UNIVERSITY OF LIVERPOOL

NHS Mersey Care NHS Foundation Trust
Community and Mental Health Services

Cheshire and Merseyside Health and Care Partnership

System P

LIVERPOOL HEALTH PARTNERS
COLLABORATE • DISCOVER • IMPROVE

Champs Public Health Collaborative

The Strategy Unit.

Frailty and Dementia Patient Cohort: NHS Liverpool 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

System P

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 Liverpool CCG is 95%.

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Practice Sign Up

Practices with a signed Data Sharing Agreement

N82001	THE MARGARET THOMPSON MED CENTRE
N82002	YEW TREE CENTRE
N82003	DOVECOT HEALTH CENTRE
N82004	GARSTON FAMILY HEALTH CENTRE
N82009	GRASSENDALE MEDICAL CENTRE
N82011	PRIORY MEDICAL CENTRE
N82014	LANCE LANE MEDICAL CENTRE
N82018	ELLERGREEN MEDICAL CENTRE
N82019	LANGBANK MEDICAL CENTRE
N82022	EDGE HILL HEALTH CENTRE
N82024	WEST DERBY MEDICAL CENTRE
N82026	PENNY LANE SURGERY
N82033	DINGLE PARK PRACTICE
N82034	THE VILLAGE SURGERY
N82035	MATHER AVENUE SURGERY
N82036	NETHERLEY HEALTH CENTRE
N82037	WESTMORELAND GP CENTRE
N82039	STORRSDALE MEDICAL CENTRE
N82041	OAK VALE MEDICAL CENTRE
N82046	SEFTON PARK MEDICAL CENTRE
N82048	WALTON MEDICAL CENTRE
N82049	WESTMINSTER MEDICAL CENTRE
N82050	GATEACRE MEDICAL CENTRE
N82052	TOWNSEND MEDICAL CENTRE
N82053	AINTREE PARK GROUP PRACTICE
N82054	ABERCROMBY FAMILY PRACTICE
N82058	ROCK COURT SURGERY
N82059	GREENBANK DRIVE SURGERY
N82062	FULWOOD GREEN MEDICAL CTR
N82065	EARLE ROAD MEDICAL CENTRE
N82066	WOOLTON HOUSE MEDICAL CTR
N82067	DR A GUPTA BENIM MEDICAL CENTRE
N82070	THE ELMS MEDICAL CENTRE
N82073	THE ASH SURGERY
N82074	OLD SWAN HEALTH CENTRE
N82076	BROWNLOW HEALTH @ PRINCES PARK
N82077	BOUSFIELD SURGERY - DR SHAH
N82078	BOUSFIELD - ROBERTS
N82079	GREENBANK ROAD SURGERY
N82081	ISLINGTON HOUSE MEDICAL CENTRE
N82082	ST. JAMES' HEALTH CENTRE
N82083	JUBILEE MEDICAL CENTRE
N82084	GATEACRE BROW SURGERY
N82086	ABINGDON FAMILY HEALTH CARE CENTRE
N82089	PICTON GREEN
N82090	GREEN LANE MEDICAL CENTRE
N82091	GP PRACTICE RIVERSIDE (DR JUDE)
N82092	THE VALLEY MEDICAL CENTRE
N82093	DERBY LANE MEDICAL CENTRE
N82094	BELLE VALE HEALTH CENTRE
N82097	THE GREY ROAD SURGERY
N82099	MERE LANE GROUP PRACTICE
N82101	KIRKDALE MEDICAL CENTRE
N82103	ANFIELD GROUP PRACTICE
N82104	STONEYCROFT MEDICAL CENTRE
N82106	THE VILLAGE MEDICAL CTRE
N82107	EDGE HILL HEALTH @ MOSSLEY HILL SURGERY
N82108	RUTHERFORD MEDICAL CENTRE
N82109	SPEKE HC - DR THAKUR
N82110	LONG LANE
N82113	FAIRFIELD MEDICAL CENTRE
N82115	VAUXHALL HEALTH CENTRE
N82116	HILLFOOT HEALTH
N82117	BROWNLOW GROUP PRACTICE
N82617	BROWNLOW AT MARYBONE
N82633	CALVARY HEALTH CENTRE
N82641	SANDRINGHAM MEDICAL CENTRE
N82645	BROWNLOW HEALTH AT KENSINGTON
N82646	DR JUDE'S PRACTICE - RIVERSIDE
N82648	POULTER ROAD MEDICAL CENTRE
N82650	SPEKE HC - DR SINGH & DR BICHA
N82651	STANLEY MEDICAL CENTRE
N82655	MOSS WAY
N82662	DUNSTAN VILLAGE GROUP PRACTICE
N82663	HORNSPIT MEDICAL CENTRE
N82664	ROCKY LANE MEDICAL CENTRE
N82668	WALTON VILLAGE MEDICAL CENTRE
N82669	GREAT HOMER STREET MEDICAL CENTRE
N82670	PARK VIEW
N82671	BIGHAM ROAD MEDICAL CENTRE
N82676	FIR TREE
N82678	STOPGATE LANE MEDICAL CTR
Y00110	WEST SPEKE HEALTH CENTRE

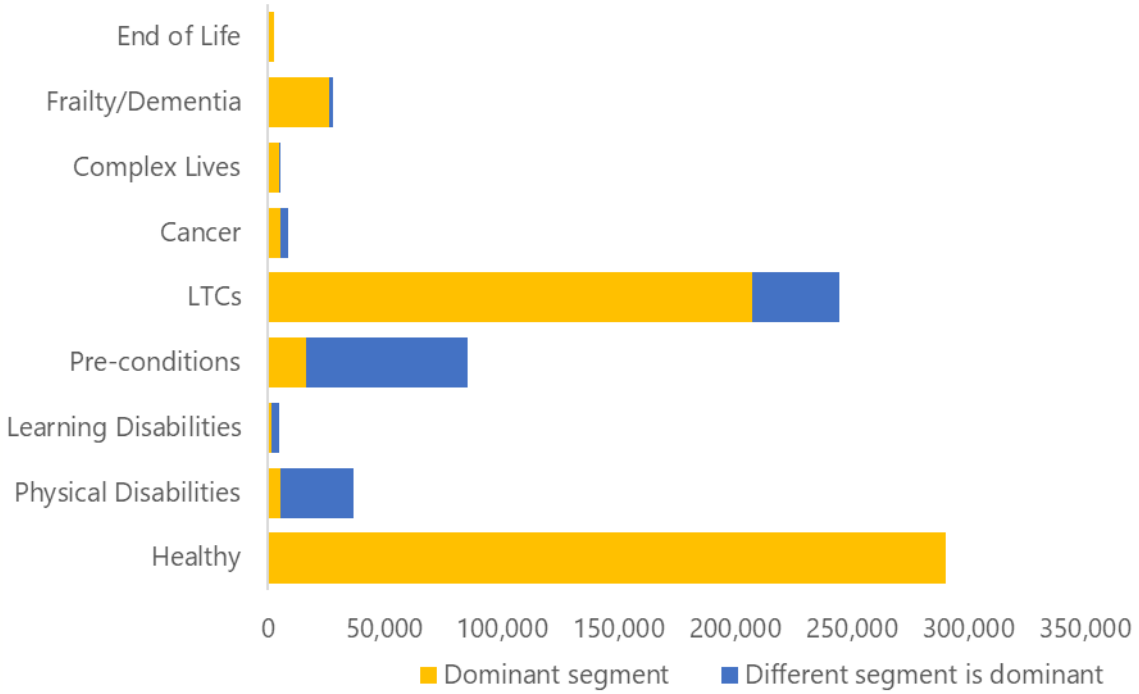
Practices without a signed Data Sharing Agreement

Y03097	ROPEWALKS GEN. PRACTICE
Y03101	DEYSBROOK LANE M.C
N82087	GILLMOSS MEDICAL CENTRE
N82095	ALBION SURGERY

All Segments

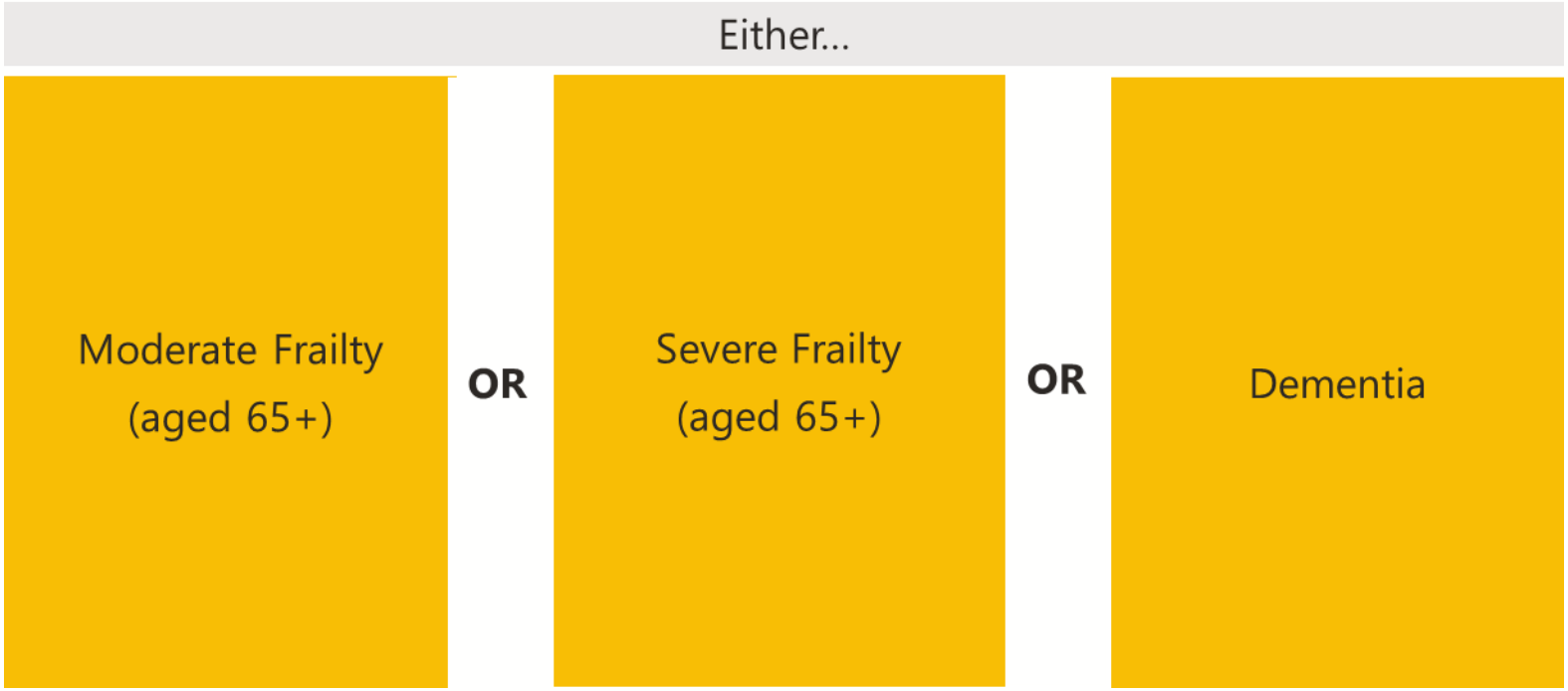
Segmentation methodology comprises nine different segments. Individuals may belong to one segment or more, excepting the healthy group who by definition belong to that group alone. Where individuals belong to more than one segment it is possible to assign a dominant segment but in this analysis all people 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 segment if they have:



In NHS Liverpool CCG 27,620 individuals (4.9% 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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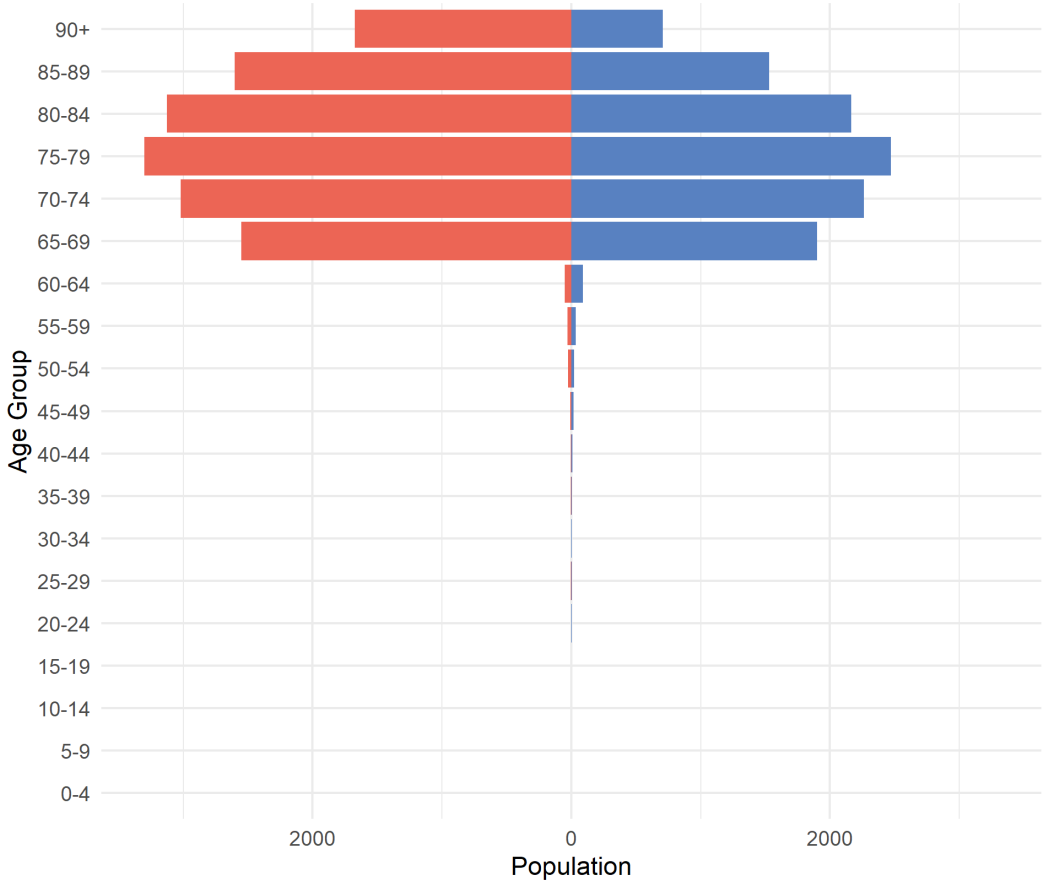
Patient Characteristics – Age and Gender

For the Frailty and Dementia segment the mean average age of these individuals is 78 (interquartile range from 72 to 84).

Gender splits within the segment are 41% male and 59% female.



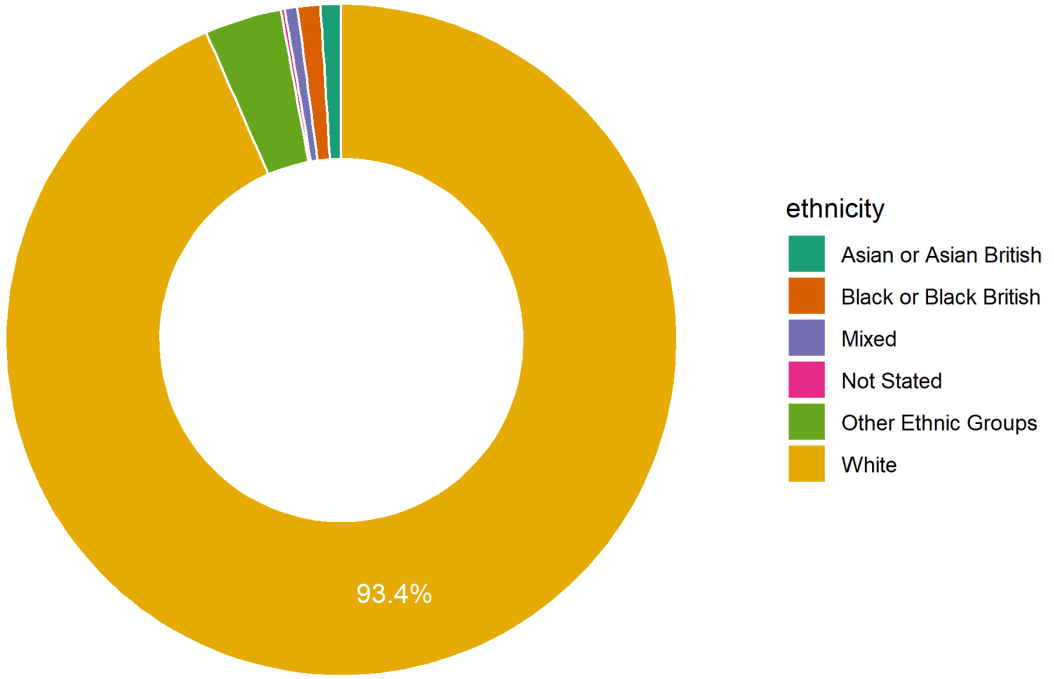
System P

Patient Characteristics - Ethnicity

93% of people in the Frailty and Dementia segment class their ethnicity as White.

The remaining 7% 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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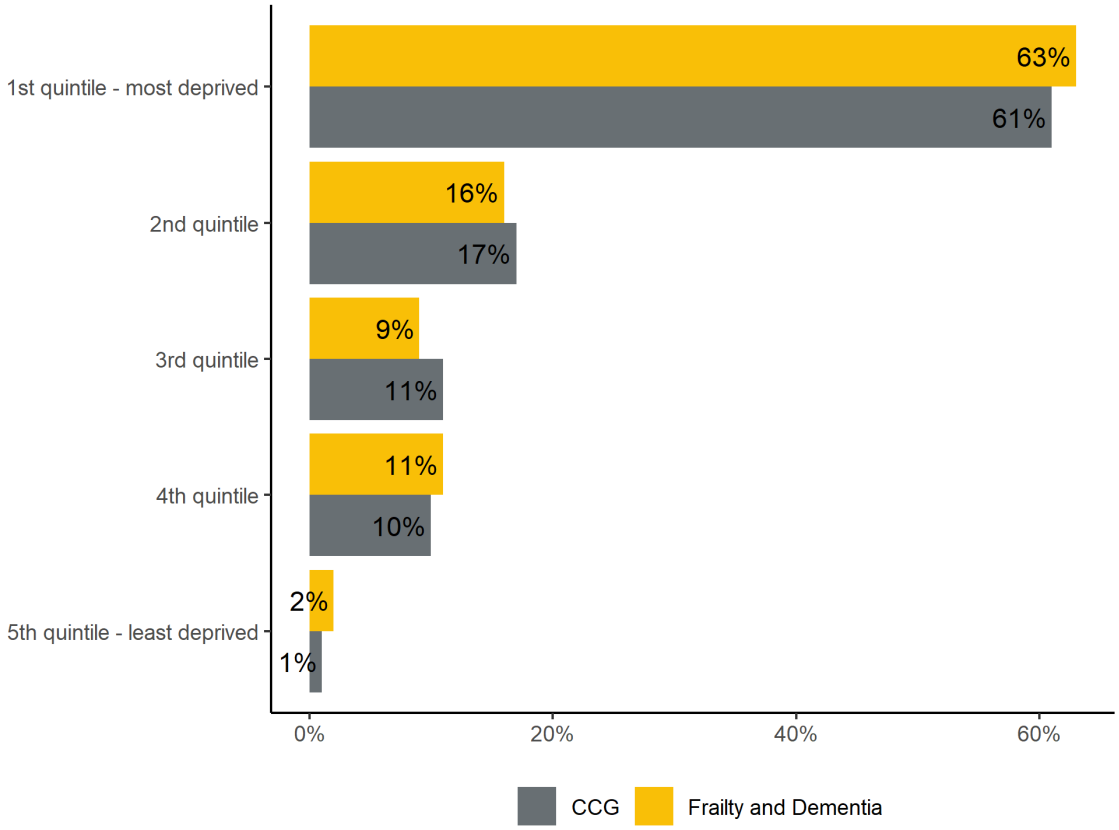
Patient Characteristics - Deprivation

Those with Frailty and Dementia are more likely to reside in areas of higher deprivation. 63% of the segment live in the most 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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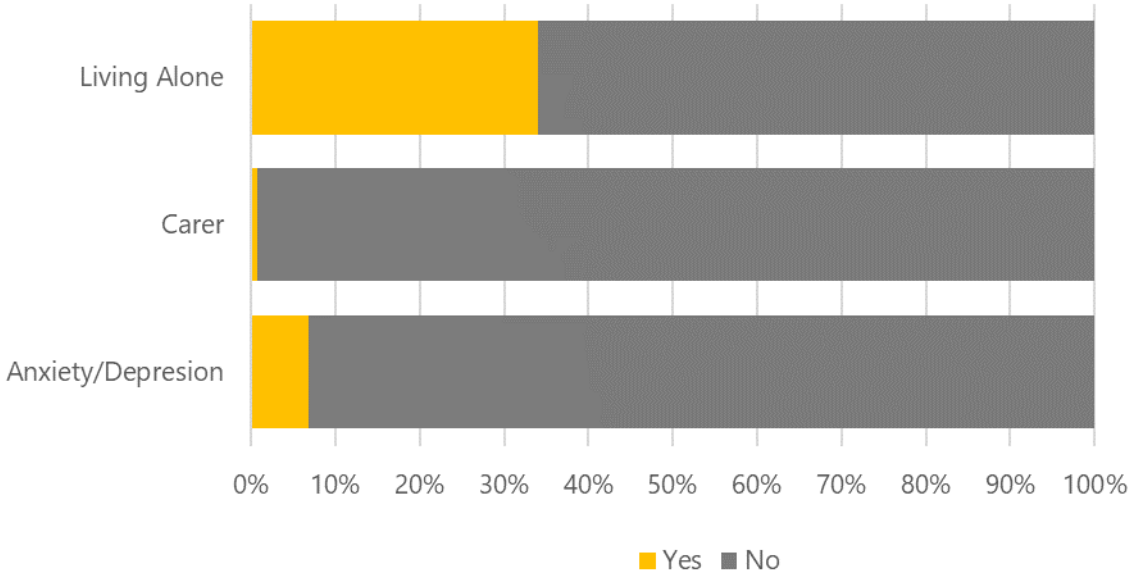
Patient Characteristics - Living Arrangements

A third of individuals in the Frailty and Dementia segment are living alone. A small number were found to have caring responsibilities and 7% were found to be suffering from Anxiety or Depression in the last two years.



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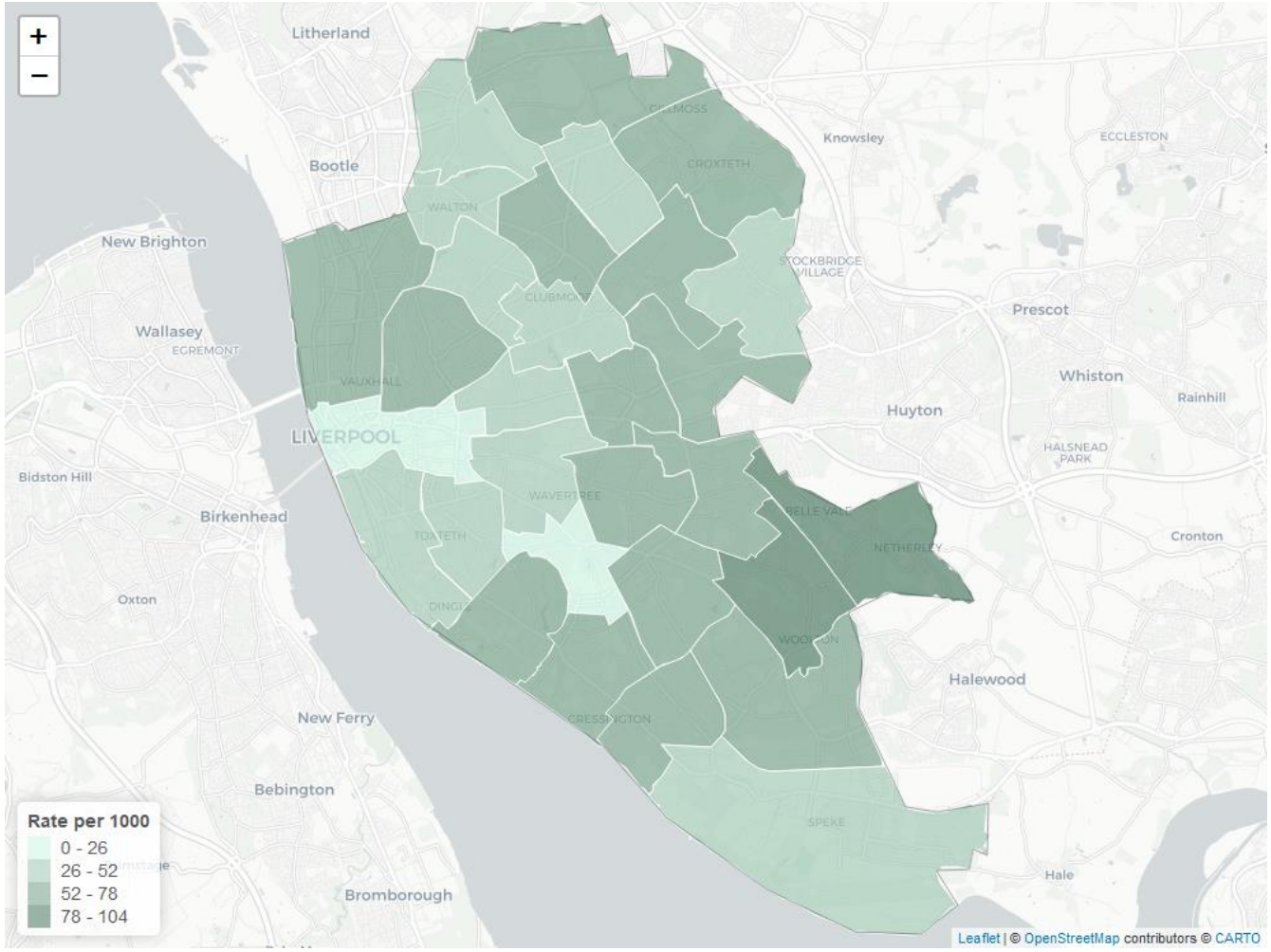
Patient Characteristics - Geography

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:

- Belle Vale
- Woolton
- Allerton and Hunts Cross

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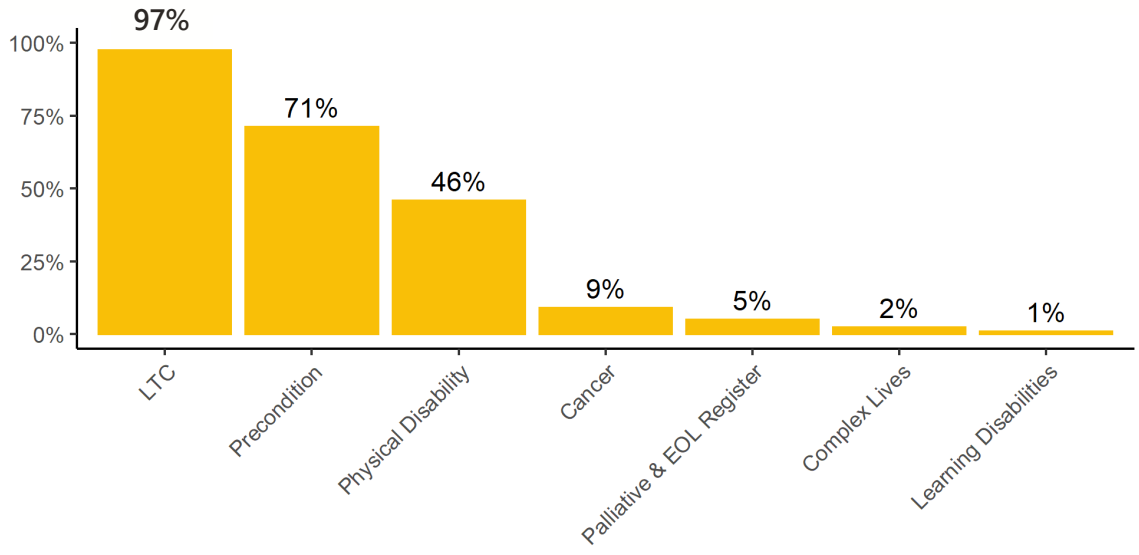
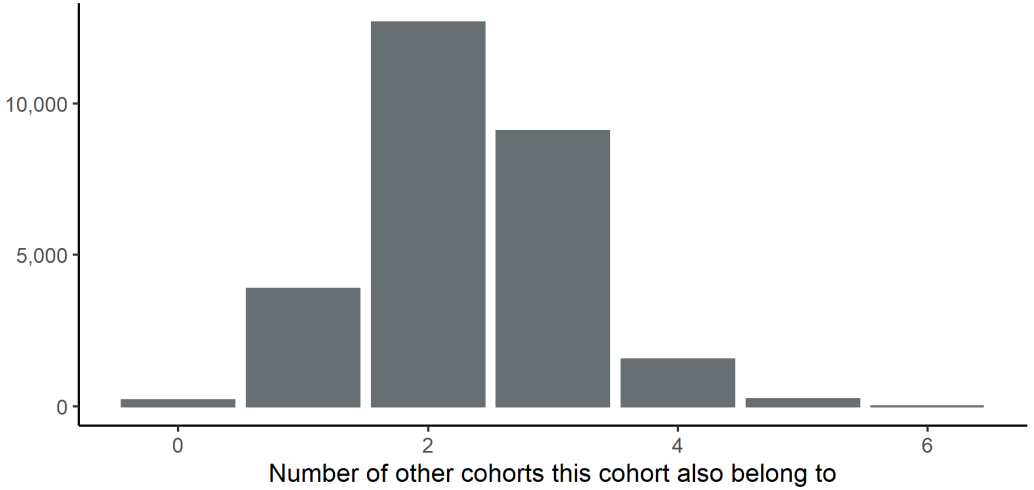
Health Care Conditions - Other segments

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 2.3 segments.





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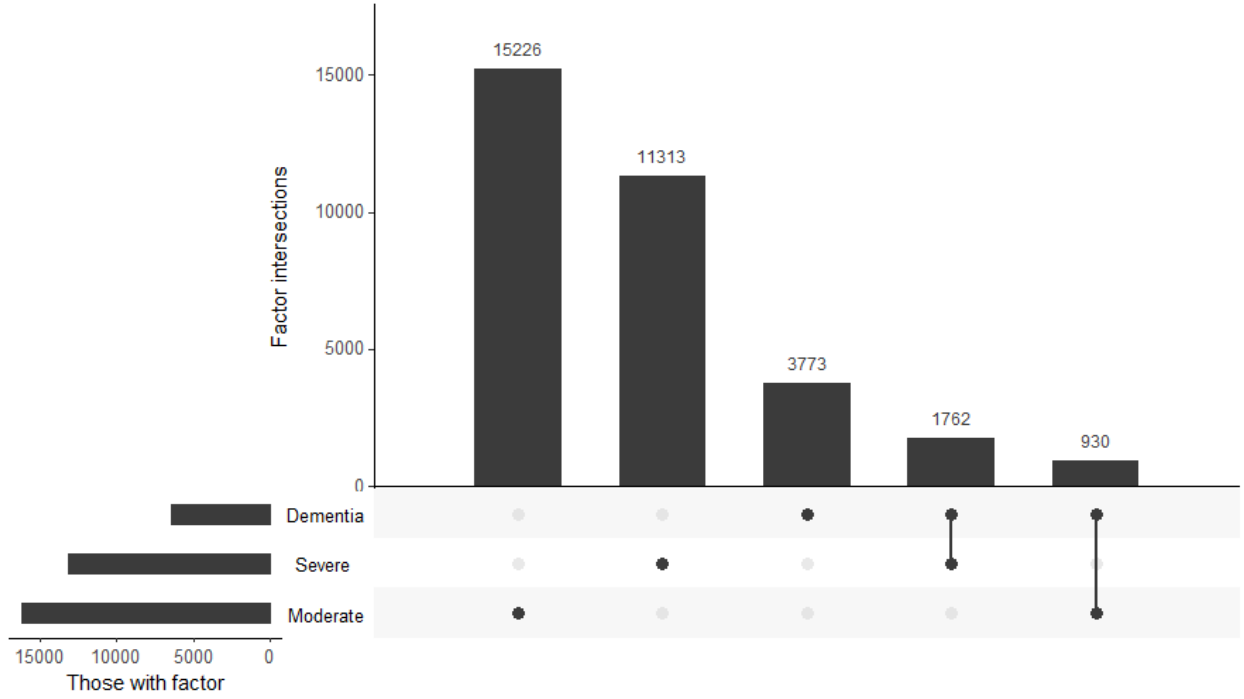
Patient Characteristics - Factors

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 82% of those in the segment were prescribed these at least once, and where prescribed there were on average 2.6 different types.

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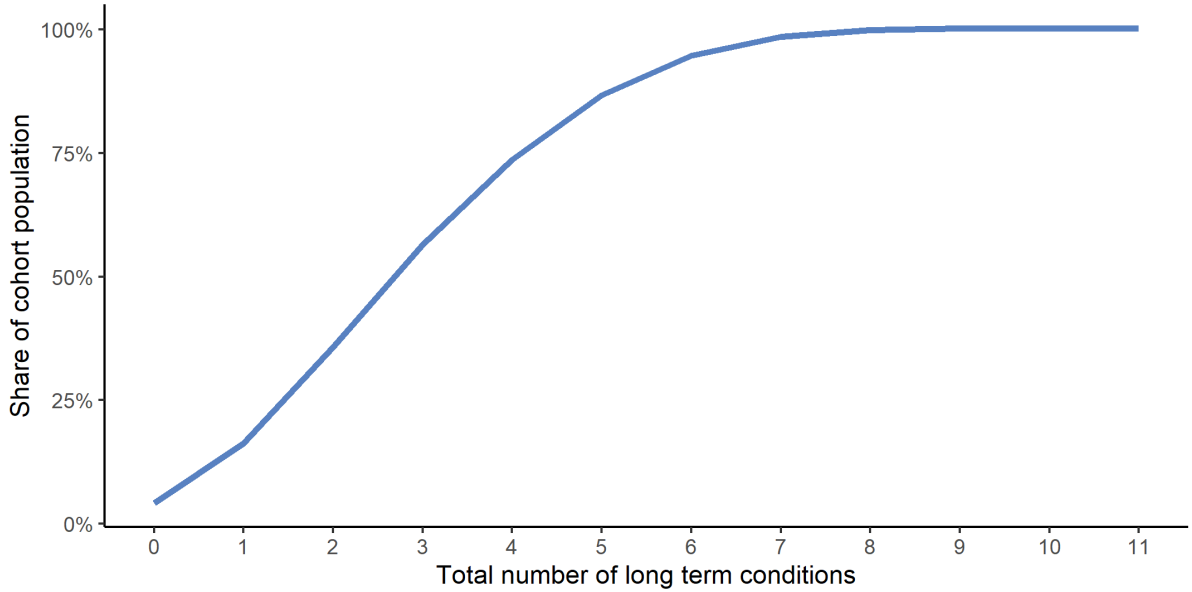
Health Care Conditions of Interest

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 3.3 of the specified long term health conditions. Only 4% 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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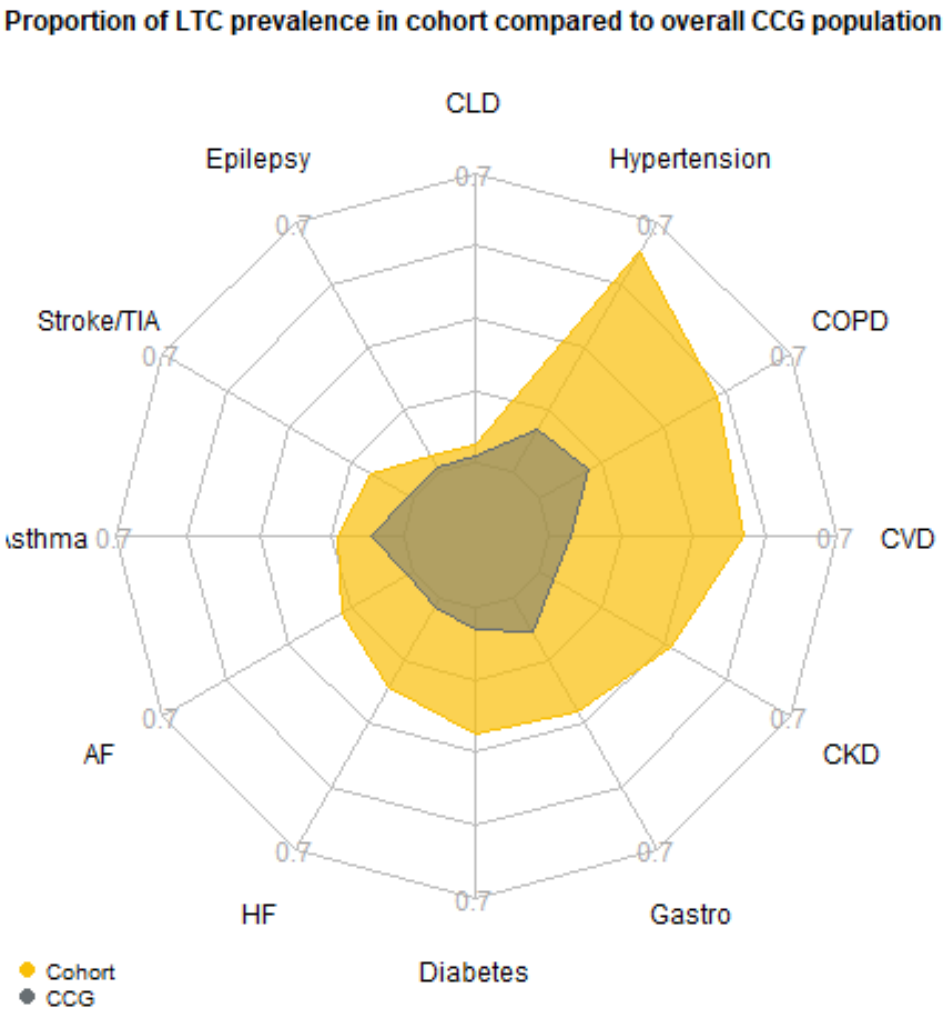
Health Care Conditions - LTCs in the Population

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 0.7 represents prevalence of 70% 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 **0.8** 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 **40%** of people in the Frailty and Dementia segment attend an A&E service. For the total population the same figure is **20%**.

When attending A&E services the average cost per attendance is **£174** for those in the Frailty and Dementia segment. This is **22%** 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 *Circulation / chest* 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 **0.5** 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.

28% of people in Frailty and Dementia segment have an emergency admission in a year. For the total population the same figure is lower at **7%**.

The average emergency admission cost is **£3,041** for Frailty and Dementia compared to **£2,006** 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 **24%** of people in Frailty and Dementia segment have a planned admission. For the total population the same figure is **6%**. For outpatient attendances **80%** of those in the Frailty and Dementia segment attended at least one outpatient appointment in a year compared to **33%** for the total population.

For elective planned care the Frailty and Dementia segment are often admitted with a reason of *Urological and Male Reproductive System Procedures and Disorders*. In daycase admissions their main reason for admission is related to *Digestive System Endoscopic Procedures*. For outpatients their most common clinical specialty is *Ophthalmology* (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 **1.5** mental health contacts per person, per year. This is much higher than the total population who on average have **0.4** contacts with mental health services per year.

14% 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 **4%**.

When those in the Frailty and Dementia segment are in contact with mental health this most commonly involves contacts with *General Psychiatry Service*.

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 **13.0** contacts with community services per person, per year. This is higher than the total population who, on the same basis, have **1.5**.

57% of people in the Frailty and Dementia segment are in contact with community services in a year. For the total population the figure is **17%**.

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 **0.19** of the Frailty and Dementia segment known to social services in the last year. More than the total population where the same figure is **0.03**. 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	0.8	0.3	2.3	£174	£144	21%	39%	20%
MIU/Other	0.0	0.0	0.6	£79	£79	0%	0%	1%
Walk In Centre	0.0001	0.0005	0.3	-	-	-	0.0%	0.0%
Total: A&E Attendance	**0.8**	**0.3**	**2.3**	**£174**	**£142**	**22%**	**40%**	**20%**
Emergency Admission	**0.5**	**0.1**	**4.9**	**£3,041**	**£2,006**	**52%**	**28%**	**7%**
Planned Inpatient Care								
Daycase	0.4	0.1	4.4	£720	£761	-5%	22%	5%
Elective	0.0	0.0	4.2	£5,306	£4,492	18%	4%	1%
Total: Planned Inpatient Admission	**0.4**	**0.1**	**4.4**	**£1,218**	**£1,179**	**3%**	**24%**	**6%**
Outpatient Attendances								
First	1.5	0.4	3.3	£180	£178	1%	60%	24%
Follow-up	3.9	1.1	3.7	£105	£106	-1%	71%	25%
Total: Outpatient Attendances	**5.4**	**1.5**	**3.6**	**£128**	**£131**	**-2%**	**80%**	**33%**
Mental Health Contact	**1.5**	**0.4**	**3.5**	**-**	**-**	**-**	**14%**	**4%**
Community Contact	**13.0**	**1.5**	**8.6**	**-**	**-**	**-**	**57%**	**17%**
Social Services (known to)	**0.2**	**0.0**	**7.2**	**-**	**-**	**-**	**19%**	**3%**

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. Vitamin D
5. Angiotensin-Converting Enzyme Inhibitors
6. Non-opioid analgesics and compound prepa
7. Calcium-channel blockers
8. Non-Opioid Analgesics And Compound Prep
9. Drugs used in Megaloblastic Anaemias
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