Public Health England

Mental Health JSNA Profile User Guide

1. Using Fingertips Software

December 2016

Public Health
England

Contents

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1. Introduction

The Mental Health JSNA Profile is an interactive web tool developed for the National Mental Health, Dementia and Neurology Intelligence Network by Public Health England.

The profile uses the Fingertips software, developed by Public Health England, to provide easy access to in-depth analysis of a wide range of health related data in thematic profiles.

This user guide focuses on common features of the Fingertips software and uses examples taken from the Mental Health JSNA Profile. Other profiles developed in the software also share these features. Metadata information on the indicators themselves are available via the 'Definitions' section of the profiles.

2. Quick Guide to Fingertips Software Features

A guided demonstration of the National Mental Health, Dementia and Neurology Intelligence Network profiling tools is available here.

2.1   Additional information
A Home link and links to supporting information, such as FAQs and feedback email, are found in the top section of each tool.
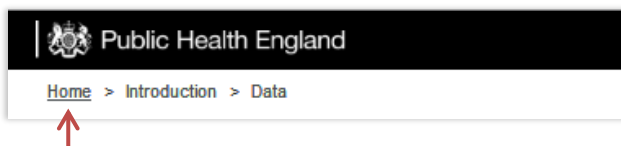
2.2   Search for indicators
The Mental Health JSNA Profile has a search facility, located at the top right of the page. Using this function returns all indicators which include the keyword in the name or in a specific set of metadata fields.

2.3   Domains
Tools which are broken down into subsections or domains can be explored by clicking the domain headings. For example:

2.4 Geography

The example below shows a profile with the complete set of options, only offered when choices are actually available in the data:

2.4.1 Area type

Fingertips only displays data for one level of geography at a time. The Mental Health JSNA Profile contains indicators at Ward, CCG, GP, STP, District & UA and County & UA levels.

2.4.2 Areas grouped by

Which areas are displayed together is decided in the 'Areas grouped by' dropdown. The options are a higher geographical level such as Region, smaller geographical groupings such as PHE Centre, CCG cluster, STP or groupings with similar social characteristics such as deprivation decile and ONS group.

2.4.3 Subsequent choices

Dependent on the choice of 'Areas grouped by' the dropdown is then populated (in the example above: choosing 'Deprivation decile' determines that a choice of deprivation deciles are offered – Most deprived selected in this instance). Subsequently options are offered in 'Area', these are based on the previous selections: e.g., Birmingham is one of the Counties/UAs in the "Most deprived" decile.
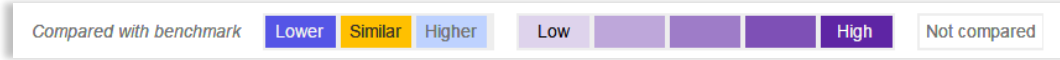
2.4.4 Benchmark

To decide on statistical significance a benchmark needs to be chosen. This is by default England, but an alternative comparison with more similar areas (such as Region or CCG) is also offered in most cases.

2.5   Statistical significance and colour coding

A training video on significance is available here.

For each indicator, the colour coding shows whether the measure for that area is statistically above or below the comparator (95% confidence). The default comparator is the national average. This can be changed to the regional average using the benchmark 'drop-down' at the top of the page. Details of the statistical method used for comparison are available by clicking on the 'Definitions' tab.

If the indicator is coloured purple, it has not been possible to calculate confidence intervals and statistical significance. These indicators are coloured by quintiles, formed by ranking all area values from low to high and splitting them into five equal groups. The lowest group has the lightest colour. If the indicator is not coloured it means no statistical comparison was possible. In most cases this is because the raw data used to calculate the indicator, and which is necessary to undertake statistical comparison, were unavailable or the necessary benchmark value could was unobtainable.

Even if an indicator is not significantly different to England, there may still be an issue in the area worthy of intervention. Some indicators will change colour depending on the comparator group – for example, it is not unusual for areas to be significantly higher than England while not being significantly different from the comparison group. It is also possible that an area may be experiencing a downward trend while remaining above the national or regional average. Local knowledge and understanding of issues are needed to provide context and inform decisions.

2.6   Data Quality
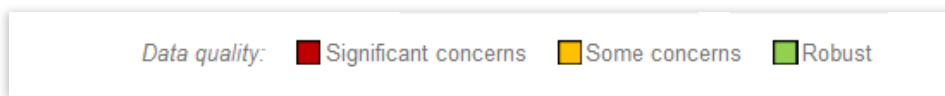
Each indicator in the tool has been included because it is relevant when creating JSNAs; however, data quality is not consistent. Data has been assessed for quality and validity using the above criteria, and labelled accordingly.
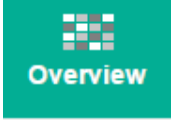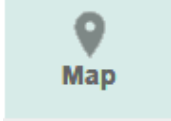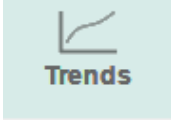
2.7   Recent Trends

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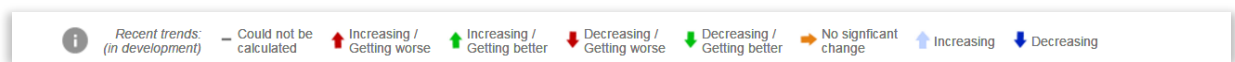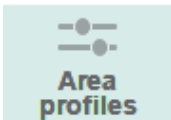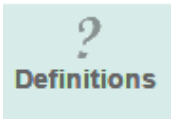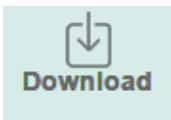
Identifying trends is important in understanding indicator performance. With this in mind, several of the indicators in the Mental Health JSNA Profile have recent trends which denote the overall direction of performance changes over time. The recent trend information is only displayed where there are five non-overlapping data points for a proportion or crude rate indicator. Statistically significant trends are shown with light blue, orange, dark blue arrows for increasing, not changing and decreasing respectively. As the profile matures there will be more indicators with trends indicated.

This function allows insight into recent performance to be derived, and to identify declining performance from a high starting point before it becomes statistically similar to the benchmark and vice versa. This will allow areas to act sooner on changes in indicator performance. Local knowledge and understanding of issues are needed to provide context and inform decisions.

3. Views

The Mental Health JSNA Profile consists of six web views illustrating the indicators in various styles. A 'Definitions' section and a 'Download' section have been included providing access to, and understanding of, data illustrated through the profile. These profile features are listed below, with the subsequent pages providing further details: –

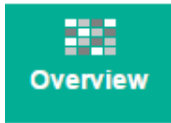|	
Overview	'Overview' is the default option showing the indicators in rows, the geographical areas in columns, and indicator data in each cell. The latter are colour-coded to show significant difference from the benchmark.
Map	'Map' allows users to see spatial variation of indictors across England. For each indicator a bespoke comparator group can be defined by the user, with the selected geographies being presented in a column chart in order of value.
Compare indicators	'Compare indicators' allows users to perform regression analysis between two indicators of the same geographical breakdown across all domains. Users can select indictors to compare on x and y axes, with the most recent data from both indicators being compared.
Trends	'Trends' allows users to look at data over time, presenting data as a graph and table. Drop-down boxes allow users to choose the indicator and area of interest and colour-coding indicates whether the values are significantly different from the benchmark.
Compare areas	'Compare areas' allows the user to select an indicator from the drop-down box and examine values for all geographical areas with a bar chart, funnel plot, and a table showing the confidence intervals around each value.
Area profiles	'Area profiles' allows users to select a geographical area and presents all indicators in a profile for that area in a spine chart. Counts, as well as indicator values, are presented here along with figures for national and regional averages, and the range of values.
Definitions	'Definitions' provides more details about each indicator, including the data source and rationale. It also gives information on how statistical comparisons are made for each indicator.
Download	'Download' provides a spreadsheet of the underlying data used in the production of the indicator. Printable profile documents are also available for each CCG and County or Unitary Authority.

3.1   Overview

'Overview' is the default option in most profiles (Figure 1). It shows the indicators in rows, the geographical areas in columns, and indicator data in each cell, colour-coded depending on whether it is significantly different from the benchmark.

This view shows a coloured matrix of all indicators, allowing them to be compared across all areas belonging to the grouped-by option chosen (see above: geography). For some options the number of indicators is large; users will probably have to scroll down the screen to see all measures. For each indicator, where statistical significance can be calculated, the colour coding shows whether the measure is statistically above or below the comparator average. The default comparator is the national average.

The values in the matrix can be sorted using the arrows at the start of each row. Using the arrows in the header row sorts the areas alphabetically while using them in an indicator row sorts the table by ascending or descending values.

Sort the columns into alphabetical order (this is the default view)

Sort the row by the values of this indicator. Click once to sort in descending order, twice to sort in ascending order.
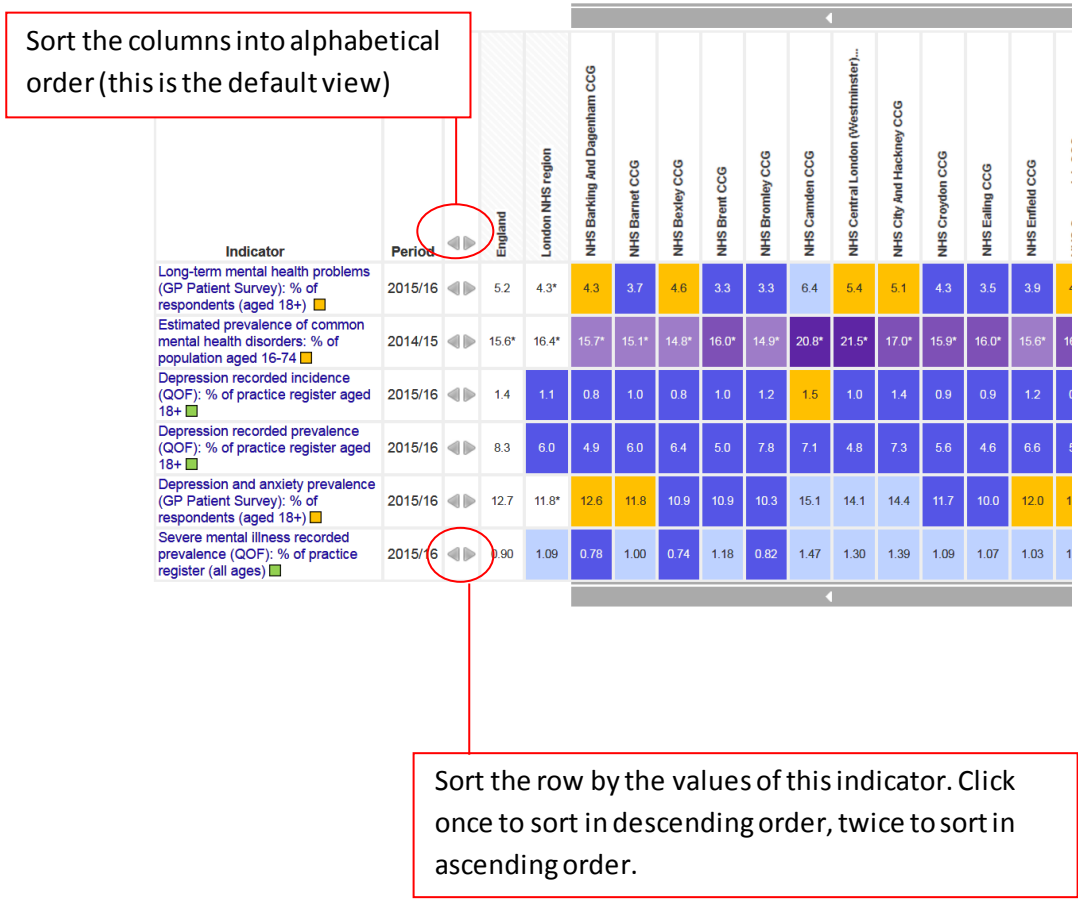
Figure 1: Overview of Prevalence and Incidence domain

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3.2 Map
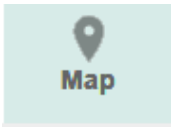
'Map' allows users to see spatial distribution indictor values across England (Figure 2). It also allows the user to build a bespoke comparator group of geographies. A variety of benchmarks can be selected.
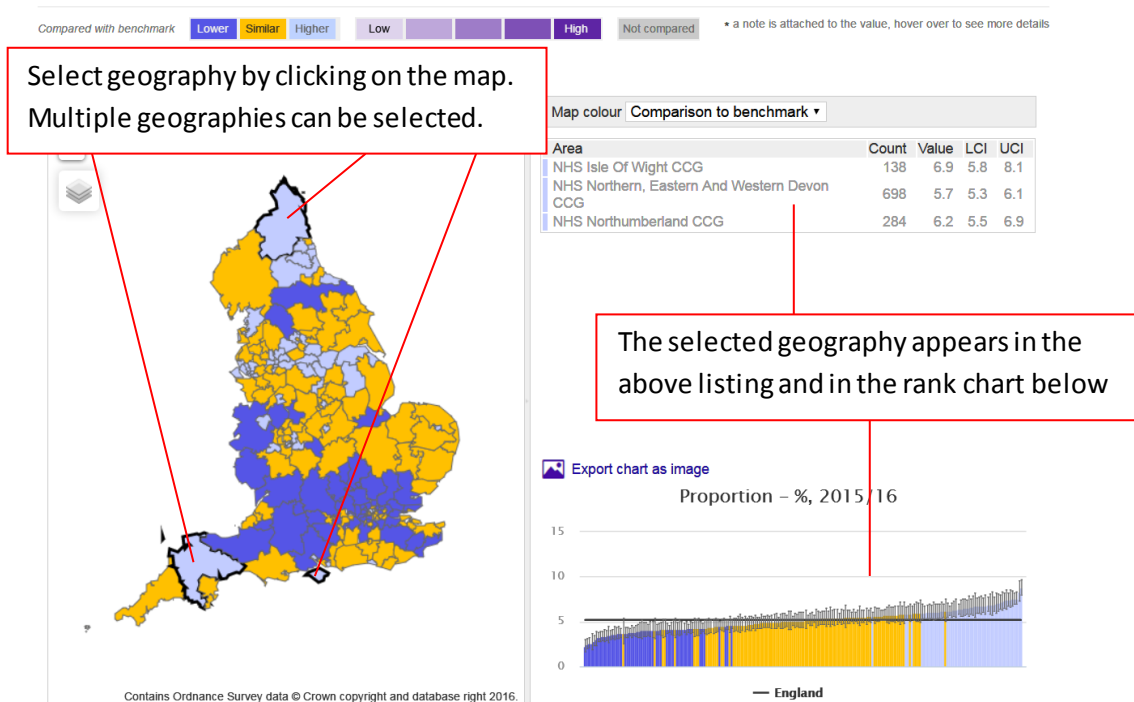
Figure 2: The map view of geographical distribution.

3.3   Compare Indicators

'Compare indicators' allows users to investigate interactions between two indicators (Figure 3). In this view, users select indicators displayed at the same geography. The selected indicators can be from any domain within the profile. A trend line is available when $R^2 > 0.14$. This analysis shows the relationship between two indicators - causation cannot be implied and any outcomes from using this view requires further investigation with local knowledge and caution is advised when using this facility.
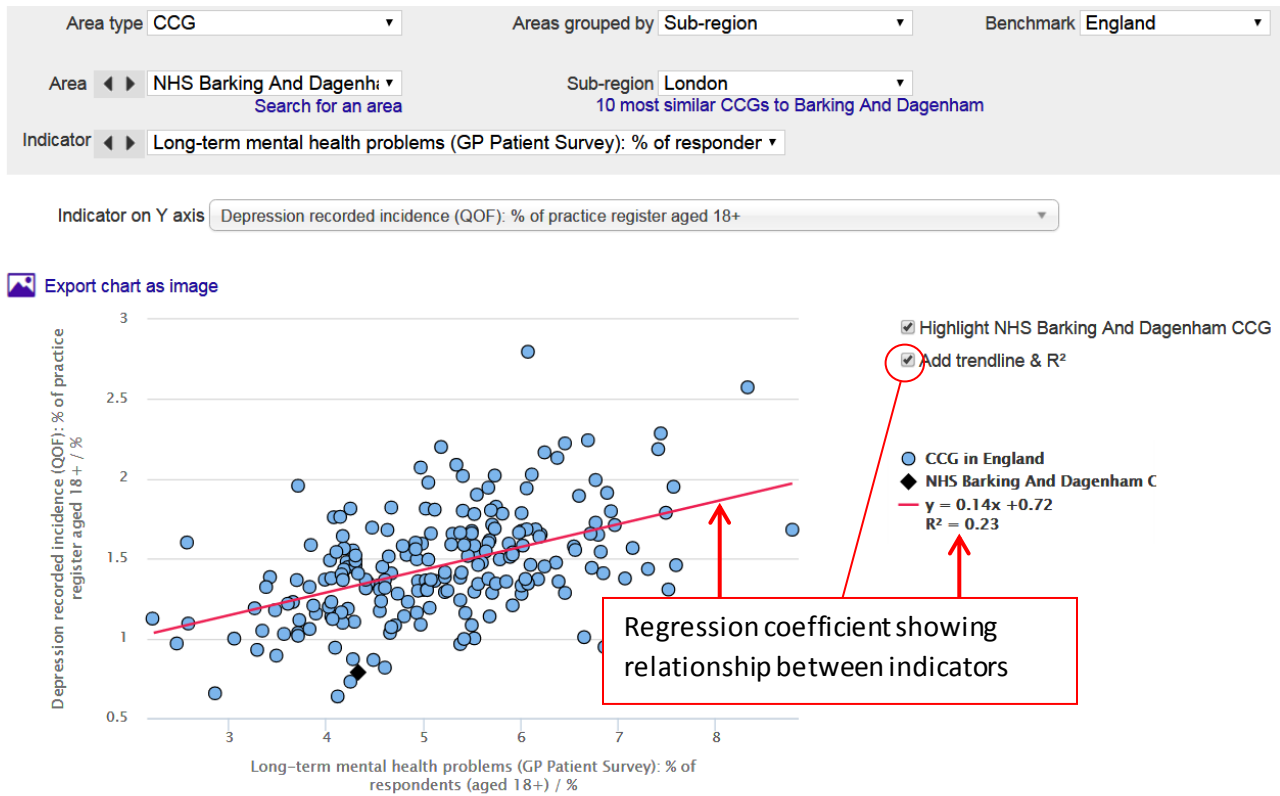
Figure 3: 'Compare indicators' view showing the relationship between two indicators

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3.4 Trends
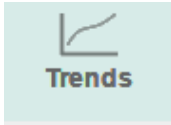
This view presents indicator time-series data. Drop-down boxes allow users to select the geographical area and indicator of interest. The default view is to present one indicator for one area. However, it is also possible to show all indicators within the domain for the selected area, or to generate the time-series charts showing the same indicator for all areas in the selected geography.

Generates trend chart for all indicators within the theme for selected area

Generates trend charts for all areas for selected indicator

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3.5   Compare Areas

This tool allows areas that have been grouped together to be compared by use of a bar chart. Both indicator and comparator groups can be changed using the drop-down menu (Figure 4).

Sort the column into alphabetical order (this is the default view)

Sort column by the values of this indicator. Click once to sort in descending order, click twice to sort in ascending order.

Area	Value		Lower CI	Upper CI
England	8.8		8.6	8.9
Fifth more deprived decile	9.0		8.5	9.6
Southampton	12.1		9.4	15.1
Portsmouth	11.6		8.9	14.8
Calderdale	10.3		7.9	13.2
Telford and Wrekin	10.2		7.6	13.5
Westminster	10.1		7.6	13.1
Bristol	10.0		8.3	12.0
Sefton	9.7		7.7	12.1
Bournemouth	9.6		7.1	12.6
Slough	9.5		6.4	13.6
Stockton-on-Tees	8.7		6.5	11.5
Derby	8.6		6.5	11.0
Ealing	7.8		6.1	9.9
Kirklees	7.7		6.2	9.4
Kensington and Chelsea	7.5		5.1	10.6
Dudley	5.7		4.3	7.5

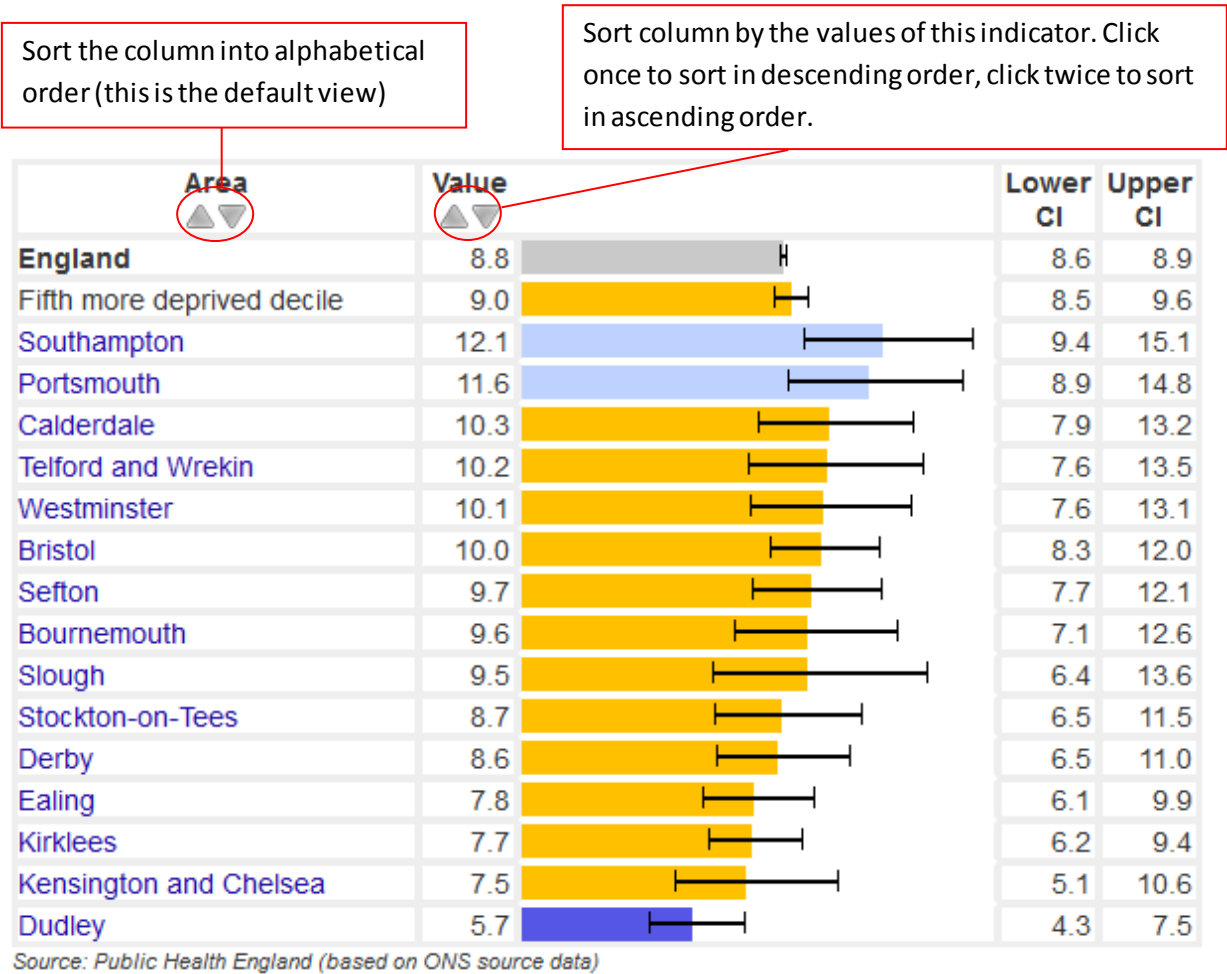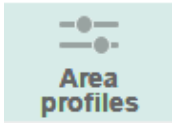Source: Public Health England (based on ONS source data)
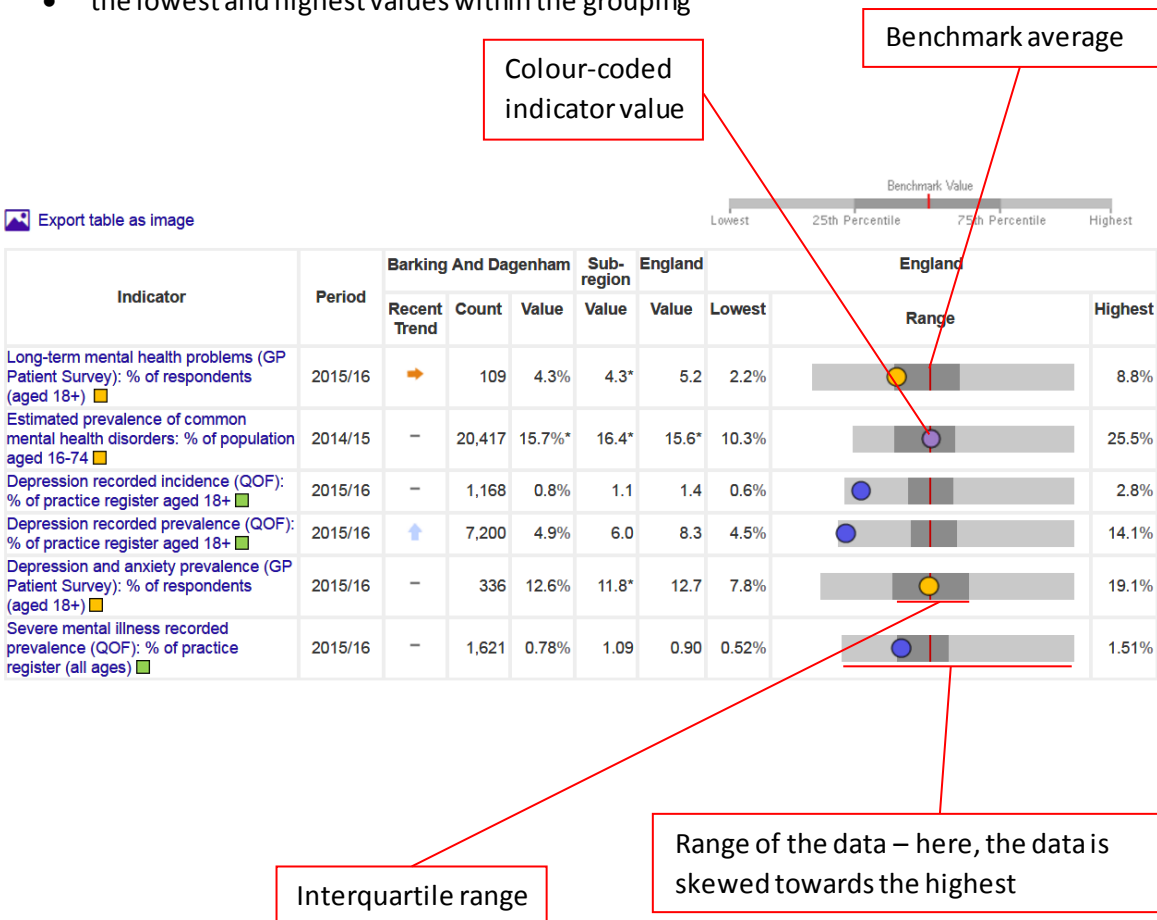
Figure 4: 'Compare areas' view of an indicator.

3.6   Area Profiles

A training video on spine charts is available <u>here</u>.

This view focuses on one geographical area, selected using the drop-down box near the top of the page or by clicking on the area name in the Overview. It produces a table of indicators within the theme which contains typically:

- recent trends for the area (if the indicator meets the recent trend criteria)
- counts for the area (for example, presented below are a number of indicators to aid understanding of variation of prevalence and incidence)
- the indicator value for the area (usually a percentage or a rate)
- the value for England and for the region
- the lowest and highest values within the grouping

Colour-coded indicator value

Benchmark average

Indicator	Period	Barking And Dagenham			Sub-region	England		England		Highest
		Recent Trend	Count	Value	Value	Value	Lowest		Range	
Long-term mental health problems (GP Patient Survey): % of respondents (aged 18+) ▫	2015/16	➡	109	4.3%	4.3*	5.2	2.2%			8.8%
Estimated prevalence of common mental health disorders: % of population aged 16-74 ▫	2014/15	–	20,417	15.7%*	16.4*	15.6*	10.3%			25.5%
Depression recorded incidence (QOF): % of practice register aged 18+ ▫	2015/16	–	1,168	0.8%	1.1	1.4	0.6%			2.8%
Depression recorded prevalence (QOF): % of practice register aged 18+ ▫	2015/16	⬆	7,200	4.9%	6.0	8.3	4.5%			14.1%
Depression and anxiety prevalence (GP Patient Survey): % of respondents (aged 18+) ▫	2015/16	–	336	12.6%	11.8*	12.7	7.8%			19.1%
Severe mental illness recorded prevalence (QOF): % of practice register (all ages) ▫	2015/16	–	1,621	0.78%	1.09	0.90	0.52%			1.51%

Range of the data – here, the data is skewed towards the highest

Interquartile range

This view also displays data in a spine chart, with colour coded points indicating whether the area is significantly different from the benchmark. Hovering the mouse cursor over elements of the spine

chart gives more information about underlying data. When England is selected as the benchmark, a spine chart display is generated for the indicator if at least 75% of the values in England have valid data. This rule is to prevent the display of spine charts that are misrepresentative due to extensive missing or suppressed data points.

In the spine chart the red vertical line represents the benchmark. The light grey bar shows the range between the highest and lowest areas in England or the region (depending on the benchmark selected) with the interquartile range shown in dark grey.

- The interquartile range (dark grey bar) is the difference between the 25th and 75th percentile i.e. if all areas' values for an indicator are ranked from lowest to highest the 25th percentile is 25% of the way through the ranking and the 75th is 75% of the way through.

- The light grey bar represents the range and skew of the data. If the worst and best values are equidistant from the mean the light grey bar will extend evenly across the chart. If the data are skewed towards the lower values the light grey bar will extend to the left hand side and if the data are skewed towards the higher values the light grey bar will extend to the right hand side.

Each dot represents the area indicator value. Dots to the left of the red line show that the value for this area is lower than the benchmark average; dots to the right show that the value is higher than the benchmark average. Where possible, these are colour coded showing whether the local value is statistically significantly lower (dark blue), higher (light blue) or not significantly different from the comparator (amber).

![Public Health England logo]
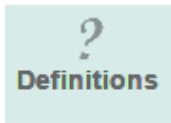
3.7   Definitions

For each indicator there is a set of metadata providing a definition for the indicator, the data source, the methods applied etc. Depending on the purpose, more detailed information might be required than can be provided in the metadata. In this case please see also the Profile specific supporting documents or contact profilefeedback@phe.gov.uk .

3.8   Downloads
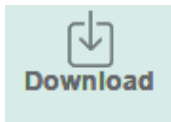
'Download' provides access to actual indicator data and the underlying data used in the production of the indicator in spreadsheet format, along with the accompanying metadata. Printable profile documents are available for each geography.

4. Acknowledgements

This document is based on version 1.7 of the Fingertips User Guide produced in February 2014 and was modified specifically to support the Mental Health JSNA Profile produced in December 2016. Many thanks to Doris Hain and colleagues at Public Health Data Science.