System P

Frailty and Dementia Patient Cohort: NHS Cheshire CCG

A **preventative, predictive, precise approach** to **population, patient** and **person** in a joined-up intelligence led system

Enabling us to programme equity, rather than tackle inequality

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Welcome to System P

System P is the whole system approach to addressing multiagency, multisector challenges that negatively impact population health and will deliver transformational change in service provision through collaborative working.

System P is a Cheshire & Merseyside ICS funded programme, which commenced in September 2021. This initial phase will run through to the end of March 2023.

We have the opportunity to form virtual networks based on a common purpose rather than an oppositional view. In doing this we can change outcomes for individuals and communities.

System P uses the Bridges to Health segmentation methodology, which has been endorsed by NHS England. Segmentation aims to categorise the population according to health status, health care needs and priorities. This methodology identifies groups of people who share characteristics that influence the way they interact with health and care services.

Our initial focus in this first phase of System P, is around the Complex Lives and Frailty & Dementia segments. Insight packs will be available for all 9 Places across Cheshire & Merseyside for both segment areas.

Please do not hesitate to contact the Programme Director, Andrea Astbury or Project Support Officer, Shahina Rashid on the below email addresses, for further help and support:
Andrea.Astbury@liverpoolccg.nhs.uk Shahina.Rashid@nhs.net

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Data Sharing Agreements

Population Health Data Sharing Agreements (DSAs) need to be signed by each GP practice to allow System P to access data for that practice area.

Those CCG areas which have a high percentage return of DSAs will produce reliable Insight Packs for the area. Conversely, those areas which have a low sign-up need to be interpreted with greater consideration and some caution.

The total return rate of signed DSAs as of 8 April 2022 for NHS Cheshire CCG is 29%.

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Practice Sign Up

Practices with a signed Data Sharing Agreement

N81001	AUDLEM MEDICAL PRACTICE
N81002	KENMORE MEDICAL CENTRE
N81018	TARPORLEY HEALTH CENTRE
N81022	MIDDLEWOOD PARTNERSHIP
N81024	SWANLOW MEDICAL CENTRE
N81025	FIRDALE MEDICAL CENTRE
N81038	LAUREL BANK SURGERY
N81040	HIGH STREET PRACTICE WINSFORD
N81049	KNUTSFORD MEDICAL PARTNERSHIP
N81053	EARNSWOOD MEDICAL CENTRE
N81070	HANDFORTH HEALTH CENTRE
N81071	GREENMOSS MEDICAL CENTRE
N81077	THE HEALTH CENTRE (HOLMES CHAPEL)
N81082	CITY WALLS MEDICAL CENTRE
N81086	WILMSLOW HEALTH CENTRE
N81090	TUDOR SURGERY
N81100	UPTON VILLAGE SURGERY
N81111	MEREPARK MEDICAL CENTRE
N81113	MIDDLEWICH ROAD SURGERY
N81118	MEADOWSIDE MEDICAL CENTRE
N81624	THE VILLAGE SURGERIES GROUP
N81626	WESTERN AVE MEDICAL CTRE
N81632	BROKEN CROSS SURGERY

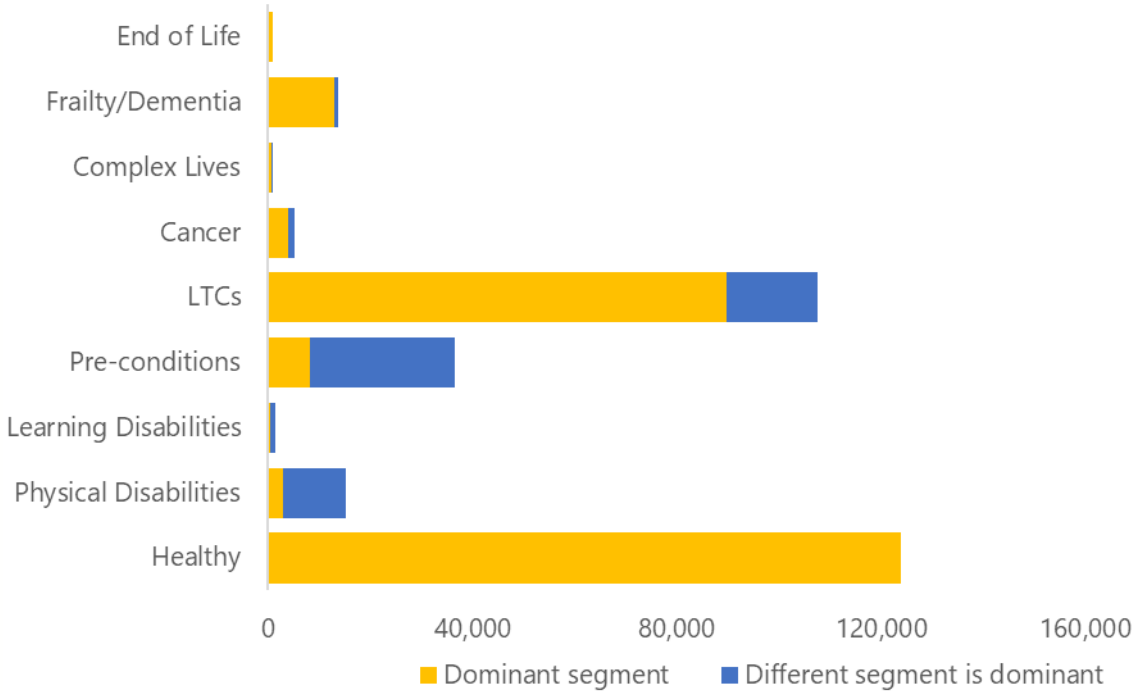
Practices without a signed Data Sharing Agreement

N81005	HELSBY HEALTH CENTRE
N81006	BUNBURY MEDICAL PRACTICE
N81008	THE CEDARS MEDICAL CENTRE
N81009	HEATH LANE MEDICAL CENTRE
N81010	NANTWICH HEALTH CENTRE
N81013	HIGH STREET SURGERY
N81016	MILLCROFT MEDICAL CENTRE
N81027	READESMOOR MEDICAL GROUP PRACTICE
N81029	SOUTH PARK SURGERY
N81030	PRINCEWAY SURGERIES
N81031	DRS ADEY AND DANCY
N81032	ASHFIELDS PRIMARY CARE CENTRE
N81033	ALDERLEY EDGE MEDICAL CENTRE
N81034	BOUGHTON MEDICAL GROUP
N81039	OAKLANDS
N81043	HASLINGTON SURGERY
N81044	HUNGERFORD MEDICAL CENTRE
N81046	PARK MEDICAL CENTRE
N81047	THE KILTEARN MEDICAL CTR.
N81050	GREAT SUTTON MEDICAL CENTRE
N81051	THE WEAVERHAM SURGERY
N81052	LAWTON HOUSE SURGERY
N81055	WATLING STREET SURGERY
N81060	NESTON SURGERY
N81061	WITTON STREET SURGERY
N81062	CUMBERLAND HOUSE SURGERY
N81063	YORK ROAD GROUP PRACTICE
N81067	OAKWOOD MEDICAL CENTRE
N81068	GROSVENOR MEDICAL CENTRE
N81069	CHELFORD SURGERY
N81074	LAUNCESTON CLOSE SURGERY
N81079	THE ELMS MEDICAL CENTRE
N81080	NORTHGATE MEDICAL CENTRE
N81081	GARDEN LANE MEDICAL CTR.
N81084	ROPE GREEN MEDICAL CENTRE
N81085	PARK LANE SURGERY
N81087	DANEBRIDGE MEDICAL CENTRE
N81088	PARK GREEN SURGERY
N81092	HOPE FARM MEDICAL CENTRE
N81093	WHITBY HEALTH PARTNERSHIP
N81101	THE HANDBRIDGE MED.CTR.
N81102	FOUNTAINS MEDICAL PRACTICE
N81115	LACHE HEALTH CENTRE
N81117	OLD HALL SURGERY
N81120	KELSALL MEDICAL CENTRE
N81121	NORTHGATE VILLAGE SURGERY
N81123	WILLOW WOOD SURGERY
N81125	NESTON MEDICAL CENTRE
N81127	THE WEAVER VALE SURGERY
N81607	WESTMINSTER SURGERY
N81614	THE SURGERY
N81642	WATERS EDGE MEDICAL CENTRE
N81655	ST WERBURGH'S MEDICAL PRACTICE HOMELESS
Y02045	VERNOVA HEALTHCARE CIC
Y04664	THE WILLASTON SURGERY
Y05750	DAVID LEWIS MEDICAL PRACTICE

All Segments

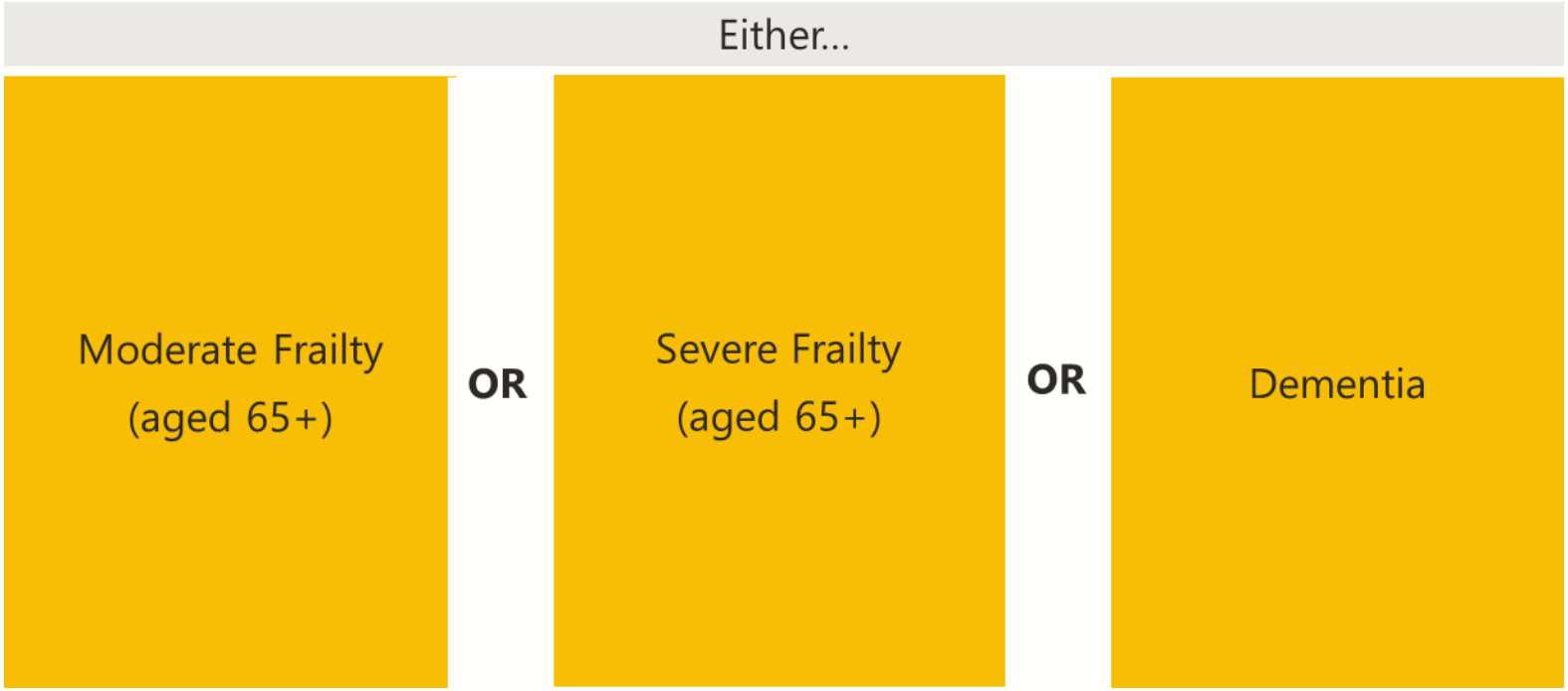
Segmentation methodology comprises nine different segments. Individuals may belong to one segment or more, excepting the healthy group who by definition belong to that group alone. Where individuals belong to more than one segment it is possible to assign a dominant segment but in this analysis all people in Frailty and Dementia are included, whether this is their dominant segment or not.

For the population (based on signed DSAs) the number of people in each segment is shown and is split by whether this is the dominant segment or not.



How are the Frailty and Dementia segment defined

People are defined as belonging to the Frailty and Dementia if they have:



In NHS Cheshire CCG 13,561 individuals (5.6% of the population) were identified as belonging to the Frailty and Dementia segment. In this pack we describe the characteristics of people in this segment, before moving on to describe their other healthcare issues and how they use services.

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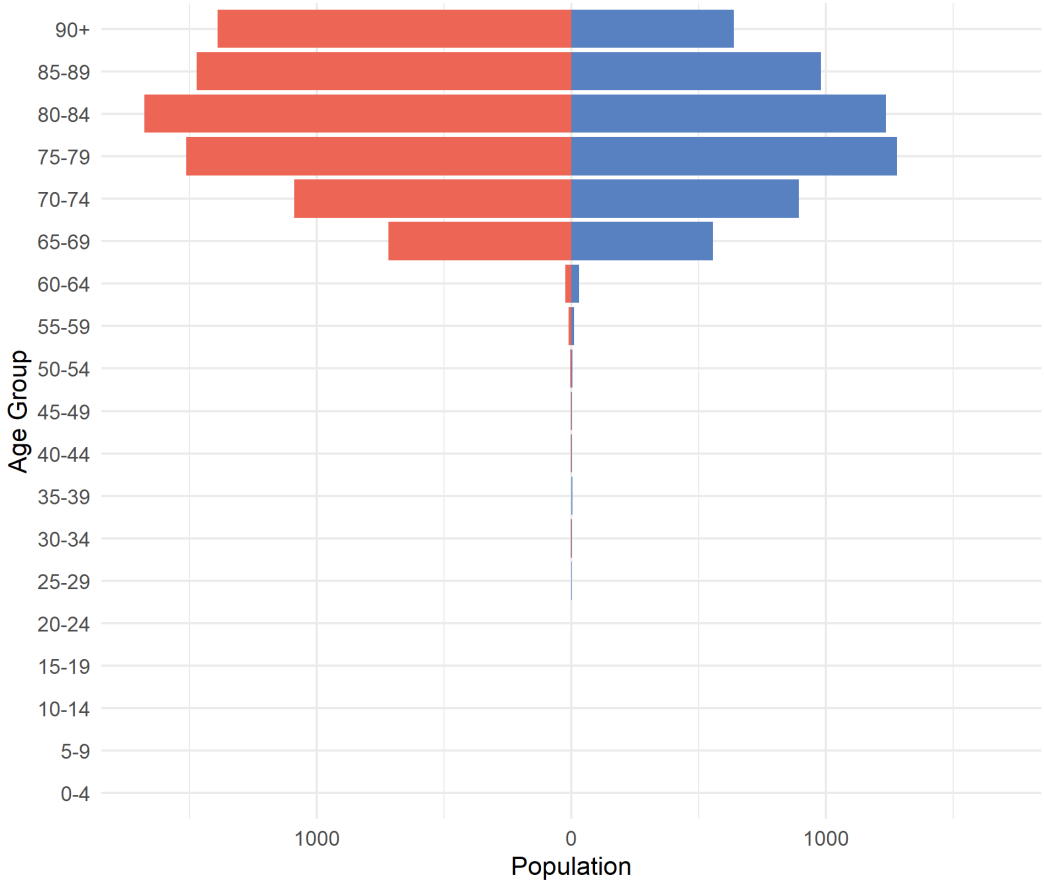
Patient Characteristics – Age and Gender

For the Frailty and Dementia segment, the mean average age of these individuals is 80 (interquartile range from 75 to 86).

Gender splits within the segment are 42% male and 58% female.



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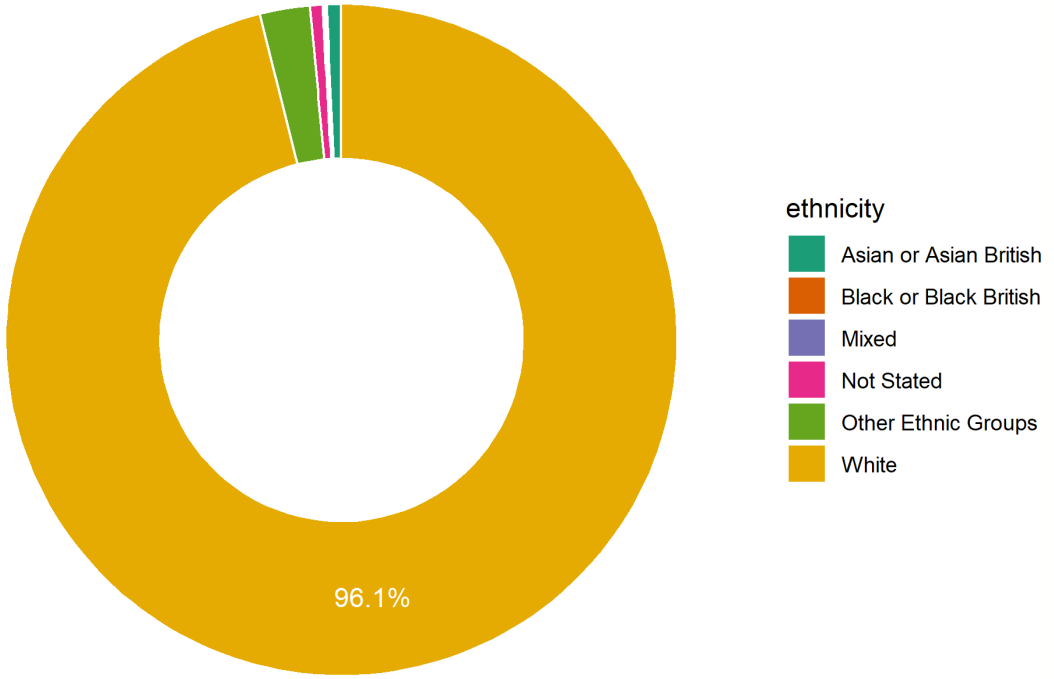
Patient Characteristics - Ethnicity

96% of people in the Frailty and Dementia segment class their ethnicity as White.

The remaining 4% class themselves as one of the ethnic minority groups.

A small number did not state their ethnicity.



This analysis excludes a small number of people for whom no ethnicity was recorded

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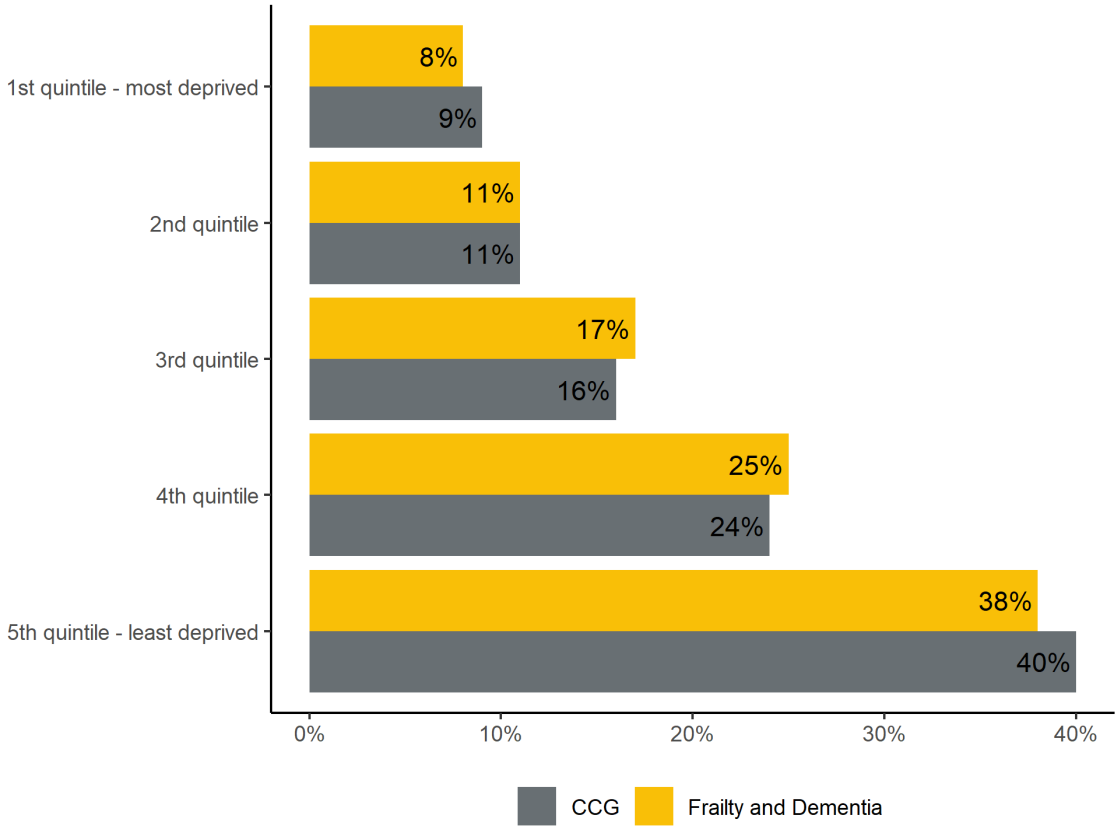
Patient Characteristics - Deprivation

Those with Frailty and Dementia are more likely to reside in areas of lower deprivation. 38% of the segment live in the least deprived quintile.



This analysis excludes a small number of people for whom no deprivation was recorded. CCG figures based on practices with signed DSA

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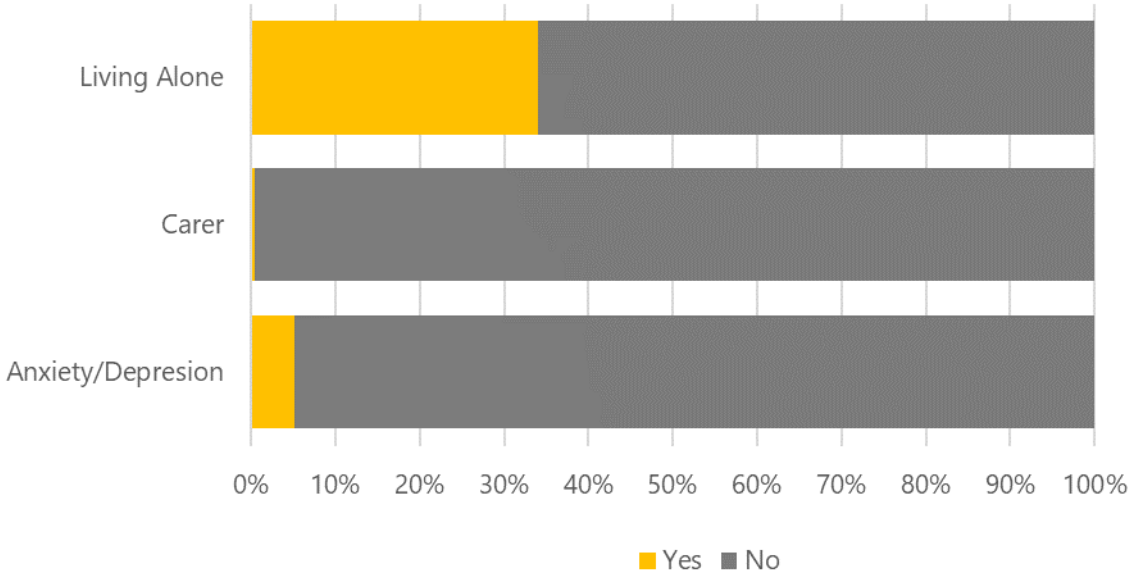
Patient Characteristics - Living Arrangements

A third of individuals in the Frailty and Dementia segment are living alone. A small number were found to have caring responsibilities and 5% were found to be suffering from Anxiety or Depression in the last two years.



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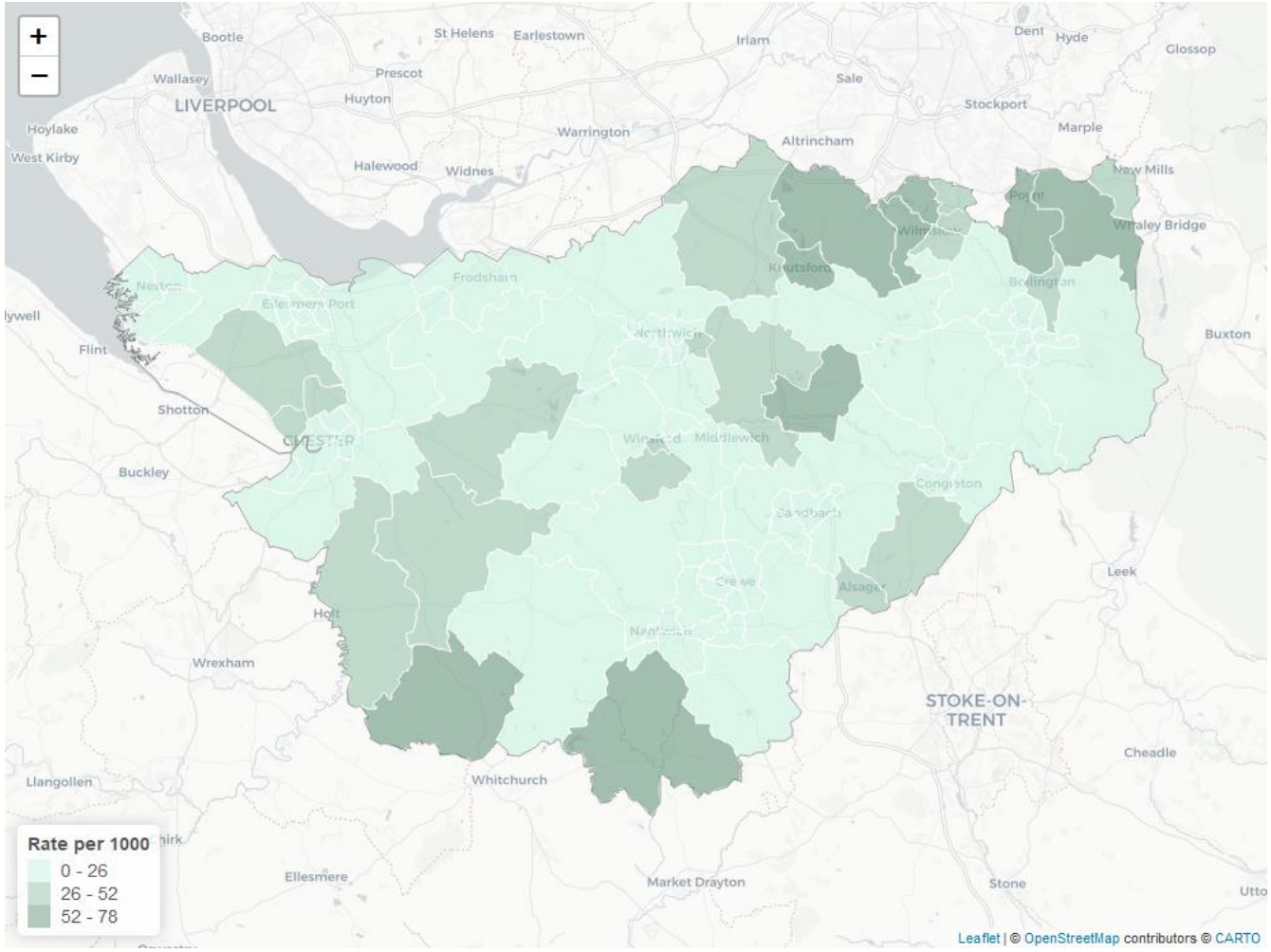
Patient Characteristics - Geography

The map shows, for wards within the CCG, the rate of Frailty and Dementia individuals per 1,000 population.



Areas with some of the highest density for Frailty and Dementia are:

- Dane Valley
- Malpas
- Poynton East and Pott Shrigley

Due to the low sign up of practices in Cheshire CCG these rates will be artificially low.

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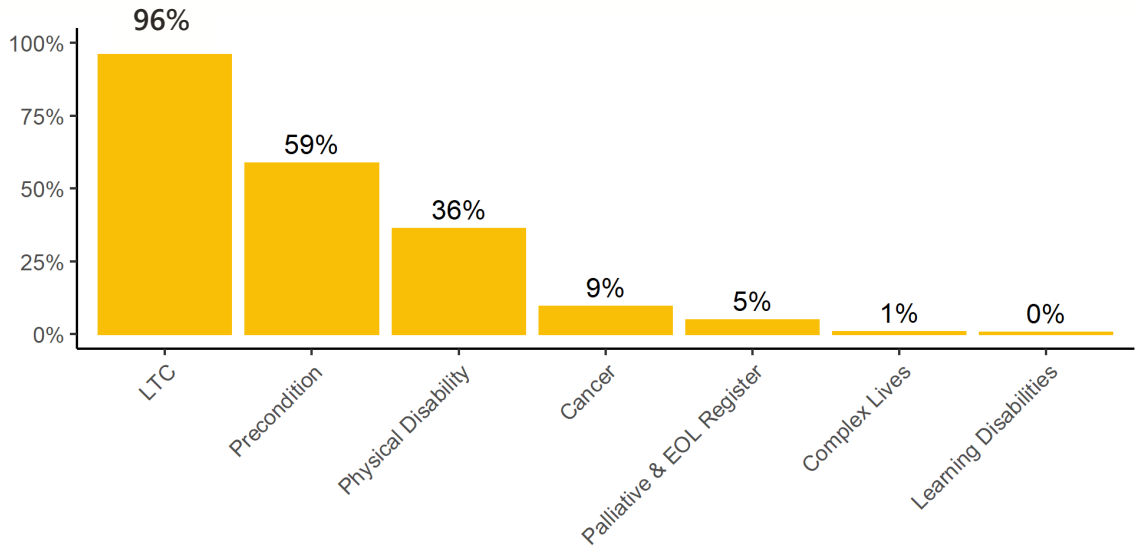
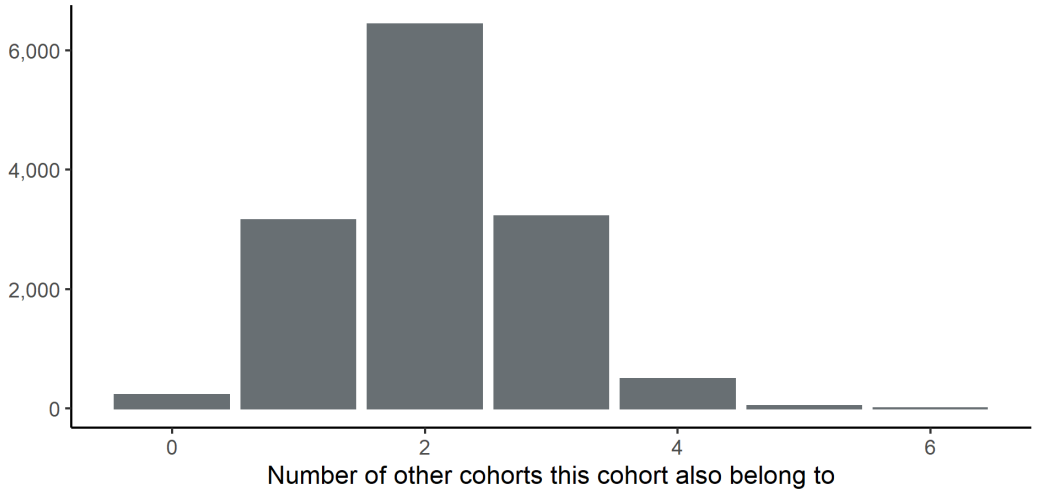
Health Care Conditions - Other segments

Those in the Frailty and Dementia segment also fall into other, sometimes multiple other, segments.

By considering individual segments it can be seen that a significant number in Frailty and Dementia are also living with a Long term condition.

On average, those in the segment fall into an additional 2.1 segments.





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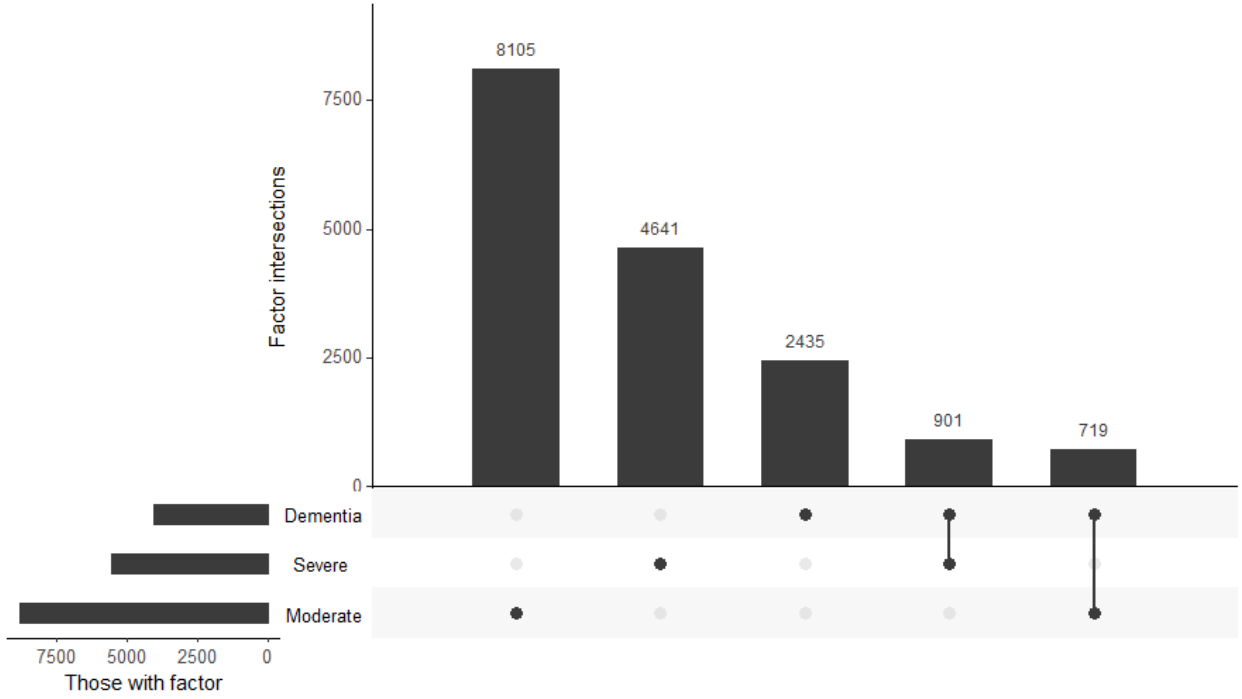
Patient Characteristics - Factors

For an individual to be assigned to the Frailty and Dementia segment depends on factors for the level of frailty (moderate or severe) or a clinical code for dementia. Numbers are larger frailty alone but some individuals do have both frailty and dementia.

The ‘Those with factor’ bars represent all those in the segment with those factors.

The ‘Factor intersection’ represents the combination of factors and the number of individuals with those combinations.



Although not a factor, there was interest in identifying those prescribed an anticholinergic. In the last year 78% of those in the segment were prescribed these at least once, and where prescribed there were on average 2.3 different types.

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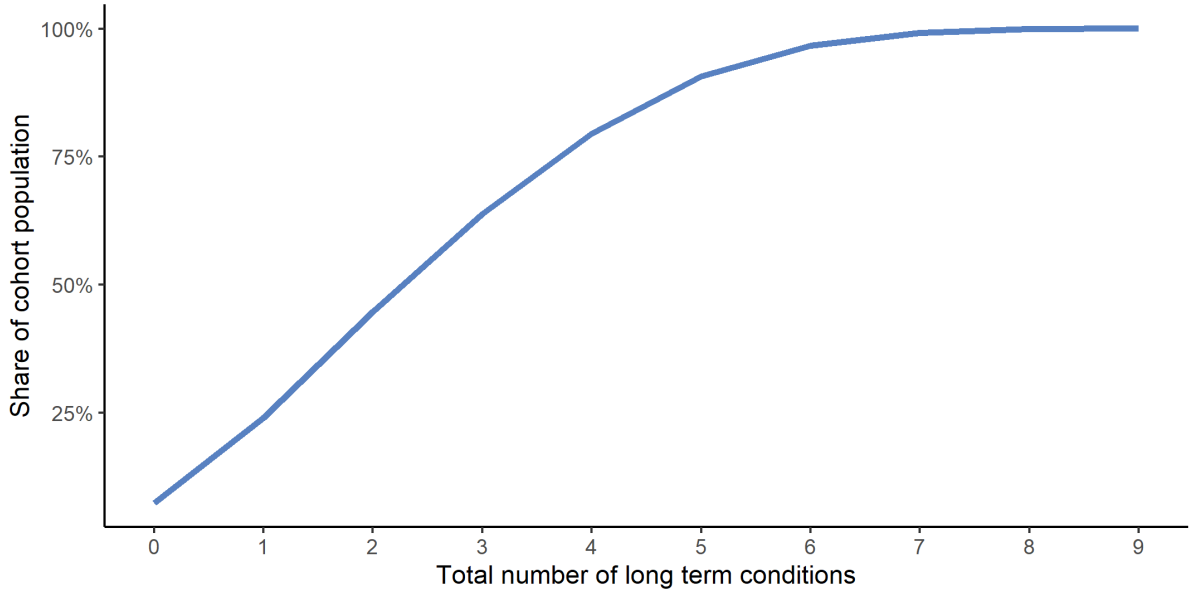
Health Care Conditions of Interest

Frailty and Dementia individuals will have a range of long term health issues. Specific long term conditions investigated here are:

- Asthma
- Chronic liver disease (CLD)
- Hypertension
- Chronic Obstructive Pulmonary Disease (COPD)
- Diabetes
- Epilepsy
- Coronary Vascular Disease (CVD)
- Chronic kidney disease (CKD)
- Stroke or Transient ischaemic attack (TIA)
- Gastroenterology conditions
- Atrial Fibrillation
- Heart Failure



On average, each individual in this segment has 2.9 of the specified long term health conditions. Only 7% do not have any of the LTCs at all.

The Long Term Condition segment is defined with more extensive list of conditions.

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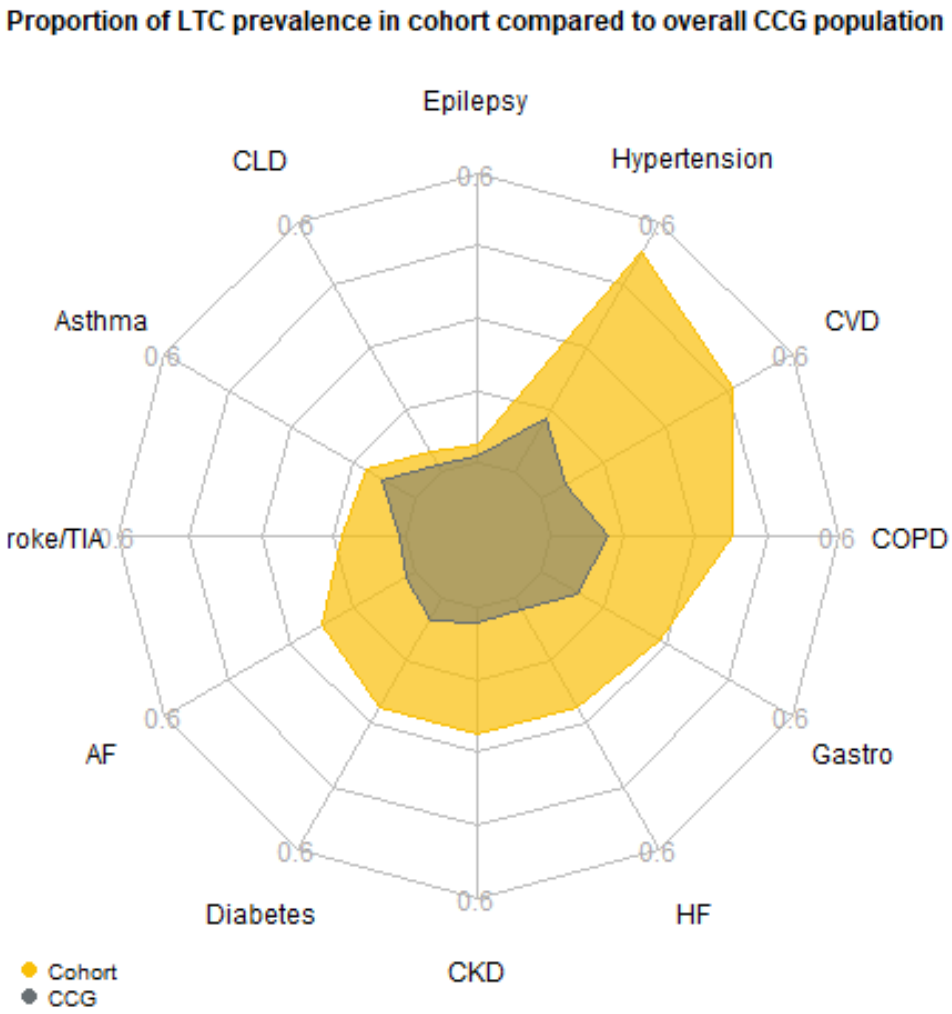
Health Care Conditions - LTCs in the Population

For the specified long term conditions a comparison of prevalence rates is made between those in the Frailty and Dementia segment and the total population (aged 15+). This indicates the scale of the difference in these disease areas between the segment and the total population.

The scale shows the rate per person so 0.6 represents prevalence of 60% of people.



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Health and Care Use – A&E Services

Those in the Frailty and Dementia segment attend A&E services on average **0.6** times per person, per year. This is much higher than the total population who attend A&E services **0.3** times per person, per year. Emergency Departments are the most used A&E service and also the service where there is the greatest disparity in use between segment and total population. In a year **36%** of people in the Frailty and Dementia segment attend an A&E service. For the total population the same figure is **16%**.

When attending A&E services the average cost per attendance is **£181** for those in the Frailty and Dementia segment. This is **26%** higher than the average cost per attendance for the total population.

Where a clinical reason for attending A&E has been recorded this identifies that for the Frailty and Dementia segment common reasons for attending A&E relate to *Trauma / musculoskeletal* or *Neurological* problems.

Cost information is derived from 21/22 national prices. Activity without a national price is excluded when calculating average costs. There is no national price for Walk in centre attendances.

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Health and Care Use – Emergency Admissions

On average those in the Frailty and Dementia segment have **0.4** emergency admissions per person, per year. This is again much higher than the total population who have on average **0.1** emergency admissions per year.

25% of people in Frailty and Dementia segment have an emergency admission in a year. For the total population the same figure is lower at **6%**.

The average emergency admission cost is **£3,196** for Frailty and Dementia compared to **£2,184** for the total population. Higher costs for emergency admissions for those with frailty or dementia will most likely be partly associated with longer lengths of stay for these patients.

When those in the Frailty and Dementia segment are admitted as an emergency common reasons for admission relate to *Cardiac Disorders* and *Respiratory System Procedures and Disorders*.

Cost information is derived from 21/22 national prices. Activity without a national price is excluded when calculating average costs. Maternity admissions are excluded from analysis on emergency admissions

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Health and Care Use – Planned Care

Those in the Frailty and Dementia segment use more planned admissions, both as electives and as daycases, on average per person, per year. They also use more outpatient attendances.

In a year **23%** of people in Frailty and Dementia segment have a planned admission. For the total population the same figure is **7%**. For outpatient attendances **72%** of those in the Frailty and Dementia segment attended at least one outpatient appointment in a year compared to **31%** for the total population.

For elective planned care the Frailty and Dementia segment are often admitted with a reason of *Orthopaedic Non-Trauma Procedures*. In daycase admissions their main reason for admission is related to *Digestive System Endoscopic Procedures*. For outpatients their most common clinical specialty is *Cardiology* (first attendances) and also *Ophthalmology* (follow-up attendances).

Planned admissions are elective admissions with an overnight stay. Daycase admissions are planned admissions with admission and discharge on the same day. Regular Attenders are excluded from this analysis due to inconsistent coding. Cost information is derived from 21/22 national prices. Activity without a national price is excluded when calculating average costs.

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Health and Care Use – Mental Health

On average those in the Frailty and Dementia segment have **0.4** mental health contacts per person, per year. This is much higher than the total population who on average have **0.1** contacts with mental health services per year.

9% of people in the Frailty and Dementia segment have an contact with mental health services in a year. For the total population the same figure is only **2%**.

When those in the Frailty and Dementia segment are in contact with mental health this most commonly involves contacts with *Memory Services/Clinic/Drop in service* or *Community Mental Health Team – Functional* services.

No cost information is available for mental health data.

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Health and Care Use – Community Services

On average those in the Frailty and Dementia segment have **3.7** contacts with community services per person, per year. This is higher than the total population who, on the same basis, have **0.5**.

31% of people in the Frailty and Dementia segment are in contact with community services in a year. For the total population the figure is **10%**.

The most used community service for the Frailty and Dementia segment is *District Nursing Service*.

Community contacts are usually counted where the attended flag indicates a patient attended/was seen. However, for Bridgewater Community Healthcare Trust the attendance flag is not available. Therefore, for this Trust all appointments are counted as contacts. This may artificially inflate community contacts for CCGs with patients at this Trust. No cost information is available for community services data.

Health and Care Use – Social Care

From available data there were on average **0.14** of the Frailty and Dementia segment known to social services in the last year. More than the total population where the same figure is **0.02**. However, social services data should be viewed as indicative and treated with caution. A recent review of the data indicated concerns with the data and further work is already underway to improve the consistency and quality of social care data.

Social services data includes information collected by councils and does not include services purchased directly by patients or provided by the voluntary sector.

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Health and Care Use – Summary Tables

A&E Attendance	Average activity per person, per year		Ratio between average activity for cohort compared to the whole population	Average activity cost		Difference in average cost for cohort compared to the total population	% of people accessing service	
	Segment	*Total Population*		*Segment*	*Total Population*		*Segment*	*Total Population*
Emergency Department	0.6	0.2	2.8	£187	£154	21%	34%	15%
MIU/Other	0.0	0.0	1.0	£79	£79	0%	3%	3%
Walk In Centre	0.0001	0.0005	0.1	-	-	-	0.0%	0.0%
Total: A&E Attendance	**0.6**	**0.3**	**2.5**	**£181**	**£144**	**26%**	**36%**	**16%**
Emergency Admission	**0.4**	**0.1**	**5.1**	**£3,196**	**£2,184**	**46%**	**25%**	**6%**
Planned Inpatient Care								
Daycase	0.3	0.1	3.8	£812	£867	-6%	21%	6%
Elective	0.1	0.0	3.9	£4,799	£4,365	10%	5%	1%
Total: Planned Inpatient Admission	**0.4**	**0.1**	**3.8**	**£1,385**	**£1,356**	**2%**	**23%**	**7%**
Outpatient Attendances								
First	1.0	0.3	2.8	£181	£181	0%	49%	21%
Follow-up	2.8	0.9	3.3	£103	£104	-1%	62%	23%
Total: Outpatient Attendances	**3.8**	**1.2**	**3.2**	**£124**	**£129**	**-4%**	**72%**	**31%**
Mental Health Contact	**0.4**	**0.1**	**3.4**	**-**	**-**	**-**	**9%**	**2%**
Community Contact	**3.7**	**0.5**	**6.7**	**-**	**-**	**-**	**31%**	**10%**
Social Services (known to)	**0.1**	**0.0**	**8.6**	**-**	**-**	**-**	**14%**	**2%**

Primary Care Prescribing

From the prescribing data available for primary care the top 10 drugs types prescribed to those in the Frailty and Dementia segment are:

1. Lipid-Regulating Drugs
2. Proton Pump Inhibitors
3. Beta-adrenoceptor blocking drugs
4. Angiotensin-Converting Enzyme Inhibitors
5. Vaccines And Antisera
6. Non-opioid analgesics and compound prepa
7. Vitamin D
8. Calcium-Channel Blockers
9. Oral anticoagulants
10. Diuretics with potassium

Technical note

Alongside the excluded practices (see appendix 1) patients who opted out of their data being available for analysis purposes are also excluded. So are any patients whose NHS Number is blank. Also excluded are a small number of patients marked as deceased.

An exact date of birth is not accessible, only year and month of birth is available. When calculating the age of patient all dates of birth are therefore estimated as the 15th day of a calendar month.

Primary care data is used as the main basis for identifying patients and their segments. Primary care from April 2014 to date was the underlying source of this analysis.

meet the System P Team

Individual	System P role	Role outside of the programme
Professor Joe Rafferty CBE	Executive Sponsor	Chief Executive Mersey Care NHS Foundation Trust
Dr Louise Edwards	Senior Responsible Officer	Executive Director of Strategy, Mersey Care
Andrea Astbury	Programme Director	Deputy Director of Strategy, NHS Liverpool CCG
Wes Baker	Strategic Analytics	Director of Strategic Analytics, Economics and Population Health Management, Mersey Care
Shahina Rashid	Project Support	Project Support, Midlands & Lancashire Commissioning Support Unit
Helen Bennett	Senior Advisor	Deputy Director of Strategic Planning & Intelligence, Mersey Care
Helen Duckworth	Intelligence Infrastructure	Associate Director of Business Intelligence C&M, Programme Director for CIPHA
Professor Ben Barr	Data Science & Analytics	Professor in Applied Public Health Research, Institute of Population Health, University of Liverpool