 1, illustrate that the on-set of dementia increases with age and this is clearly reflected in the statistics for the Yorkshire & Humber region, where 88% of males and 78% of females with early on-set dementia are aged between 50 and 64 years of age.



As stated previously, there is a predicted total increase of 196 in the numbers of males and females with early on-set dementia in the region between 2008 and 2025 (around 15%). All age groups have an increase in numbers over the period except for those aged 40 to 49 years. This decline is mainly due to a fall in the overall projected numbers for the 45 to 49 years age group<sup>15</sup>.

It is also worth noting that there are more females than males with early on-set dementia under the age of 50 years, while for those aged 50 to 64 years, there are more males with dementia than females. This is reflected in both the estimates for 2008 and the predictions for 2025.

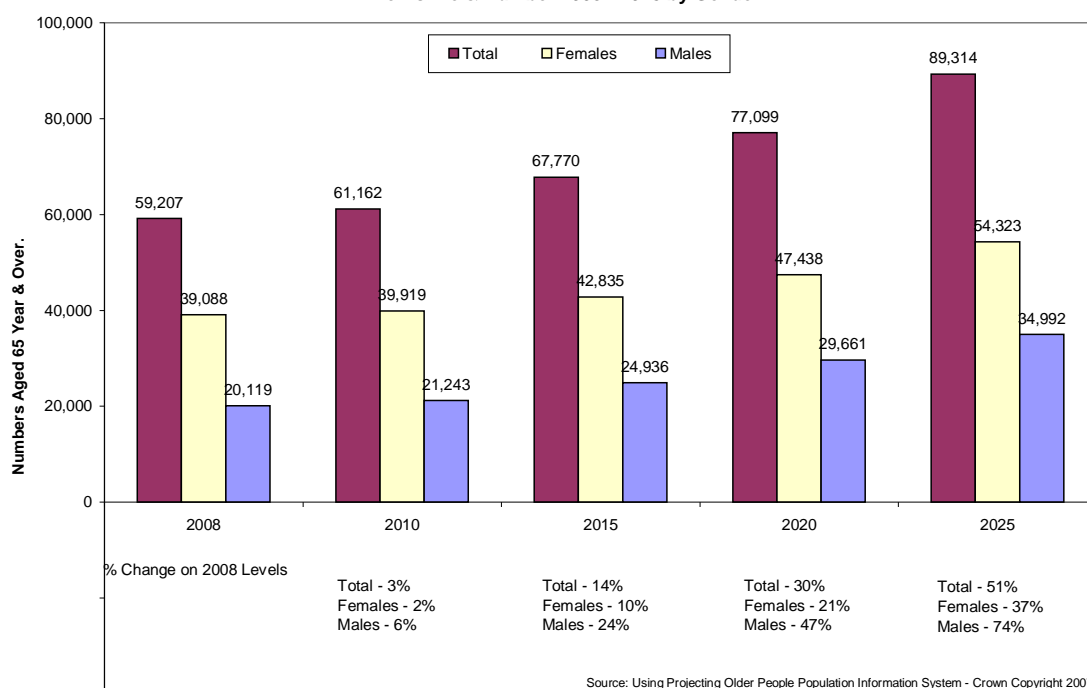
<sup>15</sup> Illustrated in charts A3.1 & A3.2 in Appendix 3

## 2.2 Late On-set Dementia

Late on-set dementia affects around 668,563<sup>16</sup> people in the UK aged 65 years and over, some 98% of all people with dementia. Utilising the prevalence rates in Table 2, it is estimated that in 2008 there were 59,207 people living in the Yorkshire & Humber region with late on-set dementia, some 10% of the total for England. Unlike the numbers for early on-set dementia in the region, nearly twice as many females as males develop dementia over the age of 65 years, consistent with the national rates and largely due to the larger female population in those age groups. In absolute terms in 2008 it is estimated that there are 39,088 females and 20,119 males with dementia aged 65 years and over in the Yorkshire & Humber region.

The official population projections for the Yorkshire & Humber region indicate an increasing and aging population<sup>17</sup>. Chart 4 illustrates the increasing trends in the number of people in the region with late on-set dementia. Between 2008 and 2025 the number of cases of late on-set dementia is predicted to increase by approximately 51%, to 89,314 individuals and consistent with the national trend. Over this period, the number of males with late on-set dementia is predicted to increase by 74% to 34,992 individuals, twice the growth rate for the numbers of females over the same timescale, where the predicted increase of 37% (15,235 individuals) will result in a female population with late on-set dementia of 54,323 individuals.

**Chart 4: Numbers Predicted to have Late On-set Dementia**  
Yorkshire & Humber 2008 - 2025 by Gender



The demographic distribution of the population in the Yorkshire & Humber region varies considerably from local authority district to local authority district. These current distributions, in terms of age and gender profiles, have a significant bearing on the future population projections for each authority area and thus ultimately the numbers of individuals in each local authority predicted to have late on-set dementia. Chart 5 illustrates the estimated numbers of cases of late on-set dementia for each local authority in 2008, the predicted numbers of cases in 2025 and the expected level of growth in cases, assuming current prevalence rates remain constant.

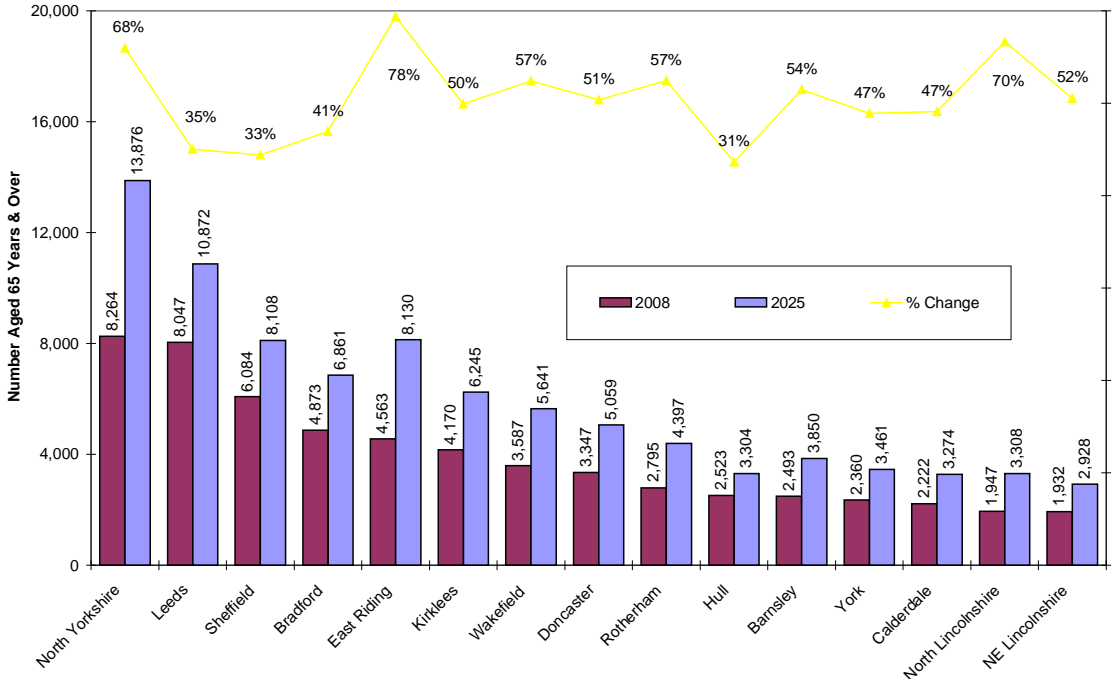
<sup>16</sup> 2005 based prediction taken from Dementia UK

<sup>17</sup> Charts A3.1 & A3.2 in Appendix 3

The local authority districts in the region where the largest estimated numbers of cases with late on-set dementia in 2008 have been identified are North Yorkshire (8,264 -14%), Leeds (8,047 – 14%) and Sheffield (6,084 – 10%). The locations with the fewest cases are North Lincolnshire (1,947) and NE Lincolnshire (1,932), both accounting for 3% each of the regional total.

Between the years of 2008 and 2025, seven of the region's fifteen local authority districts (illustrated in Chart 5) have a predicted increase in the numbers of cases of late on-set dementia greater than the national trend of 51%. Three of these areas, East Riding, North Lincolnshire and North Yorkshire, have a predicted increase in numbers of between 68% and 78%, with the absolute increase in North Yorkshire accounting for around one-sixth of the 30,107 total increase in the number of cases across the region. The lowest percentage increase in the number of cases of late on-set dementia is predicted for the Hull area, with an increase of 31% between 2008 and 2025, accounting for some extra 781 individuals.

**Chart 5: Number Predicted to have Late On-set Dementia**  
Yorkshire & Humber 2008 & 2025 by Local Authority District



Source: Using Projecting Older People Population Information System - Crown Copyright 2007

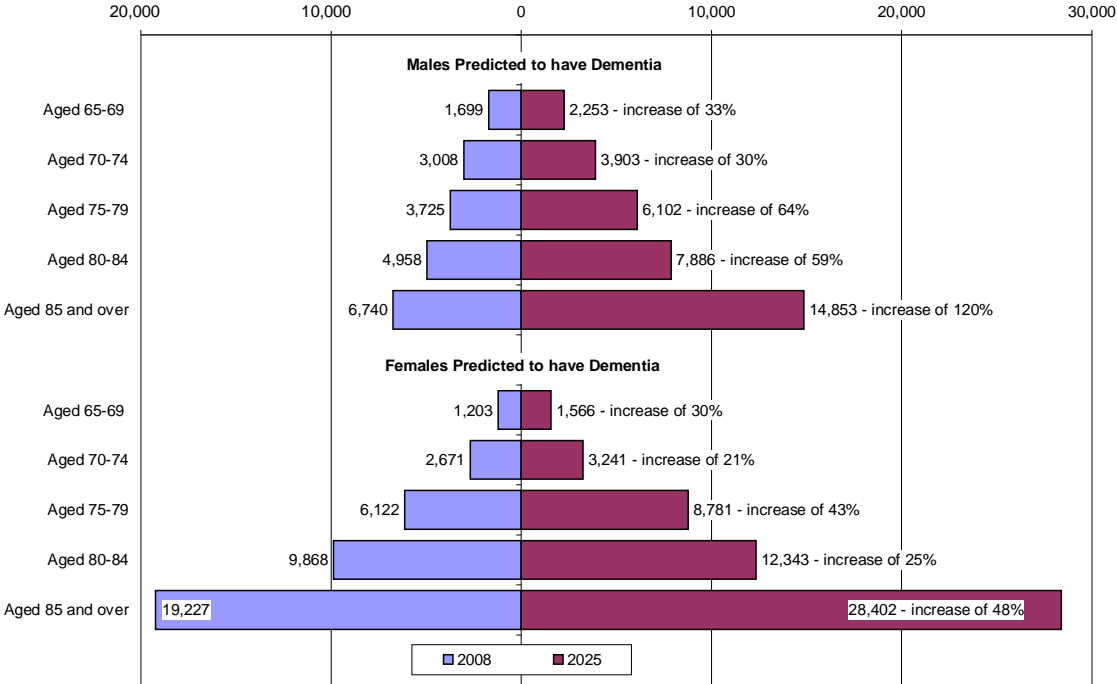
The variation in the demographic distributions within local authority districts is best illustrated in the County of North Yorkshire and the City of Leeds. In 2008 the population of Leeds was estimated to be 769,600 some 25% larger than that of North Yorkshire. However the estimated numbers of individuals with late on-set dementia in Leeds is marginally less than in North Yorkshire by around 180 individuals. The predicted increase in the number of cases in Leeds between 2008 and 2025 is around 2,825 some 35%, while over the same period the number of cases of late on-set dementia in North Yorkshire is predicted to increase by 68%, some 5,612 individuals. This increase in cases in North Yorkshire is against backdrop of overall population increase of 17%, while in Leeds between 2008 and 2025 the overall population numbers are larger at 20% increase. The conclusion that can be drawn from this analysis is that places like North Yorkshire have a predominately older population than places like Leeds, where the effect of an aging population has a lesser impact over the next 15-17 years.

Key determinants of the numbers of cases of late on-set dementia include age and gender characteristics, as discussed in section 1.2 of this report. For the region of Yorkshire & Humber, Chart 6 illustrates the number of cases in 2008 of late on-set dementia by these determinants and the predicted impact these characteristics have on the overall numbers of cases.

In 2008, it was estimated that there were 20,119 males in the Yorkshire & Humber region with late on-set dementia. Seventy-seven percent of these cases will be aged 75 years and over, while over one-third (34%) will be aged 85 years and over. The number of females estimated to have late on-set dementia in the region in 2008 was 39,088, nearly twice the number of males, while approximately 90% will be aged 75 years and over and 49% will be aged 85 years and over.

The estimated number of males with late on-set dementia in 2008 outnumber females with the condition under the age of 75 years by a ratio of 55%: 45%, continuing the trends of early on-set dementia, as discussed in section 2 of this report. However by the age of 75 to 79 years, the numbers of females with dementia dramatically increases such that in every subsequent group the number of females with the condition outnumber the males in a ratio of 2:1, increasing further to nearly 3:1 for the over 85's age group.

**Chart 6: Numbers Predicted to have Late On-set Dementia  
Yorkshire & Humber in 2008 & 2025 by Gender & Age Group**



Source: Using Projecting Older People Population Information System - Crown Copyright 2007

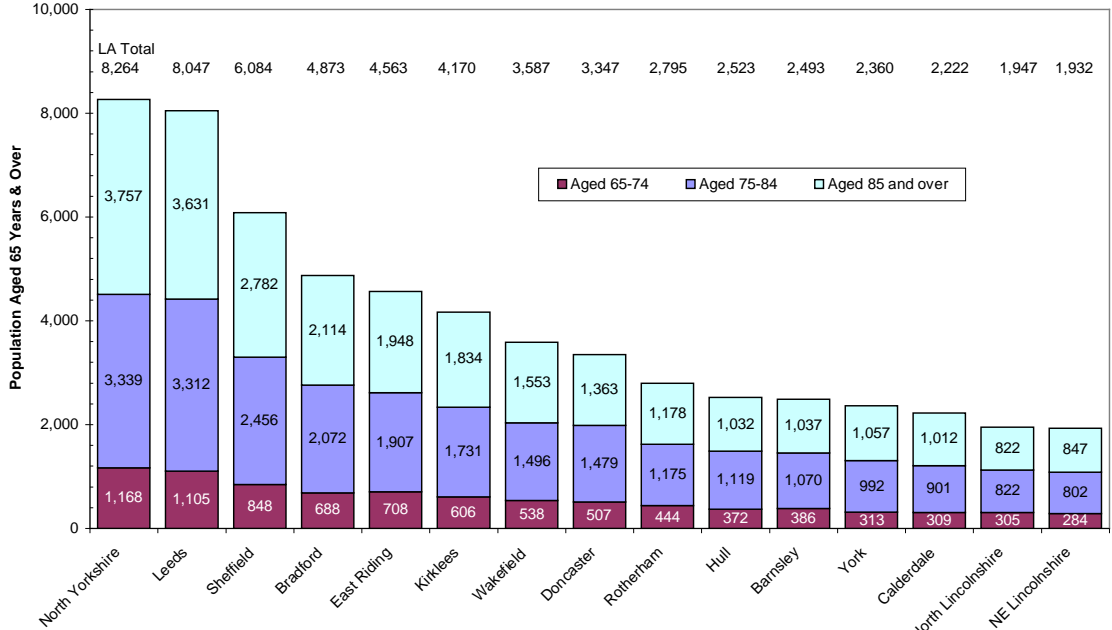
By 2025 it is predicted that the numbers of males with late on-set dementia will increase by at least 30% in all age groups, with the rate of increase doubling for the 75 to 84 years age groups and quadrupling to 120% for the 85 years and over age group. In absolute terms the increase in the number of cases amongst males is predicted to be 14,873 with 74% of this increase being in those aged 80 years and over.

The large predicted percentage increase in the number of males with late on-set dementia, between 2008 and 2025, is as a result of a number of key factors, including greater improvements in life expectancy than amongst females. Therefore the percentage increase in the numbers of females with late on-set dementia by 2025 is predicted to be lower than for males in all age groups – between 21% and 48%. However whilst the percentage change

may be lower, in absolute terms the increase in the number of females with the condition at 15,235 is marginally higher than the increase in the numbers of males. The 48% (9,175) predicted increase in the number of females with late on-set dementia aged 85 years and over accounts for one-third of the total increase in numbers in the region.

Chart 7 illustrates the distribution across the local authority districts in the Yorkshire & Humber region of the numbers and proportions of individuals with late on-set dementia by age group in 2008.

**Chart 7: Numbers Predicted with Late On-set Dementia by Age Group**  
 Yorkshire & Humber 2008 by Local Authority District



Source: Using Projecting Older People Population Information System - Crown Copyright 2007

Around 45% of the individuals with late on-set dementia in each local authority district are aged 85 years and over, accounting for the largest population group with late on-set dementia in all districts except in Doncaster, Hull and Barnsley, where the largest grouping are aged 75 years to 84 years of age. This age group generally accounts for around 40% of cases, while the 65 to 74 years age group account for 15% of the cases.

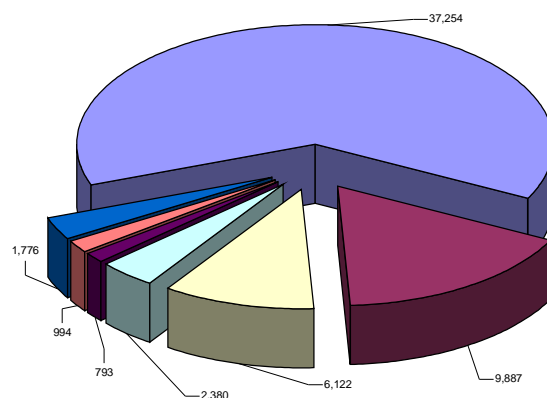
### 2.3 Sub-types of Dementia

The findings of the consensus panel that advised on the proportions of cases of dementia by sub-type for the Dementia UK report are contained in Table 3 of section 1.3 of this report.

Chart 8 illustrates the estimated number of cases of dementia by sub-types for the Yorkshire & Humber region, which were derived from the rates held in Table 3 and the population predictions for the number of individuals with late on-set dementia in the region.

The data for the region suggests that around 63% (37,254) of the predicted 59,207 individuals with late on-set dementia are likely to have Alzheimer's disease, 17% (9,887) are predicted to have Vascular Dementia and 10% (6,122) have both Alzheimer's disease and Vascular Dementia. The Lewy Bodies form of the condition is predicted to account for 4% (2,380) of cases in the region, while Frontotemporal Dementia is predicted be diagnosed in 1% of individuals (793) and 2% with Parkinson's disease - 994 cases.

**Chart 8: Late On-set Dementia by Sub-type**  
Yorkshire & Humber 2008 - All People



Source: Using Projecting Older People Population Information System - Crown Copyright 2007

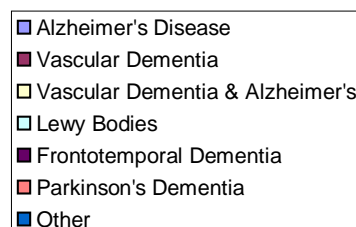


Table 5 illustrates the distribution of sub-types of dementia for the numbers of individuals in each local authority district in the Yorkshire & Humber region.

Local Authority	Alzheimer's Disease	Vascular Dementia	Vascular Dementia & Alzheimer's Disease	Lewy Bodies	Frontotemporal Dementia	Parkinson's Dementia	Other
Barnsley	1,569	416	258	100	33	42	75
Bradford	3,070	812	503	195	65	81	146
Calderdale	1,402	370	229	88	29	37	67
Doncaster	2,102	560	346	135	45	57	100
East Riding	2,865	765	472	185	62	78	137
Hull	1,586	422	261	102	34	43	76
Kirklees	2,626	696	431	167	56	70	125
Leeds	5,064	1,343	832	323	108	135	241
NE Lincolnshire	1,216	322	200	78	26	32	58
North Lincolnshire	1,223	327	202	79	26	33	58
North Yorkshire	5,196	1,382	855	333	111	139	248
Rotherham	1,757	467	289	113	38	47	84
Sheffield	3,834	1,014	629	243	81	101	183
Wakefield	2,258	598	371	144	48	60	108
York	1,486	394	244	95	32	40	71
Yorkshire & Humber	37,254	9,887	6,122	2,380	793	994	1,776

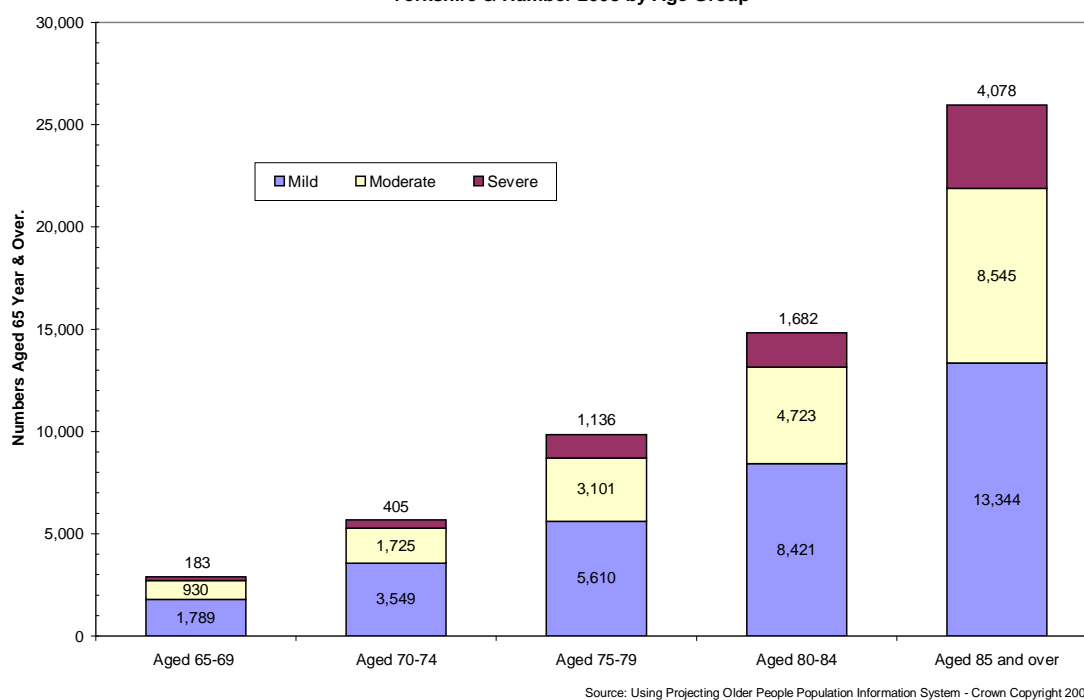
Source: Dementia UK & POPPI

## 2.4 Severity of Dementia

The findings of the consensus panel advising on the proportion of cases by severity of dementia for the Dementia UK report are contained in Table 4 in section 1.4 of this report.

Applying these proportions to the population figures in the Yorkshire & Humber region, it is possible to estimate that in 2008 there were 32,714 people in the region with late on-set dementia exhibiting the mild form of the condition, 19,023 with the moderate form of dementia and 7,484 people with the most severe form of dementia. Chart 9 contains data on the severity of the condition by age group and illustrates the increasing numbers of individuals with the more moderate and severe forms of the condition as the population gets older.

**Chart 9: Numbers Predicted to have Late On-set Dementia by Severity**  
Yorkshire & Humber 2008 by Age Group

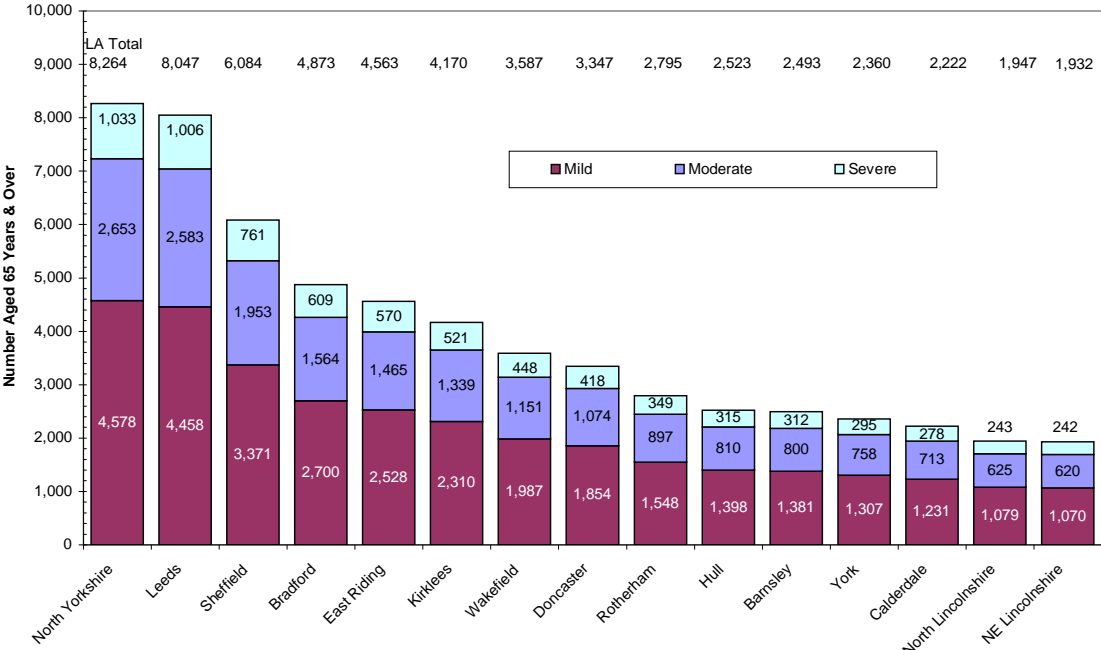


As discussed in earlier sections of this report, there is a large variation between the estimated number of individuals with dementia and those with formal a formal diagnosis. This may be partly due to the severity of the condition as illustrated above. In 2008 it was estimated that there were a total of 60,500 individuals in the Yorkshire & Humber region with dementia, however general practices in the region reported only 23,600<sup>18</sup> people with diagnosed dementia on GP registers, which probably includes most of the 26,508 people estimated to exhibit the moderate and severe forms of the condition.

<sup>18</sup> Quality Outcomes Framework April 2007 to March 2008 - [www.ic.nhs.uk/webfiles/QOF/2007-08/NewFilesGS/QOF0708\\_SHAs\\_Prevalence.xls](http://www.ic.nhs.uk/webfiles/QOF/2007-08/NewFilesGS/QOF0708_SHAs_Prevalence.xls)

Chart 10 illustrates the numbers of cases of late on-set dementia by degree of severity and residency in the Yorkshire & Humber region for each of the fifteen local authority districts.

**Chart 10: Numbers Predicted with Late On-set Dementia by Severity**  
**Yorkshire & Humber 2008 by Local Authority District**



Source: Using Projecting Older People Population Information System - Crown Copyright 2007

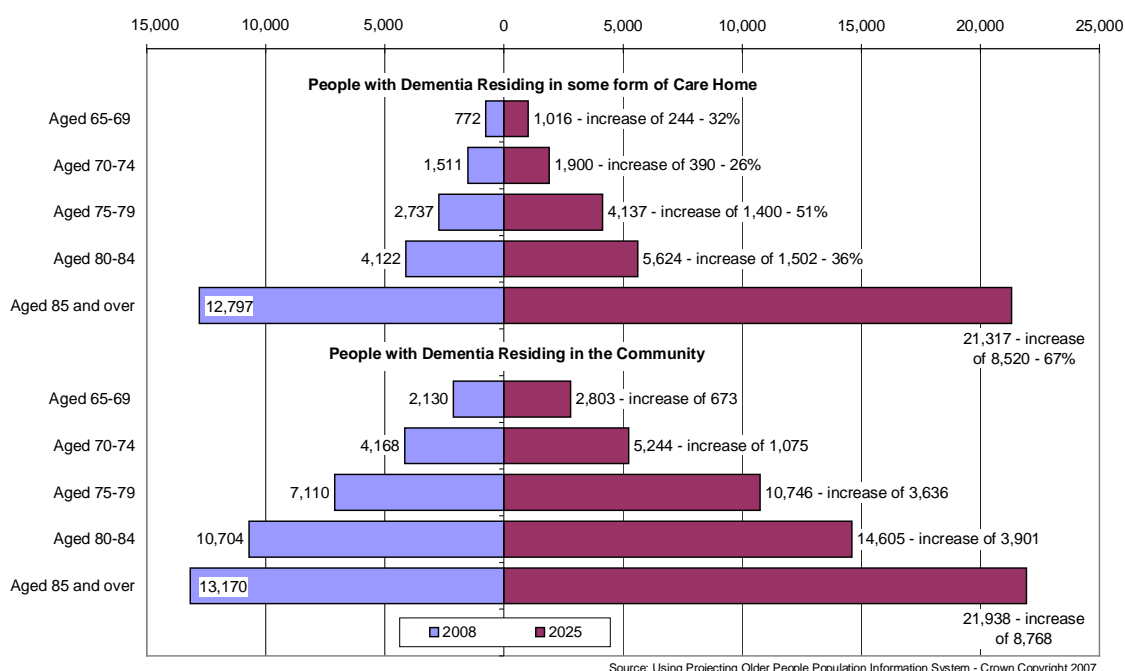
## 2.5 Residential Status of People with Dementia

In addition to developing the estimated rates for the prevalence of dementia amongst the UK population, the consensus panel of experts advising on the Dementia UK report were also tasked to provide estimates for on-set dementia among residents of institutions in the UK<sup>19</sup>.

The panel concluded that the estimated rates for the proportion of residents with dementia in care homes varied with age and gender, ranging from 55.4% in males aged 70 to 74 years of age to 67.6% for females aged 95 years and over<sup>20</sup>. Also from the evidence reviewed by the consensus panel, they concluded that the prevalence of dementia varies across the different types of institutions. The prevalence rates among all people aged 65 years and over residing in care homes for the Elderly Mentally Ill (EMI) was 80%, in nursing homes was 66% and in residential care home was 50%.

Having established an estimated number of individuals with dementia residing in care homes, the panel were then able to estimate the residential status of the remaining individuals. In doing so, the panel noted that nationally 64% of people aged 65 years and over with dementia reside in private households (the community), while 36% live in some form of care home<sup>21</sup>. Furthermore the proportion of people with dementia living in care homes increased with age, with the proportion of the 65-74 years age group being 27%, rising to 28% for those aged 75-84, 41% for the 85-89 year olds and 61% of those aged 90 years and over. Chart 11 illustrates the numbers of people by age group and their predicted residential status for 2008 and 2025<sup>22</sup> in the Yorkshire & Humber region.

**Chart 11: Residential Status of those Predicted to have Late On-set Dementia  
Yorkshire & Humber in 2008 & 2025 by Age Group**



In 2008 it was estimated that around 21,938 individuals with late on-set dementia live in some form of care home in the Yorkshire & Humber region, with 58% (12,797) of this cohort being aged 85 years and over. Assuming that current policies remain in place, by 2025 the

<sup>19</sup> Section 2.3 – Dementia UK p17

<sup>20</sup> Section 2.3 – Dementia UK p17

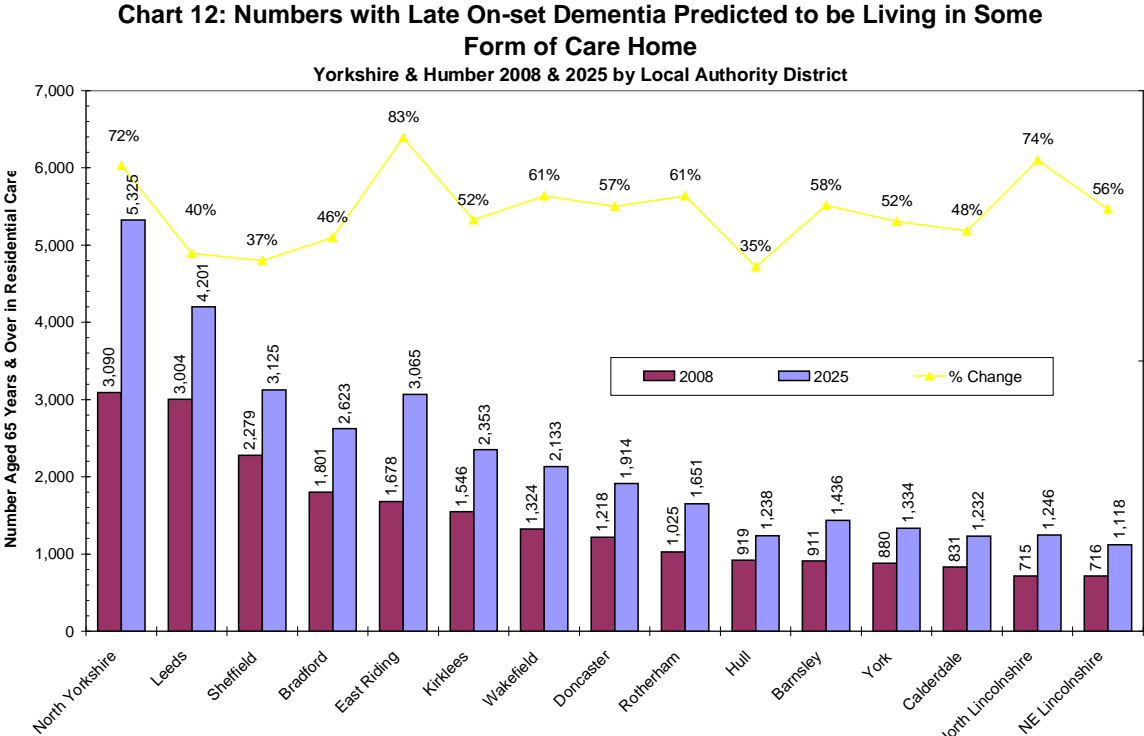
<sup>21</sup> Section 3.13 – Dementia UK p34

<sup>22</sup> These figures are calculated by applying the national proportions for residential status to the prediction populations illustrated earlier. It is assumed there is no change in the access rates to care homes.

demand for this type of care home accommodation is predicted to increase by 55% (12,055 to 33,994 places), with 71% of the increase being from people aged 85 years and over.

Chart 11 also illustrates the numbers of people with dementia living in the community, which increases with age, but in a more uniform distribution than for those residing in institutional care homes. During the period between 2008 and 2025, the predicted number of people with dementia living in the community is set to increase by 18,054 to 55,336, with those aged 85 years and over accounting for 40% of this cohort. The increase in predicted numbers of cases aged 75-79 and aged 80-85 is 3,636 and 3,901 respectively, while of those aged 85 years and over the increase may be around 8,768 individuals.

Chart 12 illustrates the distribution across the local authority districts within the Yorkshire & Humber region for the predicted numbers with late on-set dementia requiring some form of care home in 2008 and 2025.



Source: Using Projecting Older People Population Information System - Crown Copyright 2007

The demand for some form of care home facility for those with late on-set dementia is, as expected, greatest in the local authority districts with the larger population i.e. Leeds, North Yorkshire and Sheffield. However the districts with the largest percentage increases between 2008 and 2025, where demand is predicted to rise between 72% and 83% of the current levels, are the East Riding of Yorkshire, North Lincolnshire and North Yorkshire. All districts across the region are predicted to see increased demand for care home facilities of at least 35% on current levels, with two-thirds of the districts likely to see demand increase by more than 50% between 2008 and 2025.

In terms of absolute size, the district with the largest increase in the predicted number of cases of late on-set dementia is North Yorkshire, with an estimated increase of 2,235 cases, some 19% of the region total. The increase in the East Riding of Yorkshire is the second largest, with a predicted increase of 1,387 extra care home places.

## 2.6 Dementia Amongst People With Learning Disabilities

The prevalence rates of individuals with Learning Disabilities in the adult population in England is estimated by the Department of Health to be between 1.89% and 2.70%<sup>23</sup>, whilst for the under 65 age group the prevalence of Down's syndrome is 6.25<sup>24</sup> per 10,000 of the general population and is 0.36 per 10,000 for people aged 65 and over.

Further, the prevalence of dementia in people with Down's syndrome in England is estimated to be 8.9% in people aged 45-49, 17.7% in people aged 50-54, 32.1% in people aged 55-59 and 25.6% in people aged 60 and over<sup>25</sup>.

Consistent with the national prevalence of the population with Down's syndrome and dementia, the large majority of people with Down's in the Yorkshire & Humber region have early on-set dementia with 64% aged between 55 to 64 years old and 32% being between 45 to 54 years of age (Table 6). These proportions are set to change marginally by 2025 to 67% for the 55 to 64 years age group while the 45 to 54 years group will increase in absolute terms, the overall proportion will decrease by 2025 to 29%.

	2008	2010	2015	2020	2025
People aged 45-54 predicted to have Down's syndrome and dementia	56	57	64	62	58
People aged 55-64 predicted to have Down's syndrome and dementia	112	113	115	124	135
People aged 65 and over predicted to have Down's syndrome and dementia	6	7	8	9	10

Source: POPPI & PANSI – Department of Health – Crown Copyright 2007

The numbers across the whole of the Yorkshire & Humber region are relatively small and will be subject to larger levels of sampling error. For this reason the data not been illustrated here at local authority level.

<sup>23</sup> Projecting Adult Needs & Service Information System and Projecting Older People Population Information System

<sup>24</sup> The prevalence rate for this table is based on two studies which put the prevalence of at between 5.9 per 10,000 general population (Mantry et al) and 6.6 per 10,000 live births (the Clinical and Health Outcomes Knowledge Base). The mean of these rates, 6.25 per 10,000, has been used. Source - Projecting Adult Needs & Service Information System.

The prevalence rates have been applied to the numbers of people aged 65 and over predicted to have Down's syndrome, giving the estimated number of people with Down's syndrome predicted to have dementia, in the years 2008, 2010, 2015, 2020 and 2025. The population predictions are based on ONS population projections of the total 65 and over population.

The Down's syndrome estimates are based on the numbers of people with Down's syndrome recorded on the Sheffield Learning Disability Case Register, October 2007. For Down's syndrome, whilst good prevalence rates exist for younger age groups, rates for this age group were not available from research studies. These figures should be treated cautiously as they are estimates only, based on the above local analysis, and may be subject to local variation.

<sup>25</sup> These prevalence rates are taken from a Dutch study by A Coppus et al entitled Dementia and mortality in persons with Down's syndrome, and published in the Journal of Intellectual Disability Research, October 2006. The study reviewed 506 people with Down's syndrome, aged 45 years and over, during 1999 to 2003, which represented almost all people with Down's syndrome living in the community, as well as those living in institutions, in the south and south-west of the Netherlands.

### Section 3 Service Provision in the Yorkshire & Humber Region

This section investigates the service provision available to people with dementia in the Yorkshire & Humber region, building on material contained in Chapters 4 & 5<sup>26</sup> of the Dementia UK report.

People who suffer with dementia have multiple care needs that require intervention from a number of agencies from across both the health and social care systems, which in turn can be delivered by government, private or voluntary based organisations. However it is recognised that most support and care is not provided through these structured organisations but by individuals, whether unpaid family members, other unpaid caregivers or increasingly by individuals employed under direct payment or individuals budgets.

In terms of formal social care arrangements, the Dementia UK report focused specifically on three components of care provision for older people with dementia. These components being *residential care* provision, *home care* provision and *day care* provision and whilst the analyses contained in this section provides a good illustration of the differences in local patterns of service provision across the UK, it provides little insight into the reasons for such variations – factors that can include levels of need, local supply, levels of local deprivation, social inclusion and other socio-economic factors.

The data utilised in these analyses also relate to services provided to older people in general, as data is not specifically collected on the provision for people with dementia. The extent to which the data therefore reflects accurately the provision for people with dementia depends on the level of targeting. In the case of *residential care*, cognitive impairment is included as a risk factor for institutionalisation; while previous studies have indicated that 49% of users of *day care* services and 36% of users of *home care* services suffer from mild or severe congestive impairment<sup>27</sup>. The likelihood is that these proportions have increased with improvements in the targeting of resources by local authorities.

Also discussed in the Dementia UK report was the provision of anti-dementia<sup>28</sup> medication used in the treatment of dementia<sup>29</sup> and as a measure of variation in services across local authority/PCT areas. The nationwide mapping of the availability of and spend on services of the sort generated for working age adults is not yet available for older people's mental health services; there is an absolute lack of data in this area with which to look at service variation. Consequently, the use of a marker such as anti-dementia medication must be considered reasonable if it throws light on this neglected area.

Data<sup>30</sup> on the number of prescriptions for anti-dementia medication that had been collected in the year October 2005–September 2006 was obtained, derived from the activity of 50% of the pharmacies in England and Wales, representing some 90% of all UK prescribing. There are limitations to the data: they record numbers of prescriptions, not the number of individuals receiving treatment; prescriptions may be for a short or a long period, and one individual is likely to receive many prescriptions in a year; there is also a significant variation among general practitioners for the propensity to prescribe, so results may also reflect GP variations as well as difference in the need for medication. In these analyses data on all four anti-dementia medications were added together and divided on a PCT basis by the projections of the numbers of people with dementia.

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<sup>26</sup> Pages 43 & 57

<sup>27</sup> Section 5.2 - Dementia UK p57

<sup>28</sup> **Aricept** (donepezil hydrochloride), **Exelon** (rivastigmine), **Reminyl** (galantamine) & **Ebixa** (memantine)

<sup>29</sup> Section 4.9 – Dementia UK p53

<sup>30</sup> From IMS

### 3.1 Residential & Nursing Care Homes - Services for All Aged 65 Years and Over

In 2008 it was estimated that in England 124,550 older people were supported residents in residential homes and 57,670 were in nursing care homes (Table 7), accounting for 1.5% and 0.7% respectively of the population of that age group.

In the Yorkshire & Humber region, around 15,220 individuals are supported in residential homes and 5,955 in nursing care homes, accounting for 1.8% and 0.7% of the population respectively. A greater proportion of the age group in this region are supported in residential care than the national proportion of 1.5%, equivalent to an additional 2,600 places, while the proportion receiving nursing care is similar to the national provision.

**Table 7: Number of Council Supported Residents in Local Authority and Independent Care Homes – Yorkshire & Humber 31st March 2008**

	Residential Care	% of population Aged 65 and over	Nursing Care	% of population Aged 65 and over
England	124,550	1.5%	57,670	0.7%
Yorkshire & Humber	15,220	1.8%	5,955	0.7%
Barnsley	780	2.1%	165	0.5%
Bradford	1315	1.9%	605	0.9%
Calderdale	555	1.8%	275	0.9%
Doncaster	785	1.6%	280	0.6%
East Riding	1,460	2.2%	210	0.3%
Hull	1,320	3.6%	165	0.5%
Kirklees	920	1.6%	420	0.7%
Leeds	1,740	1.6%	1,075	1.0%
NE Lincolnshire	825	3.0%	70	0.3%
North Lincolnshire	545	1.9%	15	0.1%
North Yorkshire	1,360	1.2%	880	0.8%
Rotherham	815	2.0%	315	0.8%
Sheffield	1,510	1.8%	965	1.2%
Wakefield	935	1.8%	275	0.5%
York	355	1.1%	245	0.8%

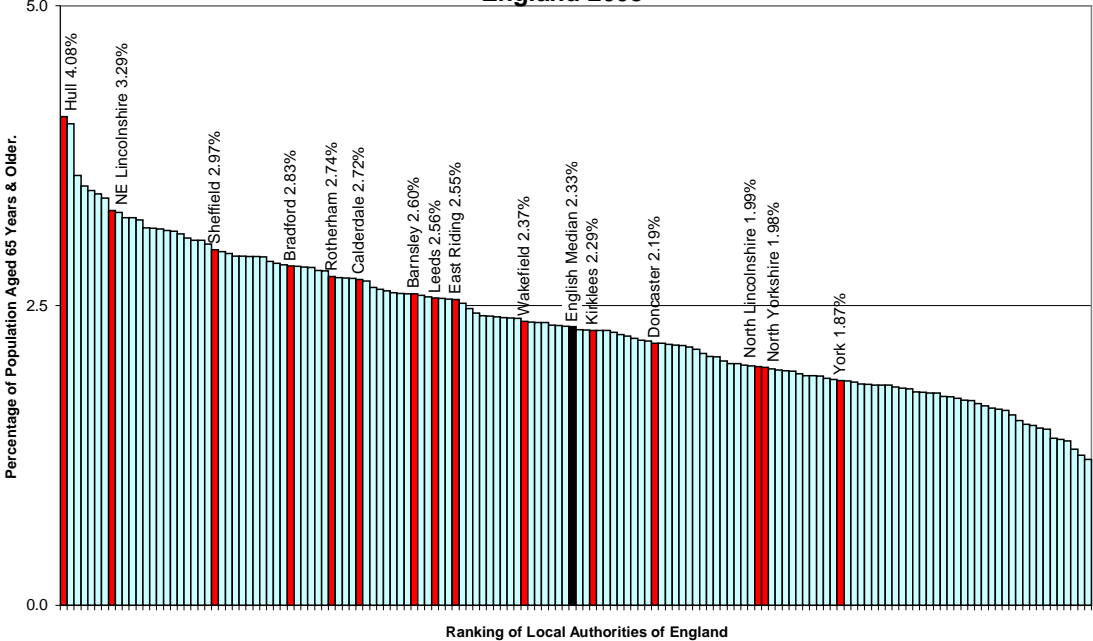
Source: Table S4 Council supported residents in Councils with Adult Social Services Responsibilities care homes and independent care homes – Health & Social Care Information Centre 2008

Across the Yorkshire & Humber region, the variation in the provision of services in local authority districts for individuals aged 65 years and older varies considerably. In terms of residential care homes, the range in the population being supported is from 3.6% to 1.1%, with the greatest proportion being supported in the City of Hull (3.6%) and NE Lincolnshire (3.0%). All districts in the Yorkshire & Humber region exceed the national level of provision for supported residential care, except North Yorkshire and the city of York, where the proportion of residents aged 65 years and over who are supported in residential care facilities - 1.2% and 1.1% respectively - is below the national rate of 1.5%.

In terms of nursing care facilities, the proportions of the population aged 65 years and over in supported places varies from 1.2% in Sheffield to 0.1% North Lincolnshire. Provision in seven of the fifteen districts in the region in 2008 is below the national rate of 0.7% of the resident population aged 65 years and over.

In the context of the level of provision in the whole of England, Chart 13 illustrates the distribution of the proportion of the population aged 65 and over living in supported homes (residential and nursing care combined by local authority). Nationally a fourfold difference exists in the level of provision for supported residencies, ranging from 4.1% of the population aged 65 and over in the city of Hull to 1.2% in Wokingham.

**Chart 13: Distribution of the Proportion of Population Aged 65 & Over Living in Local Authority Supported Residential & Nursing Homes in England 2008**



Source: Community Care Statistics 2008: Supported Residents (Adults), England - NHS Health & Social Care Information Centre 2008

The range of supported places in the Yorkshire & Humber region, which includes the city of Hull, is from 4.1% of the population to 1.9% in York. The provision in Hull is nearly twice that of the median value for English authorities and a further nine of the fifteen local authorities in the region also have a level of provision for supported residency greater than the English median proportion of 2.3% of individuals aged 65 years and over.

### 3.2 Community Services - Services for All Aged 65 Years and Over

The provision of Community Services covers a multitude of interventions from *home care*<sup>31</sup>, *day care* and *overnight respite* (see table 8 for more details). In 2008 across England it was estimated (Table 8) that 480,000 individuals aged 65 years and over were in receipt of *home care* services, 131,000 of *day care* services and 49,000 of *short-term residential care* amongst other services. Around 17,000 individuals nationally aged 65 years and older also received *direct payments*, which are transfers of social care funding to the individual to spend on a range of services to meet their personal needs.

In the Yorkshire & Humber region during 06/07 (illustrated in Table 8) around 50,000 individuals received *home care* services, 15,000 were in receipt of *day care* services and 11,000 individuals received a *meals* service. Around 1,300 individuals in the region also benefited from *direct payments* of funding to purchase social care provision.

Across the local authorities in the Yorkshire & Humber region the provision of services varies considerably<sup>32</sup>. For example in North Yorkshire the greatest number of individuals receiving any service in the local authority district were those in receipt of *home care* amounting to 5,915, while over 5,000 were also in receipt of *equipment & adaptations* services. In Leeds, just over 6,130 individuals are in receipt of *home care* services, while only 1,660 have access to *equipment & adaptations* services and in York 2,260 individuals have access to the *equipment & adaptations* services and only 1,690 have *home care* provision.

**Table 8: Estimated Number of Clients Aged 65 & Over Receiving Community Based Services - Yorkshire & Humber 1 April 2006 to 31 March 2007**

Councils with Social Services Responsibilities	Home Care	Day Care	Meals	Overnight respite - not clients home	Short term residential - not respite	Direct payments	Professional Support	Equipment and adaptations	Other
England	480,000	131,000	139,000	41,000	49,000	17,000	254,000	382,000	75,000
Yorkshire & Humber	50,000	15,000	11,000	5,600	5,200	1,300	14,000	34,000	16,000
Barnsley	5,080	790	0	265	385	85	250	1,080	20
Bradford	4,150	1,440	1,770	900	395	80	1,365	2,185	575
Calderdale	2,010	850	560	310	15	35	45	2,585	15
Doncaster	2,215	840	0	0	0	40	85	0	10
East Riding	2,445	590	0	325	10	45	15	4,680	460
Hull	1,575	410	505	485	225	75	1,540	3,305	2,590
Kirklees	3,650	1,230	1,165	355	350	55	185	4,070	5,770
Leeds	6,130	2,475	1,675	830	790	80	3,205	1,660	0
NE Lincolnshire	2,190	340	565	0	615	30	140	1,795	225
North Lincolnshire	1,855	565	495	0	690	20	55	1,970	200
North Yorkshire	5,915	2,700	1,955	730	455	275	3,205	5,040	2,050
Rotherham	2,745	825	1,490	0	915	100	215	1,655	1,200
Sheffield	5,240	1,260	0	1,395	0	300	2,015	1,670	1,450
Wakefield	2,800	675	650	10	355	75	260	290	1,280
York	1,690	230	220	-	35	55	1,170	2,260	575

Source: Table P2f.1c Community Care Statistics 2006/7 - Health & Social Care Information Centre 2008

<sup>31</sup> Includes home help, home care and overnight respite in client's home

<sup>32</sup> Figures illustrates the facts about service provision but no evidence towards the rationale behind their configuration

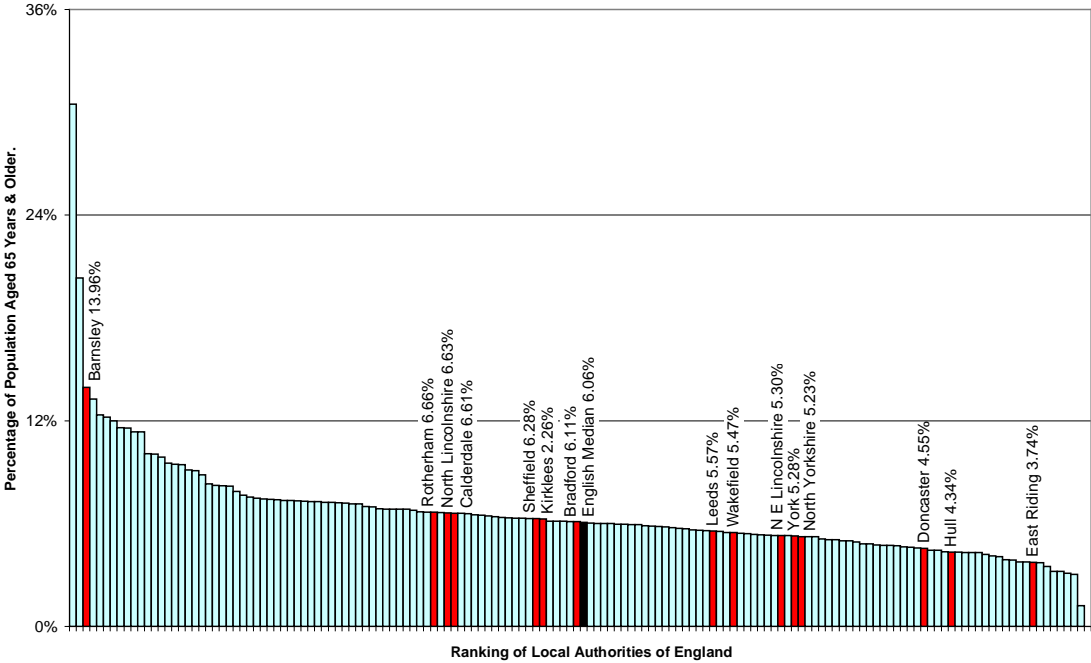
Around 1,300 individuals are in receipt of *direct payments* in the Yorkshire & Humber region, accounting for some 8% of the national total. The largest numbers of individuals in receipt of these payments in the region are residents of Sheffield (300) and North Yorkshire (275), while levels are the lowest in NE Lincolnshire (20) and Leeds (80) – relative to the size of population.

Table 8 does also illustrate that the service provision across the region is not universal, with a number of districts not providing *meals* and *overnight respite* services to clients aged 65 years and over.

Chart 14 illustrates the proportion of the population aged 65 years and over in receipt of *home care* services in England in 2007. On average (median) across England 6.1% of individuals aged 65 years and over were in receipt of some form of *home care* service, with the variation amongst local authorities ranging 30.5% in Norfolk to 1.2% in Newham. Seven of the fifteen local authorities in the Yorkshire & Humber region reported *home care* services were delivered to a larger proportion of individuals aged 65 years and over than the national average. Barnsley was ranked 3<sup>rd</sup> overall in England with 13.96% of the resident population accessing this type of service, more than twice the level of provision available in Rotherham, the next highest ranking local authority in the region.

The local authority in which the smallest proportion of individuals accessed *home care* services in the region is the East Riding of Yorkshire, where in the period only 3.74% of the resident population aged 65 years and over were receipt of provision, ranking the local authority in the lowest 10% in England.

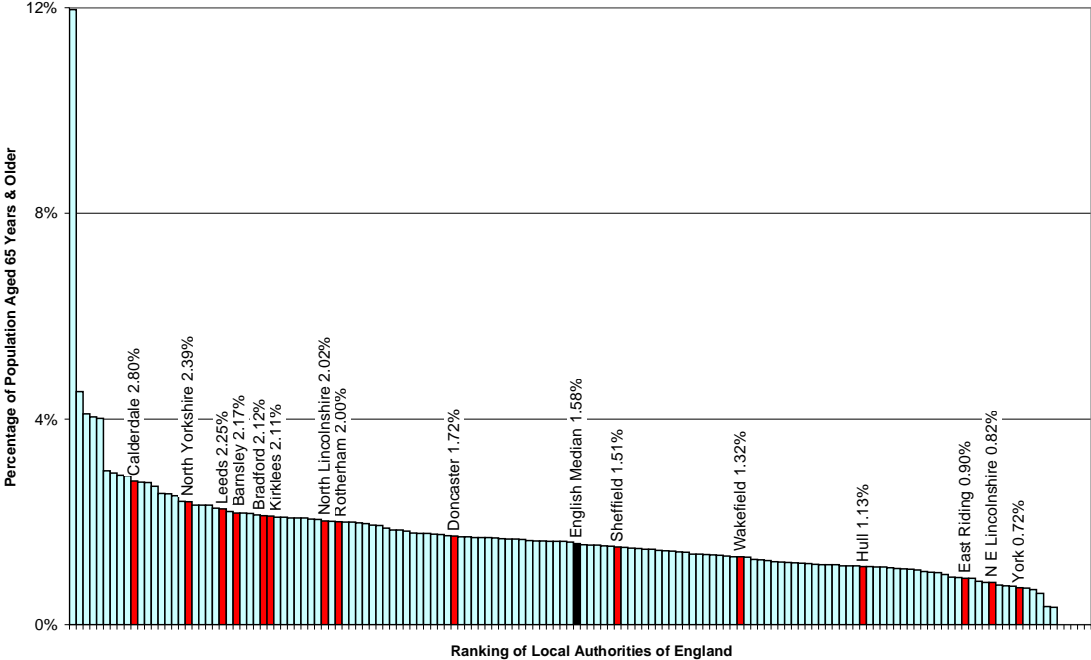
**Chart 14: Distribution of the Proportion of Population Aged 65 & Over Receiving Home Care Services - April 2006 to March 2007 in England**



Source: Community Care Statistics 2007/8 for England Table P2f.1c - NHS Health & Social Care Information Centre 2008

Chart 15 illustrates the distribution of the proportion of the population aged 65 and over by local authority in receipt of *day care* services in England for the financial year 06/07. The variation across England is from 12% in Norfolk to 0.3% in Newham, with the average (median) proportion of the population aged 65 and over accessing services being 1.6%.

**Chart 15: Distribution of the Proportion of Population Aged 65 & Over Receiving Day Care Services - April 2006 to March 2007 in England**

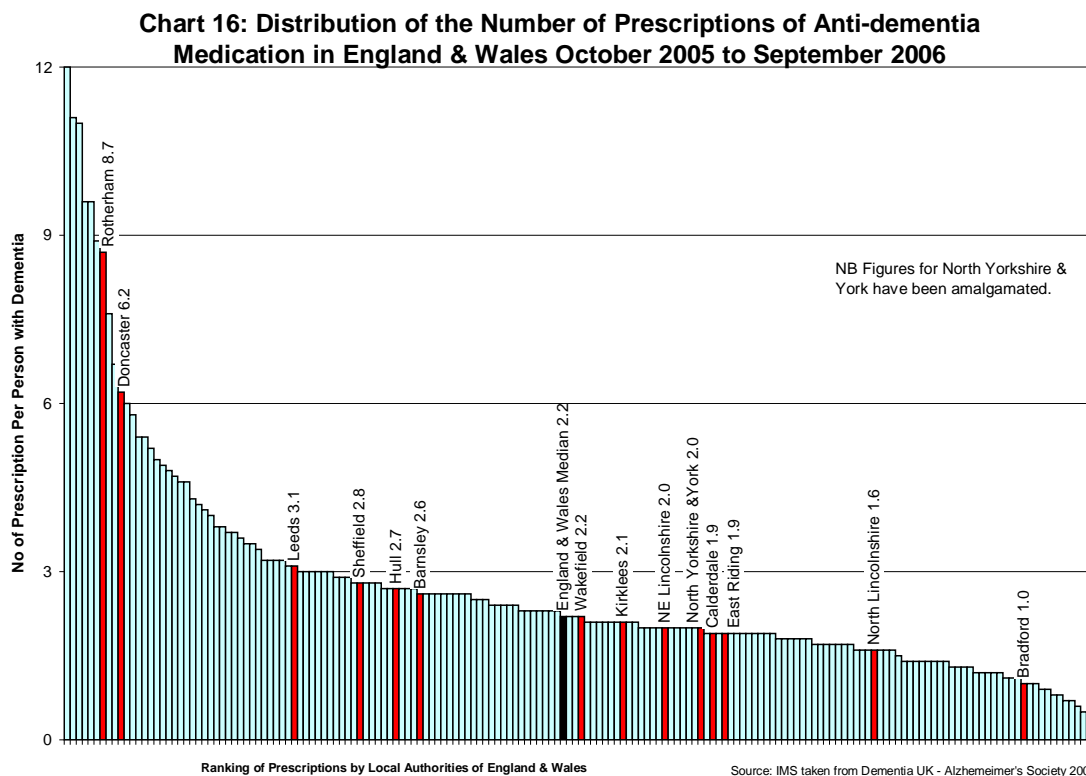


Source: Community Care Statistics 2007/8 for England Table P2f.1c - NHS Health & Social Care Information Centre 2008

In the Yorkshire & Humber region, the variation in the proportion of the population accessing *day care* services is between 2.08% reported in Calderdale to 0.72% in York. Nine of the fifteen local authorities in the region reported a higher proportion accessing *day care* services than the national average of 1.6%. In fact the proportion of individuals aged 65 years and older accessing services in Calderdale was ranked in the highest 10% in England, while the proportions in North Yorkshire, Leeds, Barnsley, Bradford and Kirklees were in the highest 20% in England. Conversely the proportions accessing services in NE Lincolnshire & York were in the lowest 10% in England in 2007.

### 3.3 Drug Treatments for People with Dementia

To illustrate the variation across the country in service provision for people with dementia, the authors of Dementia UK investigated the prescription patterns for the four anti-dementia drugs<sup>33</sup> and their report noted *the most striking finding of these analyses is the very high levels of variation between PCTs even in similar geographical and socio-demographic areas*. Chart 16 contains the distribution of prescriptions for the local authorities across England & Wales and illustrates the variation in number from 12 per person in Knowsley to 0.4 in West Berkshire, with a median value of 2.2 per person.



The data for the local authorities in the Yorkshire & Humber region also appear to support this conclusion, with the estimated number of prescriptions per person with dementia<sup>34</sup> ranging from 8.7 in Rotherham to 1.0 in Bradford. Prescriptions in only six of the fifteen local authority districts in the region are above the median value for England & Wales of 2.2 prescriptions per person with dementia. Prescribing patterns in Rotherham and Doncaster are in the top 10% in England & Wales, while the pattern in Bradford is among the lowest 10%.

<sup>33</sup> **Aricept** (donepezil hydrochloride), **Exelon** (rivastigmine), **Reminyl** (galantamine) & **Ebixa** (memantine)  
[www.alzheimers.org.uk/factsheet/407](http://www.alzheimers.org.uk/factsheet/407)

<sup>34</sup> Using the estimated numbers of people with dementia at PCT level generated for the Dementia UK report

## Appendix 1 What is Dementia?

The term 'dementia' is used to describe a collection of symptoms, including a decline in memory, reasoning and communication skills, and a gradual loss of skills needed to carry out daily activities. These symptoms are caused by structural and chemical changes in the brain as a result of physical diseases such as Alzheimer's disease.

Dementia can affect people of any age, but is most common in older people. One in six people over 80 has a form of dementia and one in 14 people over 65 has a form of dementia.

Dementia is a progressive condition. This means that the symptoms become more severe over time. Understanding how this progression happens can be useful in helping someone with dementia anticipate and plan for change.

Researchers are still working to find out more about the different types of dementia, and whether any have a genetic link. It is thought that many factors, including age, genetic background, medical history and lifestyle, can combine to lead to the onset of dementia.

Alzheimer's disease, which is characterised by the build up of deposits in the brain known as amyloid plaques and neurofibrillary tangles, is the commonest form of dementia, accounting for one half to three-quarters of all people with the disease.

Vascular dementia is diagnosed when the brain's blood circulation is repeatedly disrupted by strokes or other blood vessel pathology leading to significant accumulated damage to brain tissue and function. The distinction between Alzheimer's disease and vascular dementia has been called into question, as it is common for people to develop both conditions simultaneously, particularly over the age of 80. Vascular damage may be a co-actor, accelerating the onset of clinically significant symptoms in people with Alzheimer's disease.

There are a few rare causes of dementia that may be treated effectively by timely medical or surgical intervention – these include deficiencies of thyroid hormone, vitamin B12 and folic acid. For the most part, altering the progressive course of the disorder is unfortunately not possible. However treating the symptoms of dementia and offering appropriate support services can make a significant difference to the lives of people with dementia and their caregivers.

The main risk factor for most forms of dementia is advanced age, with prevalence roughly doubling every five years over the age of 65. Onset before this age is known as young or early onset dementia, it is very unusual and, in the case of Alzheimer's disease, often suggests a genetic cause. When early onset Alzheimer's disease runs strongly in families then single gene mutations at one of three loci (Beta amyloid precursor protein, presenilin1 and presenilin2) account for most of these cases. For late onset Alzheimer's disease both environmental (lifestyle) and genetic factors are important. Having a common genetic polymorphism, the apolipoprotein E (apoE) gene Q4 allele greatly increases the risk of going on to suffer from dementia; up to 25% of the population has one or two copies of this polymorphism (Saunders et al 1993, Nalbantoglu et al 1994). However, it is not uncommon for one identical twin to suffer from dementia, and the other not.

This implies a strong influence of the environment (Breitner et al 1995). Evidence from cross-sectional and case-control studies suggest associations between Alzheimer's disease and limited education (Ott et al 1995) and head injury (Mortimer et al 1991, Mayeux et al 1995), which, however, are only partly supported by longitudinal (follow-up) studies (Stern et al 1994). Depression has been shown to be a risk factor in short-term longitudinal studies, but this may be because depression is an early presenting symptom, rather than a cause of dementia (Devanand et al 1996). Recent research suggests that vascular disease and vascular risk factors predispose to Alzheimer's disease as well as to vascular dementia (Hofman et al 1997). Smoking seems to increase the risk for Alzheimer's disease as well as vascular dementia (Ott et al 1998). Long-term follow-up studies show that high blood pressure (Skoog et al 1996, Kivipelto et al 2001) and high cholesterol levels (Kivipelto et al 2001) in middle age each increase the risk of going on to develop Alzheimer's disease in later life. Reports from epidemiological studies of protective effects of certain prescribed medication such as non-steroidal anti-inflammatory drugs, anti-hypertensives and cholesterol lowering therapies, are now being investigated in randomised controlled trials.

Taken from *Dementia UK – Full Report* (pp 2&3)

## Appendix 2      Dementia Subtypes

There are different types of dementia caused by different diseases of the brain. Because these diseases affect the brain in different ways, they produce different symptoms. Some of the most common forms of dementia are listed below.

Alzheimer's disease is the most common type of dementia. It changes the chemistry and structure of the brain, causing brain cells to die.

In the early stages of Alzheimer's, the person's behaviours may change in very small ways. They may start forgetting things or repeating themselves more often than usual, for example. At first people often attribute these symptoms to factors such as ageing, stress or bereavement.

In the middle stages of Alzheimer's, the person may need reminders to carry out activities of daily living such as eating, dressing or using the toilet. The person's memory will get worse, and they may have difficulty recognising familiar people or places.

Over time, the person will become increasingly dependent on others for help. They are likely to experience severe memory loss and become increasingly frail. They may have difficulty with eating, swallowing, continence and experience loss of communication skills such as speech.

Vascular dementia is caused by strokes or small vessel disease which affect the supply of oxygen to the brain. Vascular dementia affects people in different ways. It can cause communication problems, stroke-like symptoms and acute confusion.

The symptoms that a person experiences as a result of a stroke depend on which part of the brain has been damaged. For example, if the damaged area is responsible for movement of a limb, paralysis may occur. If the part of the brain damaged is responsible for speech, the person may have problems communicating.

When vascular dementia is caused by a single stroke, it is called single-infarct dementia. Vascular dementia is more commonly caused by a series of small strokes. These can be so tiny that the person may not notice any symptoms or the symptoms may be only temporary. This is called multi-infarct dementia.

Vascular dementia progresses in a similar way to Alzheimer's disease, but progression is often 'stepped' rather than gradual, declining suddenly as the person has a new stroke. Progression of vascular dementia may be slowed through the control of underlying risk factors such as blood pressure.

Frontotemporal dementia is a rare form of dementia affecting the front of the brain. It includes Pick's disease and often affects people under 65. In the early stages, the memory may remain intact, while the person's behaviours and personality change.

In the early stages of frontotemporal dementia, the person is less likely to become forgetful than in Alzheimer's disease. Instead their behaviour can change quite dramatically. For example, they may seem more selfish or unfeeling than usual or sexually uninhibited. The later stages are very similar to Alzheimer's disease.

Dementia with Lewy bodies is caused by tiny spherical protein deposits that develop inside nerve cells in the brain. These interrupt the brain's normal functioning, affecting the person's memory, concentration and language skills.

This type of dementia has symptoms similar to those of Parkinson's disease, such as tremors and slowness of movement. The person may also experience hallucinations. The progression of this condition can be confusing for carers, as the person's abilities may fluctuate.

Taken from *Dementia UK – Full Report* (pp 4&5)

### Appendix 3 About Yorkshire & Humber Region

Yorkshire & Humber is the seventh largest of the UK government office regions in terms of population and is home to an estimated 5.23 million people<sup>35</sup>, accounting for some 10% of the total English population.

In 2008, around 46% of the region's population were aged between 30-64 years of age and 16% were aged 65 years and older. The left-hand portion of the charts A3.1 & A3.2 illustrate the distribution of the population in 2008 by quinary age group and by gender.

By 2025 the region's population is projected to increase in size to 6.06 million people, an increase of 16%. The right-hand portions of charts A3.1 and A3.2 illustrate the projected numbers for each quinary age group up to aged 85 and over.

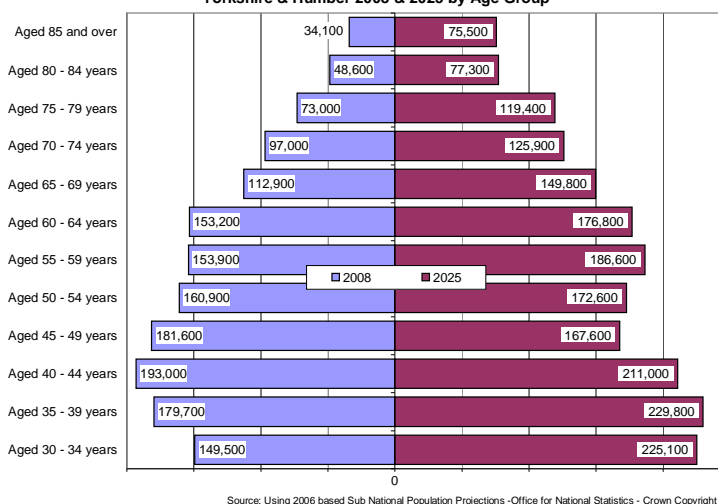
In 2025 it is projected that the proportion of the population aged between 30-64 years of age will decrease to 44% of the population, while those aged 65 years and older will increase to 19%.

In some age groups the increases in population are quite dramatic. In particular the numbers of males aged 85 years and over resident in the region is projected to more than double, with an increase of 121%, while the numbers of females are projected to increase by around 53%.

The social service responsibilities within the Yorkshire & Humber region are administered through the fifteen authorities - the shire county of North Yorkshire; the five unitary authorities of East Riding of Yorkshire, Kingston-upon-Hull, NE Lincolnshire, North Lincolnshire and the city of York; nine metropolitan districts of Barnsley, Bradford, Calderdale, Doncaster, Kirklees, Leeds, Rotherham, Sheffield and Wakefield.

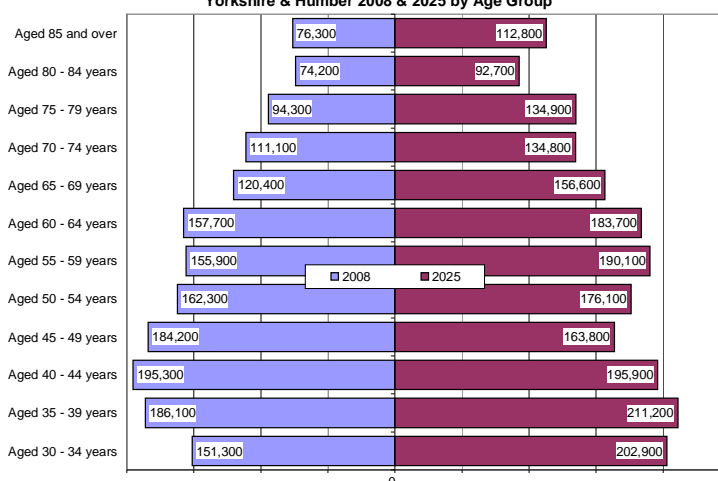
In 2008, the city of Leeds was the local authority district in the Yorkshire & Humber region with the largest population of approximately 769,600 residents, accounting for 15% of the region's population. Three other local authority districts in the Yorkshire & Humber region have population sizes in excess of half-a-million people; North Yorkshire (602,500 – 12%); Sheffield (535,500 – 10%); Bradford (505,900 – 10%). The small local authority districts are

**Chart A3.1 Projected Population Numbers for Males**  
Yorkshire & Humber 2008 & 2025 by Age Group



Source: Using 2006 based Sub National Population Projections - Office for National Statistics - Crown Copyright

**Chart A3.2 Projected Population Numbers for Females**  
Yorkshire & Humber 2008 & 2025 by Age Group



Source: Using 2006 based Sub National Population Projections - Office for National Statistics - Crown Copyright

<sup>35</sup> 2006 based Sub National Population Project for 2008 produced by the Office for National Statistics.

NE Lincolnshire and North Lincolnshire, both with approximately 160,000 residents and 3% of the region's population (Illustrated in Table A3.1).

<b>Table A3.1: Population Projections 2008 &amp; 2025 Yorkshire &amp; Humber by Local Authority</b>			
<b>Local Authority Areas</b>	<b>All Ages 2008</b>	<b>All Ages 2025</b>	<b>% Increase between 2008 &amp; 2025</b>
Barnsley	226,200	253,900	12.2%
Bradford	505,900	620,300	22.6%
Calderdale	202,000	236,800	17.2%
Doncaster	292,100	314,200	7.6%
East Riding of Yorkshire	338,300	408,200	20.7%
Hull	260,100	296,700	14.1%
Kirklees	403,200	454,900	12.8%
Leeds	769,600	925,000	20.2%
NE Lincolnshire	159,900	173,700	8.6%
North Lincolnshire	162,100	190,400	17.5%
North Yorkshire	602,500	706,900	17.3%
Rotherham	255,700	282,200	10.4%
Sheffield	532,500	593,400	11.4%
Wakefield	324,200	362,000	11.7%
York	197,100	236,900	20.2%
<b>Yorkshire &amp; Humber</b>	<b>5,231,400</b>	<b>6,055,500</b>	<b>15.8%</b>

Source: 2006 Sub National Population Projections – Office for National Statistics – Crown Copyright

Table A3.1 also illustrates the projected population numbers in 2025 for each of the local authority districts in the Yorkshire & Humber region. Overall the population of the region is projected to increase by 15.8% between 2008 and 2025, exceeding the projected rate for England for the period of 13.3%. Population increases in eight of the fifteen local authority districts is projected to exceed the national average, with the greatest increases in Bradford (22.6%), East Riding (20.7%), Leeds and York (20.2%). The districts with the lowest projected increases are Doncaster (7.6%) and NE Lincolnshire (8.6%) with growth rates around half the projected regional increase.