

LEICESTERSHIRE COUNTY & RUTLAND

DIRECTORATE OF PUBLIC HEALTH

Premature Mortality Statistics- Cardiovascular Disease

1 Key Findings

Premature Mortality from Cardiovascular Disease

- LCC has significantly lower under 75 age standardised mortality rates from CVD than England (53.0 deaths per 100,000 population compared to 62.0 deaths per 100,000 for England).
- LCC has significantly lower under 75 age standardised mortality rates from CVD considered preventable than England (35.4 deaths per 100,000 population compared to 40.6 deaths per 100,000 for England).
- LCC is within the top 10-25% of local authorities on CVD mortality rate and mortality rate considered preventable.
- Rutland demonstrates a lower under 75 age mortality rate and lower under 75 mortality rate considered preventable compared to England but this is not shown to be statistically significant.

Specific Cardiovascular Diseases

Coronary Heart Disease Mortality under 75 is significantly less in Leicestershire CC and Rutland UA compared to England and East Midlands SHA.

Stroke Mortality under 75 is significantly less in Leicestershire CC compared to England and East Midlands SHA. It is also less in Rutland but the standardised rate is not statistically lower.

Hypertension Mortality under 75 is less in Leicestershire CC than in England and East Midlands SHA however not shown to be statistically significant. Rutland does have a higher standardised rate compared to England but this is offset by a smaller sample size and is not statistically significant.

Chronic Rheumatic Heart Disease Mortality under 75 is less in Leicestershire CC than in England and East Midlands SHA however not shown to be statistically significant. No deaths due to Chronic Rheumatic Heart Disease were reported in Rutland between 2008-2010.

Stroke Emergency Admissions

LCC has a significantly lower admissions rate per 100,000 compared with England and the local region. Rutland does also have a lower rate of admissions but this is found not to be statistically significant.

N.B. Preventable mortality is defined as deaths that are considered preventable if they could potentially have been avoided by public health actions.

2 Introduction

Cardiovascular disease (CVD) comprises a group of disorders that include (WHO 2013):

- Coronary heart disease (CHD; encompassing angina and heart attack)
- Cerebrovascular disease (Stroke)
- Peripheral arterial disease
- Rheumatic heart disease
- Congenital heart disease
- Venous thromboembolism

Nationally, the under 75 mortality rate from CVD considered preventable is the second largest at 40.6 per 100,000 (Cancer being the leading cause at 61.9 per 100,000) (ERPHO, 2012). Preventable mortality is defined as deaths that are considered preventable if they could potentially have been avoided by public health actions (ERPHO, 2012). The main risk factors for CVD are smoking, unhealthy diet and physical inactivity - where controlling blood pressure, blood sugar and blood lipid confer added benefit (WHO 2013).

3 Premature mortality from cardiovascular disease

3.1 Regional comparison

The Public Health Outcomes Framework (PHOF) outlines CVD indicators and demonstrates that in 2009-2011, Leicestershire County Council (LCC) had (Figure 1):

- Significantly lower under 75 age standardised mortality rates from CVD than England with 53.0 deaths per 100,000 population as compared to 62.0 deaths per 100,000 for England.
- Significantly lower under 75 age standardised mortality rates from CVD considered preventable than England with 35.4 deaths per 100,000 population as compared to 40.6 deaths per 100,000 for England.
- In LCC this accounted for 1246 deaths due to CVD under 75 years (415.3 per year), with 836 (278.7 per year) believed to be preventable.
- LCC had the lowest rates in the East Midlands for both indicators.
- Rutland does demonstrate a lower under 75 age standardised mortality rate (54.7 per 100,000) and a lower under 75 age standardised mortality rate considered preventable (37.4 per 100,000) compared to England, however this is not demonstrated to be statistically significant.

Compared with England: Lower Similar Higher Not compared												
for <i>cardiovascular</i> matched indicators: County/UA (3)												
Indicator	Period		England	Derby	Derbyshire CC	Leicester	Leicestershire CC	Lincolnshire CC	Northamptonshire CC	Nottingham	Nottinghamshire CC	Rutland
4.04i – Under 75 mortality rate from all cardiovascular diseases (provisional)	2009 – 11	◀▶	62.0	74.3	63.4	87.0	53.0	63.0	61.1	85.0	59.5	54.7
4.04ii – Under 75 mortality rate from cardiovascular diseases considered preventable (provisional)	2009 – 11	◀▶	40.6	49.9	43.9	58.8	35.4	40.2	38.7	57.6	41.4	37.4

Figure 1 Public Health Outcome Framework cardiovascular indicators. Data source EMPHO, based ONS source data

3.2 Comparison with peer local authorities

When comparing the under 75 mortality rate within LCC with other peer local authorities (Figure 2), the LCC is within 95% confidence limits of all peer local authorities except Hampshire, Richmond upon Thames, South Gloucestershire, Surrey and Wokingham (all of which have lower under 75 mortality rates from CVD than LCC). LCC is within the top 10-25% for local authorities on CVD mortality rate (i.e. has low rates of CVD mortality).

In terms of under 75 mortality rate considered preventable, LCC is within 95% confidence limits of all peer local authorities except for Buckinghamshire, Hampshire, Richmond upon Thames, and Surrey (all of which have lower under 75 mortality rates considered preventable from CVD than LCC) but scores within the top 10-25% amongst local authorities (Figure 3).

When comparing the under 75 mortality rate within Rutland with other peer local authorities (Figure 2), Rutland is within 95% confidence limits of all peer local authorities (likely reflecting a small population size). Rutland is within the top 10-25% for local authorities on CVD mortality rate although the confidence interval does overlap the median rate.

In terms of under 75 mortality rate considered preventable, Rutland is within 95% confidence limits of all peer local authorities, and scores within the top 25-50% amongst local authorities on mortality rate (Figure 3). Again this confidence interval overlaps the median rate.

This is in respect to a comparison of LCC and Rutland to Wokingham, Windsor and Maidenhead, West Berkshire, Surrey, South Gloucestershire, Richmond upon Thames, Kingston upon Thames, Hertfordshire, Hampshire, Central Bedfordshire, Buckinghamshire, Bracknell Forest and Bath and North East Somerset

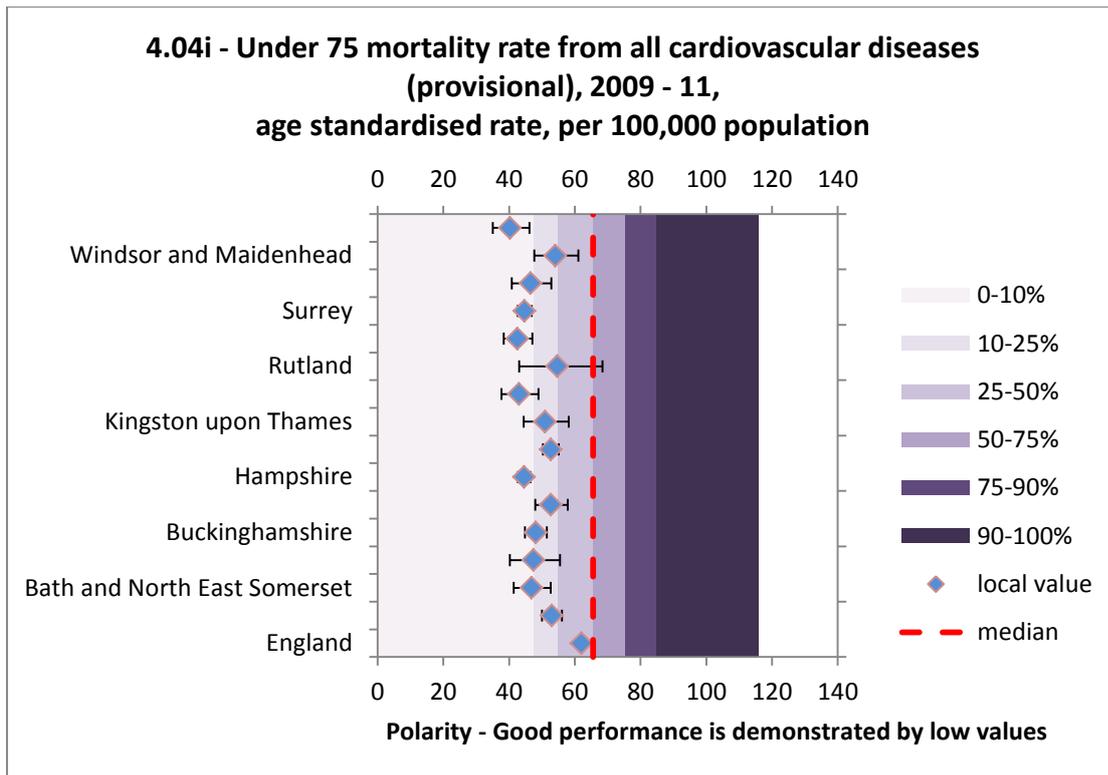


Figure 2 Under 75 mortality rate from cardiovascular disease (provisional) 2009-11 comparison with similar local authorities. Data source EMPHO, based on ONS source data, 2012

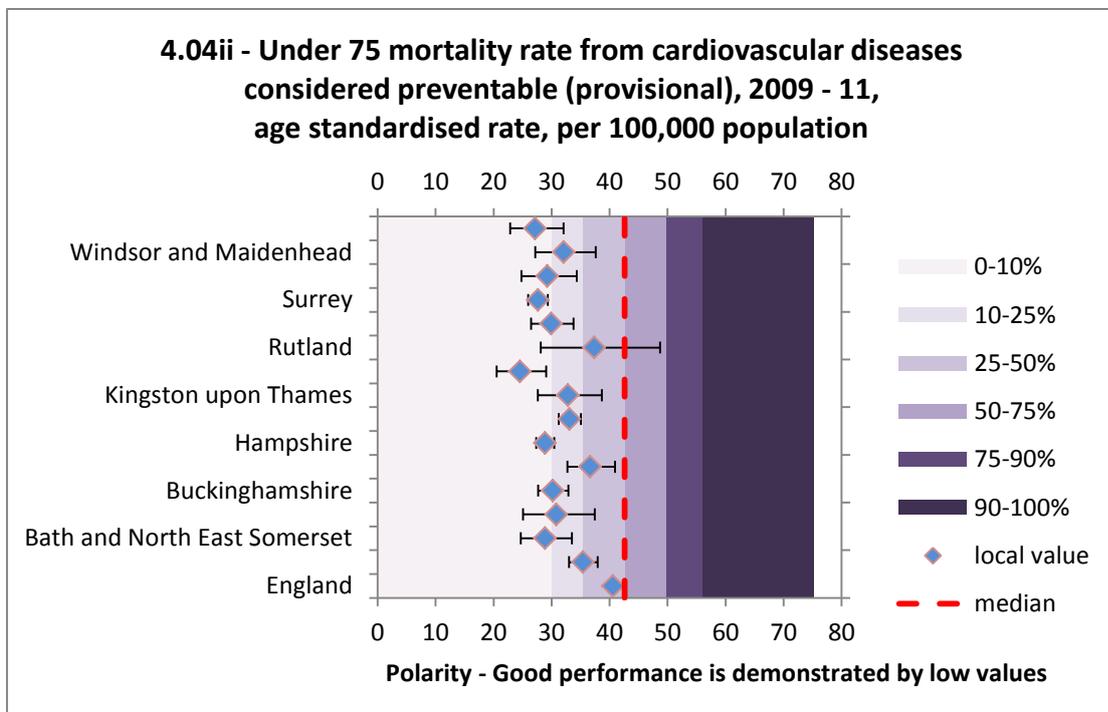


Figure 3 Under 75 mortality rate from cardiovascular disease considered preventable (provisional). Data source EMPHO, based on based on ONS source data, 2012

3.3 Trend Data

The trend in mortality from cardiovascular disease in under 75s from 2001-3 onwards is shown in Figure 4. LCC has a consistently lower cardiovascular mortality rate in under 75s than England, both mortality rates decreasing at a similar rate.

Data from 2010-12 onwards indicates the proposed aspirations for cardiovascular mortality rates for the next three years. The proposed aspirations aim to reduce LCC cardiovascular mortality rates by 2% by 2013-15.

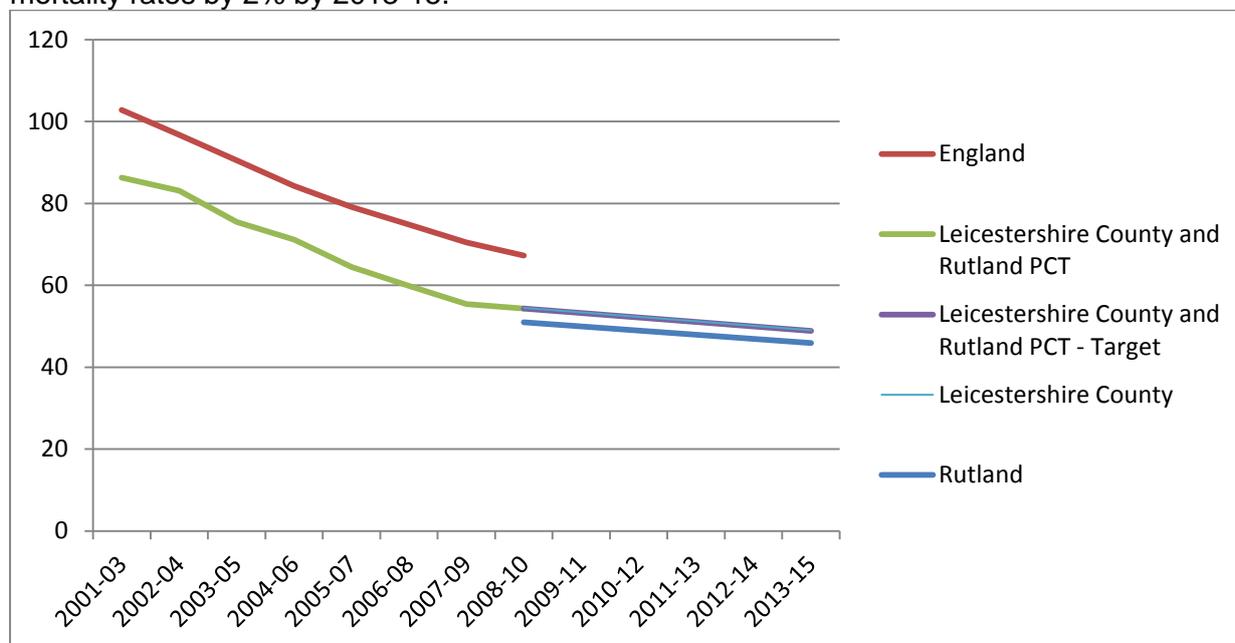


Figure 4 Cardiovascular mortality rates in under 75s from 2001-3 to 2009-11, with cardiovascular mortality rate targets for 2010-12 to 2013-15.

3.4 Specific Cardiovascular Diseases

The Health and Social Care Information Centre (HSCIC) has published information on specific cardiovascular diseases (IC, 2013). The following table shows:

- Coronary Heart Disease Mortality under 75 is significantly less in Leicestershire CC and Rutland UA compared to England and East Midlands SHA.
- Stroke Mortality under 75 is significantly less in Leicestershire CC compared to England and East Midlands SHA. It is also less in Rutland but the difference is not statistically significant.
- Hypertension Mortality under 75 is less in Leicestershire CC than in England and East Midlands SHA however not shown to be statistically significant. Rutland does have a higher standardised rate compared to England but this is offset by its smaller sample size and is not statistically significant.
- Chronic Rheumatic Heart Disease Mortality under 75 is less in Leicestershire CC than in England and East Midlands SHA however not shown to be statistically significant. No deaths due to Chronic Rheumatic Heart Disease were reported in Rutland between 2008-2010.

CVD Disease Area	Geographical Area	Number of deaths	Directly age standardised rate (per 100,000)	95% Confidence Limits	
				Lower	Upper
Coronary Heart Disease Mortality under 75s (including IHD and MI) (P00250) (3-year average 2008-2010)	England	63205	37.20	36.91	37.49
	East Midlands SHA	5935	38.88	37.88	39.88
	Leicestershire CC	713	31.13	28.83	33.44
	Rutland UA	42	27.27	18.88	35.66
Stroke Mortality under 75s (P00677) (3 year average 2008-2010)	England	20898	12.21	12.04	12.37
	East Midlands SHA	1818	11.85	11.30	12.40
	Leicestershire CC	245	10.52	9.19	11.85
	Rutland UA	13	8.98	3.92	14.05
Hypertension Mortality under 75s (P00277) (3 year average 2008-2010)	England	3127	1.88	1.81	1.95
	East Midlands SHA	270	1.79	1.57	2.00
	Leicestershire CC	33	1.46	0.96	1.96
	Rutland UA	4	3.00	0.00	6.01
Chronic Rheumatic Heart Disease Mortality under 75s (P00580) (3 year average 2008-2010)	England	830	0.48	0.45	0.52
	East Midlands SHA	73	0.47	0.36	0.58
	Leicestershire CC	7	0.30	0.08	0.52
	Rutland UA	0	0.00	0.00	0.00

Table 1 directly standardised mortality rates of cardiovascular diseases per 100,000 population. Yellow highlighting indicates a statistically significant lower result from England and the East Midlands. (Data source Information Centre, 2012).

Health and Social Care Information Centre (HSCIC) also has data on emergency admissions due to stroke. The LCC has a significantly lower admissions rate per 100,000 compared with England and the local region. Rutland does also have a lower rate of admissions but this is found not to be statistically significant and is offset by a smaller population size.

Cardiovascular Disease Area	Geographical Area	Number of Admission Continuous Inpatient Spells - Numerator	Indirectly age and sex standardised rate per 100,000	Lower limit of 95% confidence interval	Upper limit of 95% confidence interval
Stroke (P00928) (Emergency Admissions: all ages)	England	65834	121.42	120.49	122.35
	East Midlands SHA	5748	120.35	117.26	123.50
	Leicestershire CC	630	88.27	81.51	95.44
	Rutland UA	55	114.63	86.35	149.21

Table 2 Data for Emergency Hospitals Admissions 2010/2011 (Stroke) Indirectly Age and Sex Standardised Rates (to persons 2006/2007).

4 Conclusion

In LCC, the under 75 mortality rate of CVD is less than the average national rate, as is the rate of deaths deemed preventable. In comparison to its peers, LCC does have higher rates of CVD mortality and mortality considered preventable (ranks 13 out of 15 local authorities). That said, only 5 local authorities amongst those compared performed significantly better than LCC. Rutland also shows lower mortality rates compared with the nation however these are not statistically significant.

Cardiovascular disease is the main cause of death in England, Coronary Heart Disease being the main constituent (BHF, 2012). The direct age standardised rate of Coronary Heart Disease mortality under 75 is significantly lower in LCC than that of the region and the nation. In addition, rate of emergency admissions due to stroke (*stroke being directly affected by blood pressure control*) is significantly lower than the local and national rate. Despite these findings, there still appears to be 278.7 deaths per year in the past three years deemed to be preventable. In addition, when compared to peers as noted above, there appears to be room for improvement. Tighter control of reversible risk factors such as tobacco use, physical activity and blood pressure control may see an improvement in the number of preventable deaths in the future.

5 References

British Heart Foundation (BHF) (2012) Coronary Heart Disease statistics in England, 2012, **British Heart Foundation**.

ERPHO (Public Health Observatories) (2012) Public health outcomes framework data toolkit, **ERPHO**. [Available online at <http://www.phoutcomes.info/>] [Accessed on 04/04/2013].

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