

# An examination of the health and safety profile of Great Britain excluding London and the South East.

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# Background

The Health and Safety Executive (HSE) is responsible for reporting the health and safety profile of Great Britain – comprising England, Scotland and Wales. On an annual basis the latest year's statistics are released, including comparisons between the countries, as well as between regions and local authorities.

Regional comparisons are a useful tool for gauging differences in health and safety standards across Great Britain. They are their most useful when comparing between regions with similar industrial profiles – however, this means that at the country level in particular, comparisons are made difficult by the inclusion of London, and to a lesser extent the South East, within figures for England.

London and the South East contain a large number of GB workers, and a higher than average proportion of these workers are engaged in low risk industries. This paper assesses the impact of the inclusion of London and the South East in figures for Great Britain and England, by examining the effects of separating these regions from the rest of England.

Questions to be addressed within this report:

- 1) What do the industry profiles of England, Scotland and Wales look like, and are the profiles for London and the South East very different?
- 2) What impact does the exclusion of London and the South East have on RIDDOR injury rates? Do findings from the Labour Force Survey support that of RIDDOR?
- 3) What impact does the exclusion of London and the South East have on rates of work-related ill health?

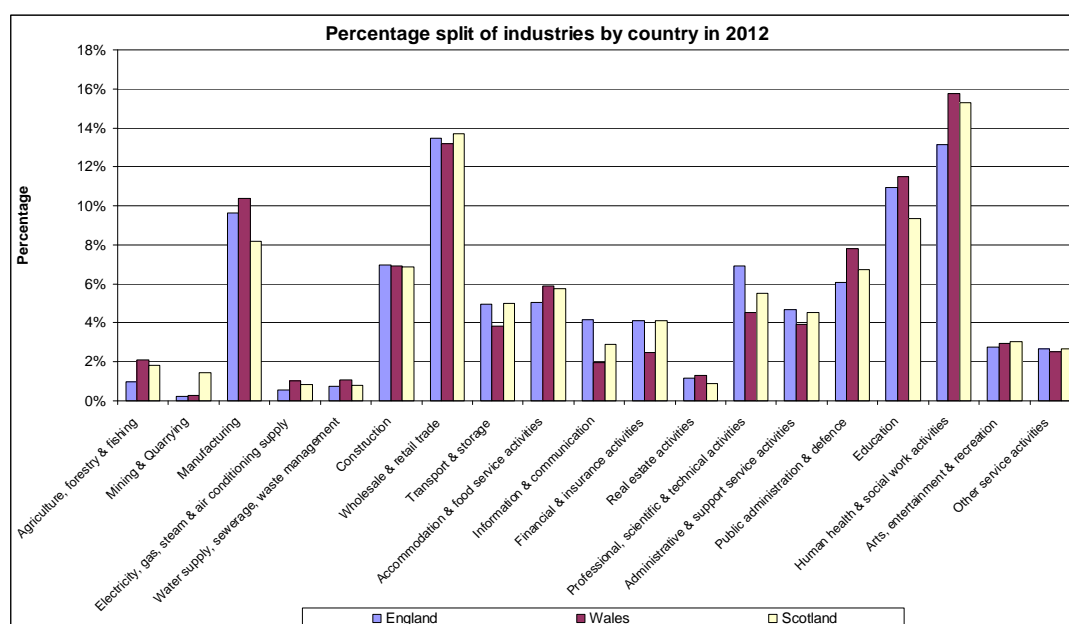
## Summary of findings

- 1) Employment profiles for London and the South East have a higher percentage of workers in low risk industries than in GB as a whole:
  - England, Scotland and Wales show a wide spread across different industry groups, although Wales has lower percentages of low risk industries such as financial and insurance, and professional, technical and scientific activity jobs than either England or Scotland.
  - London in particular has a much higher percentage of workers in low risk industries than Great Britain as a whole – while this is also true when looking at London and the South East combined, the difference in industry profiles to that of GB is less distinct.
- 2) Both RIDDOR and the Labour Force Survey indicate that excluding London and the South East from the figures for England results in an increase in injury rates for the country:
  - Once London and the South East are excluded from figures for England, fatal and major injury rates in England and Scotland are of a similar order, while the rates for Wales remain the highest.
  - For Over-3-Day/Over-7-Day injury rates reported to RIDDOR, Scotland has the lowest rates for each year, followed by England and Wales – this ordering remains the same when London and the South East are excluded, but rates for the rest of England are higher as a result.
  - Labour Force Survey injury data is unable to show whether there are any differences in injury rates between countries. However, rates for London and the South East are statistically significantly lower than those for the Rest of England, and their exclusion changes the ordering of central estimates for (Rest of) England, Scotland and Wales.
- 3) The exclusion of London and the South East from figures for work-related ill health has minimal impact on the rates for England. However, this is due to variation in ill health rates within these two regions:

- Scotland has a lower incidence rate of ill health than either England or Wales.
- London has a lower incidence rate of ill health than the Rest of England, while that of the South East is higher. This pattern is reflected in rates for musculoskeletal disorders (MSDs) where again, London has a lower rate of MSDs than the Rest of England, while the rate for the South East is higher.
- There is no difference in the rate of work-related stress by country, and London also has a rate of work-related stress that is of a similar order to the Rest of England. By contrast, the rate of work-related stress in the South East is statistically significantly higher than that for the Rest of England.

## Workforce composition of Great Britain

In 2012 there were over 29 million jobs<sup>1</sup> in Great Britain, spreading across a wide range of industries. Of this 29 million, roughly 25 million (86%) were based in England, 2.5 million (8.6%) in Scotland and 1.3 million (4.5%) in Wales<sup>2</sup>. The graph below shows the percentage split of jobs by industry between these three countries.



Source: Annual Population Survey (APS)

While each country exhibits a wide range of industry types, there are some notable differences between these three countries.

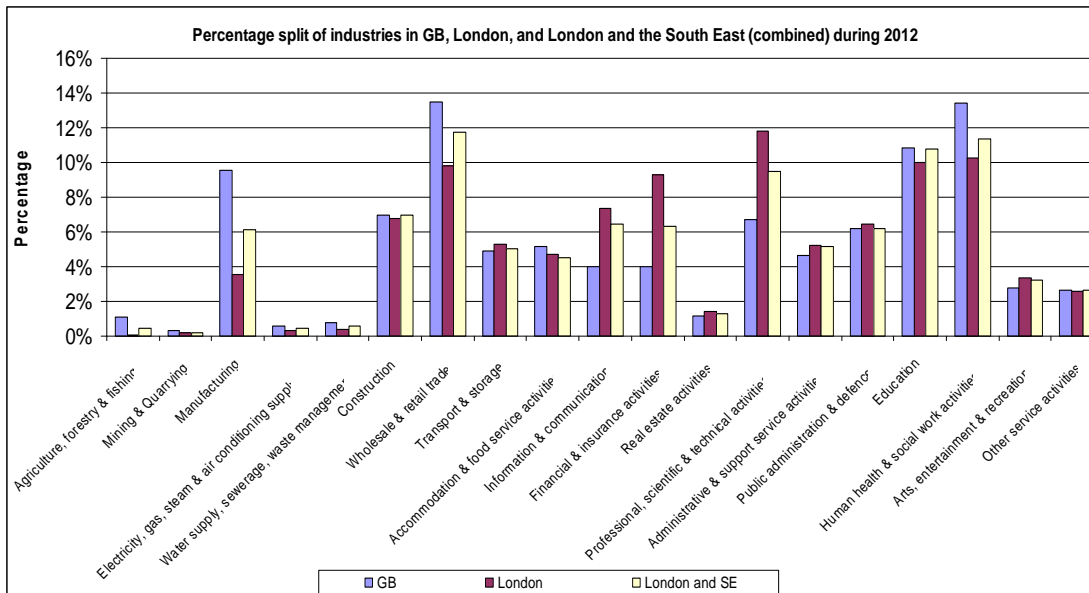
- Despite only accounting for a small percentage of the total jobs, Scotland and Wales have a higher percentage of agriculture, forestry and fishing jobs, as well as human healthcare and social work activities, than England.
- Scotland has a higher percentage of mining and quarrying jobs (though again, representing very small numbers) but a lower percentage of manufacturing or education jobs than those in England and Wales.
- Wales has a lower percentage of transport and storage, information and communication, financial and insurance, and professional, technical and scientific activity jobs than either England or Scotland.

<sup>1</sup> RIDDOR injury rates are calculated using counts of jobs rather than counts of workers; this therefore includes cases where individuals have more than one job. For consistency, jobs have been used as the employment measure here.

<sup>2</sup> Approximately 300 000 additional jobs were classified regionally as 'Other'.

Considering England in more detail, the Government Office Regions of London and the South East contain a large number of jobs (approximately 4.5 million and 4 million jobs respectively – both significantly higher than either Scotland or Wales). However, the industry structures within these regions are of a different nature to the rest of England. Their exclusion from figures for England and GB as a whole could therefore have a significant impact on the overall ill health and injury rates for these countries, and provide a more comparable baseline between England, Scotland and Wales.

The below graph shows the percentage breakdown of industries for GB as a whole, compared to both London, and London and the South East combined.



Source: Annual Population Survey (APS)

There are clear differences between GB as a whole, and the two groups above – however, these are most visible when comparing GB with London only rather than London and the South East.

Key differences are:

- 10% of GB jobs are in Manufacturing, but in London this is only 4%, and in London and the South East combined it is 6%.
- 13% of GB jobs are in the wholesale and retail trade, compared to 10% in London and 12% in London and the South East.
- London has a higher percentage of jobs in industries that are traditionally lower risk – most notably, information and communication, financial and insurance activities, and professional, scientific and technical activities.

This supports the suggestion that London in particular has a different industry structure to the rest of the country, and that its inclusion in figures for England is likely to affect baseline comparisons to Scotland and Wales.

The following analysis therefore looks at the impact of removing London, and London and the South East, from ill health and injury figures and examines the comparisons to Scotland and Wales.

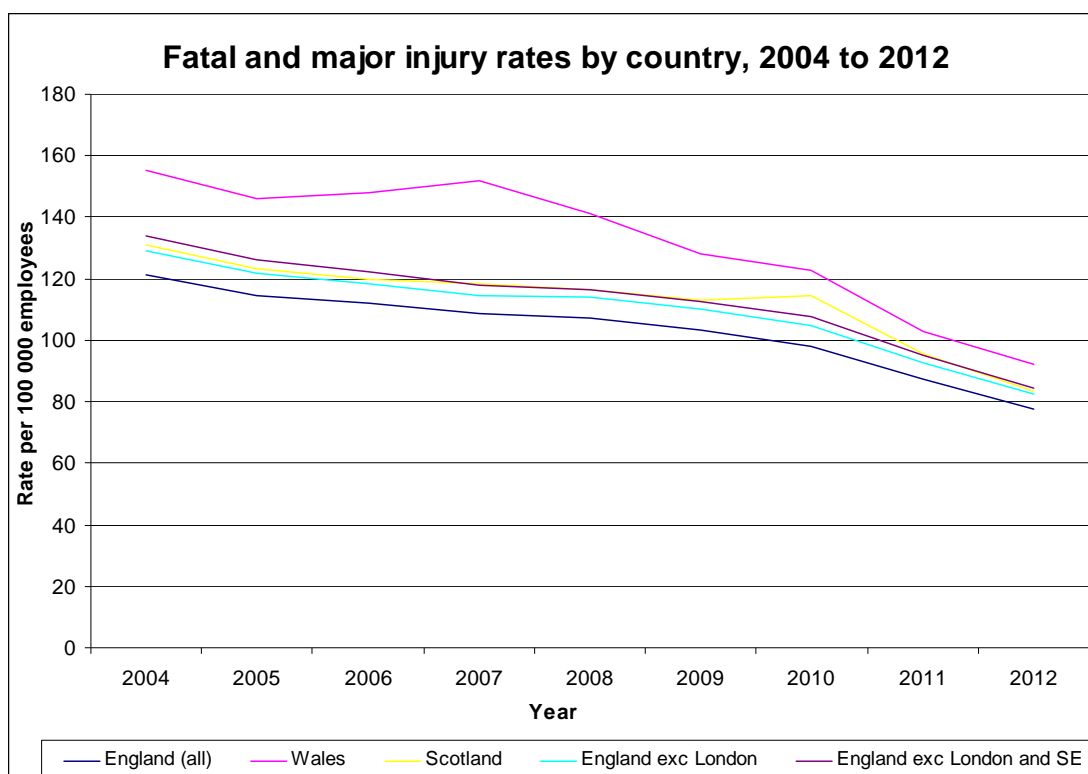
## Injury figures by country – RIDDOR data

The following data looks at the impact of changes to RIDDOR data<sup>3</sup>.

The table and graph consider the impact on fatal and major injury rates only, by country, looking at how rates for England change if London and then the South East are excluded:

Fatal and major injury rates per 100 000 employees by country, 2004/05 to 2012/13p <sup>4</sup>									
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13p
England (all)	121.13	114.51	111.89	108.84	107.39	103.40	97.91	87.24	77.52
Wales	155.35	146.27	147.84	151.69	141.31	128.11	122.91	102.99	92.01
Scotland	131.04	123.35	119.79	118.24	116.46	113.15	114.27	95.38	83.42
England exc London	129.10	121.59	118.21	114.63	113.93	110.36	104.64	92.51	82.54
England exc London and SE	133.76	126.31	122.17	117.76	116.63	112.75	107.54	95.16	84.47

Source: RIDDOR



- The trend for all three countries, regardless of whether London and the South East are included or not, has been steadily downward since 2004/05.
- Before removing London or the South East, the fatal and major injury rates for England were lower than either Scotland or Wales in every year from 2004/05 to the latest year.

<sup>3</sup> For accurate regional comparisons, data relating to health and safety incidents reported to the Office for Rail Regulation (which are recorded without information on the local authority), and all other data where local authority information was not available, has been removed. Therefore overall rates for GB do not match those published by HSE in the annual statistics release.

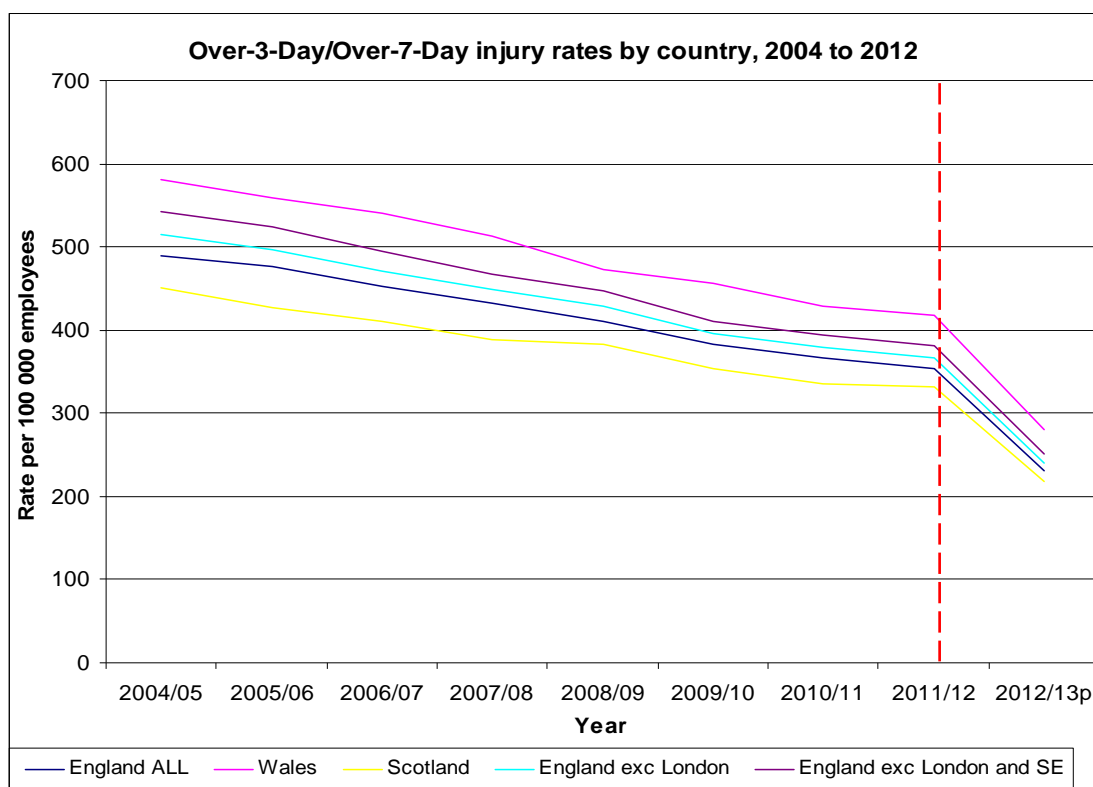
<sup>4</sup> P = provisional. RIDDOR data for 2012/13 will be finalised from November 2014.

- In all years, the fatal and major injury rates for Wales have been higher than that for either England or Scotland, regardless of the inclusion of London and the South East.
- When comparing England and Scotland, the fatal and major injury rates of England, when London alone is excluded, become considerably closer to that of Scotland in all years (though still marginally lower). Once the South East is also excluded, the injury rates for England become higher than Scotland in four of the eight years under examination.

A similar pattern can be seen when focusing on the Over-3-Day/Over-7-Day injuries<sup>5</sup>.

Over-3-Day/Over-7-Day injury rates per 100 000 employees by country, 2004 to 2012									
	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13p
England (all)	489.81	476.42	452.80	432.49	411.09	382.76	366.16	354.33	231.29
Wales	580.38	559.22	540.44	513.13	472.76	456.15	427.93	417.79	280.76
Scotland	450.40	427.59	411.08	389.39	382.12	352.89	335.93	331.08	218.24
England exc London	515.38	496.55	470.86	448.14	429.01	395.42	378.46	366.15	239.87
England exc London and SE	541.84	523.23	494.09	467.97	447.36	411.29	394.56	381.89	251.07

Source: RIDDOR



- In all circumstances here, Scotland exhibits the lowest annual injury rate for all years between 2004/05 and 2012/13p, followed by England and then Wales with the highest rates.
- As with fatal and major injury rates, the exclusion of London from England figures results in an increase in rates for each year, and the further exclusion of the South East sees a higher increase. However, in all years these rates remain lower than that of Wales.

<sup>5</sup> Data in 2012/13p refers to Over-7-Day injuries, while data from all previous years refers to Over-3-Days. They have been included in a single table here since the key comparison is by country than across all years – however, no time trend analysis should be attempted including 2012/13p.

## Injury figures by country – LFS data

Injury rate comparisons by country are somewhat limited in the LFS<sup>6</sup>. Even when combining 9 years of data together, it is not possible to establish that there are any statistically significant differences between England, Scotland and Wales for injuries resulting in an over 3 day absence from work. However, the central estimates for the three countries are ordered in the same way as rates from RIDDOR, with England displaying the lowest annual rate of 920 per 100 000 workers, followed by Scotland at 940 and finally Wales with the highest central estimate of 980:

Country of usual residence	Averaged estimated incidence (thousands)			Averaged rate per 100 000 workers			Whether rates statistically significantly higher/lower than 'England'
	central	95% C.I.		central	95% C.I.		
		lower	upper		lower	upper	
Great Britain	<b>259</b>	250	268	<b>920</b>	890	950	
England	<b>223</b>	215	231	<b>920</b>	880	950	..
Wales	<b>13</b>	11	15	<b>980</b>	840	1130	No
Scotland	<b>23</b>	21	26	<b>940</b>	840	1050	No

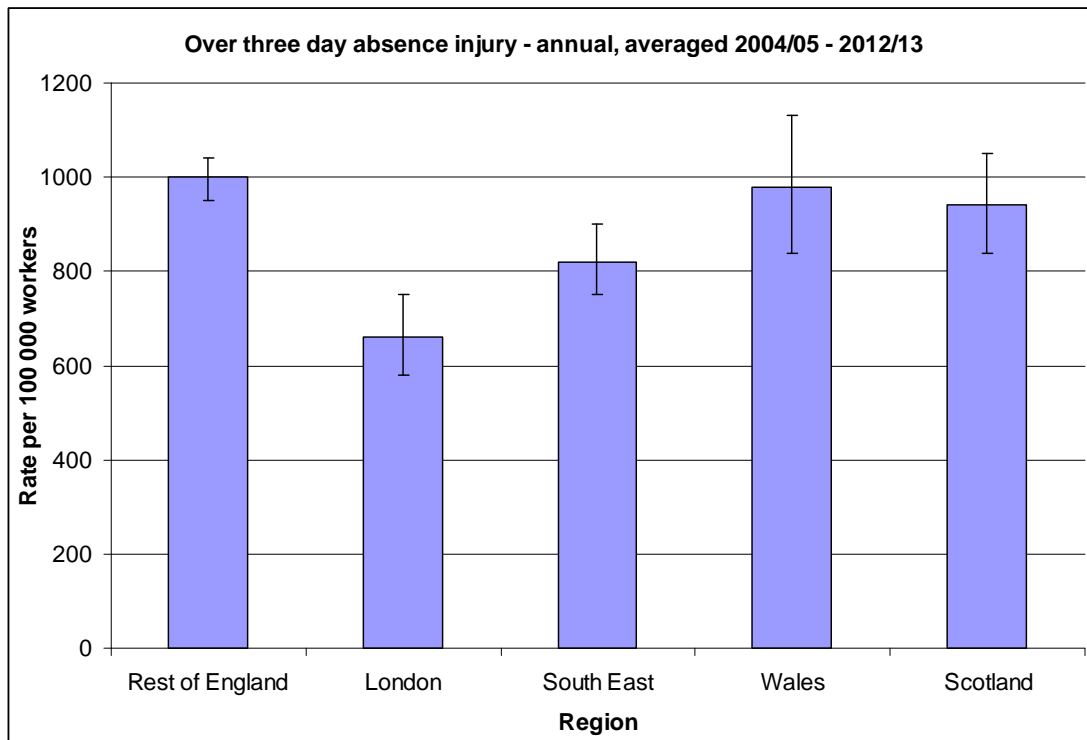
Source: Labour Force Survey (LFS)

The data below considers the impact of removing London and the South East from the rest of England:

Country/region of usual residence	Averaged estimated incidence (thousands)			Averaged rate per 100 000 workers			Whether rates statistically significantly higher/lower than 'Rest of England'
	central	95% C.I.		central	95% C.I.		
		lower	upper		lower	upper	
<b>Great Britain</b>	<b>259</b>	250	268	<b>920</b>	890	950	
Rest of England	<b>164</b>	158	171	<b>1000</b>	950	1040	..
London	<b>24</b>	21	27	<b>660</b>	580	750	Lower
South East	<b>34</b>	31	37	<b>820</b>	750	900	Lower
Wales	<b>13</b>	11	15	<b>980</b>	840	1130	No
Scotland	<b>23</b>	21	26	<b>940</b>	840	1050	No

Source: Labour Force Survey (LFS)

<sup>6</sup> LFS data looks at rate of non-fatal injuries, resulting in over 3 day absences, to workers as opposed to employees (therefore including the self employed). Additionally, in considering regions it focuses on place of residence rather than place of work. For further information about the LFS as a data source, please see the Source Information and Caveats at the end of this report.



- Injury rates for both London and the South East separately are statistically significantly lower than that for the Rest of England – with the rate for London also lower than that for the South East.
- The removal of London and the South East from figures for England causes rates to increase from 920 to 1 000, putting it higher than the central estimates for Scotland or Wales. However, the differences between the Rest of England, Wales and Scotland are still not statistically significant.

### Ill health figures by country – LFS data

The LFS is the main source of information on work-related illness. The table below shows the differences in incidence rates by country, using a 9 year average of data:

Country of usual residence	Averaged estimated incidence (thousands)			Averaged rate per 100 000 workers			Whether rates statistically significantly higher/lower than 'England'
	central	95% C.I.		central	95% C.I.		
		lower	upper		lower	upper	
Great Britain	<b>536</b>	524	549	<b>1800</b>	1760	1840	
England	<b>470</b>	459	482	<b>1820</b>	1780	1870	..
Wales	<b>24</b>	21	26	<b>1700</b>	1520	1870	No
Scotland	<b>42</b>	39	46	<b>1620</b>	1490	1740	Lower

Source: Labour Force Survey (LFS)

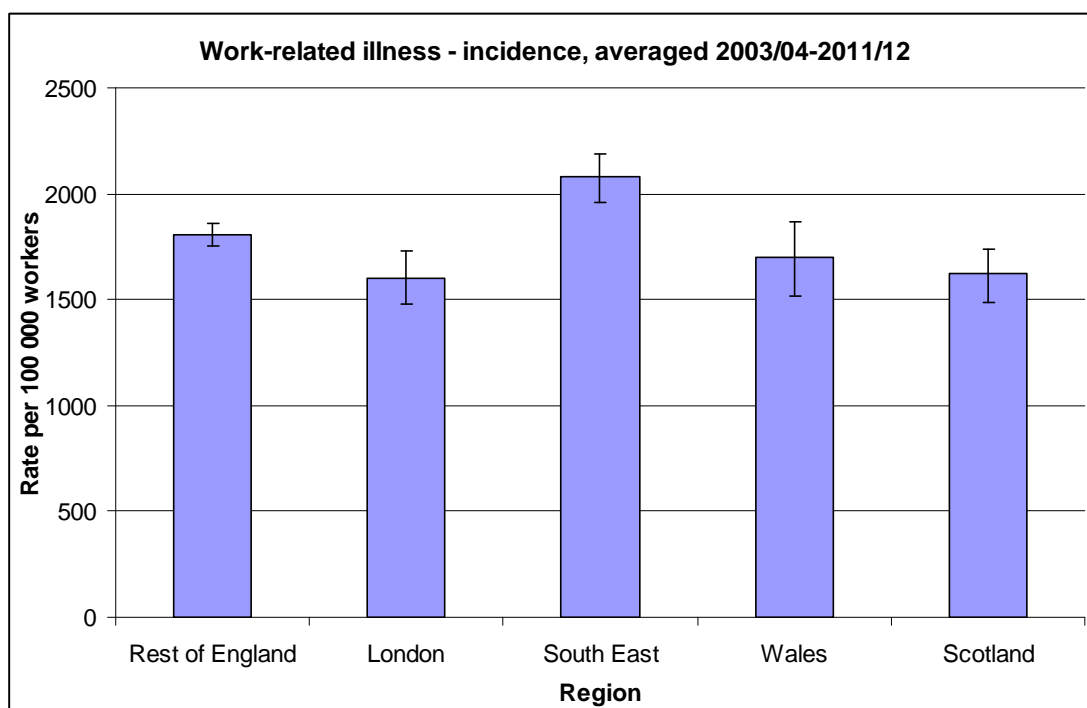
- England and Wales have similar incidence rates of work-related ill health, while Scotland's rate is statistically significantly lower than that for England.



Removing London and the South East from the Rest of England produces the following findings:

Country/region of usual residence	Averaged estimated incidence (thousands)			Averaged rate per 100 000 workers			Whether rates statistically significantly higher/lower than 'Rest of England'
	central	95% C.I.		central	95% C.I.		
		lower	upper		lower	upper	
<b>Great Britain</b>	<b>536</b>	524	549	<b>1800</b>	1760	1840	
Rest of England	<b>317</b>	308	326	<b>1810</b>	1750	1860	..
London	<b>62</b>	57	67	<b>1600</b>	1480	1730	Lower
South East	<b>91</b>	86	96	<b>2080</b>	1960	2190	Higher
Wales	<b>24</b>	21	26	<b>1700</b>	1520	1870	No
Scotland	<b>42</b>	39	46	<b>1620</b>	1490	1740	Lower

Source: Labour Force Survey (LFS)



- Excluding London and the South East, the ill health incidence rates for Scotland remain statistically significantly lower than that for the Rest of England, and the rate for Wales remains of a similar order.
- Data for London is statistically significantly lower than that of the Rest of England, with a central estimate of 1 600 per 100 000 workers, compared to 1 810 for the Rest of England.
- However, ill health incidence rates for the South East are statistically significantly higher than those for the Rest of England, at 2 080 per 100 000 workers.

A similar relationship can be seen when looking at the incidence rate of musculoskeletal disorders (MSDs) by country:

Table: Work-related MSDs - incidence, averaged 2003/04 - 2011/12							
Country of usual residence	Averaged estimated incidence (thousands)			Averaged rate per 100 000 workers			Whether rates statistically significantly higher/lower than 'England'
	central	95% C.I.		central	95% C.I.		
		lower	upper		lower	upper	
Great Britain	<b>182</b>	175	189	<b>610</b>	590	630	
England	<b>160</b>	154	167	<b>620</b>	600	650	..
Wales	<b>8</b>	7	10	<b>600</b>	490	700	No
Scotland	<b>13</b>	11	15	<b>490</b>	430	560	Lower

Source: Labour Force Survey (LFS)

- As with overall ill health, MSD incidence rates in England and Wales are of a similar order, while Scotland is statistically significantly lower.

Table: Work-related MSDs - incidence, averaged 2003/04 - 2011/12							
Country/region of usual residence	Averaged estimated incidence (thousands)			Averaged rate per 100 000 workers			Whether rates statistically significantly higher/lower than 'Rest of England'
	central	95% C.I.		central	95% C.I.		
		lower	upper		lower	upper	
<b>Great Britain</b>	<b>182</b>	175	189	<b>610</b>	590	630	
Rest of England	<b>110</b>	104	115	<b>620</b>	590	650	..
London	<b>19</b>	17	22	<b>500</b>	430	570	Lower
South East	<b>32</b>	29	34	<b>720</b>	650	790	Higher
Wales	<b>8</b>	7	10	<b>600</b>	490	700	No
Scotland	<b>13</b>	11	15	<b>490</b>	430	560	Lower

Source: Labour Force Survey (LFS)

- Likewise, once London and the South East have been removed from the Rest of England, rates for London are found to be statistically significantly lower than that for the Rest of England, while the South East is higher.

When considering work-related stress, differences by country or even region, are much less distinct:

Table: Work-related stress - incidence, averaged 2003/04 - 2011/12							
Country of usual residence	Averaged estimated incidence (thousands)			Averaged rate per 100 000 workers			Whether rates statistically significantly higher/lower than 'England'
	central	95% C.I.		central	95% C.I.		
		lower	upper		lower	upper	
Great Britain	<b>229</b>	221	237	<b>770</b>	740	790	
England	<b>198</b>	191	206	<b>770</b>	740	800	..
Wales	<b>10</b>	9	12	<b>730</b>	610	850	No
Scotland	<b>20</b>	18	23	<b>770</b>	680	860	No

Source: Labour Force Survey (LFS)

- Rates for work-related stress are of a similar order across all three countries.

Separating out London and the South East produces the following effect:

Table: Work-related stress - incidence, averaged 2003/04 - 2011/12							
Country/region of usual residence	Averaged estimated incidence (thousands)			Averaged rate per 100 000 workers			Whether rates statistically significantly higher/lower than 'Rest of England'
	central	95% C.I.		central	95% C.I.		
		lower	upper		lower	upper	
<b>Great Britain</b>	<b>229</b>	221	237	<b>770</b>	740	790	
Rest of England	<b>134</b>	128	140	<b>770</b>	730	800	..
London	<b>27</b>	24	30	<b>690</b>	610	770	No
South East	<b>37</b>	34	40	<b>850</b>	780	920	Higher
Wales	<b>10</b>	9	12	<b>730</b>	610	850	No
Scotland	<b>20</b>	18	23	<b>770</b>	680	860	No

Source: Labour Force Survey (LFS)

- While the incidence rate of work-related stress in London is of a similar order to that of the Rest of England, that of the South East is statistically significantly higher, at 850 per 100 000 workers.

## Conclusion

Data from both RIDDOR and the Labour Force Survey indicate that both London and the South East have lower rates of injury than the rest of England, and given the differences in employment profiles to that of the rest of Great Britain, there is evidence to support the argument that country comparisons would look different if London and the South East were excluded.

Despite the employment data indicating that the lowest risk industries are in London more than the South East, the effects of excluding both London and the South East from RIDDOR figures are greater than when only excluding London.

The impact of excluding London and the South East can most strongly be felt in the comparisons of fatal and major injury rates by country; when all regions are included, England has a lower fatal and major injury rate than Scotland or Wales. However, once London and the South East are excluded, the rate for the rest of England is on a par with that of Scotland.

For work-related ill health, the exclusion of London and the South East from figures does not have a major impact on overall rates for the rest of England (rates change from 1 820 per 100 000 workers to 1 810), and therefore ordering between countries remains unchanged. However, there is still some evidence of a difference in ill health by region, most noticeably within work-related MSDs, where rates for London are statistically significantly lower than that for the rest of England, while rates for the South East are higher.

One further point to note is the potential impact on ill health and injury rates that arises from the fact that the LFS considers region or country of residence rather than region of work, as is used within RIDDOR. This impact may be particularly important given the focus on London and the South East – where many people who work in London are likely to be living in the South East. It may go some way to explaining the differences in ill health rates between the two regions, as those actually living and working in London may be very different to those living in the South East but working in the capital. Age profiles in particular are likely to be quite different between these two groups, and without further investigation it is not possible to accurately gauge how this could have affected regional comparisons. Further research may therefore be warranted to more fully understand this structural difference.

# Source information and caveats

## Labour Force Survey (LFS) data

The Labour Force Survey (LFS) is a national survey currently consisting of around 44 000 households each quarter, which provides information on the UK labour market. The Health and Safety Executive commission's annual questions in the LFS to gain a view of work-related illness and workplace injury based on individuals' perceptions.

The LFS survey data is used to make inferences about the whole population. When data obtained from a sample is used in this way, there is an element of sampling error, or uncertainty, about the sample estimate. Confidence intervals represent the range of uncertainty resulting from the estimate being derived from a sample of people, not the entire population. They are calculated so the range has a 95% chance of including the true value in the absence of bias - that is the value that would have been obtained if the entire population had been surveyed.

## RIDDOR data

RIDDOR data needs to be interpreted with care because it is known that non-fatal injuries are substantially under-reported. Currently, it is estimated that just over half of all such injuries to employees are actually reported, with the self-employed reporting a much smaller proportion.

1. Counts of non-fatal injuries reported under RIDDOR will almost always underestimate by a considerable amount the total that would have been recorded if there had been 100% reporting.
2. Any comparisons between different subsets within RIDDOR data (e.g. comparisons between one industrial sector and another) need to take account of the possibility of there being markedly different reporting levels in the subsets being compared.

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