



**System P**

Community and Mental Health Services



# Complex Lives Patient Cohort: NHS Knowsley 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*

## 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](mailto:Andrea.Astbury@liverpoolccg.nhs.uk) [Shahina.Rashid@nhs.net](mailto:Shahina.Rashid@nhs.net)

# 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 Knowsley CCG is 100%.

# Practice Sign Up

## Practices with a signed Data Sharing Agreement

N83009 WINGATE MEDICAL CENTRE  
N83013 THE HEALTH CENTRE SURGERY  
N83014 DINAS LANE MEDICAL CENTRE  
N83015 BLUEBELL LANE SURGERY  
N83018 STOCKBRIDGE VILLAGE HC  
N83024 PARK HOUSE MEDICAL CENTRE  
N83025 CORNERWAYS MEDICAL CENTRE  
N83028 ASTON HEALTHCARE LIMITED  
N83030 DR M SUARES' PRACTICE  
N83031 ROSEHEATH SURGERY  
N83032 MILLBROOK MEDICAL CENTRE  
N83033 ST. LAURENCE'S MEDICAL CENTRE  
N83043 LONGVIEW MEDICAL CENTRE  
N83047 TARBOCK MEDICAL CENTRE  
N83055 TRENTHAM MEDICAL CENTRE  
N83601 THE MACMILLAN SURGERY  
N83603 PRESCOT MEDICAL CENTRE  
N83605 HOLLIES MEDICAL CENTRE  
N83608 DR MAASSARANI & PARTNERS  
N83609 CEDAR CROSS MEDICAL CENTRE  
N83610 COLBY MEDICAL CENTRE  
N83619 ROBY MEDICAL CENTRE  
N83621 HILLSIDE HOUSE SURGERY  
N83622 PRIMROSE MEDICAL PRACTICE  
N83633 NUTGROVE VILLA SURGERY

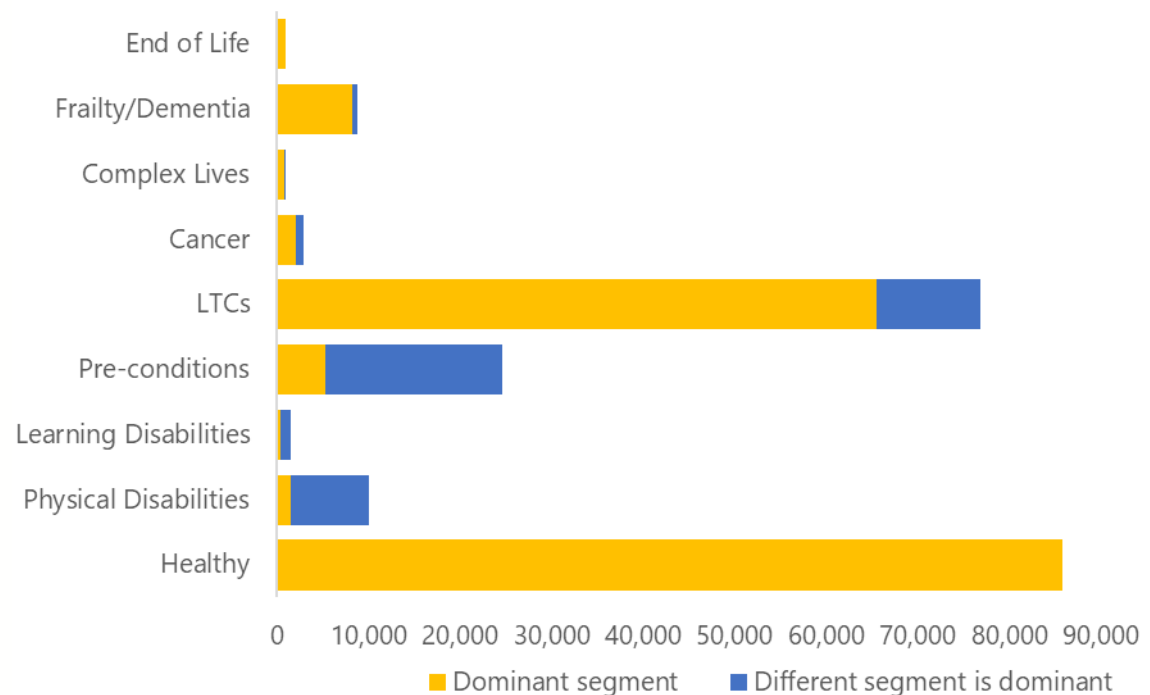
## Practices without a signed Data Sharing Agreement

None

# 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 Complex Lives 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 Complex Lives segment defined

People are defined as belonging to the Complex Lives if they have:



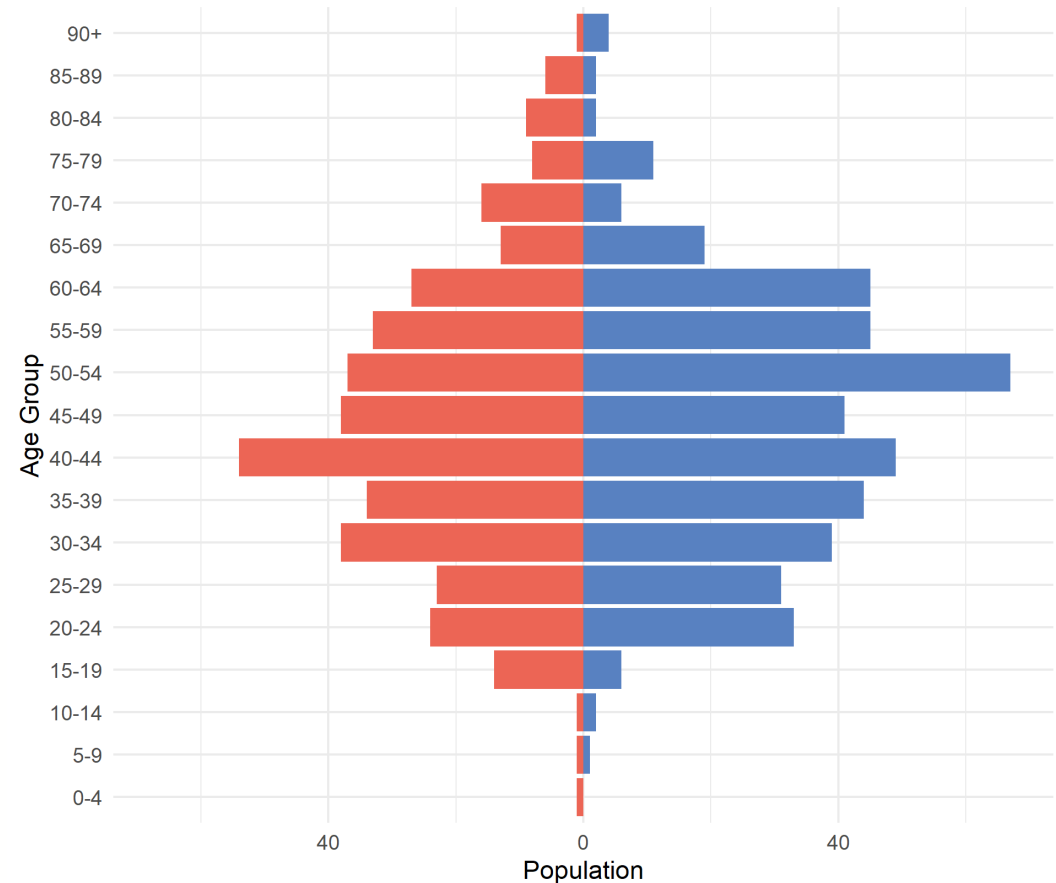
In NHS Knowsley CCG 825 individuals (0.5% of the population) were identified as belonging to the Complex Lives segment. In this pack we describe the characteristics of people in this segment, before moving on to describe their other healthcare issues and how they use services.

Through existing data it is only possible to detect small amounts of those who have disclosed domestic abuse or who have a history of being looked after.

# Patient Characteristics – Age and Gender

For the Complex Lives segment the mean average age of these individuals is 46 (interquartile range from 34 to 57).

Gender splits within the segment are 54% male and 46% female.

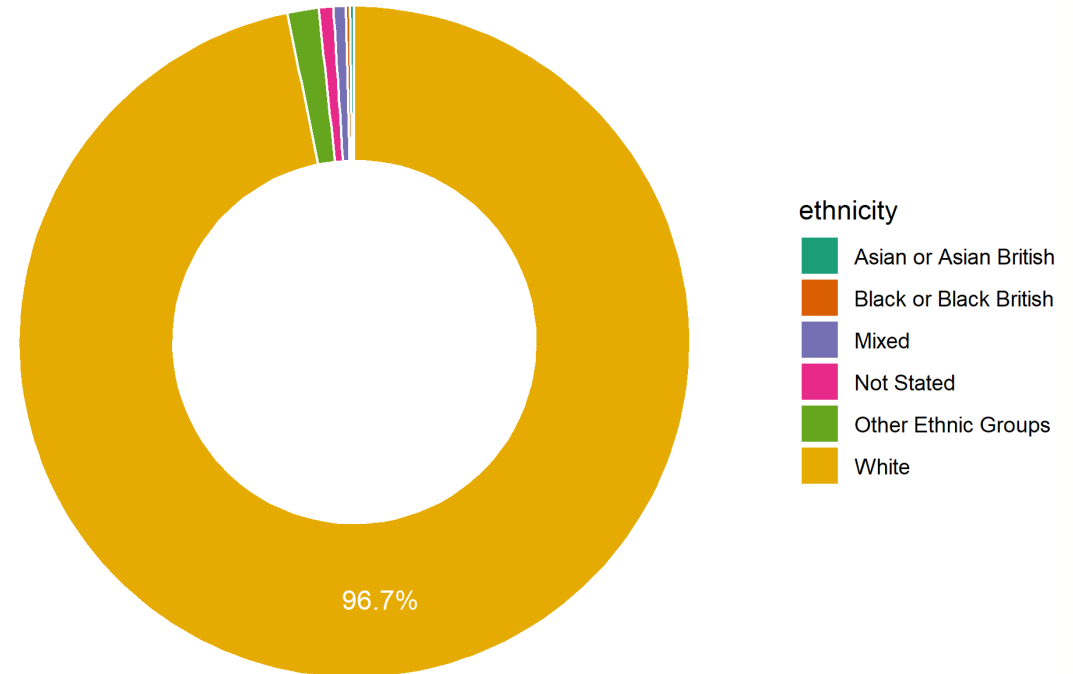


## Patient Characteristics - Ethnicity

97% of people in the Complex Lives segment class their ethnicity as White.

The remaining 3% class themselves as one of the ethnic minority groups.

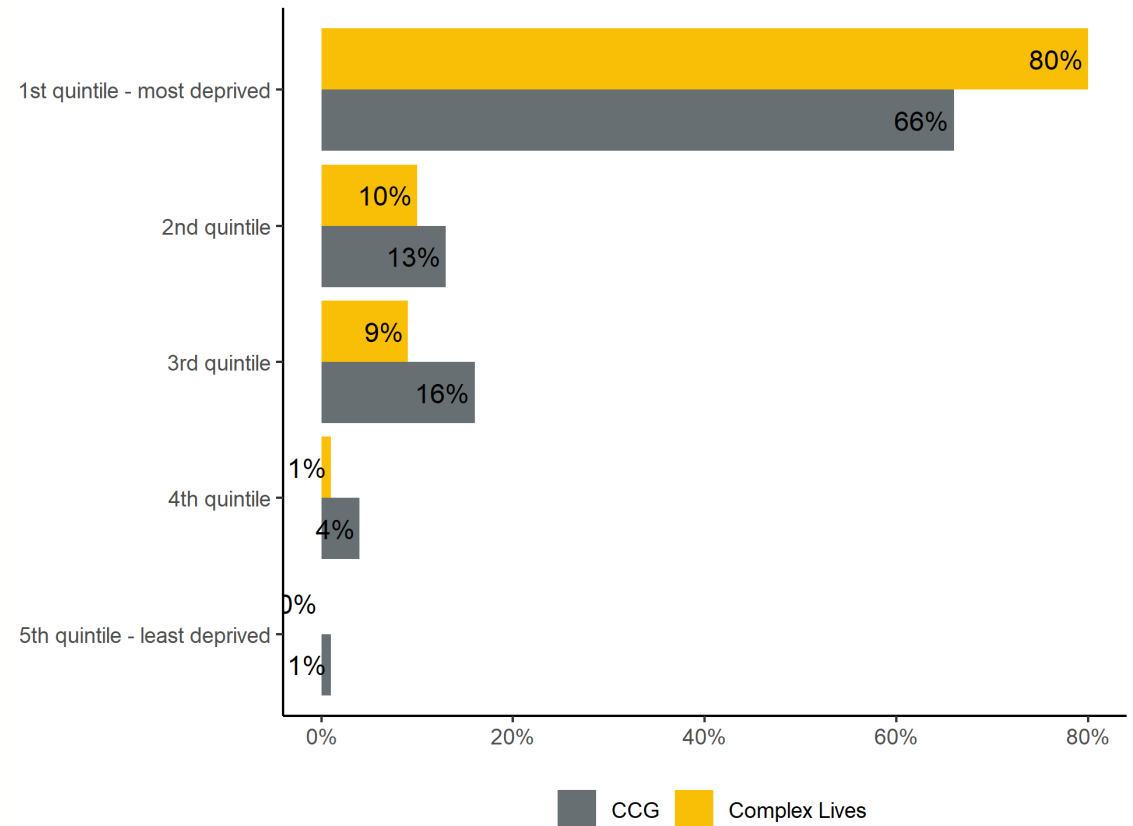
A small number did not state their ethnicity.





# Patient Characteristics - Deprivation

Those with Complex Lives are more likely to reside in areas of higher deprivation. 80% 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

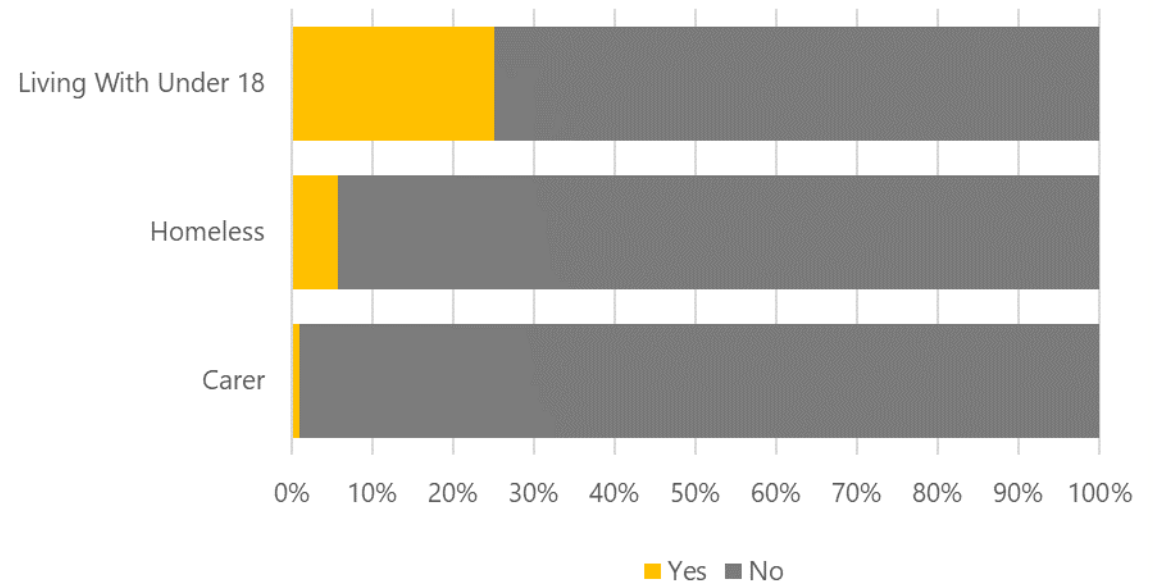
# Patient Characteristics - Living Arrangements

Those in the Complex Lives segment are found to be living with, on average, 1.6 other people. Therefore, beyond the Complex Lives individuals already identified, an additional estimated 1,299 people are also affected by Complex Lives. A number of these will be children.

For the Complex Lives segment 190 people (25%) are identified as living in a household with someone under 18.

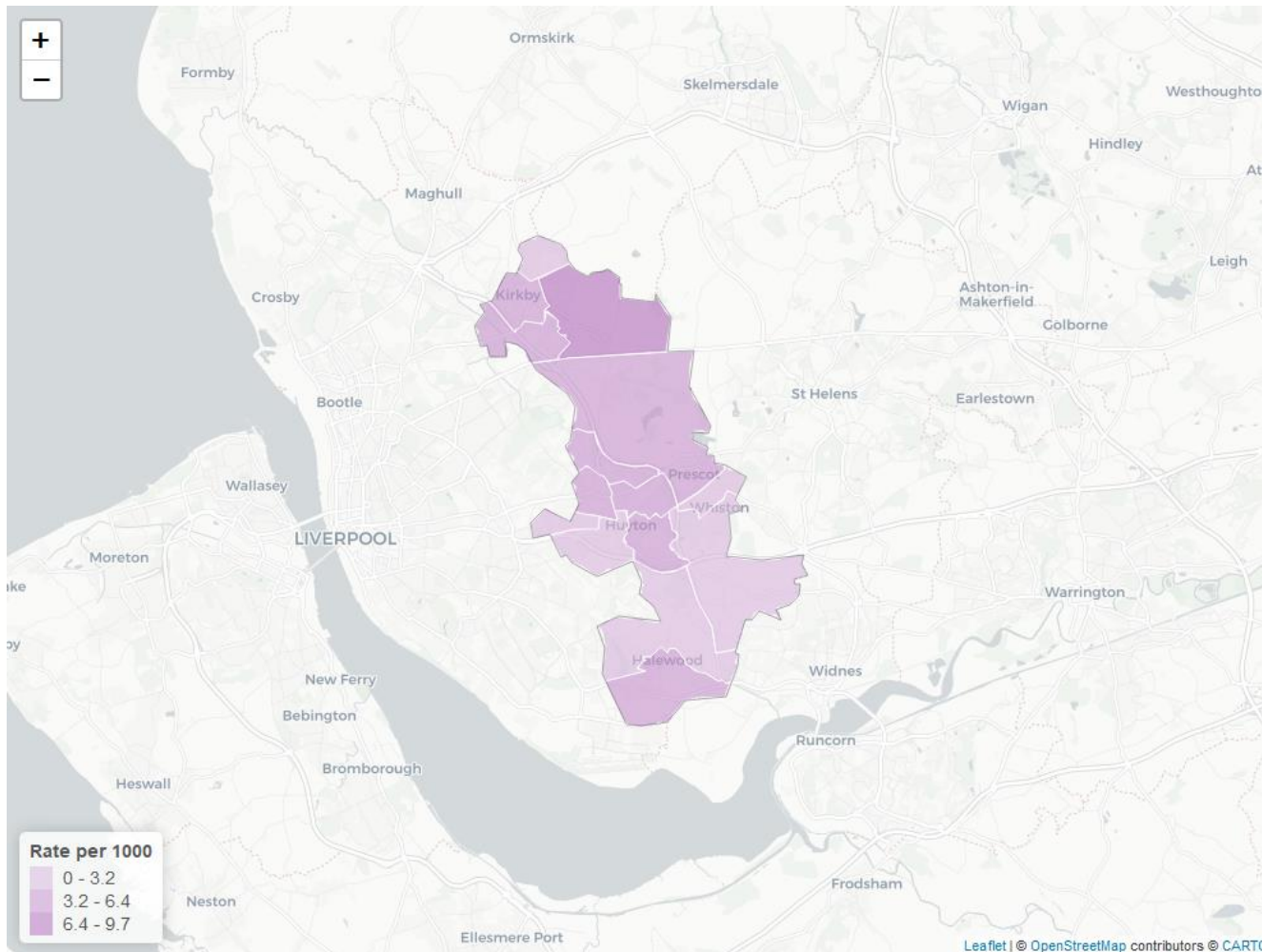
6% in the segment have experienced homelessness in the last 2 years and 1% have caring responsibilities.

3 people were found with a status of asylum seeker.



## Patient Characteristics - Geography

The map shows, for wards within the CCG, the rate of Complex Lives individuals per 1,000 population.



Areas with some of the highest density for Complex Lives are:

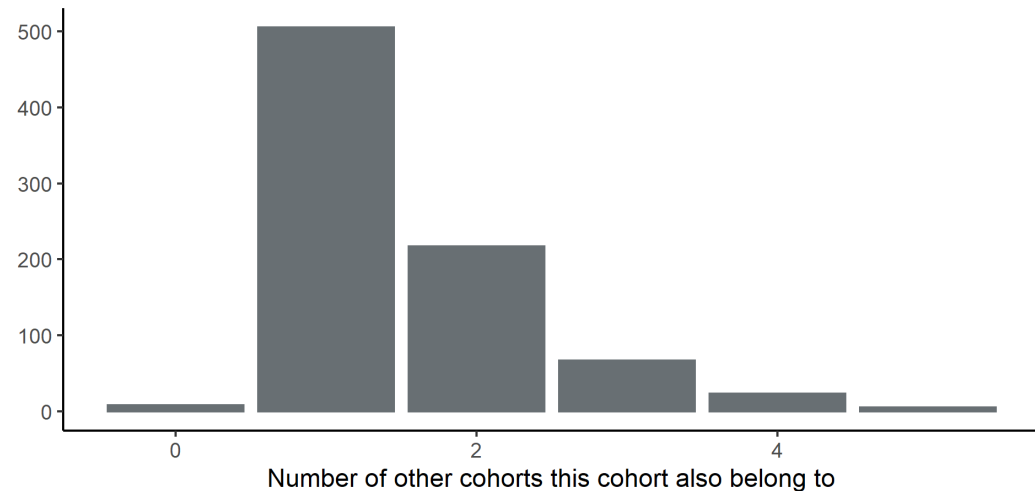
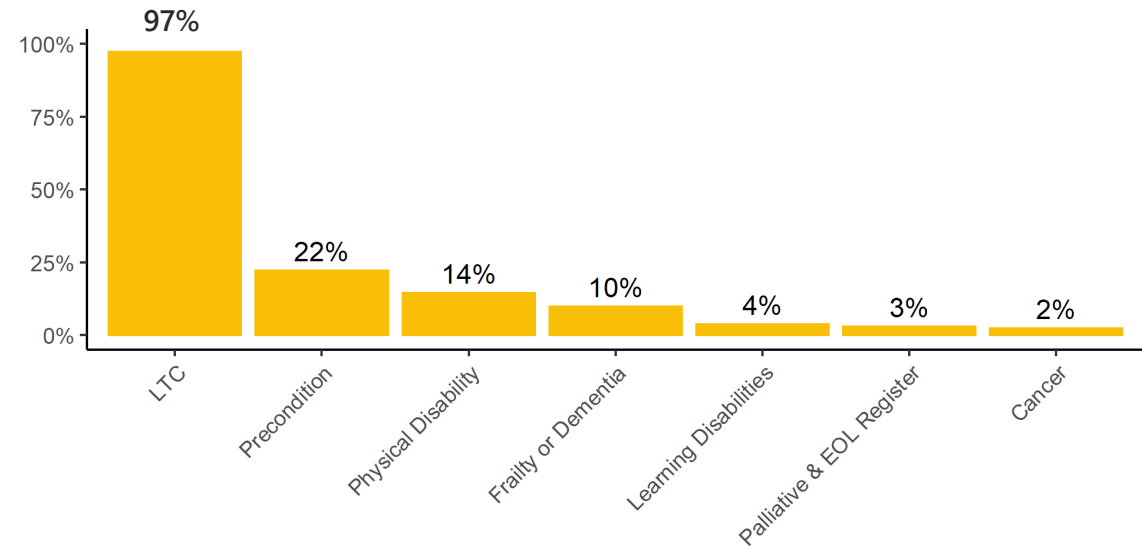
- Northwood
- Whitefield
- Stockbridge

## Health Care Conditions - other segments

Those in the Complex Lives segment also fall into other, sometimes multiple other, segments.

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

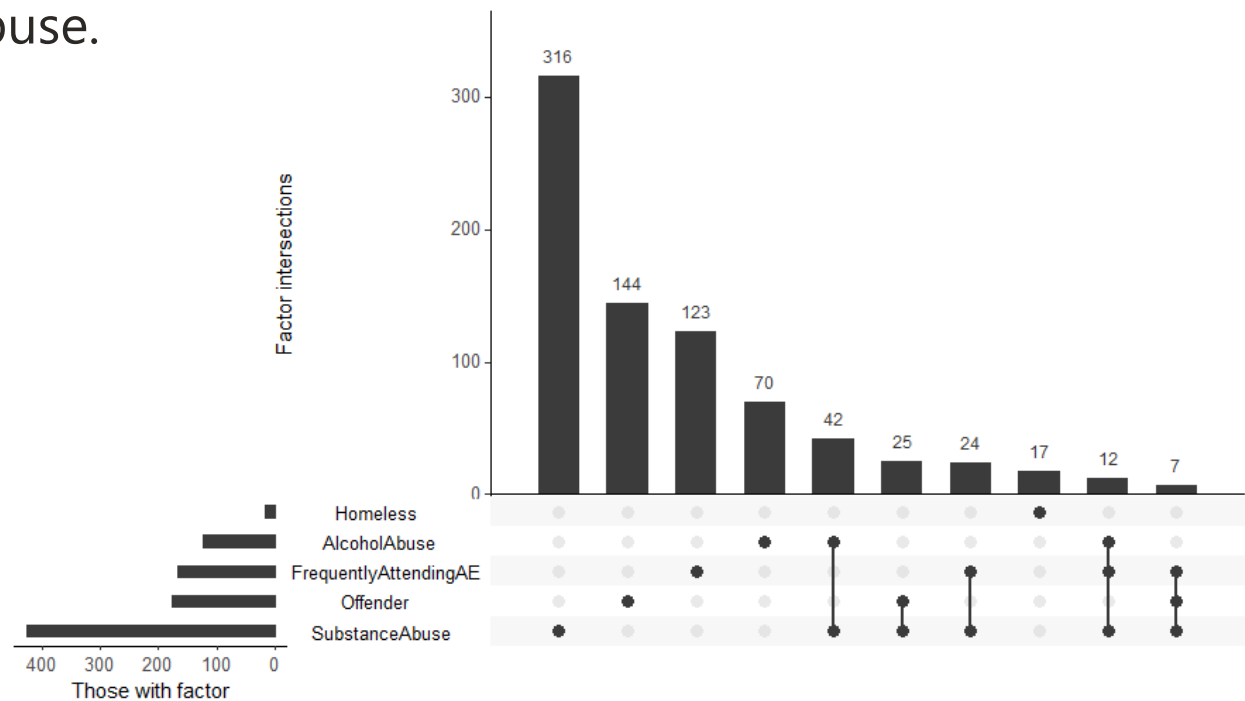
On average, those in the segment fall into an additional 1.5 segments.



# Patient Characteristics - Factors

The definition for a individual to be assigned to the Complex Lives segment relates to certain factors about that person. For those in the Complex Lives segment the largest factor is substance abuse.

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.

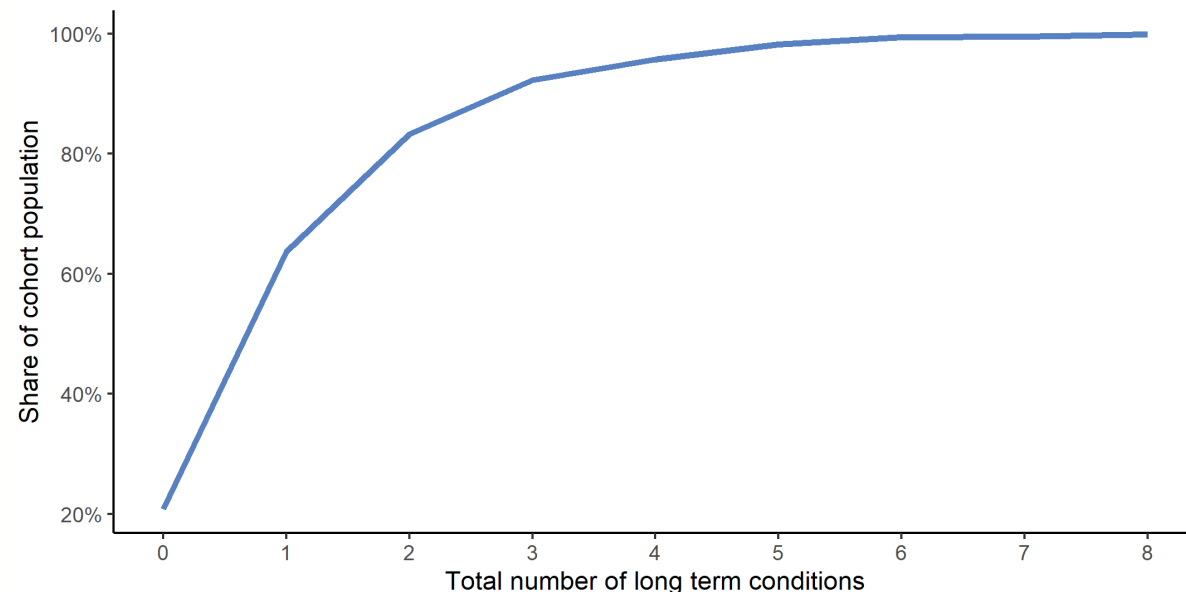


Although not a factor in assigning individuals to Complex Lives, there was interest in identifying those at risk of self harm. 4% of those in the segment were identified as being at risk of self harm. Compared to 0.2% in the total population.

# Health Care Conditions of Interest

Complex Lives 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 1.5 of the specified long term health conditions. Nearly a fifth of the segment do not have one of these specific LTCs at all.

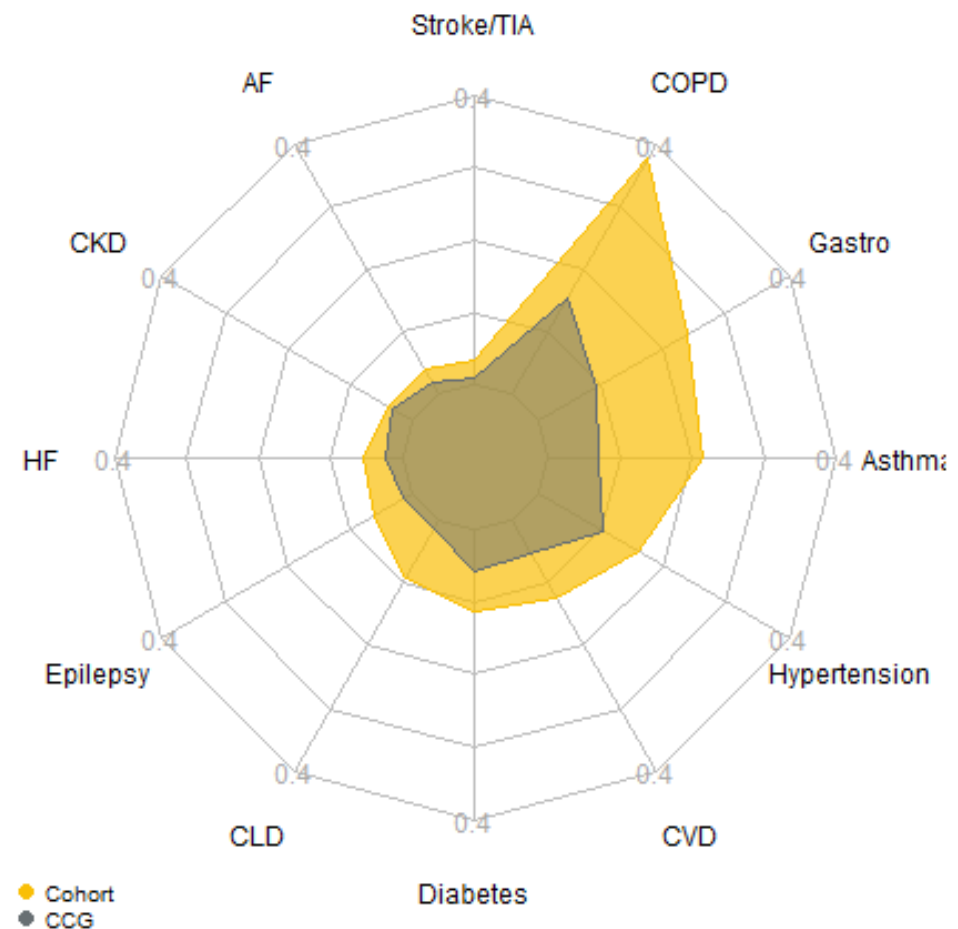
The Long Term Condition segment is defined with more extensive list of conditions.

# Health Care Conditions - LTCs in the Population

For the specified long term conditions a comparison of prevalence rates is made between those in the Complex Lives 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 0.4 represents prevalence of 40% of people.

Proportion of LTC prevalence in cohort compared to overall CCG population



## Health and Care Use – A&E Services

Those in the Complex Lives segment attend A&E services on average **3.3** times per person, per year. This is much higher than the total population who attend A&E services **0.4** 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 **65%** of people in the Complex Lives segment attend an A&E service. For the total population the same figure is **24%**.

When attending A&E services the average cost per attendance is **£156** for those in the Complex Lives segment. This is **7%** 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 Complex Lives segment common reasons for attending A&E relate to *Circulation / chest or Gastrointestinal*.



## Health and Care Use – Emergency Admissions

On average those in the Complex Lives segment have **1.4** 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.

**47%** of people in Complex Lives segment have an emergency admission in a year. For the total population the same figure is lower at **8%**.

The average emergency admission cost is **£2,057** for Complex Lives compared to **£1,931** for the total population.

When those in the Complex Lives segment are admitted as an emergency common reasons for admission relate to *Digestive System Disorders* and *Poisoning Toxic Effects, Special Examinations, Screening and Other Healthcare Contacts*.

## Health and Care Use – Planned Care

Those in the Complex Lives 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 **17%** of people in Complex Lives segment have a planned admission. For the total population the same figure is **8%**. For outpatient attendances **63%** of those in the Complex Lives segment attended at least one outpatient appointment in a year compared to **36%** for the total population.

For elective planned care the Complex Lives 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 *Gastroenterology* (first attendances) and *Gastroenterology* (follow-up attendances).

## Health and Care Use – Mental Health

On average those in the Complex Lives segment have **9.1** 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.

**63%** of people in the Complex Lives 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 Complex Lives segment are in contact with mental health this most commonly involves contacts with *Crisis Resolution Team/Home Treatment Service* or *Community Mental Health Team - Functional* teams.

## Health and Care Use – Community Services

On average those in the Complex Lives segment have **6.8** contacts with community services per person, per year. This is higher than the total population who, on the same basis, have **1.6**.

**45%** of people in the Complex Lives segment are in contact with community services in a year. For the total population the figure is **30%**.

The most used community service for the Complex Lives segment is *District Nursing Service*.

## Health and Care Use – Social Care

From available data there were on average **0.12** of the Complex Lives segment known to social services in the last year. More than the total population where the same figure is **0.01**. 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.

## Health and Care Use – Summary Tables

	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
<b>A&amp;E Attendance</b>								
Emergency Department	3.2	0.4	8.4	£157	£150	5%	64%	23%
MIU/Other	0.1	0.0	3.0	£79	£79	0%	4%	2%
Walk In Centre	0.0073	0.0021	3.5	-	-	-	0.7%	0.2%
<b>Total: A&amp;E Attendance</b>	<b>3.3</b>	<b>0.4</b>	<b>8.1</b>	<b>£156</b>	<b>£146</b>	<b>7%</b>	<b>65%</b>	<b>24%</b>
<b>Emergency Admission</b>	<b>1.4</b>	<b>0.1</b>	<b>11.8</b>	<b>£2,057</b>	<b>£1,931</b>	<b>7%</b>	<b>47%</b>	<b>8%</b>
<b>Planned Inpatient Care</b>								
Daycase	0.3	0.1	2.5	£717	£789	-9%	16%	7%
Elective	0.0	0.0	2.5	£4,235	£4,345	-3%	3%	1%
<b>Total: Planned Inpatient Admission</b>	<b>0.3</b>	<b>0.1</b>	<b>2.5</b>	<b>£1,105</b>	<b>£1,211</b>	<b>-9%</b>	<b>17%</b>	<b>8%</b>
<b>Outpatient Attendances</b>								
First	1.4	0.5	3.0	£187	£177	6%	51%	25%
Follow-up	2.4	1.1	2.3	£97	£105	-7%	48%	28%
<b>Total: Outpatient Attendances</b>	<b>3.8</b>	<b>1.5</b>	<b>2.5</b>	<b>£137</b>	<b>£131</b>	<b>4%</b>	<b>63%</b>	<b>36%</b>
<b>Mental Health Contact</b>	<b>9.1</b>	<b>0.4</b>	<b>22.3</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>63%</b>	<b>4%</b>
<b>Community Contact</b>	<b>6.8</b>	<b>1.6</b>	<b>4.2</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>45%</b>	<b>30%</b>
<b>Social Services (known to)</b>	<b>0.1</b>	<b>0.0</b>	<b>10.0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>12%</b>	<b>1%</b>

# Primary Care Prescribing

From the prescribing data available for primary care the top 10 drugs types prescribed to those in the Complex Lives segment are:

- 1 Proton pump inhibitors
- 2 Selective Serotonin Re-Uptake Inhibitors
- 3 Other antidepressant drugs
- 4 Single Substances
- 5 Non-Opioid Analgesics And Compound Prep
- 6 Compound bronchodilator preparations
- 7 Control Of Epilepsy
- 8 Beta-Adrenoceptor Blocking Drugs
- 9 Corticosteroids (Respiratory)
- 10 Hypnotics

## 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 15<sup>th</sup> 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

