LEICESTERSHIRE COUNTY & RUTLAND

DIRECTORATE OF PUBLIC HEALTH

Premature Mortality Statistics- Respiratory Disease

1 Key Findings

Premature Mortality from Respiratory Disease

- Leicestershire County Council (LCC) has significantly lower under 75 mortality rates from respiratory disease than England, with 18.7 deaths per 100,000 population in 2009-11 as compared to 23.4 deaths per 100,000 respectively. LCC has consistently had lower respiratory mortality rates in under 75s than England since 2001-03.
- LCC also has significantly lower preventable deaths from respiratory disease than England at 8.6 per 100,000 population, as compared to 11.6 deaths per 100,000.
- The 2009-11 respiratory mortality rates accounted for 452 deaths (on average 150.7deaths per year) due to respiratory disease in under 75years in LCC, of which 215 deaths (71.7 per year) were deemed preventable.
- LCC is performing similarly to its peer local authorities on respiratory disease mortality and preventable respiratory disease mortality. South Gloucestershire is the only peer authourity with a significantly lower respiratory mortality rate than LCC. LCC is within the top 10-25% of local authorities for performance for these indicators.
- Rutland figures have been suppressed due to small numbers.

Specific Respiratory Diseases

- LCC has significantly lower age standardised mortality rates for chronic obstructive pulmonary disease (COPD) (including bronchitis, emphysema and other COPD) and pneumonia mortality in under 75s than England and the East Midlands region.
- Asthma mortality in 5-44year olds is lower than England and the region, but this is not statistically significant.
- Rutland has significantly lower mortality than England and the East Midlands for asthma in 5-44year olds and COPD in under 75s.

Hospital Emergency Admissions

- LCC has a significantly lower rate of hospital emergency admissions than England and the region for children with asthma aged under 16.
- Rutland hospital emergency admission rates from respiratory disease in under 16s are not statistically different from England and the region.

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

Respiratory disease is defined as disease of the lung airways and other structures. It is one of the major causes of premature mortality in under 75s in England (WHO, 2012). The most common diseases include asthma, chronic obstructive pulmonary disease (COPD), respiratory allergies, occupational lung diseases and pulmonary hypertension. The main risk factors for these diseases include smoking, in and outdoor pollution, allergens and occupational risks (WHO, 2013).

3 Premature mortality from respiratory disease

3.1 Regional comparison

The Public Health Outcome Framework (PHOF) has a number of respiratory disease indicators. Figure 1 shows that in 2009-11, Leicestershire County Council (LCC) had;

- Significantly lower under 75 age standardised mortality rates from respiratory disease than England for with 18.7 deaths per 100,000 population as compared to 23.4 deaths per 100,000 for England.
- A similar trend was seen with the under 75 mortality rate from respiratory disease considered preventable, with LCC having 8.6 preventable deaths per 100,000 population, as compared to 11.6 deaths per 100,000 for England overall.
- These rates accounted for 452 deaths (on average 150.7deaths per year) due to respiratory disease in under 75years in LCC, of which 215 deaths (71.7 per year) were deemed preventable.
- LCC also has the lowest rates in the East Midlands for both indicators.
- Results for Rutland have been suppressed due to less than 25 deaths in the area meaning a reliable directly standardised rate could not be calculated.

Indicator	Period	England	Derby	Derbyshire CC	Leicester	Leicestershire CC	Lincolnshire CC	Northamptonshire CC	Nottingham	Nottinghamshire CC	Rutland
4.07i – Under 75 mortality rate from respiratory disease (provisional)	2009 – 11	23.4	29.6	22.5	33.3	18.7	22.3	25.9	36.1	22.8	-
4.07ii – Under 75 mortality rate from respiratory disease considered preventable (provisional)	2009 – 11	11.6	11.7	10.3	16.0	8.6	10.1	12.5	18.9	11.1	-

Compared with England: Lower Similar Higher Not compared

Figure 1 Public Health Outcome Framework respiratory indictaors. Data source EMPHO, based ONS source data**Error! Bookmark not defined.**.

3.2 Comparison with peer local authorities

When comparing LCC with other peer local authorities (Figure 2 and 3), LCC is within the 95% confidence limits of all peer local authorities except South Gloucestershire, that had a slightly lower under 75 mortality rates from respiratory disease than LCC. LCC is within the top 10-25% for local authorities on respiratory mortality performance, i.e. has low rates of respiratory mortality.

N.B. Peer local authorities that we are comparing LCC to include Wokingham, Windsor and Maidenhead, west Berkshire, Surrey, South Gloucestershire, Rutland, Richmond upon Thames, Kingston upon Thames, Hertfordshire, Hampshire, Central Bedforshire, Buckinghamshire, Bracknell Forest and Bath and North East Somerset.

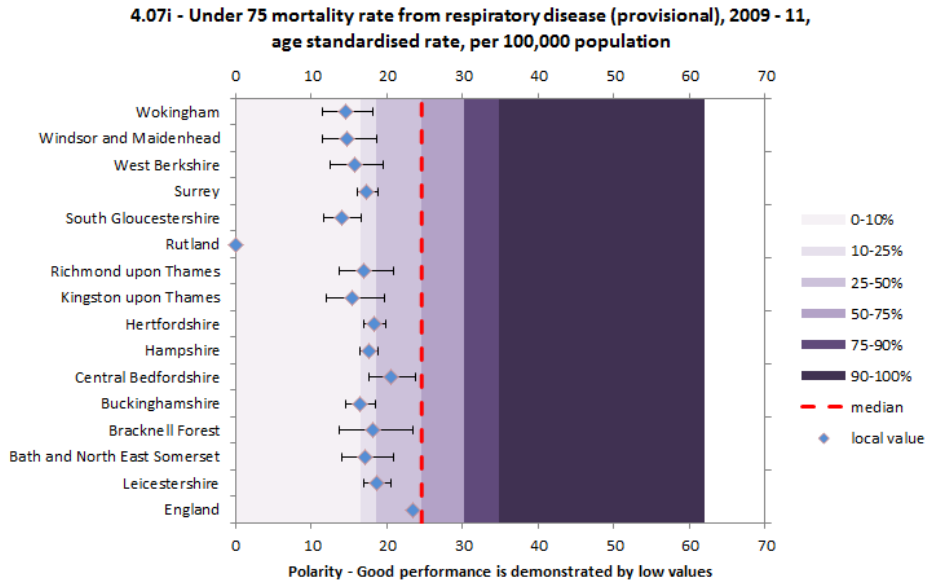

Figure 2 Under 75 mortality rate from respiratory disease (provisional) 2009-11 comparison with similar local authorities. Data source EMPHO, based on ONS source data, 2012.

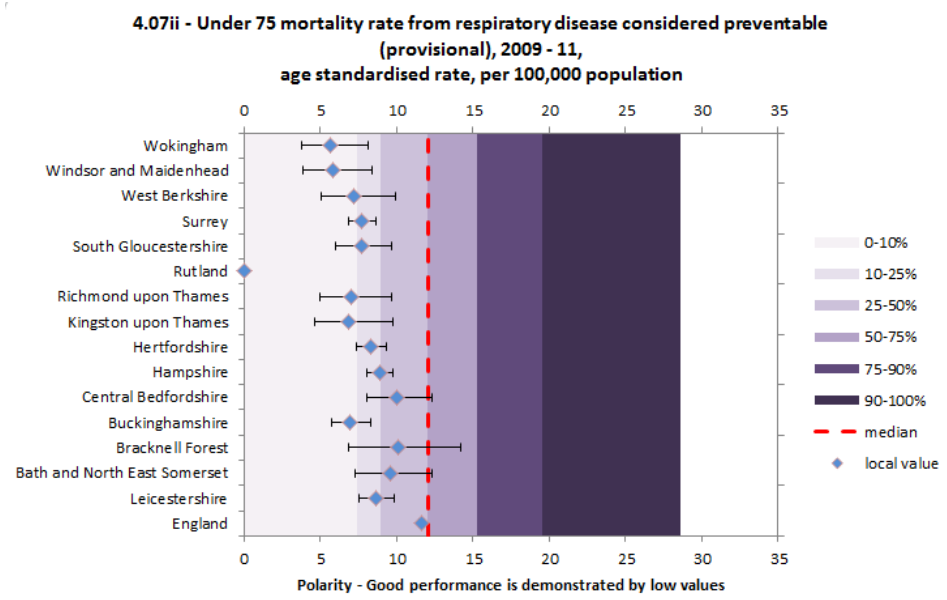

Figure 3 Under 75 mortality rate from respiratory disease considered preventable (provisional). Data source EMPHO, based on ONS source data 2012.

For preventable mortality from respiratory disease in the under 75s, LCC is not significantly different from any of its peer local authorities LCC is within the top 10-25% of local authorities within England, indicating good performance in this area.

As discussed above results for Rutland have been suppressed due to small numbers. It is therefore difficult to work out if Rutland is significantly different to its peer authorities.

Trend Data

Figure 4 shows the trend in mortality from respiratory disease in under 75s from 2001-3 onwards. It can be seen that LCC has a consistently lower respiratory mortality rate in under 75s than England, with both mortality rates decreasing at a similar rate.

Data from 2010-12 onwards indicates the proposed respiratory mortality rate aspirations for the next three years. The natural trend in England respiratory mortality in under 75s indicates the rate will reduce by 8% by 2013-15. The LCC respiratory mortality aspiration aims to decrease respiratory mortality rates by 12% (to 16.03%) by 2013-15.

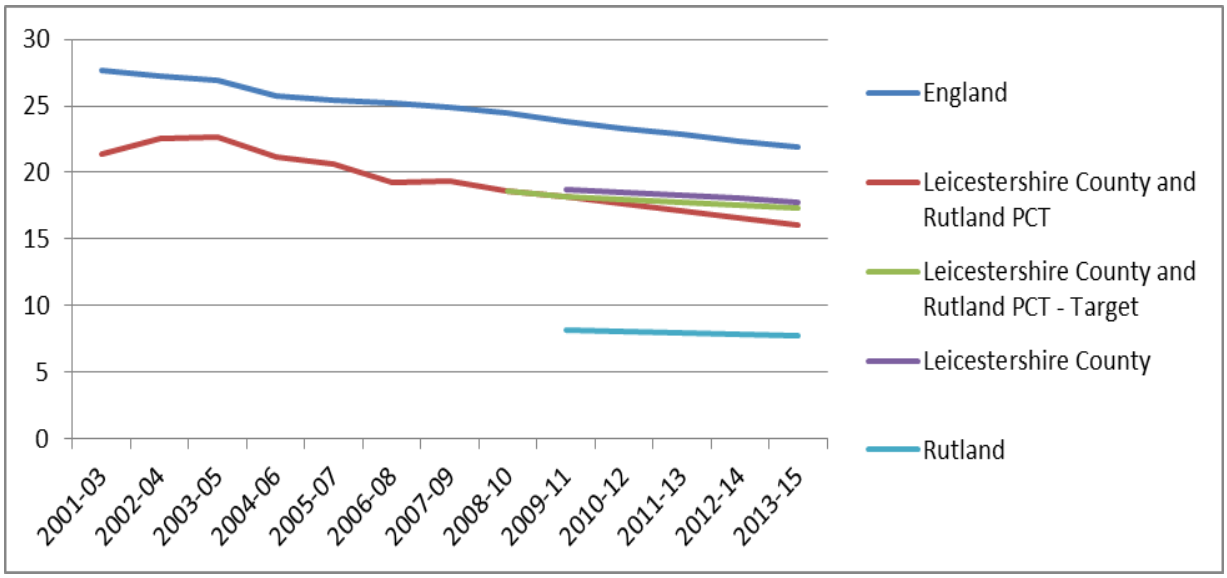

Figure 4 Respiratory mortality rates in under 75s from 2001-3 to 2009-11, with respiratory mortality rate aspirations for 2010-12 to 2013-15.

3.3 Specific Respiratory Diseases

The Health and Social Care Information Centre also publishes information on specific respiratory diseases (IC, 2012). Table 1 shows that LCC has;

- Significantly lower age standardised mortality rates for chronic obstructive disease (COPD) (defined as bronchitis, emphysema and other COPD) and pneumonia mortality in under 75s than England and the East Midlands region.

- Asthma mortality in 5-44year olds is lower than England and the region, but this is not statistically significant.

- Rutland has significantly lower mortality than England and the East Midlands for asthma in 5-44year olds and COPD in under 75s.

Respiratory Disease Area	Geographical Area	Number of deaths	Directly age standardised rate	95% Confidence Limits	
				Lower	Upper
Asthma mortality in 5-44years	England	268	0.32	0.28	0.36
	East Midlands SHA	22	0.30	0.18	0.43
	Leicestershire CC	1	0.10	0.00	0.28
	Rutland UA	0	0.00	0.00	0.00
COPD (Bronchitis, emphysema and other COPD) mortality in under 75s	England	20530	11.67	11.51	11.83
	East Midlands SHA	1766	11.09	10.57	11.61
	Leicestershire CC	205	8.43	7.27	9.59
	Rutland UA	7	4.42	1.11	7.72
Pneumonia mortality in under 75s	England	10408	6.15	6.04	6.27
	East Midlands SHA	904	6.01	5.62	6.41
	Leicestershire CC	96	4.15	3.31	4.99
	Rutland UA	5	3.77	0.09	7.44

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

Table 2 shows the indirectly age and sex standardised hospital emergency admissions rates for children with asthma or lower respiratory disease in under 16s. It can be seen that LCC has a significantly lower rate of hospital emergency admissions than England and the region for children with asthma aged under 16. All other rates are not significantly different to the region or England rates.

Respiratory 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
Asthma	England	23452	232.94	229.97	235.95
	East Midlands SHA	1465	175.33	166.47	184.55
	Leicestershire CC	136	116.00	97.32	137.21
	Rutland UA	8	116.73	50.26	230.02
Lower Respiratory Tract	England	42842	409.30	405.43	413.19
	East Midlands SHA	3650	428.66	414.87	442.80
	Leicestershire CC	468	416.06	379.21	455.52
	Rutland UA	19	318.76	191.82	497.81

Table 2 Indirectly age and sex standardised hospital emergency admission rates for children with asthma and lower respiratory diseases aged under 16years. Yellow highlight indicates a statistically significant lower result from England and the East Midlands. (Data source Information Centre, 2012).

4. Conclusion

Overall LCC has lower rates of respiratory disease mortality in under 75s than England and the region, with similar rates to peer local authorities. Rutland has such low numbers of respiratory disease that the figures are suppressed. When reviewing individual respiratory diseases (asthma, COPD and pneumonia) and hospital emergency admissions in under 16s, LCC again has lower rates than England and the region. Although LCC and Rutland have low rates of respiratory

disease, there were still 215 preventable respiratory deaths in 2009-11, therefore further work could be completed on reducing on respiratory disease risk factors, in particular reducing smoking prevalence.

5. References

ERPHO (Public Health Observatories) (2012) Public health outcomes framework data toolkit, **ERPHO**. [Available online at http://www.phoutcomes.info/] [Accessed on 18/03/2013].

Information Centre (IC) (2013) Indicator Portal, **Information centre**. [Available online at http://www.indicators.ic.nhs.uk/webview/] [Accessed on 20/03/2013].

World Health Organisation (WHO) (2013) Chronic respiratory diseases, **World Health Organisation.** [Available online at http://www.who.int/respiratory/copd/definition/en/index.html] [Accessed on 18/03/2013].

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