

Measuring wellbeing
inequality in Britain

measuring wellbeing inequality in Britain



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About the What Works Centre for Wellbeing

What Works Centre for Wellbeing is an independent organisation set up to produce robust, relevant and accessible evidence on wellbeing.

We work with individuals, communities, businesses and government, to enable them to use this evidence to make decisions and take action to improve wellbeing.

The Centre is supported by the ESRC and partners to produce evidence on wellbeing in four areas: work and learning; culture and sport; community; and cross-cutting capabilities in definitions, evaluation, determinants and effects.

This study was commissioned by the What Works Centre for Wellbeing and Economic and Social Research Council. It uses data from the Office of National Statistics. Research was carried out by the New Economics Foundation, as part of the Community Programme of the What Works Centre for Wellbeing.



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overview

What is wellbeing inequality? Why is it important to measure, and which parts of the United Kingdom have higher or lower levels of wellbeing inequality?

This paper attempts to answer these questions. It uses the ONS Annual Population Survey to analyse wellbeing inequality in the United Kingdom.

We have calculated wellbeing inequality measures for 143 local authorities between 2011 and 2015.¹ We have also calculated wellbeing inequality for a larger number of local authorities (203 or 380) where data from three years of the survey has been pooled together, producing three-year rolling averages.

This paper also shows how these inequalities have changed over time.

Additionally, it calculates a set of alternative wellbeing inequality measures, which highlights the many ways the concept can be measured.

Discussion of these alternative measures, and more details on our methodology can be found in our methods paper and the full data set can be downloaded from the What Works Centre for Wellbeing website in Excel format for anyone to use.



executive summary

Important progress has been made on wellbeing and its application to policy, yet the study of inequalities in wellbeing remains largely underdeveloped. Wellbeing inequality can be understood as the extent to which peoples' experiences of life vary within a population, or between different groups. The concept may be able to tell an interesting story about life in the UK, but questions remain about how best to measure and communicate it.

This report paper describes the findings of an initial study on wellbeing inequality in UK local authorities, with the aim of beginning a discussion about how and why we should measure it.

Wellbeing inequality can be understood as the extent to which peoples' experiences of life vary within a population, or between different groups.

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The research found that:

- Looking at overall levels of wellbeing inequality in 2014-15, Blaenau Gwent and Liverpool were amongst the most unequal while Enfield and Cheshire East were amongst the most equal. Other areas with high levels of wellbeing inequality include the Welsh Valleys, Merseyside and the area around Glasgow.
- On average, in most local authorities, those with lower levels of education had lower wellbeing than those with higher education – e.g. in Blaenau Gwent and Sunderland. However, in some local authorities there was no difference at all, or those with lower levels of education actually had higher wellbeing – e.g. in Waltham Forest and the Scottish islands of Eilean Siar, Orkney & Shetland.
- The fact that some local authorities saw strong inequalities between those with differing levels of education while others saw no difference suggests that these inequalities are not inevitable and it may be that policy can help to reduce them.

Further research identifying what factors are associated with wellbeing inequalities – for example, local authority spending or levels of social capital – will be published in 2017.

To receive an email alert when these findings become available, please email: info@whatworkswellbeing.org

1. In 2011 we calculated wellbeing inequality measures for 203 geographical areas because that year of data used a slightly different area variable. See methodology paper for an explanation of the geographical divisions we used. The variable used in most analyses was called UALA09 – which includes both unitary authorities and local authorities. We will use the term 'local authority' as shorthand for all these geographical divisions.

what is wellbeing?

Wellbeing, put simply, is about ‘how we are doing’ as individuals, communities and as a nation. It is also about how sustainable this is for the future.

Information about the UK’s wellbeing is collected by the Office for National Statistics (ONS) in the Annual Population Survey.

This survey reaches over 160,000 people each year across Great Britain, and asks four questions on subjective wellbeing:

Overall, how satisfied are you with your life nowadays?

Overall, to what extent do you feel the things you do in your life are worthwhile?

Overall, how happy did you feel yesterday?

Overall, how anxious did you feel yesterday?

Respondents are given a scale from 0 (lowest) to 10 (highest) to rank their response to each question.

Behind these questions is a comprehensive academic evidence-base showing that it is possible to measure wellbeing in a robust way. ²

2. Abdallah, S., Mahony, S., Marks, N., Michaelson, J., Seaford, C., Stoll, L., & Thompson, S. (2011). Measuring our progress: The power of well-being. London: New Economics Foundation.



what is wellbeing inequality?

Wellbeing inequality can be considered in two different ways.

Overall wellbeing inequality

Overall wellbeing inequality is a measure of how much wellbeing varies within a population (in our case, a local authority), across the whole population, with no reference to any demographic or socio-economic groups. This type of inequality is analogous to measures of income inequality such as the Gini coefficient.

Wellbeing inequality between groups

Between-group wellbeing inequality refers to differences in wellbeing between population groups defined by some other factor, for example between males and females, or between ethnic groups. This type of inequality is familiar to those who work on health inequalities, where differences in health are often compared between those of low income compared to high income. Where differences in health inequalities are measured by, for example, difference in terms of years of life, wellbeing inequality is measured in terms of higher versus lower levels of subjective wellbeing.





why does wellbeing inequality matter?

Wellbeing inequality tells us a different story about how different areas in the UK are doing.

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What matters more: the greatest overall wellbeing, or the wellbeing of the greatest number?

While people may differ in opinion about the extent to which inequality should be reduced, most people agree that improving the wellbeing of the least happy is more important than improving the wellbeing of someone who is already living a happy and fulfilling life.

For example, consider two hypothetical local authorities: in local authority A, half the population has a wellbeing score of 7 and half the population has a wellbeing score of 6. In local authority B, half the population has a wellbeing score of 8, and half the population has a wellbeing score of 5. In both places, the average wellbeing score would be 6.5. But political philosophers such as John Rawls and economists such as Anthony Atkinson have long argued that 'social welfare' is dependent on the distribution of an outcome, not just the average. Rawls' logic is simple – imagine you are not yet born and you get to choose which of the two local authorities you get to be born into. The only catch is that you don't know which half of the population you'll be part of. Most people would prefer local authority A – where there is less uncertainty of the outcome, because there is less inequality.

So, morally, there is a reason to care about the distribution beyond the average. Calculating wellbeing inequality allows us to reflect that.

On top of these reasons, wellbeing inequality tells us a different story about how different areas in the UK are doing. For example, initial analysis suggests that wellbeing inequality is not necessarily correlated with income inequality;³ however, further analysis in 2017 will explore this in more detail.

And it may be that wellbeing inequality may help explain other social phenomena better than average wellbeing does. For example, after the referendum on whether the UK should leave the European Union, we found that wellbeing inequality in a local authority was associated with higher percentages of leave voters, whilst average wellbeing was not related (see Box 1).

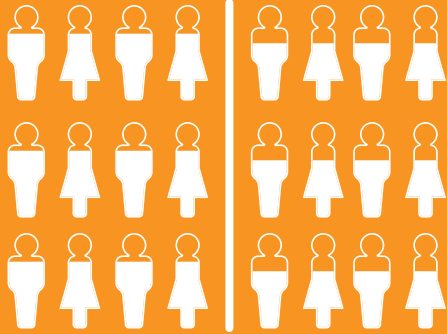
3. Harrison, E., Quick, A., and Abdallah, S. (2016) Looking through the Wellbeing Kaleidoscope, London: New Economics Foundation. Accessed via <http://www.wellbeingcounts.org/wp-content/uploads/2016/05/Wellbeing-Kaleidoscope-Final-Report.pdf>





Local Authority

A



average wellbeing

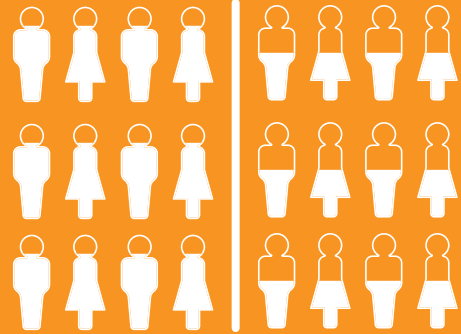
=6.5

In local authority A, half the population has a wellbeing score of 7 and half the population has a wellbeing score of 6.



Local Authority

B



average wellbeing

=6.5

In local authority B, half the population has a wellbeing score of 8, and half the population has a wellbeing score of 5.





BOX 1

Wellbeing inequality linked to Brexit referendum decision

Perhaps the most important political decision that the UK public has made for more than a generation was the vote in June 2016 to leave the European Union. The causes of this decision are deep-rooted and complex.

Economic inequality has been touted by many as the main cause,⁴ whilst others have focussed on the alienation of the white working classes.

We wanted to explore whether wellbeing played a role in explaining the results. Using data from 2014-15 (i.e. before the referendum), we found that whilst mean wellbeing within a local authority did not predict the percentage of people who voted to leave within an area,⁵ overall wellbeing inequality did. Places which had higher overall wellbeing inequality were more likely to vote to leave the European Union. This is shown in Figure 1.⁶

The relationship was significant, even after we controlled for other variables including median income, income inequality, unemployment levels, education levels and ethnicity.⁷ Interestingly, average levels of anxiety within a locality also predicted referendum results, with places with higher levels of reported anxiety more likely to vote to remain in the European Union.

More details on the methodology used in this analysis can be found in the accompanying methodology paper.

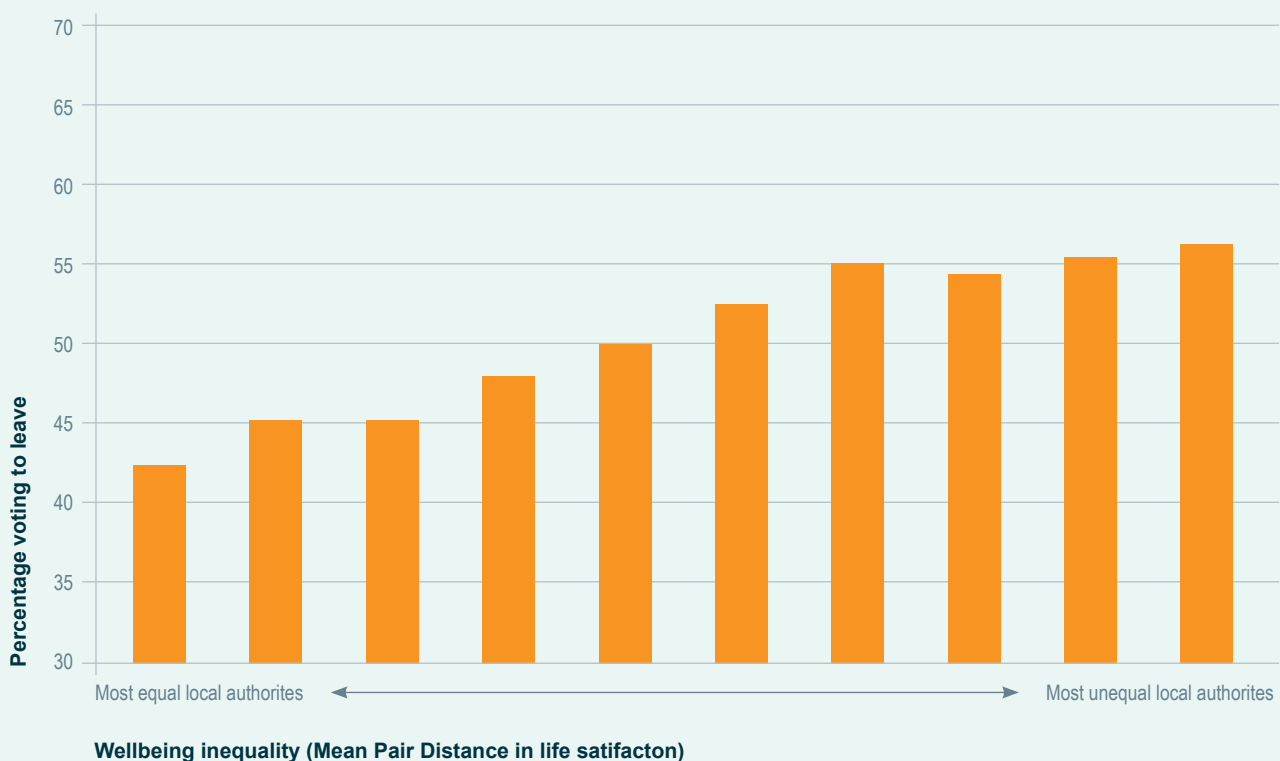


Figure 1: Voting patterns in local authorities as a function of wellbeing inequality (measured as Mean Pair Distance in life satisfaction)

4. <https://www.equalitytrust.org.uk/brexit-and-inequality-its-not-about-globalisation>
 5. Though average wellbeing did predict turnout.

6. Bivariate correlation had $R=0.37$, $p=0.000$
 7. Table 5 in the methodology paper shows the results of this regression.



how we measured wellbeing inequality

Wellbeing, put simply, is about ‘how we are doing’ as individuals, communities and as a nation and how sustainable this is for the future.

For each of the four ONS wellbeing questions, we calculated the standard deviation for each local authority.⁸ This is the average difference between the wellbeing score of any individual in a local authority and the mean for that local authority.⁹ We also averaged the standard deviations for the four questions to create an overall wellbeing inequality measure.¹⁰ Further details can be found in the methodology paper.

Note that we are looking at inequality within local authorities, not between local authorities. For example, Lambeth’s average wellbeing score is 7.33, compared to Sunderland’s 7.36.¹¹ However, using our overall wellbeing inequality measure (average standard deviation of four wellbeing questions), Lambeth scores 1.9, placing it in the top 10 most equal local authorities and Sunderland scores 2.4, placing it in the bottom 10 least equal. In this paper, we are comparing local authorities’ internal wellbeing inequality.

Wellbeing, put simply, is about ‘how we are doing’ as individuals, communities and as a nation and how sustainable this is for the future.

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8. The ONS considers the data from this survey robust enough to report at this geographical scale. In 2014-15, for life satisfaction, the median sample size for each local authority used in our analysis was around 840 respondents, with samples ranging from 274 for Bedford to 1,686 for Hampshire. Sample sizes were marginally different for each question as a few respondents did not answer all four wellbeing questions. According to the ONS, for the mean of life satisfaction, the median confidence interval was 0.29 points, and intervals ranged from 0.17 for Hampshire to 0.47 for Greenwich. According to the methodology for the survey, ‘weighting factors take account of ... the composition of the local population by age and gender.’

9. For standard deviations to be calculated, all differences are first squared, before they are averaged, and then the square root is taken. This means more weight is given to values further from the mean in determining the levels of variation.

10. One number is easier to digest than four, so it is often preferable to have a single headline measure. However, choosing just one of the ONS questions to report on can risk losing important information. We therefore created an overall wellbeing inequality measure that combined responses to the four wellbeing questions to make communication easier. More information about this is available in the methodology paper. Rankings across each of the individual questions and using an alternative weighting are included in the Annex.

11. Averaging the four questions, with an inverse for Anxiety.



wellbeing inequality across Britain

Figure 2 maps out overall wellbeing inequality across Great Britain in 2014-15. Darker areas are those with higher inequality. These include the Welsh Valleys, Merseyside and the area around Glasgow.

We excluded London from Figure 2 because the number of geographical borders in a small space obscured the image. Figure 3 maps wellbeing inequality across London Boroughs, where it can be seen that overall, London fares relatively well on wellbeing inequality.





Figure 2: Overall wellbeing inequality in 2014-15 for all local authorities, excluding London¹²

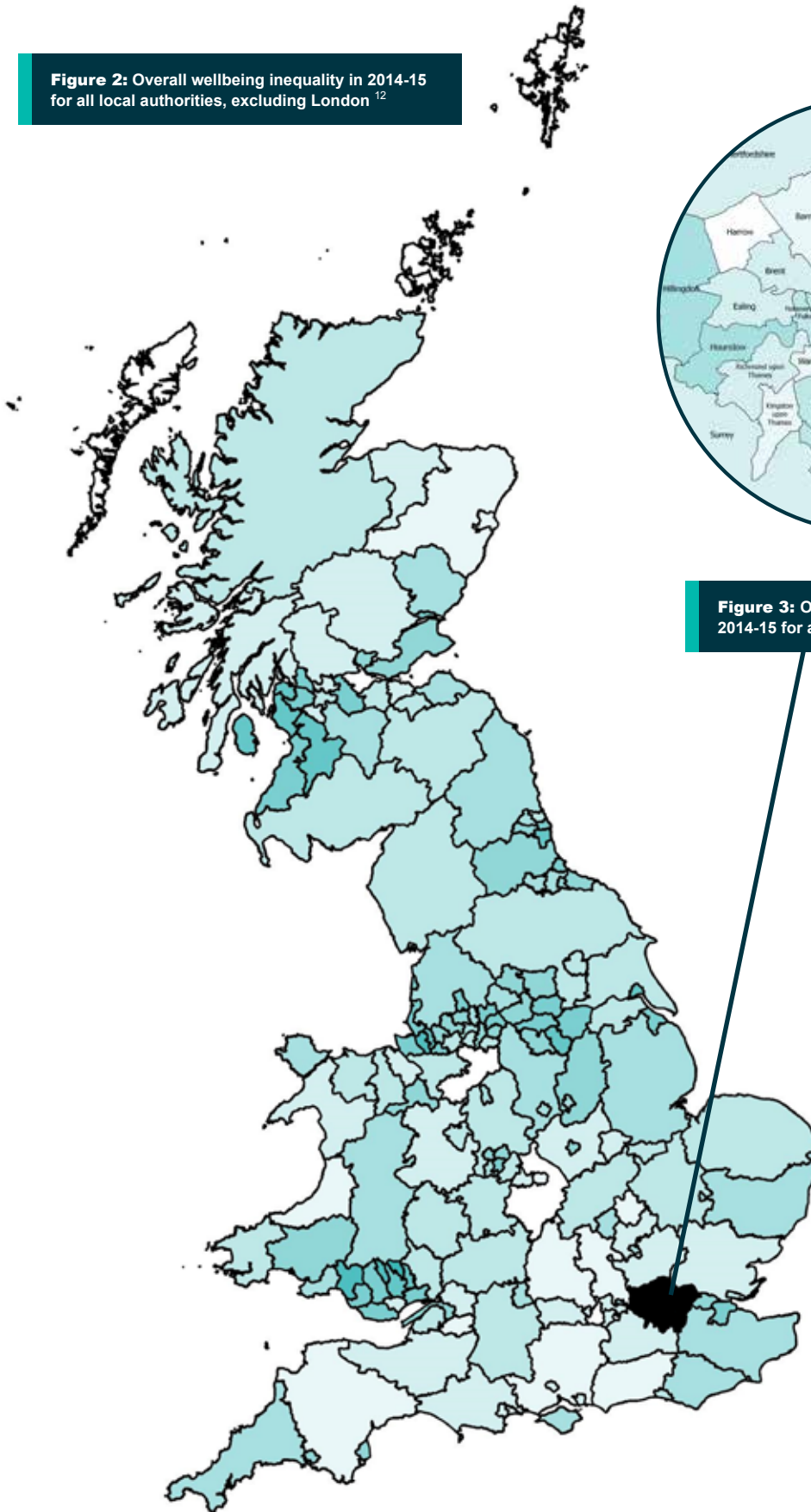


Figure 3: Overall wellbeing inequality in 2014-15 for all London boroughs¹³

Key

Mean Standard Deviation of the four ONS wellbeing questions

- 1.80 – 1.88
- 1.88 – 1.95
- 1.95 – 2.02
- 2.02 – 2.10
- 2.10 – 2.18
- 2.18 – 2.25
- 2.25 – 2.33
- 2.33 – 2.40
- 2.40 – 2.48
- 2.48 – 2.55

12. See Appendix for the full list, ranked from most equal to least equal.

13. Excluding City of London for which data is not collected.



wellbeing inequality across Britain (cont.)

Table 1 highlights the most equal and unequal 10 local authorities (see Box 2 for interpreting the differences between local authorities).

Blaenau Gwent, in Southeast Wales, ranks as the most unequal local authority. The borough, with a population of around 70,000, has the seventh highest levels of unemployment in Great Britain, and the seventh lowest level of education. These are factors that are linked to low wellbeing, so might also explain the high wellbeing inequality in the area. We will publish further analysis exploring the predictors of wellbeing inequality in 2017.

The most equal local authority is Enfield in North London, followed by Cheshire East and Harrow, also in North London. Glancing down the list shows that more equal local authorities tend to have higher average wellbeing. However this is not always the case, for example, in Kingston upon Hull (the eighth most unequal local authority) the average levels of wellbeing are higher than they are in Lambeth (the eighth most equal).¹⁵ Table 2 provides examples of places that have all four possible combinations of average wellbeing and wellbeing inequality. This highlights the value of looking at average wellbeing alongside inequalities in wellbeing as they both tell different and interesting stories.

For each of the four ONS wellbeing questions, we calculated the standard deviation for each local authority.

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	Ten most equal			Ten most unequal		
	Local authority	Mean Standard Deviation	Average of 4 ONS questions	Local authority	Mean Standard Deviation	Average of 4 ONS questions
1	Enfield	1.8	7.62	Blaenau Gwent	2.5	7.24
2	Cheshire East	1.8	7.74	Liverpool	2.4	7.11
3	Harrow	1.8	7.49	Neath Port Talbot	2.4	7.36
4	Eilean Siar, Orkney & Shetland	1.8	8.05	Merthyr Tydfil	2.4	7.26
5	Warwickshire	1.9	7.75	Knowsley	2.4	7.13
6	Wokingham	1.9	7.66	Sunderland	2.4	7.36
7	Falkirk	1.9	7.68	Rotherham	2.4	7.30
8	Lambeth	1.9	7.33	Kingston Upon Hull	2.4	7.34
9	Aberdeenshire	1.9	7.76	Inverclyde	2.4	7.33
10	Barnet	1.9	7.67	North Ayrshire	2.3	7.29

Table 1: Ten most unequal and most equal local authorities in 2014-15, based on average standard deviation of four wellbeing questions 14

14. In these averages, the results for anxiety (where a higher score reflects higher levels of anxiety) have been reversed so that a higher number represents higher overall wellbeing across the four measures.

15. We will undertake further analysis to test this as part of the What Works Centre for Wellbeing Community Evidence Programme in early 2017.



High average wellbeing, low wellbeing inequality	Relatively high average wellbeing, high wellbeing inequality
Eilean Siar, Orkney & Shetland	Hartlepool
Cheshire East	South Ayrshire
Warwickshire	Doncaster
Low average wellbeing, low wellbeing inequality	Low average wellbeing, high wellbeing inequality
Lambeth	Blaenau Gwent
Wandsworth	Liverpool
Islington	Knowsley

Table 2: Example of locations with different combinations of average wellbeing and wellbeing inequality

BOX 2

Testing for statistical significance

Testing for statistical significance allows us to judge whether an apparent difference seen in the data is just a matter of chance, or whether it indeed represents a real difference.

Overall, there are statistically significant differences across the UK in terms of wellbeing inequality scores. For example, for each of the four wellbeing questions, the top (and bottom) five local authorities listed in Table 1 are almost all significantly more (or less) equal than Leeds – a local authority which ranks consistently between 50th and 60th on measures of inequality across all four wellbeing questions.¹⁶

However, this is not to say that the score of every local authority is significantly different to the score of the local authority above or below it in the ranking. For example, differences within the top and bottom ten local authorities are mixed across each of the four wellbeing questions, meaning that the most equal local authority and second most equal local authority according to any measure might not be significantly different from one another statistically. This is quite normal in a set of ranked data – while the overall ranking tells a useful story between the top, middle and bottom, the differences between local authorities close to each other in the ranking may be less significant.

Testing statistical significance for inequality measures that combine wellbeing measures is not straightforward, and requires further study. More details on the methodology used for testing significance is available in the methodology paper, and a simple tool for users to determine the significance of any given difference can be found in the Excel workbook with all the data.

Overall, there are statistically significant differences across the UK in terms of wellbeing inequality scores.

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Research on the predictors of wellbeing inequality is still in its early days¹⁷ and the What Works Centre will be publishing further analysis later this year.

16. Three exceptions being that Knowsley is not significantly more unequal in terms of anxiety, Merthyr Tydfil is not significantly more unequal in terms of worthwhile, and Enfield is not significantly more equal in terms of life satisfaction.

17. Some initial analysis can be found in: Harrison, E., Quick, A., and Abdallah, S. (2016) Looking through the Wellbeing Kaleidoscope, London: New Economics Foundation. Accessed via <http://www.wellbeingcounts.org/wp-content/uploads/2016/05/Wellbeing-Kaleidoscope-Final-Report.pdf>



changes over time

Looking across the UK as a whole, there has been a general trend of declining wellbeing inequality. For example, between 2011-12 and 2014-15, life satisfaction inequality decreased significantly in 78 out of the 143 local authorities for which we have data for both time points.¹⁸ Some of the largest decreases were seen in Swansea, Warwickshire and Bedford.

It only increased significantly in one local authority (Dundee City) and in that case the statistical significance was only marginal.¹⁹

For the other wellbeing measures, the pattern was less stark. For example, inequality in anxiety only decreased significantly in 33 local authorities, and increased significantly in 5 – with no significant difference in the majority of localities. More details on the significance of changes over time can be found in the methodology paper.

Blaenau Gwent has not always been the local authority with the highest levels of wellbeing inequality.²⁰ Table 3 shows the 10 most unequal local authorities for the last three years (the period for which our local authority boundaries are constant). In 2013-14, the most unequal local authority was North Ayrshire, near Glasgow. In 2012-13, the table was topped by Knowsley, Merseyside.

	2012-13	2013-14	2014-15
1	Knowsley 2.5	North Ayrshire 2.4	Blaenau Gwent 2.5
2	Inverclyde 2.5	Blaenau Gwent 2.4	Liverpool 2.4
3	North Ayrshire 2.4	Barking and Dagenham 2.4	Neath Port Talbot 2.4
4	Liverpool 2.4	South Tyneside 2.4	Merthyr Tydfil 2.4
5	East Ayrshire 2.4	Knowsley 2.4	Knowsley 2.4
6	South Tyneside 2.4	Liverpool 2.4	Sunderland 2.4
7	Blaenau Gwent 2.4	Rochdale 2.4	Rotherham 2.4
8	Merthyr Tydfil 2.4	Inverclyde 2.4	Kingston Upon Hull 2.4
9	Sunderland 2.4	Blackburn with Darwen 2.4	Inverclyde 2.4
10	County Durham 2.4	Bradford 2.4	North Ayrshire 2.3

Table 3: Overall wellbeing inequality – ten most unequal over time

18. Using Levene's tests with a p threshold of 0.05 (see methodology).

19. $p=0.022$

20. While the number of local authorities varied from year to year, Blaenau Gwent was in the list every year.

21. We did consider inequalities based on other demographics, but discounted them for different reasons. In addition to education, we also initially looked at ethnicity. However the sample sizes were too low to produce anything more detailed than the difference between white and ethnic minority respondents, which we decided was too blunt a distinction. Inequality between genders in terms of wellbeing is generally very low. And we didn't report, for example, age differences, as there is no simple binary comparison one can make. See methodology for further information.

22. As this analysis was descriptive, we have not tested for statistical significance. However, we will do this in forthcoming analysis that will build on this briefing in 2017.

23. This measure of inequality is simply descriptive, so this is not a causal model. Clearly there are other things correlated to education, most obviously age. When we move onto causal analysis these factors will be controlled for.



wellbeing inequality between groups

As an illustration of how wellbeing inequality could be used to explore inequality between groups using bivariate analysis, we calculated education-based wellbeing inequality.²¹⁻²²

This was operationalised as the difference in wellbeing between respondents whose highest qualification is GCSE level or lower, versus those who have some form of higher education, either a degree or vocational study. We chose to look at level of education because it represents the best available proxy measure of socioeconomic status given the survey's lack of data on household income.²³





education-based wellbeing inequality

Figure 4: maps out overall education-based wellbeing inequality across Great Britain in 2014-15 (averaging the scores for all four questions)

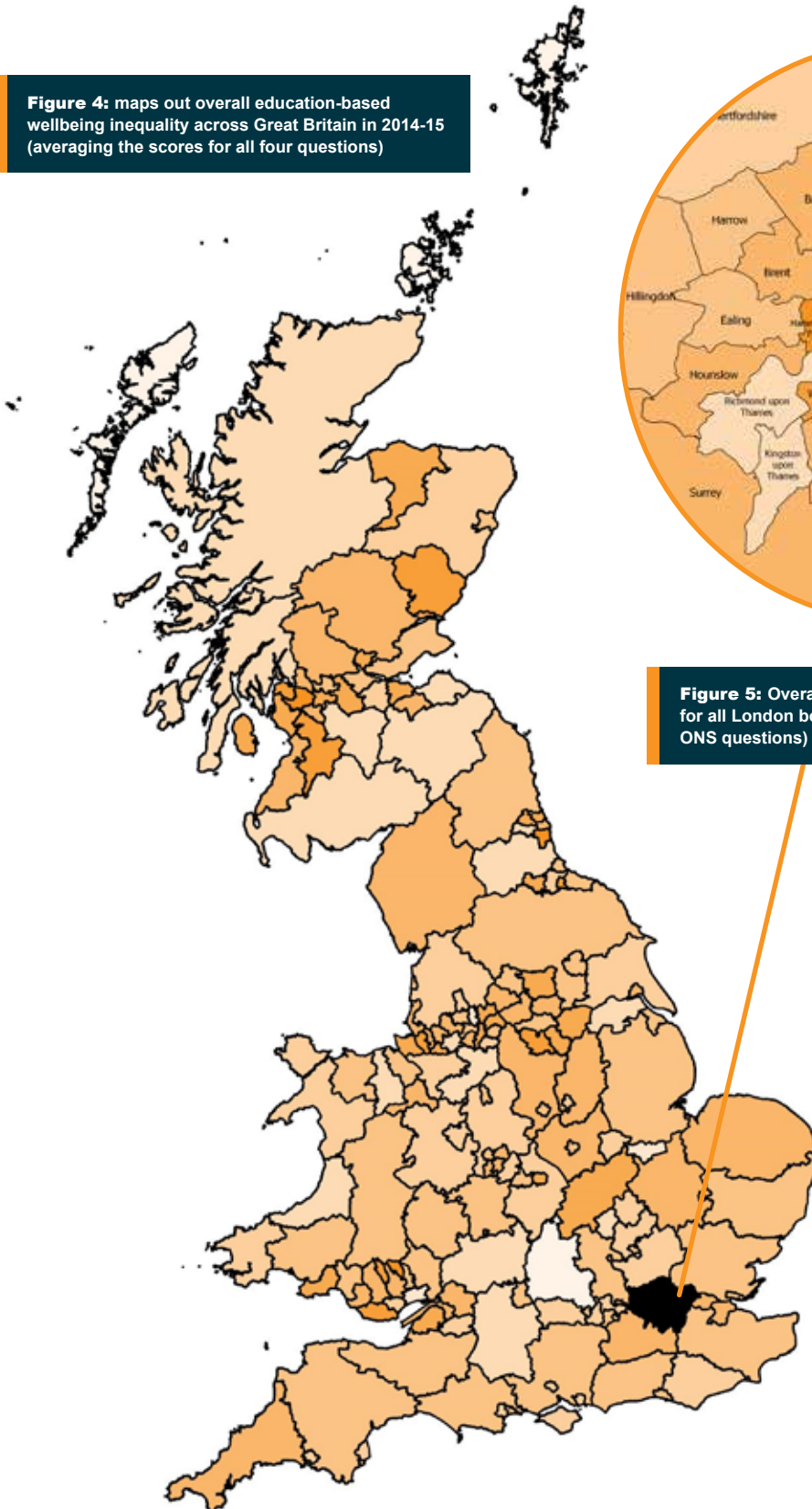


Figure 5: Overall education-based inequality in 2014-15 for all London boroughs (averaging the scores for all four ONS questions) ²⁴

Key

Education-based inequalities averaging the four ONS wellbeing questions

- 0.58 – -0.44
- 0.44 – -0.29
- 0.29 – -0.15
- 0.15 – 0.00
- 0.00 – 0.14
- 2.18 – 0.29
- 0.29 – 0.44
- 0.44 – 0.58
- 0.58 – 0.73
- 0.73 – 0.87



Education-based wellbeing inequality		
1	Blaenau Gwent	0.87
2	Sunderland	0.79
3	Kensington and Chelsea	0.78
4	Hammersmith and Fulham	0.75
5	Renfrewshire	0.73
6	Sheffield	0.72
7	Liverpool	0.71
8	East Ayrshire	0.68
9	Angus	0.64
10	Wandsworth	0.61

Table 4: Ten local authorities in which respondents with lower levels of education saw the largest wellbeing penalties; average of measures for all four questions in 2014-15

Table 4 ranks the ten local authorities in which respondents with lower levels of education saw the largest wellbeing deficits, using an average of measures for all four questions. The number represents how much higher wellbeing is for someone with higher education compared to someone with lower education (remember all questions are scored on a scale of 0 to 10).

In terms of education, Blaenau Gwent yet again ranked as the local authority in which respondents with lower levels of education saw the largest wellbeing deficits in Great Britain in 2014-15. For example, whilst those with high education only reported an average score of 2.5 on a 0 to 10 scale in terms of their level of anxiety, those with lower levels of education reported an average score of 3.6.

But Blaenau Gwent is now the only local authority in the Welsh Valley region in the top ten local authorities where respondents with lower levels of education saw the largest wellbeing penalties. It is predominantly joined by several areas of Scotland, and West London boroughs. For example, in Kensington & Chelsea, those with high levels of education score 7.8 on the 0 to 10 scale in terms of life satisfaction, whereas those with lower levels of education only score 6.7.

Meanwhile, some regions in the country displayed a reversed pattern, whereby people with lower levels of education actually had higher levels of wellbeing than those with higher levels of education. This effect was biggest in the East London borough of Waltham Forest, where those with GCSEs or lower actually scored 0.6 points higher on wellbeing than those with higher education. Looking at the individual wellbeing questions, the biggest differences for Waltham Forest were for happiness (people with lower levels of education being 0.9 points happier) and anxiety (0.7 points less anxious). The Scottish Islands and Oxfordshire also displayed this effect.

Some local authorities showed little to no difference in wellbeing levels between respondents with higher and lower levels of education, for example, Wiltshire, Portsmouth and Birmingham all showed no difference.

Figure 6 below shows a range of levels of education-based wellbeing inequality; those scoring below 0 show higher wellbeing associated with lower levels of education while scores above 0 show higher wellbeing associated with higher education.

Those with high education only reported an average score of 2.5 on a 0 to 10 scale in terms of their level of anxiety, those with lower levels of education reported an average score of 3.6

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24. Excluding City of London for which data is not collected.

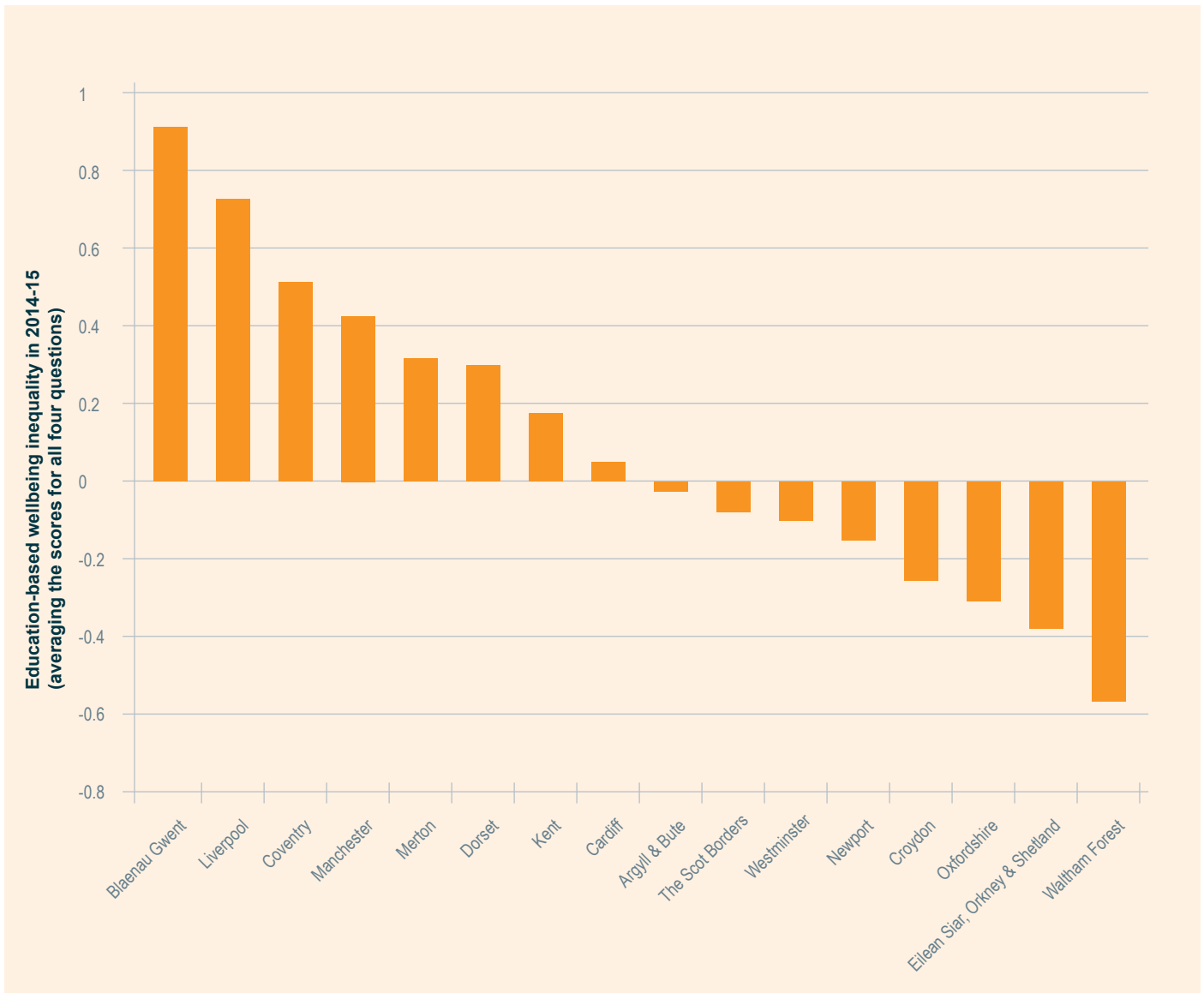


Figure 6: Education-based wellbeing inequality in 2014-15 (averaging the scores for all four questions), selected local authorities

The trend over time for education-based wellbeing inequality was a little different to that for overall wellbeing inequality. Education-based wellbeing inequality decreased in 78 local authorities and increased in 56. Large increases were seen in several west London boroughs (Kensington and Chelsea seeing the largest increase), Sheffield and Sunderland. For example, whilst there was no difference in wellbeing between those with low and high levels of education in 2012-13 in Kensington and Chelsea, the difference had increased to 0.8 points in 2014-15. Meanwhile, there were large decreases in several other London boroughs. The difference was 1.0 in Islington in 2012-13, decreasing to 0.1 in 2014-15. Focusing on those local authorities for which four years of data are available, the biggest increases in wellbeing inequality between education groups were in Blaenau Gwent and Slough, and the biggest decreases were in West Lothian and Oxfordshire.

25. Excluding City of London for which data is not collected.



🔦 spotlight on those who are struggling most

Figure 7: Average life satisfaction (on a scale of 0-10) of the bottom 40% in each local authority, excluding London

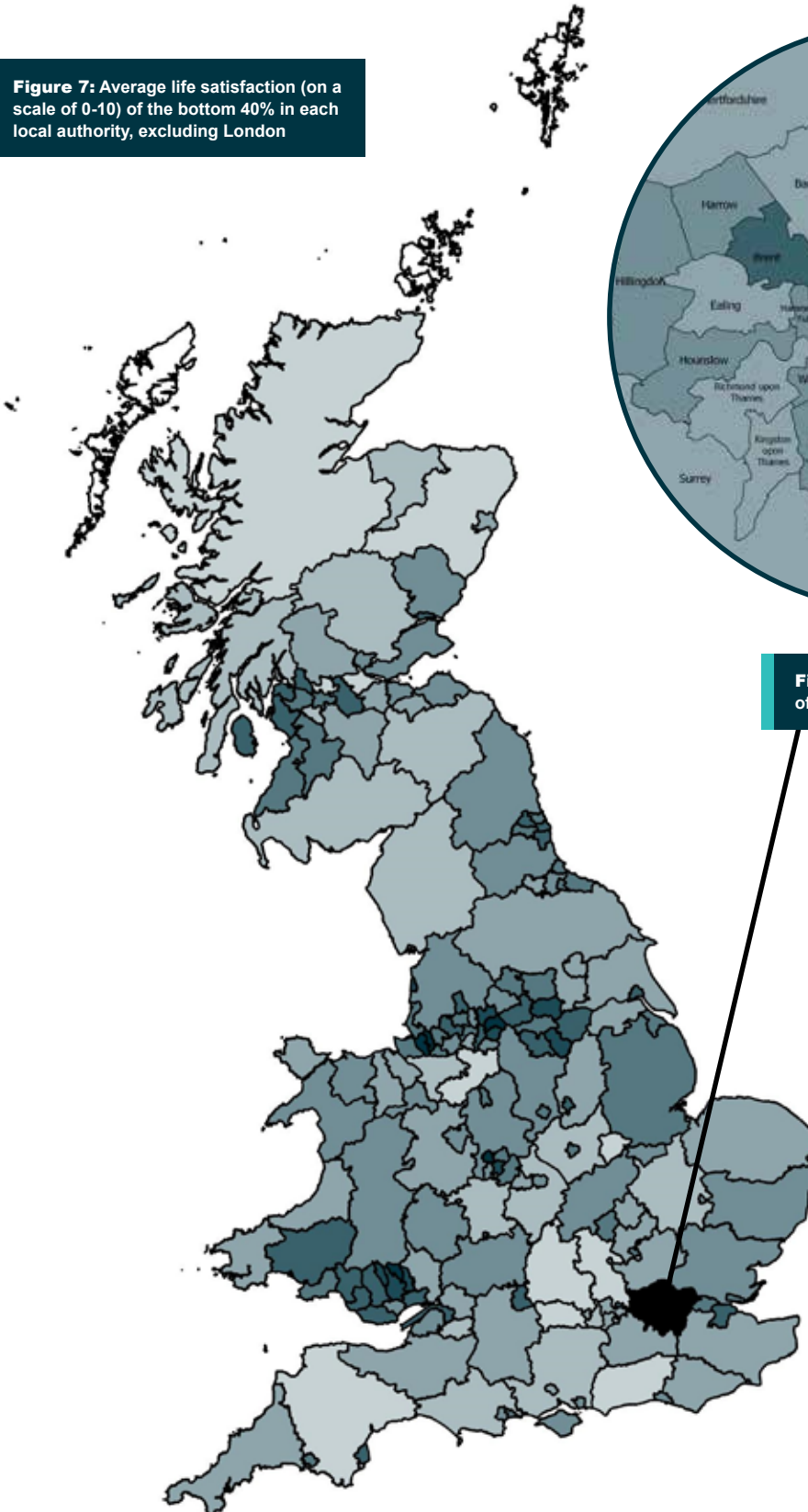


Figure 8: Average life satisfaction (on a scale of 0-10) of the bottom 40% in each London borough²⁵

Key

Average life satisfaction of the bottom 40% in each local authority.

- -5.20 – 5.37
- -0.44 – 5.54
- 5.54 – 5.72
- 5.72 – 5.89
- 5.89 – 6.06
- 6.06 – 6.24
- 6.24 – 6.41
- 6.41 – 6.58
- 6.58 – 6.76
- 6.76 – 6.93



	Average of bottom 40%		Average overall		Standard deviation	
1	Wolverhampton	5.2	Wolverhampton	7.1	Blaenau Gwent	2.2
2	Knowsley	5.2	Oldham	7.2	Merthyr Tydfil	2.1
3	Liverpool	5.3	Knowsley	7.2	Knowsley	2.1
4	Blaenau Gwent	5.3	Sandwell	7.2	Liverpool	2.1
5	Oldham	5.3	Liverpool	7.3	Rhondda, Cynon, Taff	2.1
6	Merthyr Tydfil	5.4	Brent	7.3	Neath Port Talbot	2.1
7	Caerphilly	5.4	Camden	7.3	Caerphilly	2.0
8	Greenwich	5.5	Newcastle upon Tyne	7.3	Wakefield	2.0
9	Tameside	5.5	Greenwich	7.3	Sunderland	2.0
10	Torfaen	5.5	Blackpool	7.3	Rotherham	2.0

Table 5: Ten local authorities with the lowest life satisfaction amongst the bottom 40%, compared to average life satisfaction and standard deviation of life satisfaction

Most people care about inequalities in wellbeing because of a concern for improving the lives of those who are struggling the most. As well as looking at overall inequality, we produced a measure which focuses on low wellbeing – average wellbeing for the 40% with lowest wellbeing in a local authority (i.e. the bottom two quintiles).

Figure 7 maps out average life satisfaction of the bottom 40% in each local authority across Great Britain.

Table 5 shows how the lowest life satisfaction amongst the bottom 40% differs from that for the lowest life satisfaction overall, and indeed from the standard deviation in life satisfaction. For example, whilst Wolverhampton appears to be in the bottom 10 for the bottom 40% simply because average wellbeing is low there, Blaenau Gwent appears to be in the bottom 10 because of its large standard deviation. This suggests that if we are most interested in reducing low wellbeing, rather than reducing inequality per se, this measure may present a particularly useful picture for policy makers.



conclusion and next steps

While rankings of the average wellbeing of local authorities have been published - and made headlines - for a number of years, this is the first attempt to rank local authorities according to inequalities in wellbeing.

We have found that there are significant differences in wellbeing inequality in different areas of the country. We have found that these differences change over time, but that certain areas, in particular the Welsh Valleys, Merseyside and the area around Glasgow are repeatedly amongst the most unequal.

We hope the data made available with this briefing paper will allow local authorities to start looking at wellbeing inequality in their areas, while the datasheet can be used by analysts to explore wellbeing inequality patterns across the country.

These are very early days in the study of wellbeing inequalities, particularly at low geographical levels such as local authorities. As with any research, our study has a number of limitations. These are described in more detail in the methodology paper. Two key questions that still need to be resolved in relation to the study of wellbeing inequality include: a) What are the best measures of wellbeing inequality, i.e. which measures best reflect the kind of inequality that matters most to people, and which measures are most robust? And b) what are the best methods for testing statistical significance, particularly where wellbeing measures have been combined?

The question of most importance is what drives wellbeing inequality at the local level, and what can be done to reduce it.

This study is the first in a programme of work being undertaken by the What Works Centre, the ONS and the New Economics Foundation. Over 2017 we will also be producing:

- Analysis on the drivers of wellbeing inequality at local authority level. We'll focus on a local level to help policy makers and those working in communities to understand how inequalities can be reduced.
- A review of the methodological considerations surrounding the measurement of wellbeing inequality including an assessment of the appropriateness of a range of different indicators for different uses.

The question of most importance is what drives wellbeing inequality at the local level, and what can be done to reduce it.

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We'd love to hear your thoughts, comments and ideas.

Which measure of wellbeing inequality most interests you, or could be most or least useful in your work? How might information on wellbeing inequalities be used in local decision-making? What more would you like to know? Please send comments to info@whatworkswellbeing.org



appendix

Overall wellbeing inequality in 2014-15 for all local authorities, ranked from most to least equal according to mean standard deviation of the four ONS wellbeing questions.

Rank	Local authority	Mean standard deviation of the four ONS wellbeing questions
1	Enfield	1.80
2	Cheshire East UA	1.81
3	Harrow	1.84
4	Eilean Siar, Orkney & Shetland	1.85
5	Warwickshire	1.86
6	Wokingham UA	1.87
7	Falkirk	1.87
8	Lambeth	1.88
9	Aberdeenshire	1.88
10	Barnet	1.89
11	Bedford UA	1.90
12	Wandsworth	1.91
13	Oxfordshire	1.92
14	Aberdeen City	1.92
15	Buckinghamshire	1.93
16	Hampshire	1.93
17	West Sussex	1.94
18	Kingston upon Thames	1.94
19	Devon	1.94
20	Bath and North East Somerset UA	1.94
21	Ceredigion	1.95
22	Coventry	1.95



Rank	Local authority	Mean standard deviation of the four ONS wellbeing questions
23	Islington	1.96
24	Poole UA	1.96
25	Central Bedfordshire UA	1.96
26	Edinburgh, City of	1.96
27	East Dunbartonshire	1.96
28	West Berkshire UA	1.96
29	Richmond upon Thames	1.97
30	Reading UA	1.97
31	Camden	1.97
32	Surrey	1.98
33	Portsmouth UA	1.98
34	Ealing	1.98
35	Essex	1.99
36	Rutland UA	1.99
37	Bracknell Forest UA	1.99
38	Westminster	1.99
39	Dorset	1.99
40	Southampton UA	1.99
41	Bournemouth UA	1.99
42	Windsor and Maidenhead UA	1.99
43	Shropshire UA	2.00
44	Brent	2.00
45	Perth and Kinross	2.00
46	Flintshire	2.00
47	Leicestershire	2.00
48	Gwynedd	2.01
49	Bromley	2.01
50	Somerset	2.01
51	Northern Ireland	2.01
52	Stirling	2.01
53	East Renfrewshire	2.02
54	South Gloucestershire UA	2.02
55	Redbridge	2.02
56	Moray	2.02
57	Newham	2.02
58	Tower Hamlets	2.02
59	Cardiff	2.02



Rank	Local authority	Mean standard deviation of the four ONS wellbeing questions
60	Solihull	2.02
61	Argyll & Bute	2.02
62	Hertfordshire	2.02
63	West Lothian	2.03
64	Denbighshire	2.04
65	Kensington and Chelsea	2.04
66	Scot Borders, The	2.04
67	Wiltshire UA	2.04
68	York UA	2.04
69	Cheshire West and Chester UA	2.05
70	Merton	2.05
71	Cambridgeshire	2.05
72	North Yorkshire	2.05
73	Gloucestershire	2.05
74	Brighton and Hove UA	2.05
75	Peterborough UA	2.05
76	Northamptonshire	2.06
77	East Riding of Yorkshire UA	2.06
78	Norfolk	2.06
79	Haringey	2.06
80	Dumfries and Galloway	2.07
81	Worcestershire	2.07
82	Monmouthshire	2.07
83	Sutton	2.07
84	Waltham Forest	2.07
85	Southend-on-Sea UA	2.07
86	Southwark	2.07
87	Herefordshire, County of UA	2.08
88	Bexley	2.08
89	Birmingham	2.08
90	North Lincolnshire UA	2.08
91	Midlothian	2.08
92	Havering	2.08
93	Trafford	2.09
94	Stockport	2.09
95	North Tyneside	2.09
96	Highland	2.09



Rank	Local authority	Mean standard deviation of the four ONS wellbeing questions
97	Glasgow City	2.09
98	Pembrokeshire	2.10
99	Hammersmith and Fulham	2.10
100	North Somerset UA	2.10
101	Warrington UA	2.10
102	Cumbria	2.10
103	Conwy	2.10
104	Telford and Wrekin	2.10
105	Staffordshire	2.10
106	Derbyshire	2.11
107	Kent	2.11
108	Dudley	2.11
109	Milton Keynes UA	2.12
110	Luton UA	2.12
111	Lewisham	2.12
112	Bury	2.13
113	Suffolk	2.13
114	Newcastle upon Tyne	2.13
115	Hackney	2.13
116	Swansea	2.13
117	Derby UA	2.13
118	Lancashire	2.13
119	Northumberland UA	2.13
120	Angus	2.14
121	Stoke-on-Trent UA	2.14
122	South Lanarkshire	2.14
123	Calderdale	2.14
124	Powys	2.15
125	Lincolnshire	2.15
126	Cornwall UA	2.15
127	Isle of Wight UA	2.15
128	Hillingdon	2.15
129	Stockton-on-Tees UA	2.15
130	Swindon	2.16
131	East Lothian	2.16
132	Darlington UA	2.16
133	Hounslow	2.17



Rank	Local authority	Mean standard deviation of the four ONS wellbeing questions
134	Nottingham UA	2.17
135	Salford	2.17
136	East Sussex	2.17
137	Anglesey, Isle of	2.17
138	Nottinghamshire	2.18
139	Kirklees	2.18
140	Redcar and Cleveland UA	2.19
141	Manchester	2.19
142	Thurrock UA	2.19
143	Wrexham	2.19
144	Carmarthenshire	2.21
145	Wolverhampton	2.21
146	Torbay	2.21
147	Greenwich	2.22
148	Bristol, City of UA	2.22
149	Bradford	2.22
150	Fife	2.22
151	Plymouth UA	2.22
152	Leeds	2.22
153	Sheffield	2.22
154	Gateshead	2.22
155	Walsall	2.23
156	Clackmannanshire	2.23
157	Slough UA	2.23
158	Tameside	2.23
159	Leicester UA	2.24
160	Croydon	2.24
161	County Durham UA	2.24
162	Middlesbrough UA	2.24
163	Bolton	2.25
164	Wigan	2.25
165	St. Helens	2.25
166	Wirral	2.26
167	Vale of Glamorgan, The	2.26
168	Halton UA	2.26
169	Medway UA	2.26
170	Hartlepool UA	2.26



Rank	Local authority	Mean standard deviation of the four ONS wellbeing questions
171	Sandwell	2.27
172	Newport	2.27
173	North East Lincolnshire UA	2.27
174	Sefton	2.27
175	Bridgend	2.28
176	Blackpool UA	2.28
177	Dundee City	2.28
178	Wakefield	2.28
179	Rochdale	2.28
180	Blackburn with Darwen UA	2.29
181	Renfrewshire	2.29
182	North Lanarkshire	2.29
183	West Dunbartonshire	2.29
184	Oldham	2.30
185	Barnsley	2.31
186	Doncaster	2.31
187	Barking and Dagenham	2.31
188	South Ayrshire	2.32
189	South Tyneside	2.32
190	Rhondda, Cynon, Taff	2.32
191	Torfaen	2.33
192	Caerphilly	2.34
193	East Ayrshire	2.34
194	North Ayrshire	2.34
195	Inverclyde	2.35
196	Kingston Upon Hull, City of UA	2.36
197	Rotherham	2.37
198	Sunderland	2.38
199	Knowsley	2.40
200	Merthyr Tydfil	2.43
201	Neath Port Talbot	2.43
202	Liverpoolw	2.44
203	Blaenau Gwent	2.55



Ranking comparisons across ONS four wellbeing questions: Ten most equal and unequal local authorities in 2014-15, based on standard deviation of each of the four wellbeing questions and using alternative weighting of questions.

The relative ranking of inequalities across Local Authorities varies depending on the question. For example, Buckinghamshire is ranked 55th most equal for 'happy yesterday', but is the most equal in responses to 'worthwhile'. However, many LAs have broadly similar positions and appear either generally high or generally low across the four questions.

Using the alternative weighting based on population preferences makes some slight differences to individual rankings, but not to the broader positioning of LAs remains similar.

Ten most equal Local Authorities, ranked by:

Mean standard deviation of the four ONS wellbeing questions	Standard deviation of 'Life Satisfaction' ¹	Standard deviation of 'Worthwhile'	Standard deviation of 'Happy yesterday'	Standard deviation of 'Anxious yesterday'	Combined standard deviation with alternative weighting as per O'Donnell & Oswald (2015) ²
Enfield	Cheshire East	Buckinghamshire	Harrow	Enfield	Cheshire East
Cheshire East	East Dunbartonshire	Eilean Siar, Orkney & Shetland	Cheshire East	Wandsworth	Enfield
Harrow	Eilean Siar, Orkney & Shetland	Enfield	Enfield	Falkirk	Eilean Siar, Orkney & Shetland
Eilean Siar, Orkney & Shetland	Warwickshire	Cheshire East	Lambeth	Islington	Harrow
Warwickshire	Bedford	Wokingham	Warwickshire	Lambeth	Warwickshire
Wokingham	Kingston upon Thames	East Dunbartonshire	Eilean Siar, Orkney & Shetland	Bournemouth	Wokingham
Falkirk	Aberdeenshire	Barnet	Wandsworth	Harrow	Aberdeenshire
Lambeth	West Berkshire	Rutland	Oxfordshire	Barnet	Lambeth
Aberdeenshire	Buckinghamshire	Redbridge	Reading	Ceredigion	Falkirk
Barnet	Wokingham	Hampshire	Aberdeen City	Aberdeenshire	Bedford

1. See page 4 for the full wording of these individual questions.

2. O'Donnell G & Oswald A (2015) 'National well-being policy and a weighted approach to human feelings' Working paper. Warwick economics research papers series (WERPS).



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The relative ranking of inequalities across Local Authorities varies depending on the question.

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Ten most unequal Local Authorities, ranked by:

Mean standard deviation of the four ONS wellbeing questions	Standard deviation of 'Life Satisfaction'	Standard deviation of 'Worthwhile'	Standard deviation of 'Happy yesterday'	Standard deviation of 'Anxious yesterday'	Combined standard deviation with alternative weighting as per O'Donnell & Oswald (2015)
Blaenau Gwent	Blaenau Gwent	Blaenau Gwent	Blaenau Gwent	Blaenau Gwent	Blaenau Gwent
Liverpool	Merthyr Tydfil	Liverpool	Liverpool	Merthyr Tydfil	Liverpool
Neath Port Talbot	Knowsley	Knowsley	Merthyr Tydfil	North Ayrshire	Neath Port Talbot
Merthyr Tydfil	Liverpool	Neath Port Talbot	Kingston Upon Hull, City of UA	Sunderland	Merthyr Tydfil
Knowsley	Rhondda, Cynon, Taff	East Ayrshire	Neath Port Talbot	Rotherham	Knowsley
Sunderland	Neath Port Talbot	Barking and Dagenham	North East Lincolnshire UA	South Ayrshire	Sunderland
Rotherham	Caerphilly	Caerphilly	Knowsley	Neath Port Talbot	Rotherham
Kingston Upon Hull	Wakefield	Inverclyde	Newport	Inverclyde	Kingston Upon Hull, City of
Inverclyde	Sunderland	Oldham	Sunderland	Renfrewshire	Inverclyde
North Ayrshire	Rotherham	Vale of Glamorgan, The	Rotherham	Liverpool	Caerphilly

We encourage you to share this report, and would appreciate hearing from you if you've used it so we can better evaluate our impact.

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