

Seacroft LCP Health and Wellbeing profile 2018

Half of the Seacroft LCP population are living in the most deprived fifth of Leeds, the other half are distributed in areas of varying deprivation from high deprivation through to a small proportion in the least deprived parts of the city. The age structure is quite different to Leeds with a fewer young adults, and slightly more children (the 30-39 year age group is the largest in the LCP).

The population of Seacroft LCP has seen quite a large increase in the proportion of patients aged 0-9 years old, while the least deprived LCP populations have seen much lower increases. The elderly population of Seacroft has become slightly more prevalent too, but many LCPs have seen larger rises – especially those with the least deprivation.

Asthma in children is the highest rate in the city (with some of the highest actual counts of patients too) and has been there for most of the record period. Child obesity though is average for the city having improved in recent years.

Ethnicity recording by GPs has been improving steadily; fewer patients have no ethnicity record and accuracy is improving which contributes to increases in ethnic categories. The Seacroft LCP population is predominantly 'White background', this is also the fastest rising category but the 'Asian Background' category has grown significantly too.

Smoking in LCP populations is very strongly linked to deprivation but the good news is the most deprived LCPs that have the highest rates are showing slightly faster declines than the least deprived – smoking cessation efforts are focussed in deprived parts of the city. Smoking rates for this LCP are among the highest in the city, however they are falling steadily and at a faster rate than the least deprived LCPs. The majority of smokers in Seacroft are aged between 30 and 39, the next largest group is 20 to 29 year olds. Adult obesity in Seacroft is the second highest of all LCPs, and was increasing steadily until recently, the majority of obese smokers are within the 40 to 49 year old bracket and the number is rising slowly.

Diabetes, Coronary Heart Disease (CHD) and COPD rates are in line with the expected pattern relating rates with population deprivation levels; diabetes is significantly above Leeds and rising steadily, and CHD is very high but falling steadily. The COPD rate is high and rising relatively fast compared to other LCPs.

The Leeds cancer rate is rising, likely due to improvements in treatment and survival. It is rising in all LCPs, but some of the highest rates are found in the least deprived. This is thought to be due to early presentation and treatment in less deprived populations who are perhaps more likely to seek early diagnosis. Seacroft has an average rate and is rising at the same rate as Leeds.

Severe mental health issues such as bipolar disorders, paranoid schizophrenia, and manic episodes are rising slowly in all parts of the city and are generally higher in more deprived areas, Seacroft LCP has an above average rate and is following Leeds closely.

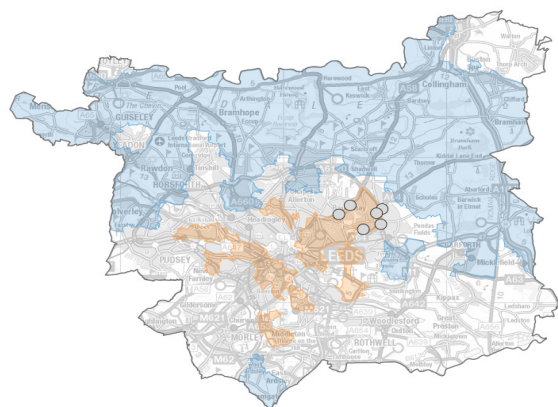
Mortality rates generally are falling across the city, and they are clearly related to deprivation, this LCP is showing average to high rates and generally following Leeds patterns.

Lastly, life expectancy. As expected, the least deprived LCPs have the longest life expectancy, there is some evidence too that the sexes are less different in life expectancy in the least deprived parts of the city. Seacroft LCP life expectancy is significantly below many other LCPs in the city but coming close to the Leeds averages.

This report focuses on health indicators for patients of the practices that comprise Seacroft LCP, because Leeds contains such variation the data for all other LCPs is provided as a backdrop.

Contents

Introduction	1
Contents	2
How to read this report	3
Summary of time series data	4-5
Age structure and deprivation compared to Leeds	6
Ethnicity change over time	7
Population change over time	8
Asthma in children	9
Obesity in children	10
Smoking (16+)	11
Obesity	12
Obese smokers	13
Diabetes	14
Coronary Heart Disease	15
Chronic Obstructive Pulmonary Disease	16
Cancer	17
Common mental health issues	18
Severe mental health issues	19
All Cause mortality (under 75s)	20
Cancer mortality (under 75s)	21
Circulatory disease mortality (under 75s)	22
Respiratory disease mortality (under 75s)	23
Life expectancy	24



This map shows the most and least deprived fifths of Leeds in orange and blue.

The populations of these practices (or branches) make up the data for this LCP: B86007, B86022, B86055 Branch, B86062, B86075 Branch, B86093, B86106. They are also shown on the map.

In this report Local Care Partnerships (LCPs) are groups of practices, **the patients registered at these practices make up the LCP populations**. In a small number of cases branches of a single practice are in more than one LCP, when this happens the practice population of the practice is allocated to the nearest branch to their home address LSOA centroid, and from there attributed to the LCP for that branch. **The definition of LCPs might be switched to a geographical footprint alternative later in 2018, an updated report will be issued should this happen.**

Much of the data in this profile is produced with the outputs of the quarterly data extraction programme run by the Public Health Intelligence Team on GP practice systems in Leeds. **Credits:** Quarterly data extraction programme data (populations, ethnicity, mental health, smoking, copd, chd, diabetes, obesity, cancer), supplied by James Womack Public Health Information Manager (Data & Systems). Life expectancy source: ONS deaths extract, GP registered populations by Richard Dixon Public Health Intelligence Manager. Mortality source: ONS and GP registered, by Richard Dixon. Child obesity source: National Child Measurement Programme. Report produced by Adam Taylor - Senior Information Analyst Adam.Taylor@leeds.gov.uk.

How to read this report

The report highlights a specific LCP throughout while displaying all others for context. Leeds is always represented by a dark grey line, and the most deprived fifth of Leeds as a dotted line.

Most deprived

2nd most deprived

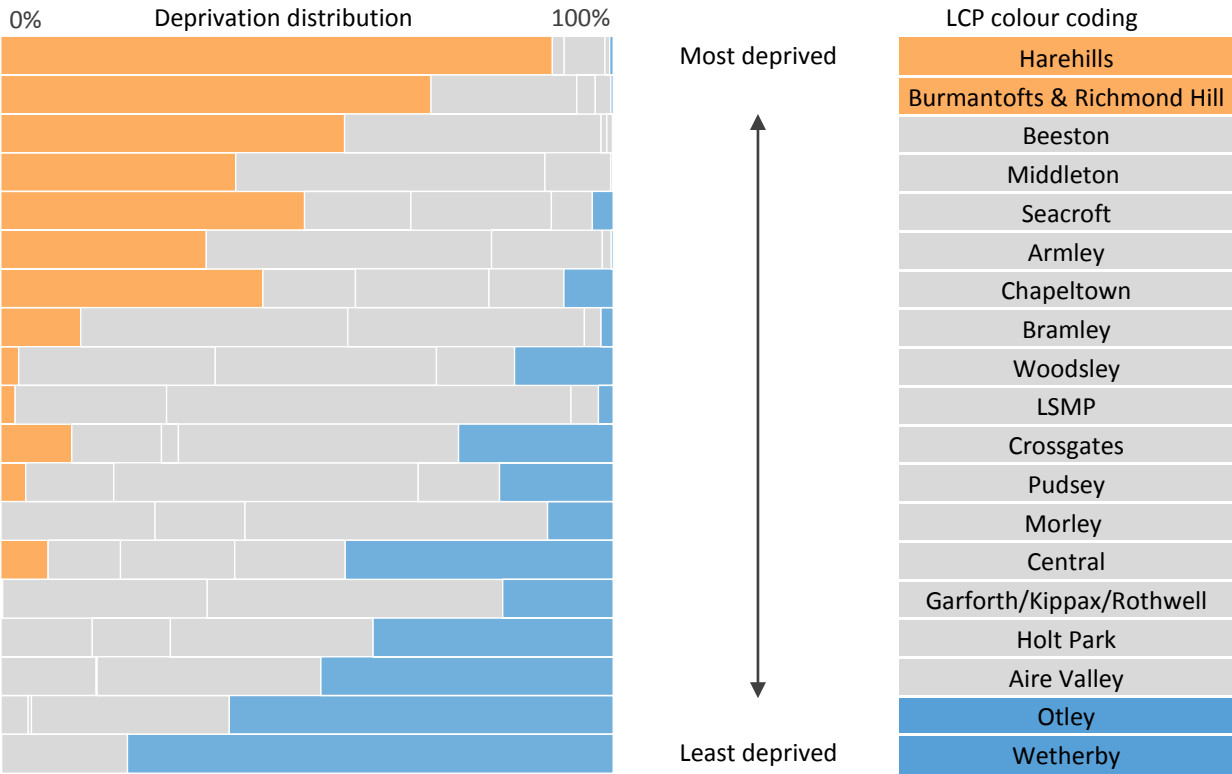
Mid range

2nd least deprived

Least deprived

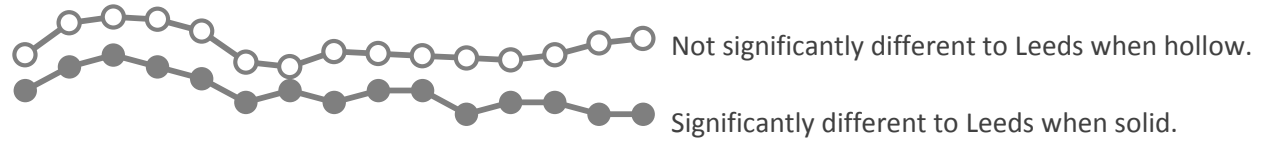
The proportions of each LCP population who live in these areas are shown below. The LCP classed as the most deprived is 'Harehills' and in the chart around 90% of its population are living in the most deprived 5th of Leeds. The least deprived LCP is 'Wetherby' where almost 80% of patients live in the least deprived fifth of the city.

Leeds is split into five areas by deprivation, from the most deprived 5th of Leeds to the least deprived 5th using these colour codes in this report:



In this way the LCPs have been ranked in order of deprivation, and in this report always appear in that order - from most to least deprived - to illustrate any relationships with deprivation.

Highlighting this LCP: This LCP is highlighted with markers, they also indicate when the LCP is significantly different to Leeds:



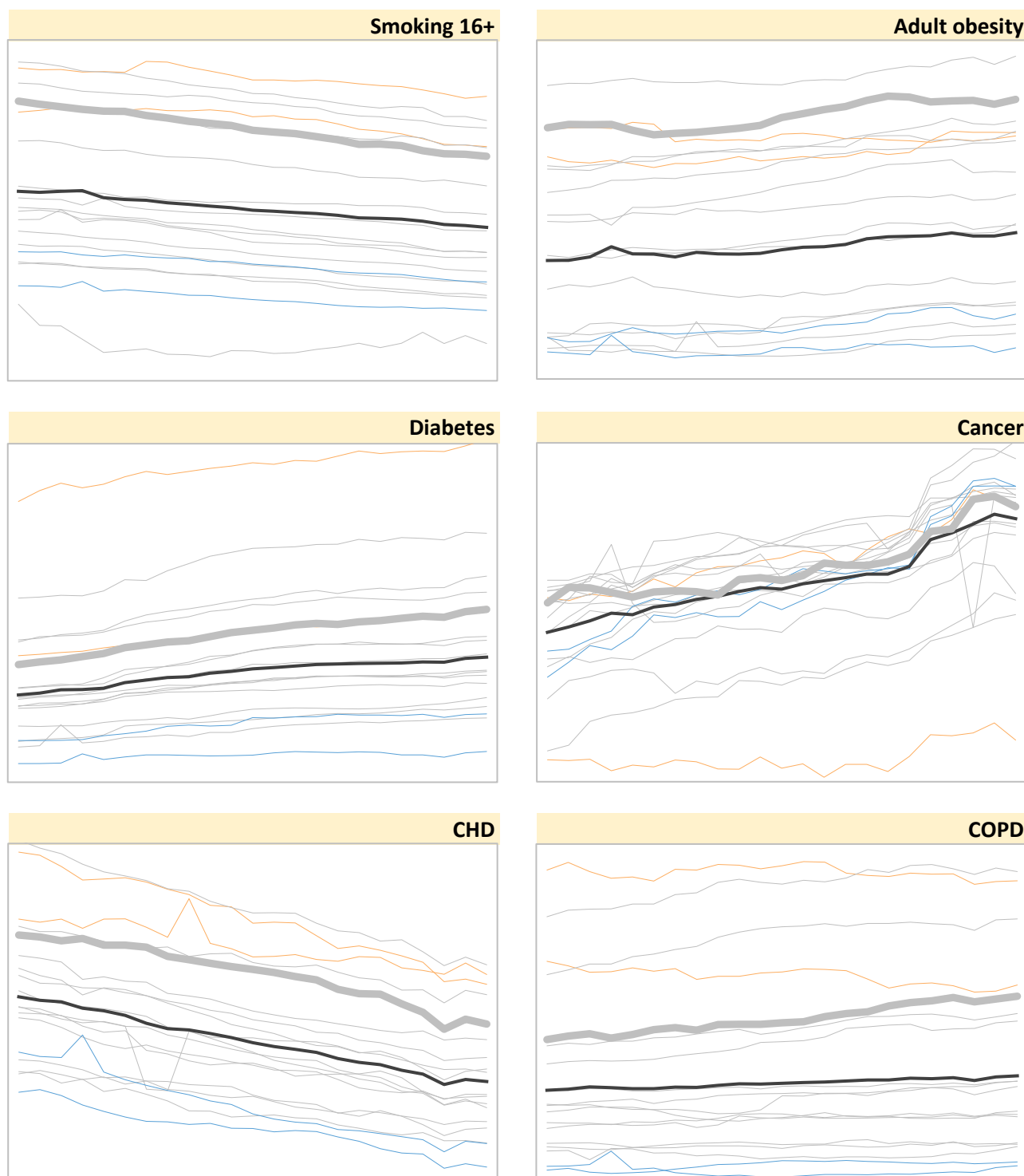
The LCP name will be highlighted in any ranking charts, the LCP will be outlined in any bar charts, and the report text will refer to the LCP.

Deprivation notes: The Index of Multiple Deprivation 2015 was weighted with mid 2015 practice populations to generate the five deprivation areas in Leeds.

Summary of data in this report

All ages unless specified

All LCPs are displayed as thin lines showing the range of data in the city. Leeds is a dark grey line. This LCP is highlighted as a thick line. All data here is age standardised rates per 100,000



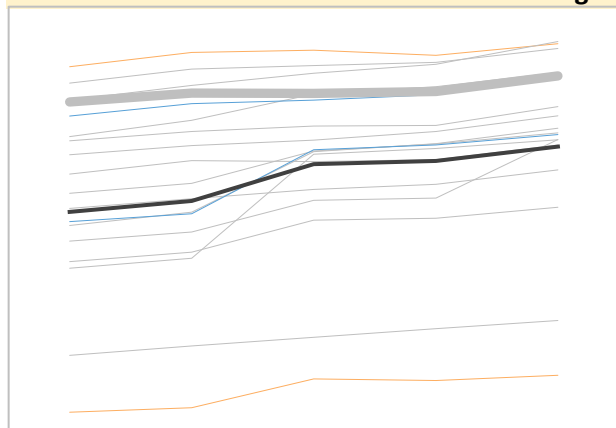
Note: Spikes and drop-outs are commonly the result of incomplete data collections affecting numerators and denominators in certain practices, sometimes due to changeovers in practice software systems.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

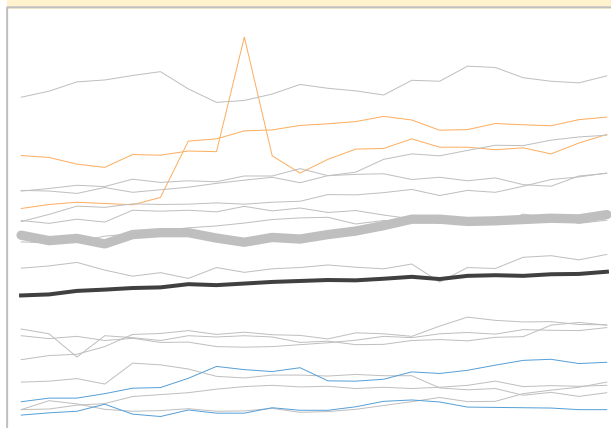
Summary of data in this report

All LCPs are displayed as thin lines showing the range of data in the city. Leeds is a dark grey line. This LCP is highlighted as a thick line. All data here is age standardised rates per 100,000

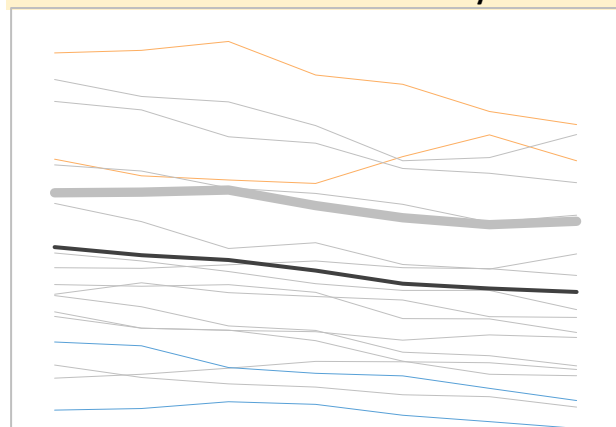
Common mental health issues - all ages



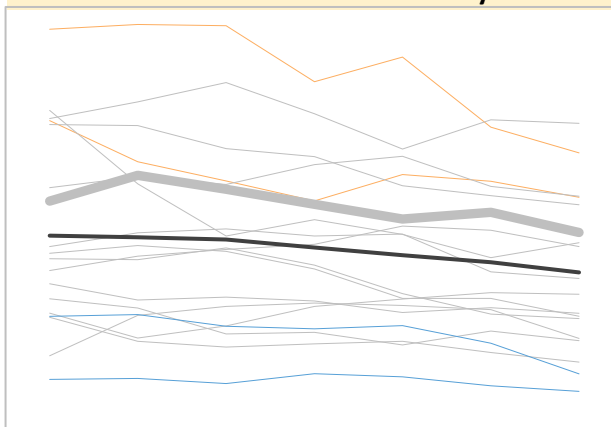
Severe mental health issues 18+



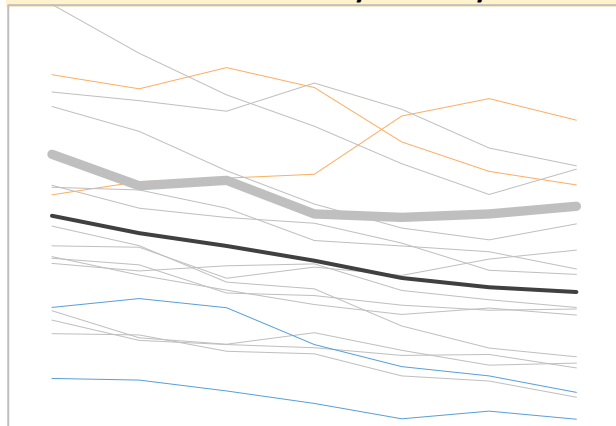
All cause mortality under 75s



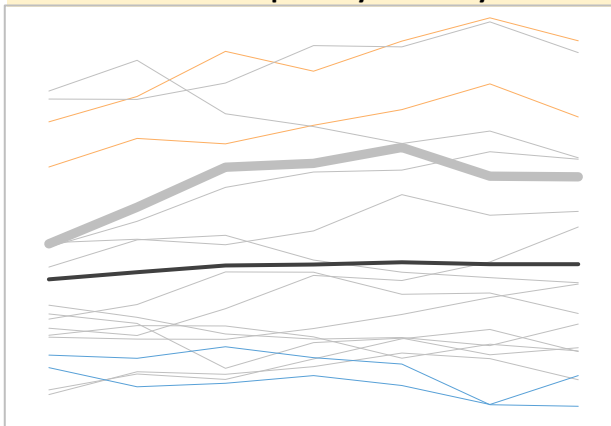
Cancer mortality under 75s



Circulatory mortality under 75s



Respiratory mortality under 75s



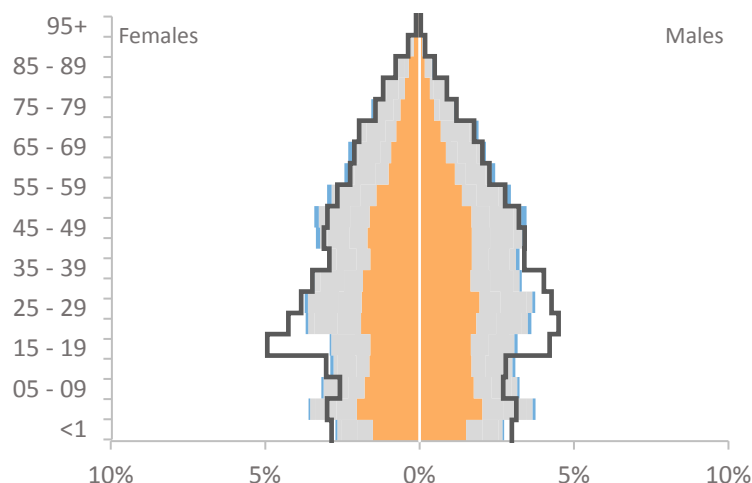
Note: Spikes and drop-outs are commonly the result of incomplete data collections affecting numerators and denominators in certain practices, sometimes due to changeovers in practice software systems.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

Age structure and deprivation compared to Leeds (January 2018)

Generally speaking the most deprived LCPs have younger populations than the least deprived.

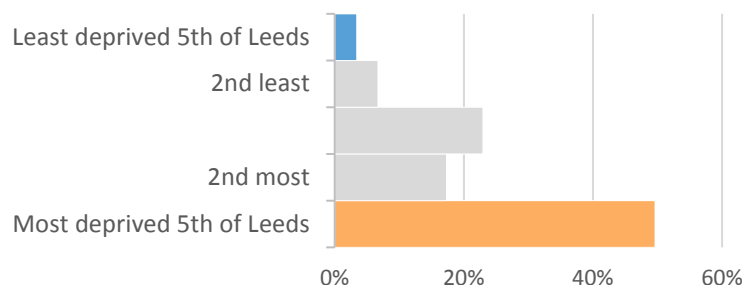
Age structure of this LCP, compared to Leeds



The age and gender proportions of this LCP are shown as shaded areas in colours corresponding to the deprivation fifths of Leeds in the chart below. Leeds is overlaid as a black outline.

The Seacroft LCP age structure is almost identical to that of Leeds, except for slightly fewer younger adults and slightly more young children. Deprivation levels are high, the majority live in the most deprived parts of the city.

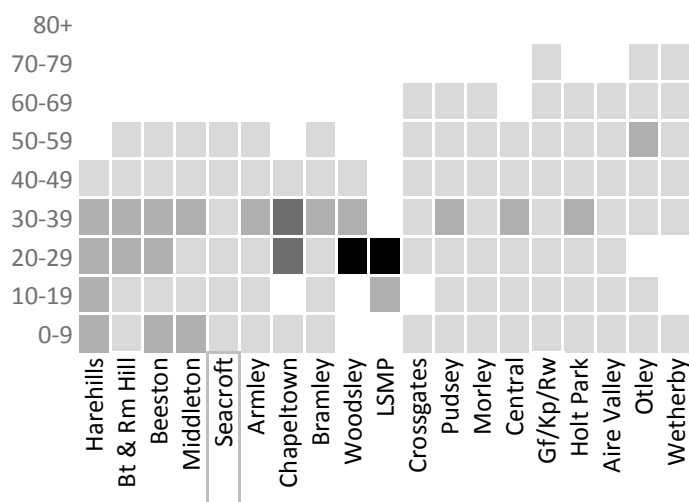
Deprivation in this LCP population



The population of this LCP live in areas of Leeds which can be divided into five groups of most to least deprived.

In Seacroft LCP 50% of the population live in the most deprived fifth of Leeds.

Age structures of each LCP compared



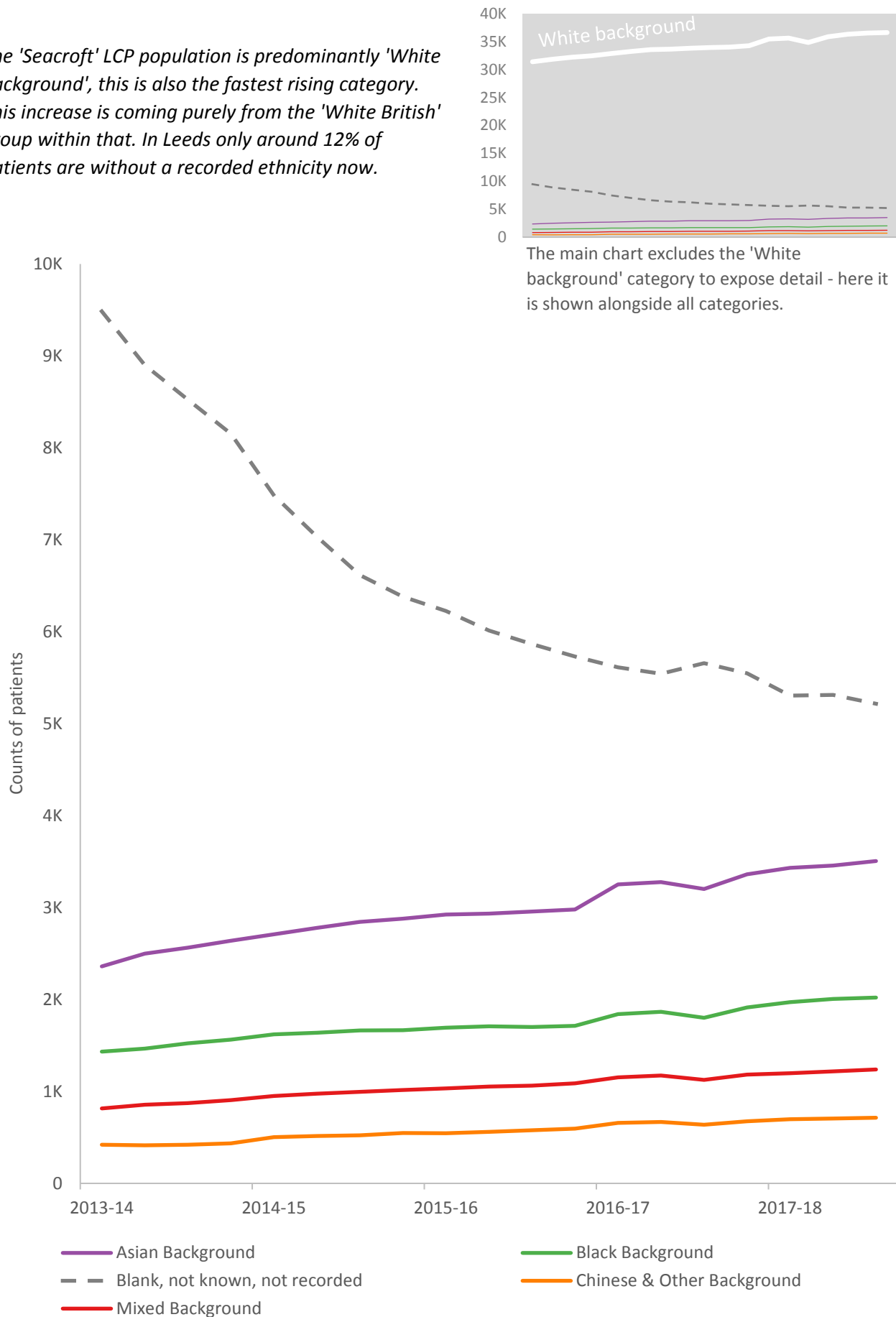
This table shows the agebands contributing the most to each LCP population. The most deprived LCPs have a more concentrated younger population, while less deprived LCPs have increasingly older populations.

The 30-39 year ageband in Seacroft is the largest in this LCP.

Deprivation notes: The Index of Multiple Deprivation 2015 was weighted with mid 2015 practice populations to generate the five deprivation group areas in Leeds.

LCP ethnicity change over time - categories (mid 2013 to early 2018)

The 'Seacroft' LCP population is predominantly 'White background', this is also the fastest rising category. This increase is coming purely from the 'White British' group within that. In Leeds only around 12% of patients are without a recorded ethnicity now.

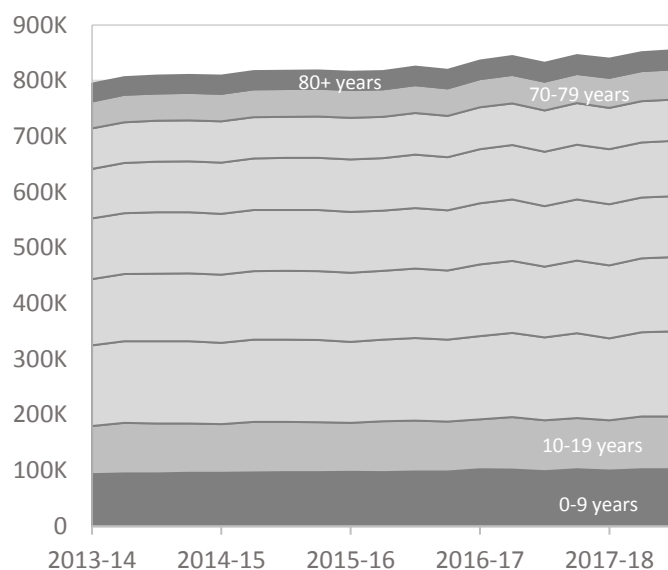


Source: Leeds GPs quarterly data extraction programme

Population change over time

Most LCPs have a larger population than they had in 2013. Generally speaking the least deprived have seen an increase in elderly patients but barely any change in children, while the opposite is likely in more deprived LCPs.

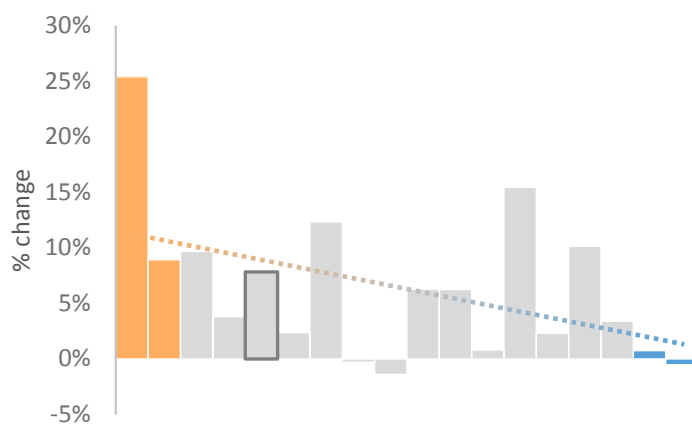
Leeds population size change over time - in 10yr age bands



The population of Leeds (registered with a Leeds GP) over the last four years. The very oldest and youngest age bands are shaded. Overall, Leeds shows a constant increase of around 6% in the time period shown, while the age band to grow the most was the 30-39 year olds.

As usual the variations at local level tell a different story.

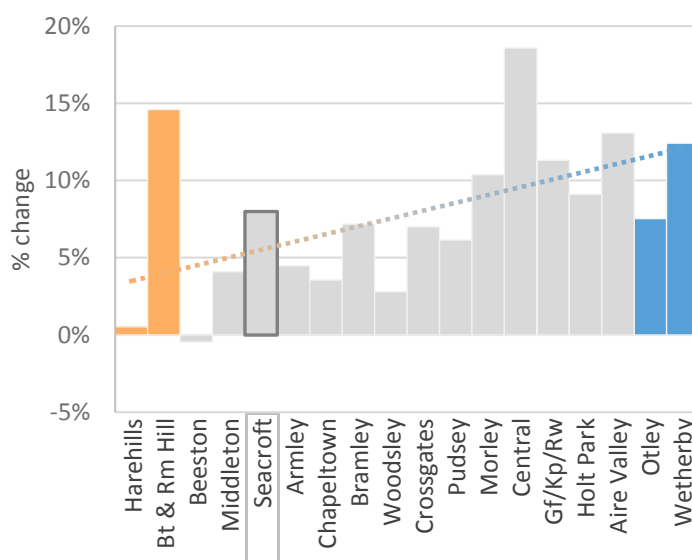
LCP % change in 0-9 year old population between 2015 and 2018



There is a visible but weak pattern in the increase of the proportion of young children in the more deprived LCPs, while the less deprived LCPs have seen smaller increases. 'Harehills' stands out as having the largest increases in the city.

The way the older population of each LCP has changed is slightly different.

LCP % change in the over 70s



Very generally speaking (and overlooking the obvious growth in 'Burmantofts and Richmond Hill' which is a large change in proportion but quite low counts), the least deprived LCPs have seen a larger change in their older populations compared to the more deprived LCPs - 'Harehills' and 'Beeston' have barely changed.

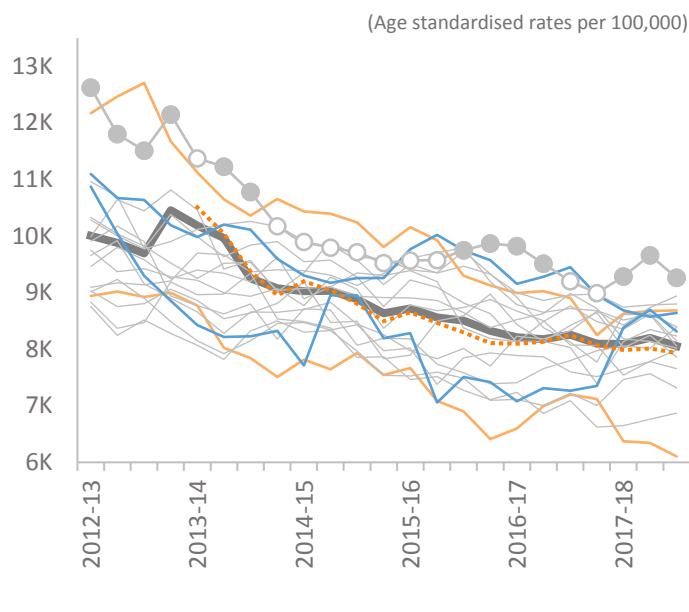
The number of children in this LCP changed from 6,366 to 6,864, while the population aged 70+ has increased by around 400.

Source: Leeds GPs quarterly data extraction programme

Asthma in children

Rates are generally falling, and change is happening slowest in the least deprived areas but LCP rates are all quite similar.

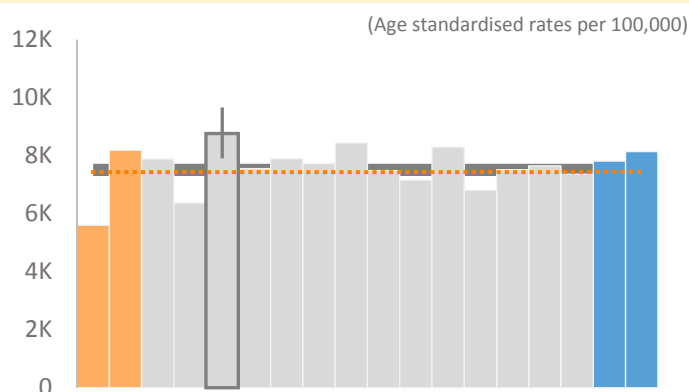
Change of rates over time



In a time series we can see rates have been falling for many years, and the LCPs are falling at more or less the same rate - except the least deprived ones which are dropping more slowly.

Most recent data shows this LCP to be significantly above Leeds.

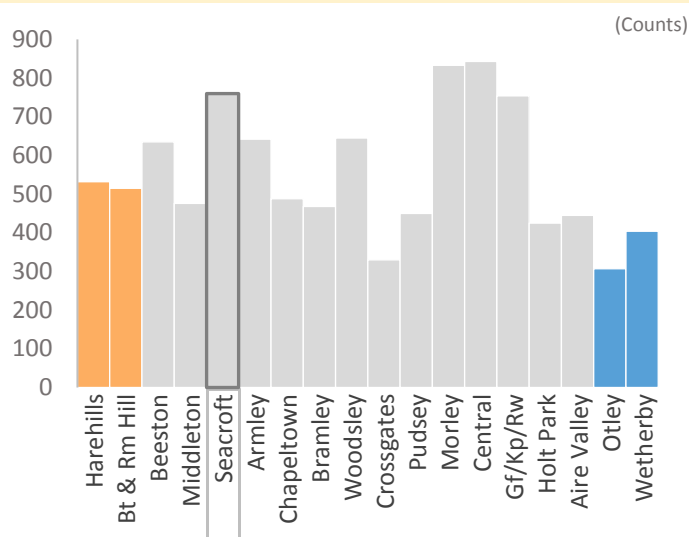
Most recent rates compared



Looking at the most recent data from January 2018 we can see that rates are following a very weak relationship with deprivation.

The LCPs are shown in descending order of deprivation and the bars show a slight increase in size from left to right.

Asthma counts per LCP



This chart shows the numbers of patients recorded with childhood asthma in the LCPs. Despite similar rates the differing age structures result in a slight drop as deprivation falls, probably reflecting differences in age structure.

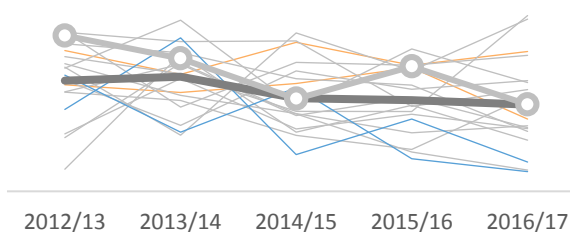
Note that LSMP is not shown here, the student medical practice does not contain enough data.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

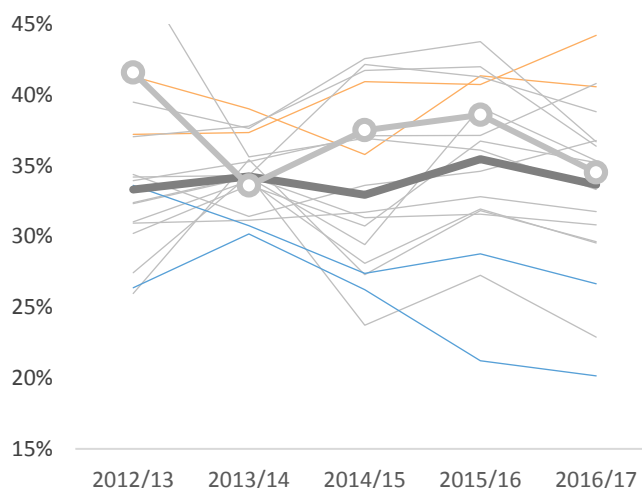
Obesity in children

Rates are generally falling in Reception classes, but Year 6 rates are much more variable with changes related to deprivation levels.

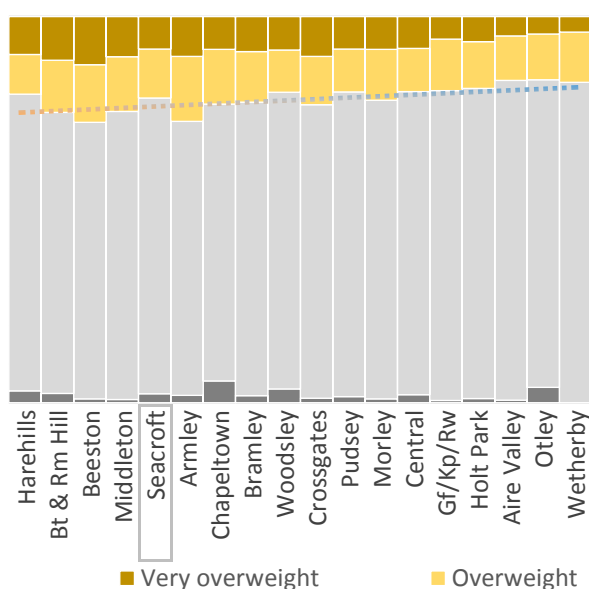
Reception - Overweight or very overweight



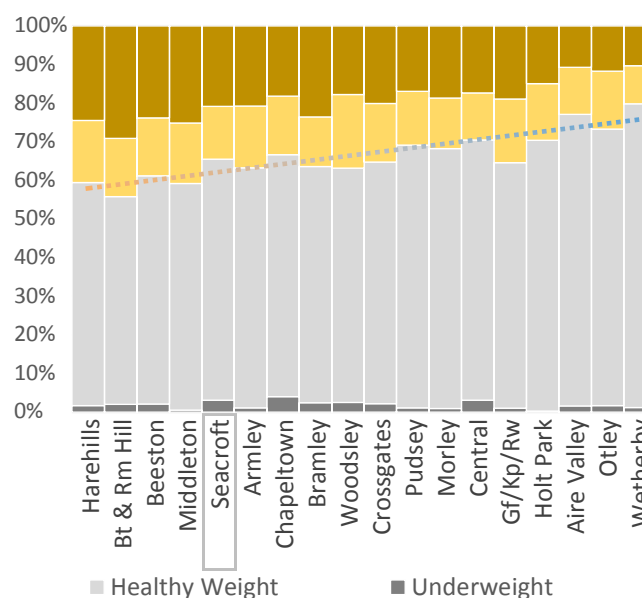
Year 6 - Overweight or very overweight



Reception - weight category proportions (16/17)



Year 6 - weight category proportions (16/17)



Leeds shows a slow reduction in the proportion of Reception children who are classed as 'Overweight or Very Overweight'. The LCPs show quite a lot of variation as numbers are quite low overall. The breakdown of proportions per LCP shows a slight reduction in 'overweight or very overweight' as deprivation falls.

'Overweight or Very Overweight' children in year 6 are becoming slowly more prevalent in Leeds. The LCPs again show quite a lot of fluctuation. There is a strong relationship between deprivation levels and 'Overweight or Very Overweight' proportions.

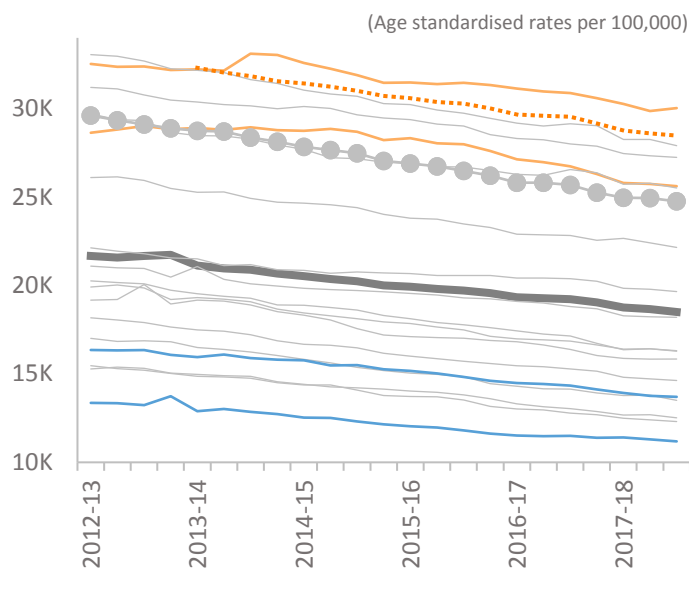
The LCP rates were high but seem to be dropping now to around Leeds rates.

Source: National Child Measurement Programme. Note that LSMP is not shown here, the student medical practice does not contain enough data for NCMP. NCMP data is aggregated by LSOA to LCP footprint, not by LCP practice membership.

Smoking (16+)

Rates are generally falling, and change is happening fastest in most deprived areas. Smoking is most common in younger age bands in the most deprived areas.

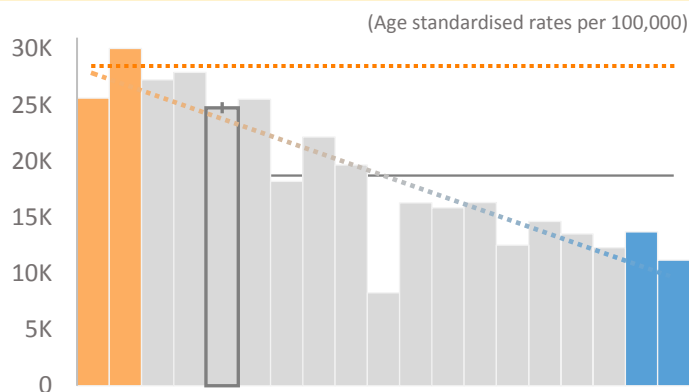
Change of rates over time



In a time series we can see rates have been falling for many years, and in general the most deprived LCPs are falling at a slightly faster rate than the least deprived ones.

Most recent data shows this LCP to be significantly above Leeds.

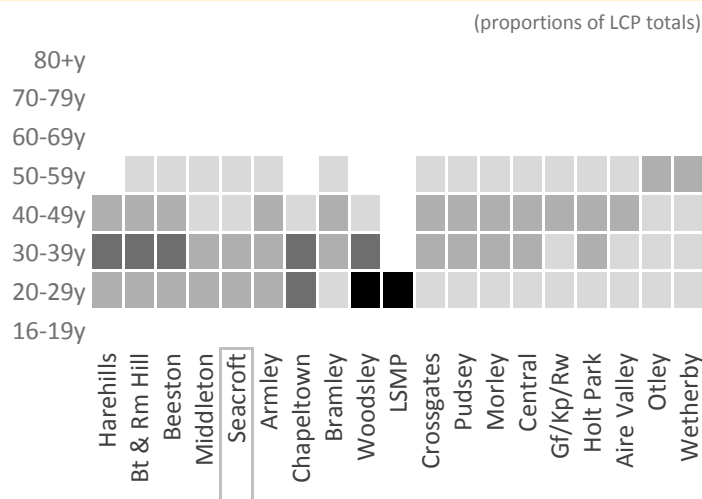
Most recent rates compared



Looking at the most recent data from January 2018 we can see that rates are following a strong relationship with deprivation.

The LCPs are shown in descending order of deprivation and the bars show a clear reduction in size from left to right.

LCP Smoking populations by ageband



This table shows the agebands within each LCP that contribute the most to the LCP total.

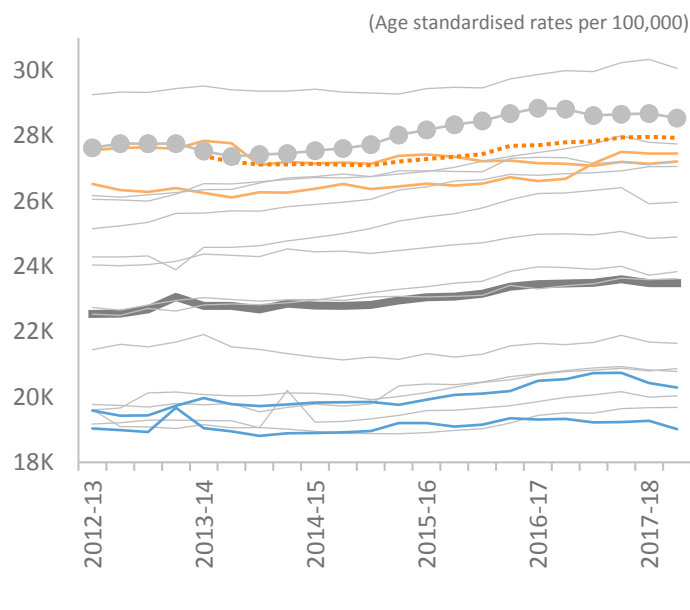
The largest group in Seacroft LCP is the 30-39y ageband with 22.6% of the LCP total.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

Obesity (adults)

Rates are generally climbing, although some areas are showing a levelling off and perhaps a decline in recent quarters.

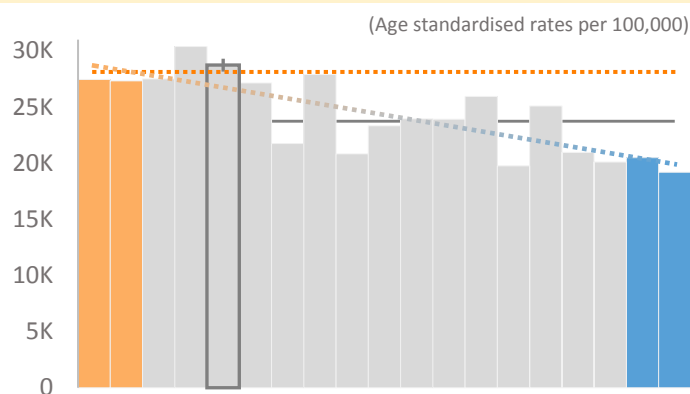
Change of rates over time



In a time series we can see there doesn't seem to be a relationship between rate of change and levels of deprivation for this indicator. All LCPs are slowly rising, except for Burmantofts and Richmond Hill LCP which is showing a slow but steady fall.

Most recent data shows this LCP to be significantly above Leeds.

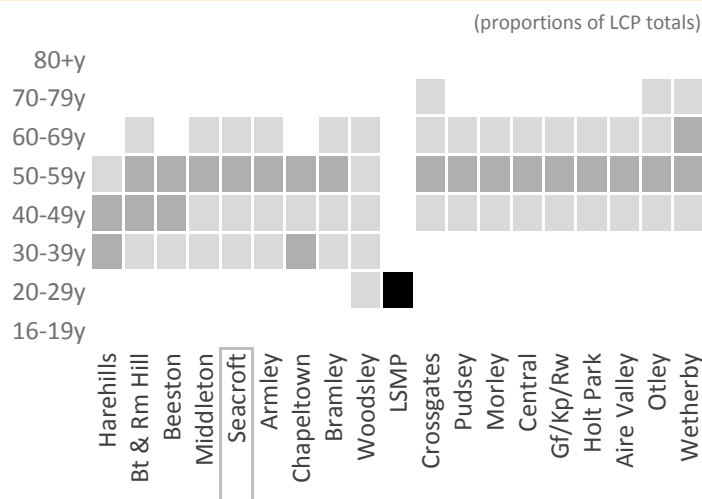
Most recent rates compared



Looking at the most recent data from January 2018 we can see that rates are following a clear relationship with deprivation.

The LCPs are shown in descending order of deprivation and the bars show a clear reduction in size from left to right.

LCP Obesity populations by ageband



This table shows the agebands within each LCP that contribute the most to the LCP total.

The largest group in Seacroft LCP is the 50-59y ageband with 22.1% of the LCP total.

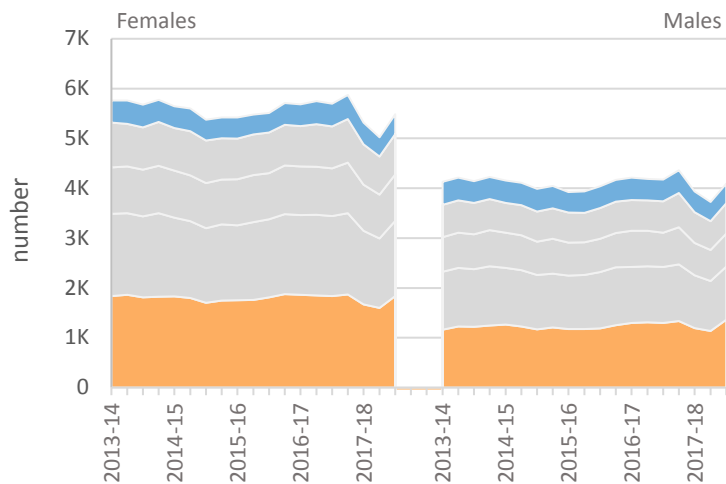
This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

Obese smokers (adults for whom both records were updated within 12 months)

There are more women than men who have a BMI above 30 and are current smokers. The gender difference is seen in most LCPs and is slightly more pronounced in the most deprived.

(recent large changes in the data are due to data collection issues)

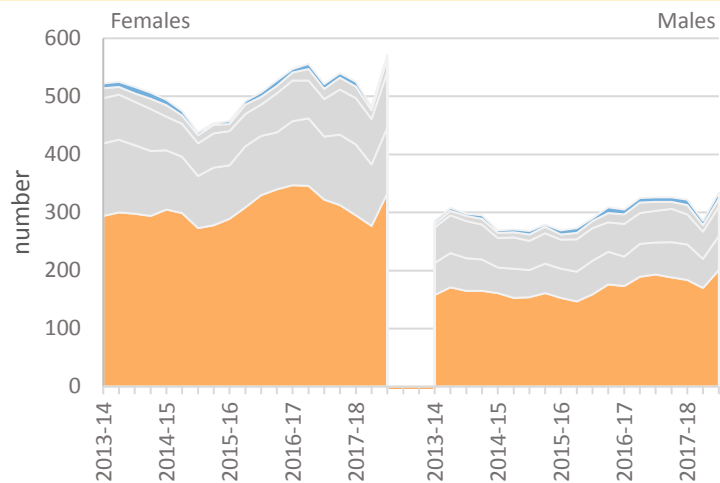
Obese smokers in Leeds, by gender and deprivation



In January 2018 there were 9,573 patients inside Leeds who smoked and were classified as obese.

These charts show the number fluctuating over time, and that there have always been large numbers from more deprived areas (orange layer). Women (who are more likely to be clinically obese) outnumber men in this group.

Obese smokers in this LCP, by gender and deprivation

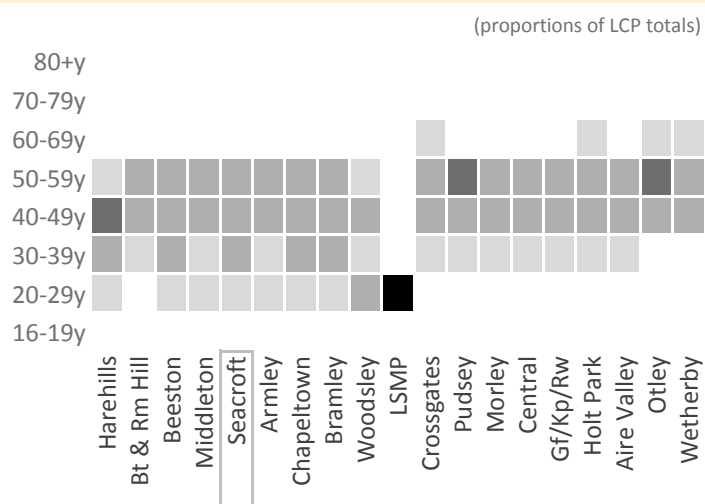


Seacroft LCP

These charts show the number of obese smokers in this LCP, by gender and deprivation.

Seacroft LCP has many more women than men in this category, both gender counts were climbing slowly but may be beginning to level off.

LCP Obese smokers by age band



This table shows the agebands within each LCP that contribute the most to each LCP total.

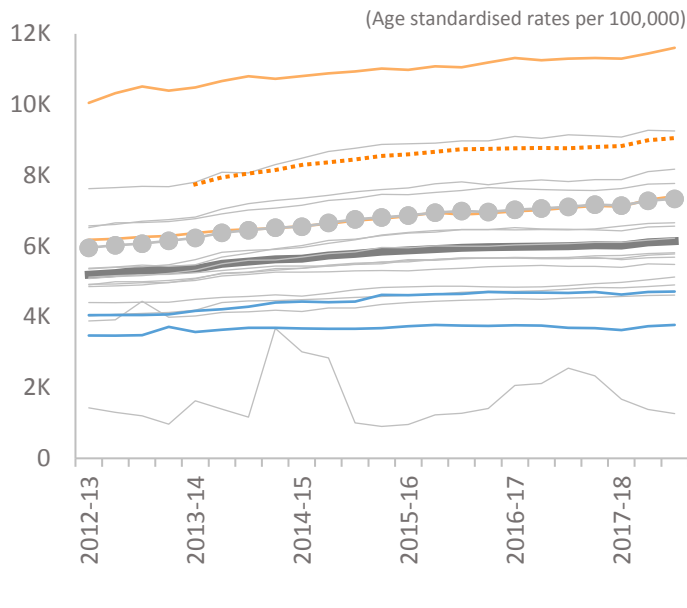
The largest group in Seacroft LCP is the 40-49y ageband with 22.3% of the LCP total.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

Diabetes (all ages)

Diabetes in Leeds is very strongly linked to deprivation with the highest rates and fastest rises in the most deprived LCPs, while rates are almost static in Wetherby.

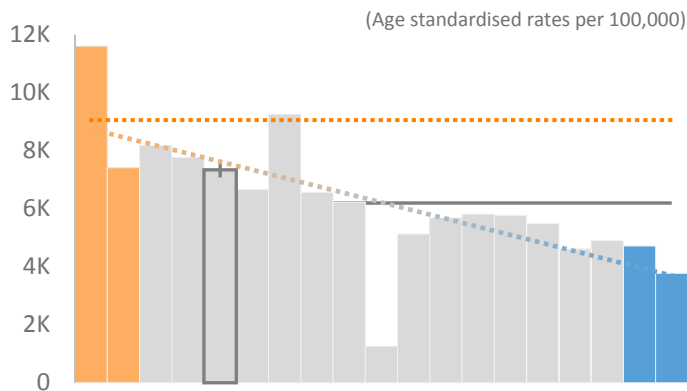
Change of rates over time



In a time series we can see in general the most deprived LCPs are rising at a much faster rate than the least deprived ones. In Wetherby LCP the rate is virtually static and perhaps now showing a downward trend.

Most recent data shows this LCP to be significantly above Leeds.

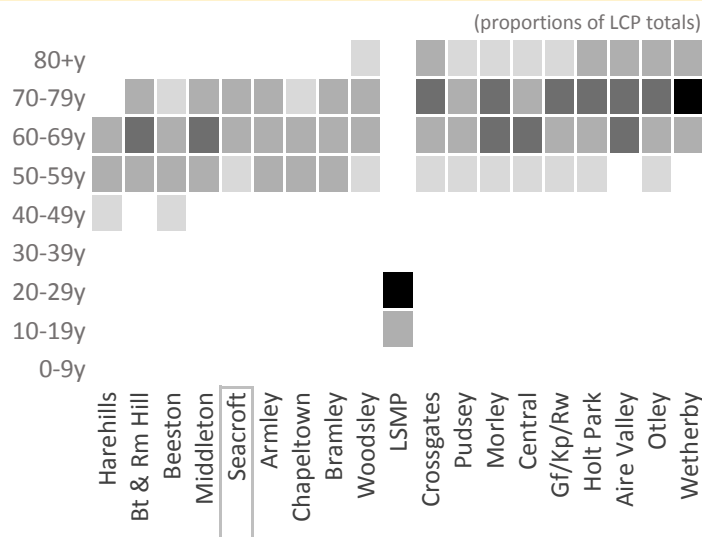
Most recent rates compared



Looking at the most recent data from January 2018 we can see that rates are following a very strong relationship with deprivation.

The LCPs are shown in descending order of deprivation and the bars show a clear reduction in size from left to right.

LCP Diabetes populations by ageband



This table shows the agebands within each LCP that contribute the most to the LCP total.

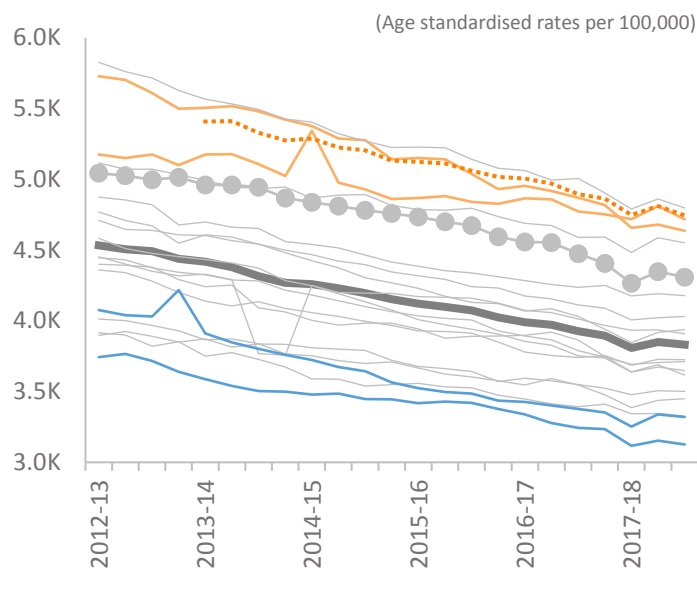
The largest group in Seacroft LCP is the 70-79y ageband with 24.7% of the LCP total.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

CHD (all ages)

CHD rates in Leeds are all falling steadily and at the same speed, except for Burmantofts and Richmond Hill which is falling much faster than other LCPs. Rates are generally higher in more deprived areas.

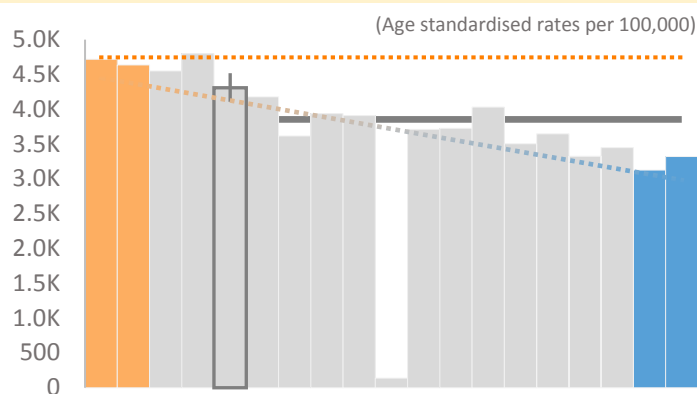
Change of rates over time



In a time series we can see that almost all LCPs are falling at an equal rate, except for 'Harehills' LCP which appears to be making a much slower drop.

Most recent data shows this LCP to be significantly above Leeds.

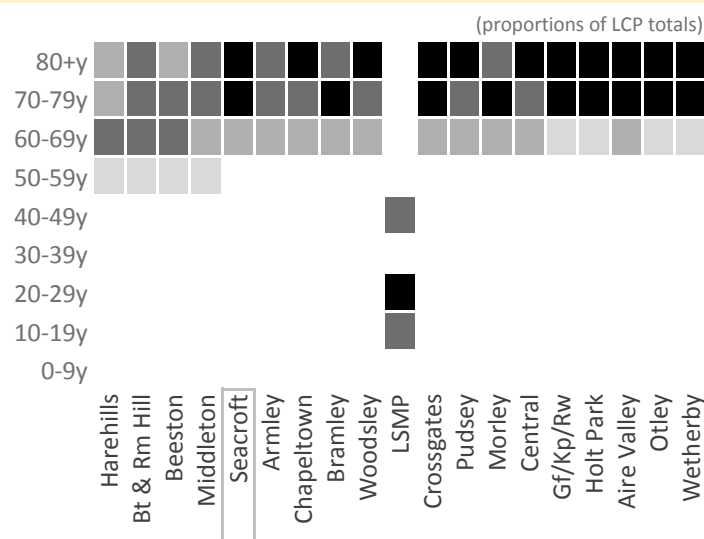
Most recent rates compared



Looking at the most recent data from January 2018 we can see that rates are following a clear relationship with deprivation.

The LCPs are shown in descending order of deprivation and the bars show a large decrease from left to right.

LCP CHD populations by ageband



This table shows the agebands within each LCP that contribute the most to the LCP total.

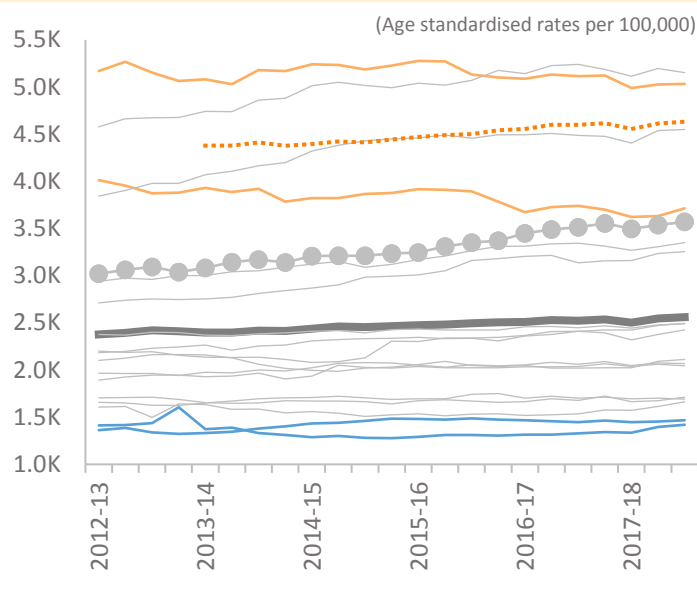
The largest group in Seacroft LCP is the 80+y ageband with 31.0% of the LCP total.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

COPD (all ages)

COPD rates in Leeds are very strongly linked to deprivation with large differences from most to least deprived. Many of the most deprived LCPs have rates which are increasing steadily, but interestingly the two most deprived LCPs are the only in the city to have falling rates.

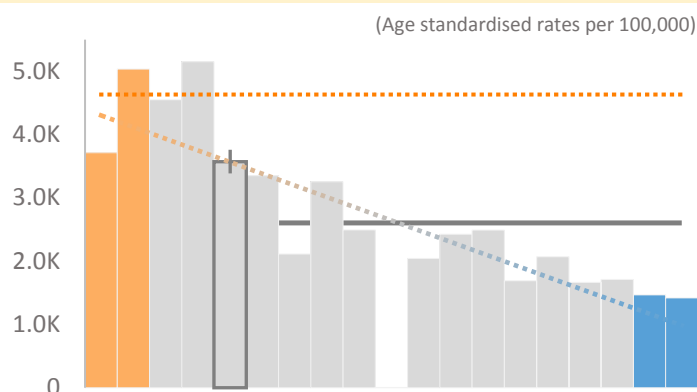
Change of rates over time



In a time series we can see in general the most deprived LCPs are rising at a faster rate than others, except for 'Burmantofts and Richmond Hill' and 'Harehills' which are notably falling in recent years.

Most recent data shows this LCP to be significantly above Leeds.

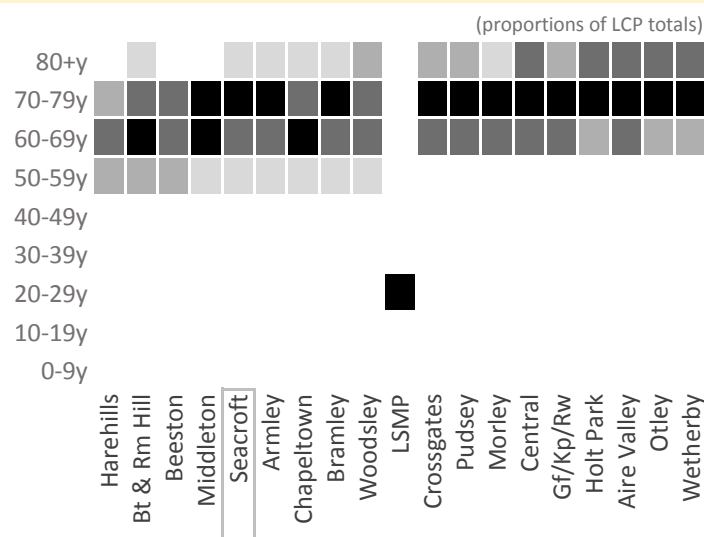
Most recent rates compared



Looking at the most recent data from January 2018 we can see that rates are following a very strong relationship with deprivation.

The LCPs are shown in descending order of deprivation and the bars show a large fall from left to right.

LCP COPD populations by ageband



This table shows the agebands within each LCP that contribute the most to the LCP total.

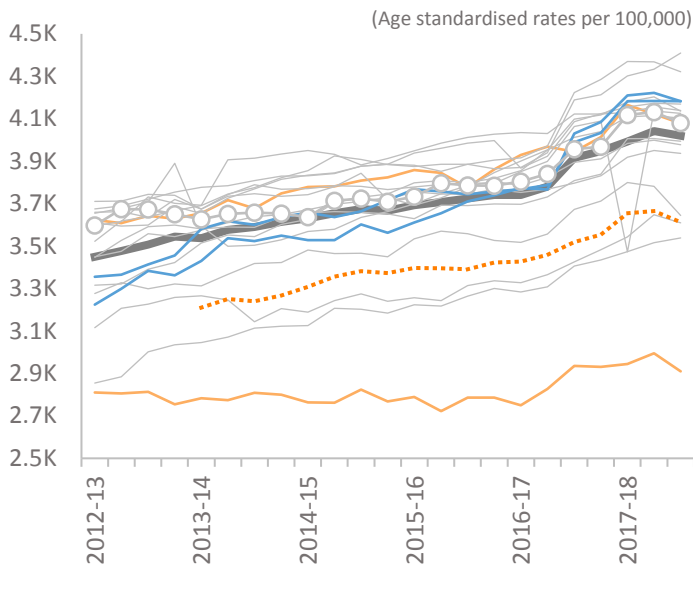
The largest group in Seacroft LCP is the 70-79y ageband with 32.3% of the LCP total.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

Cancer (all ages)

Cancer rates in Leeds are linked to deprivation but not in the usual way: the least deprived LCPs have some of the highest rates. This is thought to be due to late diagnosis leading to higher mortality rates in more deprived areas.

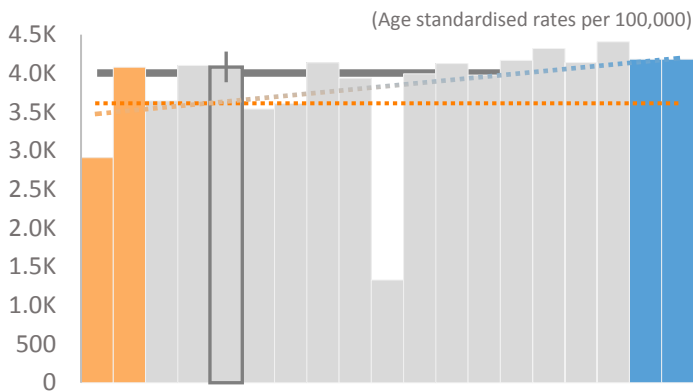
Change of rates over time



In a time series we can see in general all LCPs are growing at about the same rate - except for Harehills LCP which until recently has been static.

Most recent data shows this LCP not to be significantly different to Leeds.

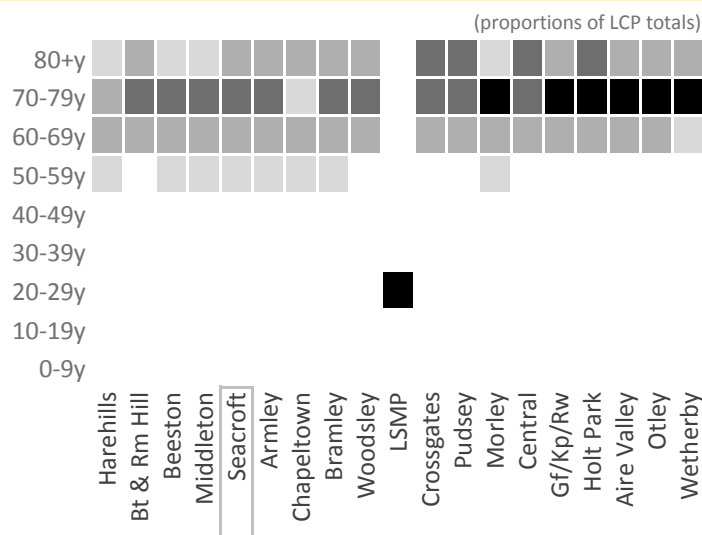
Most recent rates compared



Looking at the most recent data from January 2018 we can see that rates are following a very weak inverse relationship with deprivation.

The LCPs are shown in descending order of deprivation and the bars show a slight increase in size from left to right.

LCP Cancer populations by ageband



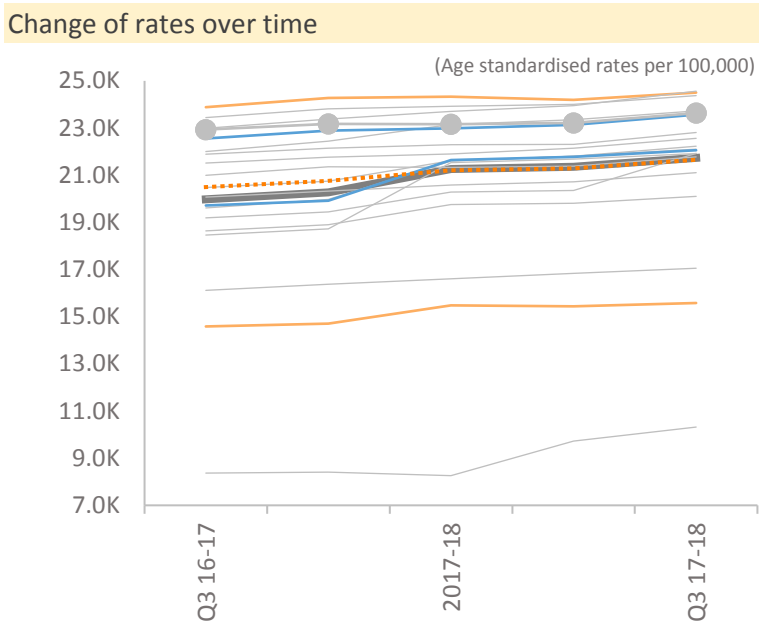
This table shows the agebands within each LCP that contribute the most to the LCP total.

The largest group in Seacroft LCP is the 70-79y ageband with 27.2% of the LCP total.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

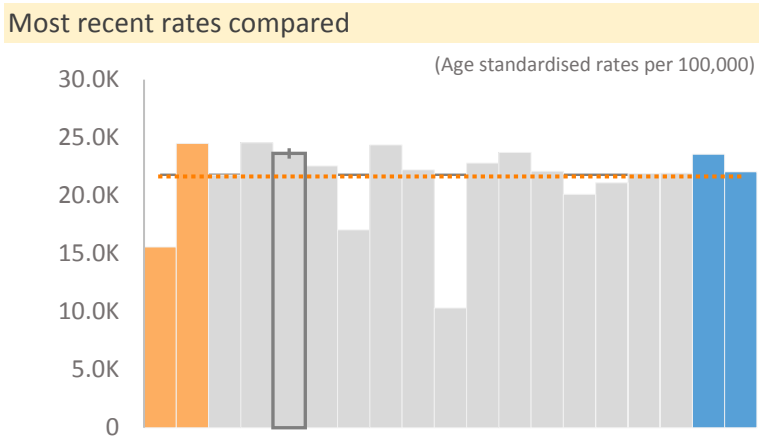
Common mental health issues (all ages)

The Leeds rate is slowly rising, but the time series is too short to draw many other conclusions.



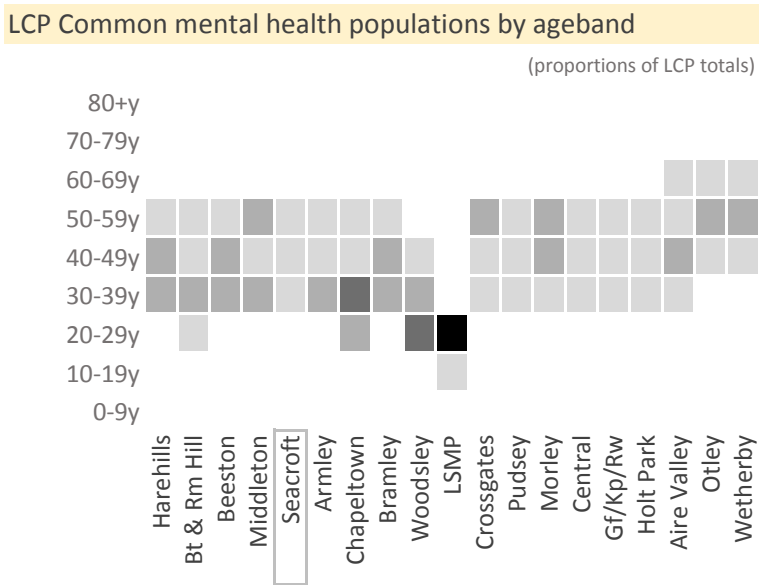
Due to changes in processes, this is a short time series but we can see that most LCPs are rising slowly.

Most recent data shows this LCP to be significantly above Leeds.



Looking at the most recent data from January 2018 we can see that rates are not varying in a manner related to deprivation.

The LCPs are shown in descending order of deprivation and the bars are not really varying consistently.



This table shows the agebands within each LCP that contribute the most to the LCP total.

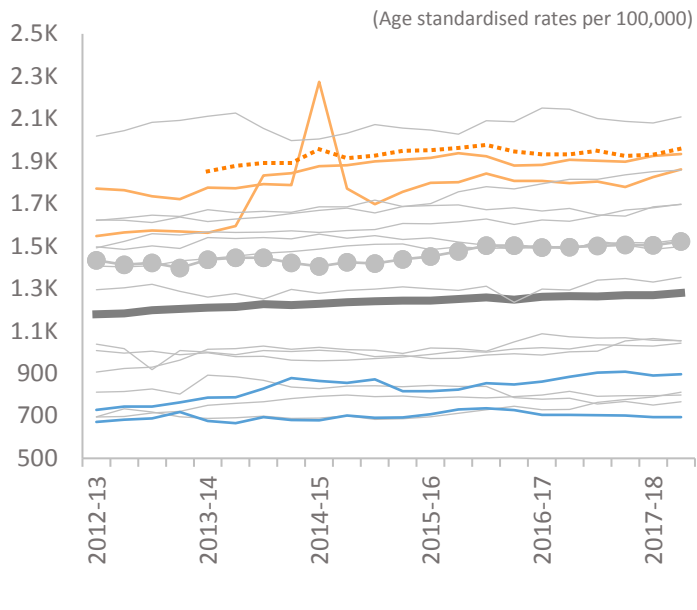
The largest group in Seacroft LCP is the 50-59y ageband with 19.6% of the LCP total.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

Severe mental health issues (18+)

Severe mental health rates show a strong link to deprivation except for 'Central' LCP that has quite a high rate for its position in the deprivation rank.

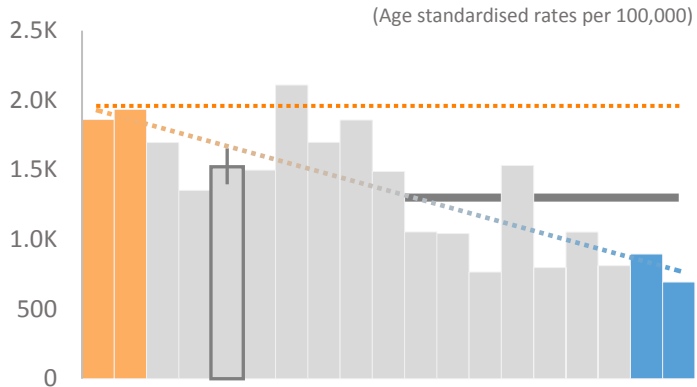
Change of rates over time



In a time series we can see that all LCPs are following a similar very slow rate of increase.

Most recent data shows this LCP to be significantly above Leeds.

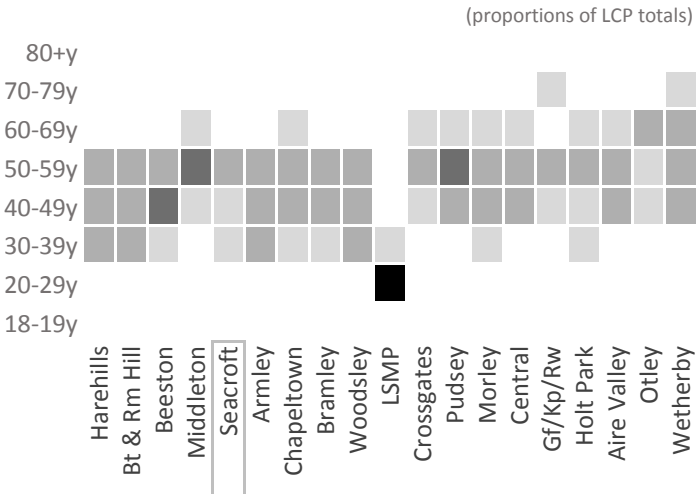
Most recent rates compared



Looking at the most recent data from October 2017 we can see that rates are actually quite strongly related to deprivation, with some exceptions notably 'Central' LCP.

The LCPs are shown in descending order of deprivation and the bars

LCP populations recorded with severe mh, by ageband



This table shows the agebands within each LCP that contribute the most to the LCP total.

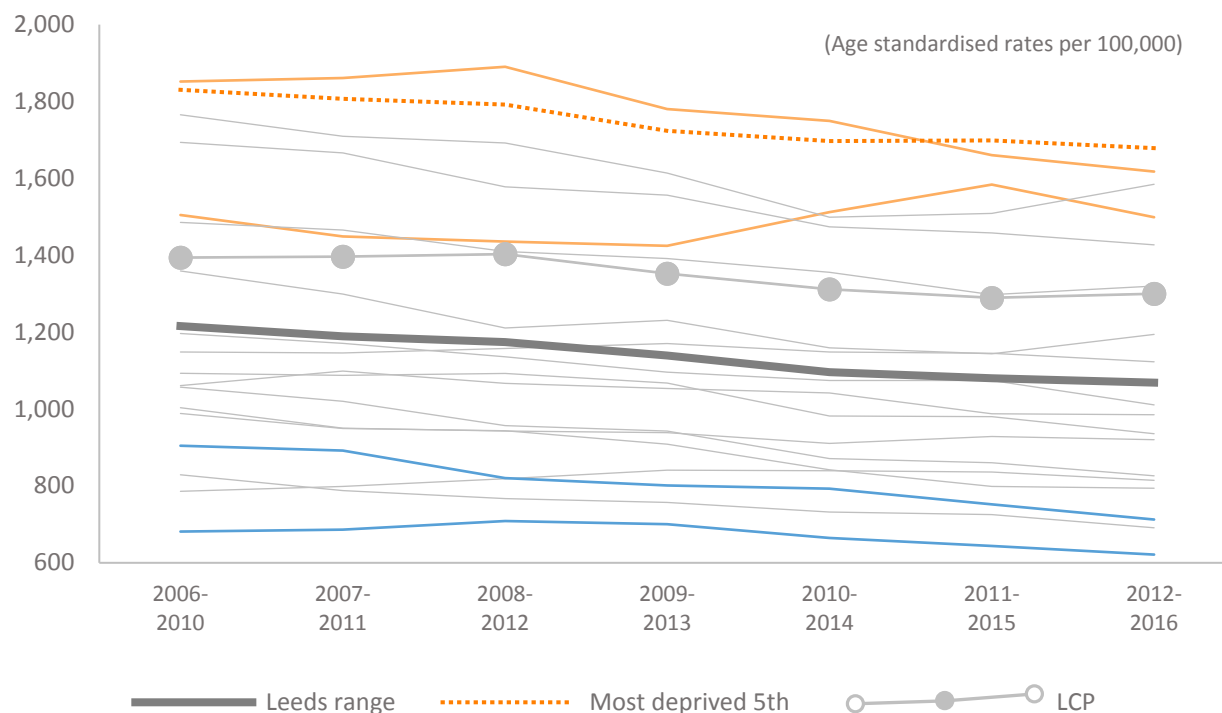
The largest group in Seacroft LCP is the 50-59y ageband with 22.1% of the LCP total.

This data is collected from practices quarterly and therefore only contains records where patients are presenting and have been questioned. Certain population groups are known to visit their GP rarely.

All cause mortality (under 75s)

Mortality rates show a very strong link to deprivation. Most LCPs are falling steadily, and some of those with the highest rates appear to be dropping slightly faster.

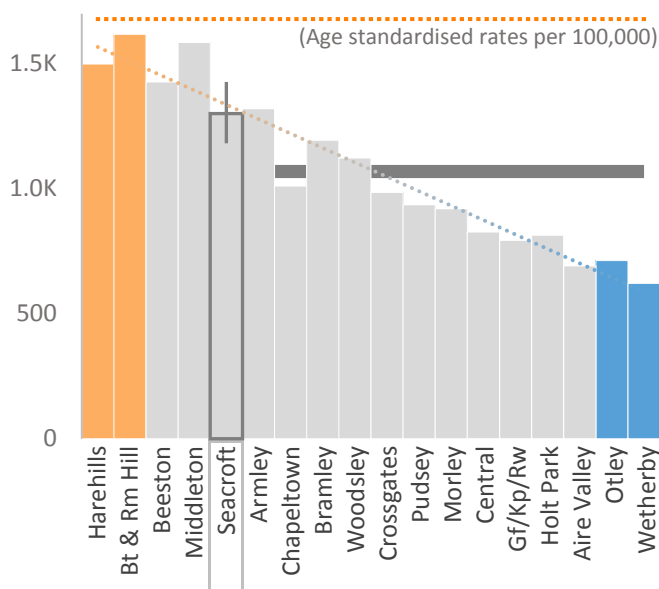
Change of mortality rates over time



In a time series we can see that almost all LCPs are decreasing, with slightly faster drops in those with the highest rates. However the Harehills LCP stands out as for its recent increases.

Most recent data shows the mortality rate at this LCP to be significantly above Leeds.

Most recent mortality rates compared



Looking at the most recent mortality data, we can see that rates are very strongly related to deprivation (except for LSMP which is not shown due to very low rates)

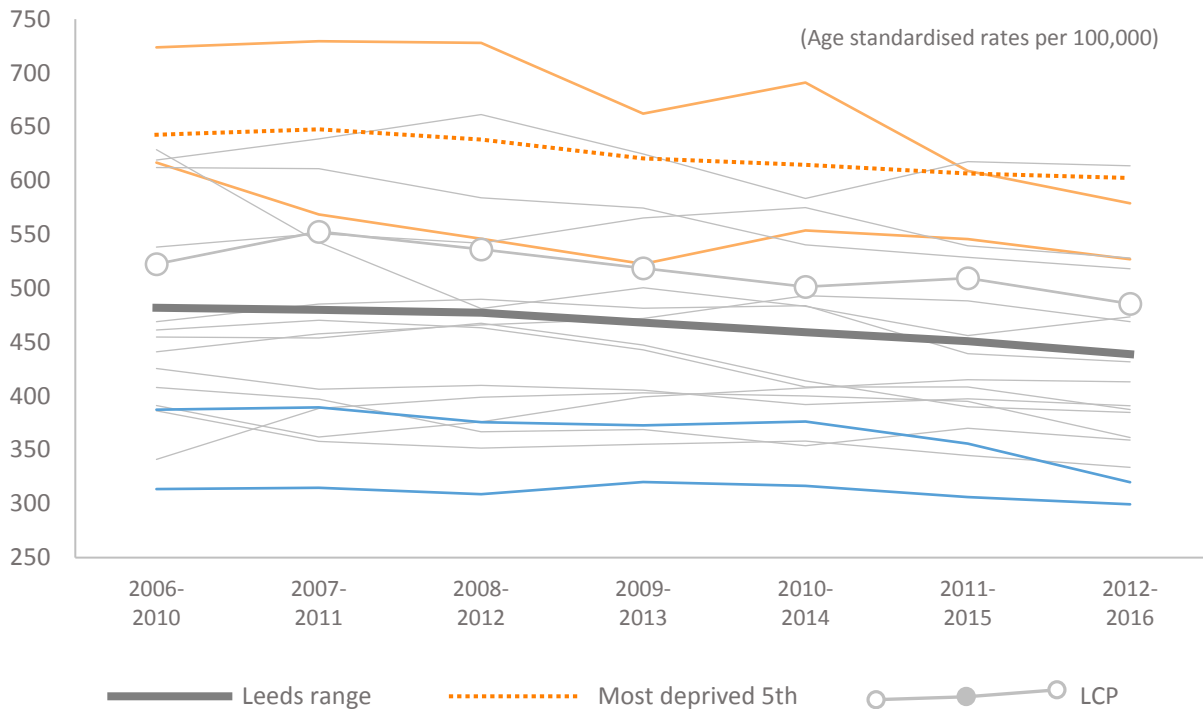
(The LCPs are shown in descending order of deprivation)

Source: ONS, GP registered

Cancer mortality (under 75s)

Cancer mortality rates show a very strong link to deprivation. LCPs show some variation in change, some rising and some falling. The most deprived seem to be falling slightly faster overall.

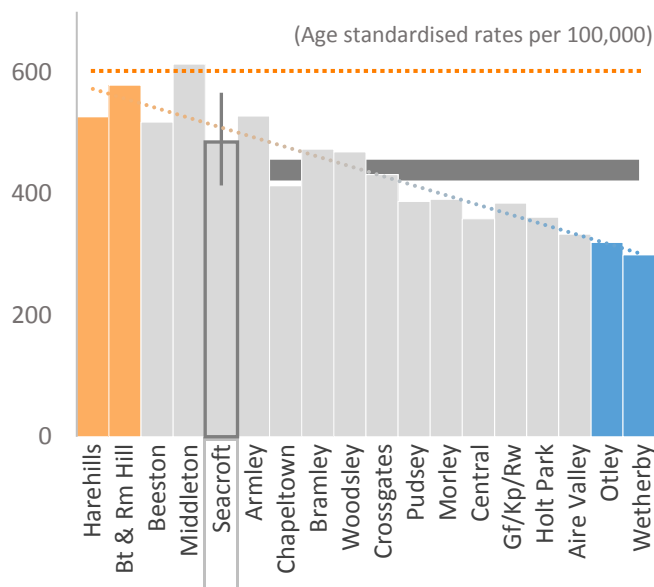
Change of mortality rates over time



In a time series we can see that almost all LCPs are fluctuating, with slightly faster drops in those with the highest rates. However the Chapeltown LCP stands out as for its recent steady increases.

Most recent data shows the mortality rate at this LCP not to be significantly different to Leeds.

Most recent mortality rates compared



Looking at the most recent mortality data, we can see that rates are very strongly related to deprivation (except for LSMP which is not shown due to very low rates)

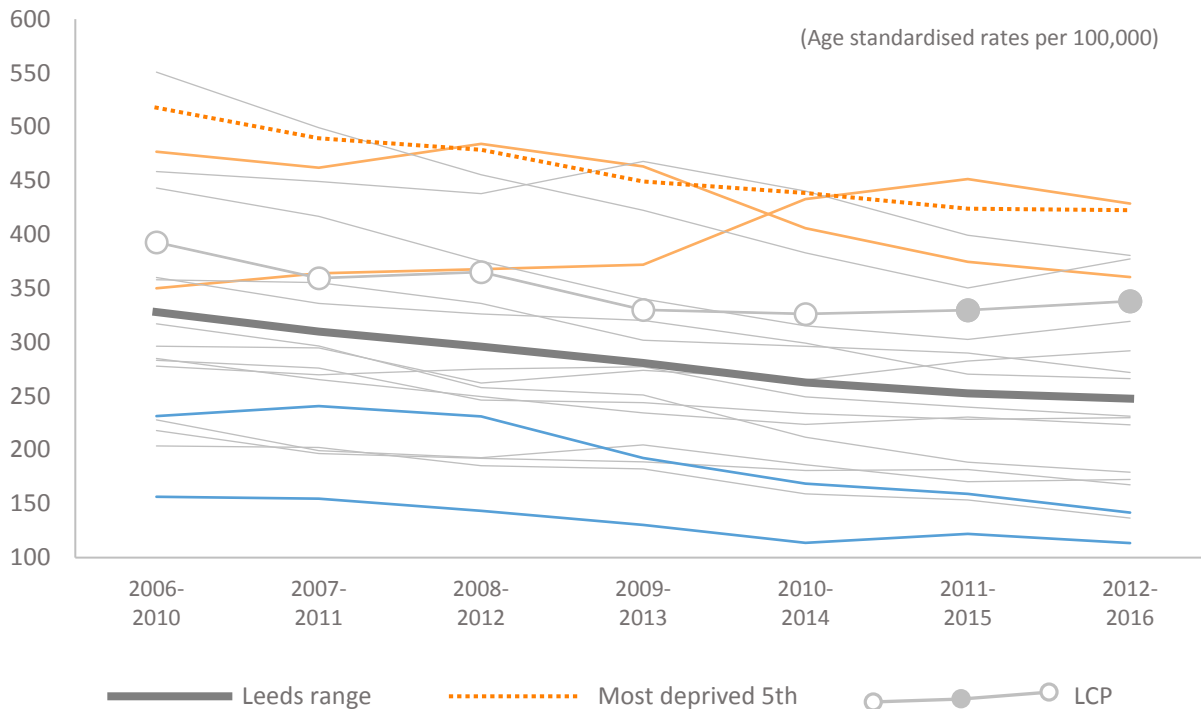
(The LCPs are shown in descending order of deprivation)

Source: ONS, GP registered

Circulatory disease mortality (under 75s)

Circulatory mortality rates show an extremely strong link to deprivation. LCPs show some variation in change, some rising and some falling with the most deprived falling slightly faster overall except for the growing Harehills.

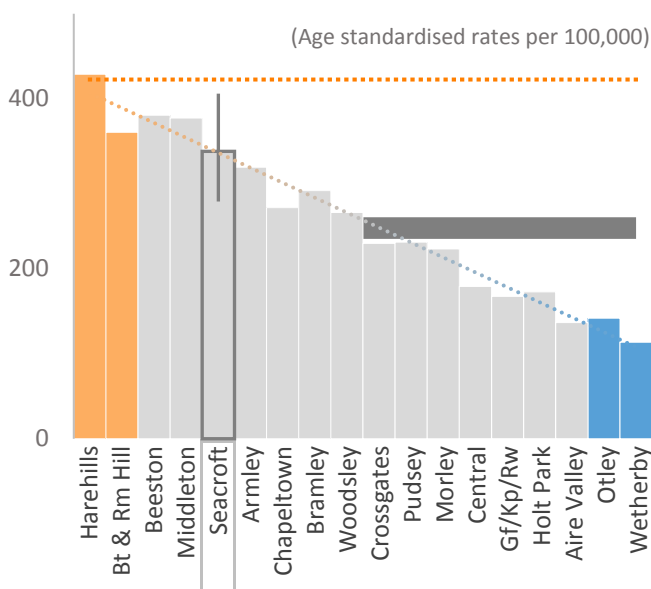
Change of mortality rates over time



In a time series we can see that almost all LCPs are falling slowly, with some recent increases especially 'Harehills' LCP.

Most recent data shows the mortality rate at this LCP to be significantly above Leeds.

Most recent mortality rates compared



Looking at the most recent mortality data, we can see that rates are extremely strongly related to deprivation (except for LSMP which is not shown due to very low rates)

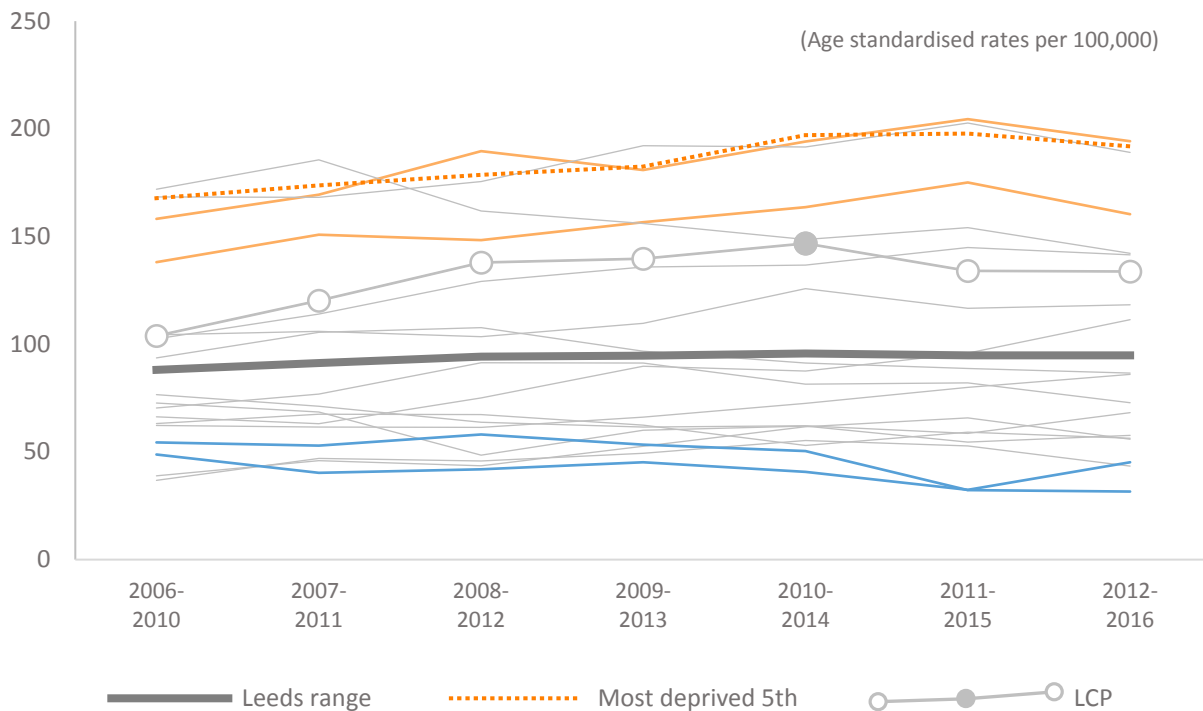
(The LCPs are shown in descending order of deprivation)

Source: ONS, GP registered

Respiratory disease mortality (under 75s)

Respiratory disease mortality rates show a very strong link to deprivation. There are some stark differences between the most and least deprived LCPs.

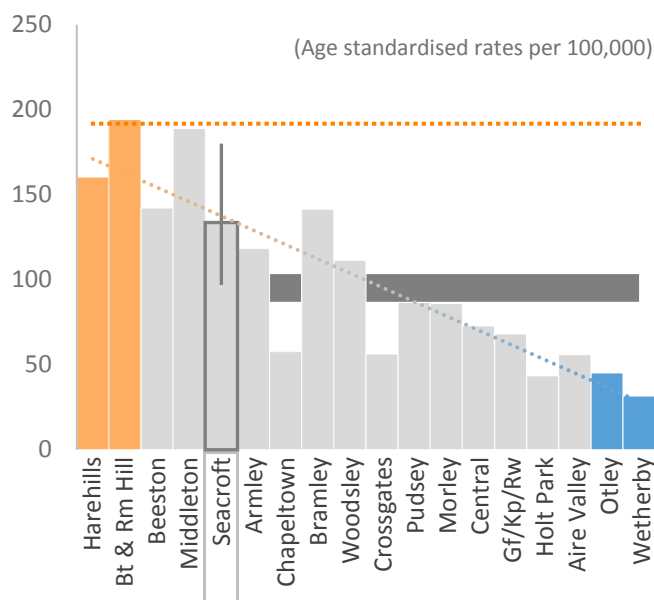
Change of mortality rates over time



In a time series we can see that almost all LCPs are changing steadily, those with the highest rates are climbing fastest.

Most recent data shows the mortality rate at this LCP not to be significantly different to Leeds.

Most recent mortality rates compared



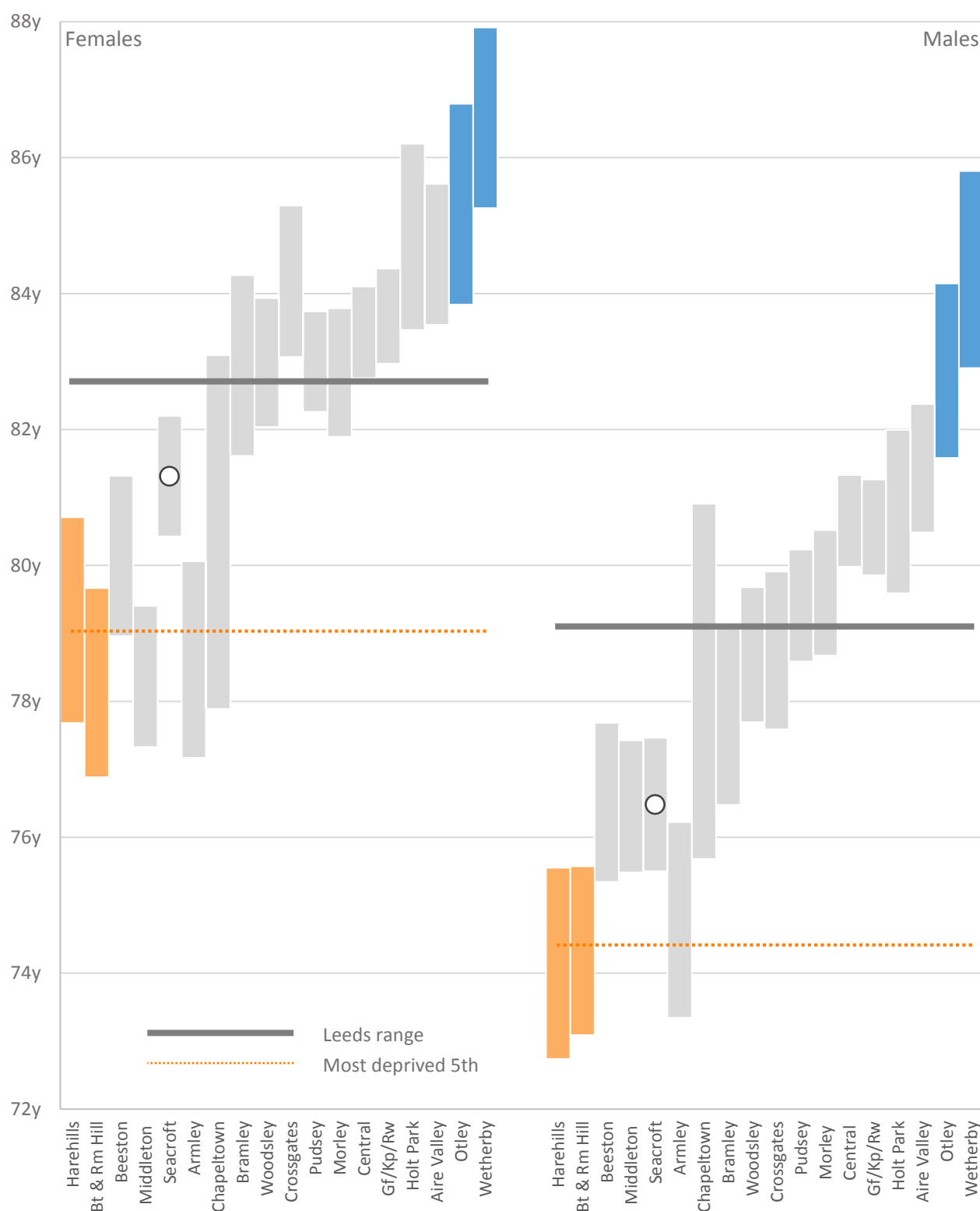
Looking at the most recent mortality data, we can see that rates are very strongly related to deprivation (except for LSMP which is not shown due to very low rates)

(The LCPs are shown in descending order of deprivation)

Source: ONS, GP registered

Life expectancy for women and men, 2014-2016

For both genders there is a clear relationship between deprivation and life expectancy. Male life expectancy is poorer overall and the difference between the sexes is slightly more pronounced in the most deprived LCPs. There is a difference of 4.8 years between the sexes in this LCP.



Bars in this chart encompass 95% confidence intervals, Leeds and deprived Leeds have very narrow confidence intervals and can be illustrated with a line. Source: ONS deaths extract, GP registered populations.