

# **Child mortality of children aged 5-15 years in the UK and Sweden: a comparison**

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Child mortality is higher in the UK than in many other European countries. We have previously compared mortality rates of children under the age of five years in the UK with Sweden [1]. We therefore decided to look at mortality rates of children between the ages of 5 and 15 years in both countries.

The methodology was similar to that used in our previous paper [1]. Child mortality cause-specific data were obtained from the respective National Statistics Offices. Because of the limitations of ICD classification, we used a more clinically useful classification to specifically identify infections [1]. Additionally, other respiratory disorders (J98) were analysed and classified clinically.

Data combined for three years were analysed. Chi-squared test was used to compare the number of deaths. Mortality rates (per 1,000,000 children) were calculated for each of the three years. Mean mortality rates for the three years were used for direct comparison between the two countries.

There were 2,342 and 207 deaths in children aged 5 – 15 years in the UK and Sweden, respectively, between 2006 and 2008. The mean population of children aged 5 – 15 years for the same time period was 7,403,933 and 1,146,061 respectively.

The overall mortality rate was significantly higher in the UK than Sweden (105.6 and 78.5 respectively,  $p < 0.001$ ). The mortality rates for most of the common causes of death (neoplasms, diseases of the nervous system, respiratory, infectious, circulatory, endocrine and metabolic disorders) were all significantly higher in the UK (Table 1). There was no difference in the mortality rate for external causes of morbidity and mortality between the two countries. Symptoms, signs, abnormal clinical and laboratory findings not elsewhere classified were significantly higher in Sweden. There were however only nine of these unclassified deaths in Sweden and 23 in the UK.

The greatest difference, with a mortality rate ratio of 14.2, was in diseases of the respiratory system. Ninety seven of the 135 deaths due to respiratory disorders in the UK were classified as other respiratory disorders (J98). The majority of these appeared to be due to asthma and status asthmaticus. The mortality rates for asthma and status asthmaticus, respiratory infections and septicaemia were all significantly higher in the UK than in Sweden (Table 2). Our findings in relation to the high mortality rate for asthma are in keeping with previous studies [2]. Most childhood deaths from asthma are preventable [3].

Our findings raise questions about the organisation and delivery of services for children of all ages in the UK. Access to healthcare is an issue in many low income countries [4], but unfortunately also appears to be an issue in the UK.

Researchers, funding agencies and the media are often more interested in clinical trials of new medicines. The higher mortality rates in relation to respiratory disorders, infections and other diseases in the UK are unlikely to be significantly changed by new medicines. Studies to improve the delivery of health care in children are urgently required .

**Table 1**

Mean mortality rates of children 5 – 15 years in the UK and Sweden 2006 – 2008, ICD classification

		Mortality rates per 1,000,000 population			
ICD Code	Disease	UK	Sweden	Rate ratio	p Value
J0 – 99	Diseases of the respiratory system	8.5	0.6	14.2	<0.001
A0 – B99	Certain infectious and parasitic diseases	3.6	1.5	2.4	0.04
I0 – 99	Diseases of the circulatory system	7.2	3.8	1.9	0.02
E0 – 90	Endocrine, nutritional and metabolic diseases	7.0	4.1	1.7	0.05
D50 – 89	Diseases of the blood and blood forming organs and immune system	1.8	1.2	1.5	0.4
G0 – 99	Diseases of the nervous system	15.1	10.2	1.5	0.03
C0 – D48	Neoplasms	26.2	19.4	1.3	0.02
Q0 – 99	Congenital malformations and chromosomal anomalies	7.0	6.4	1.1	0.7
K0 – 93	Diseases of the digestive system	2.7	3.2	0.8	0.9
V0 – Y89	External causes of morbidity and mortality	23.1	23.0	1.0	0.9
F0 – 99 H0 – 95 L0 – N90 P0 – 96	Miscellaneous	2.4	2.6	0.9	0.7
R0 – 99	Symptoms, signs, abnormal clinical and laboratory findings not elsewhere classified	1.0	2.6	0.4	0.02
	<b>Overall mortality</b>	<b>105.6</b>	<b>78.5</b>	<b>1.3</b>	<b>&lt;0.001</b>

**Table 2****Mean mortality rates due to respiratory disorders and infections**

Disorders and infections	Mortality rates per 1,000,000 population			
	UK	Sweden	Rate ratio	p Value
Asthma and status asthmaticus	3.4	0.3	11.3	0.01
Respiratory infections	2.4	0.3	8.0	0.01
Septicaemia	1.9	0.3	6.3	0.03
Other respiratory conditions	1.7	0.3	5.7	0.05
Viral infections	2.4	2.0	1.2	0.7
Other infections	0.7	0.8	0.9	0.7
Meningitis	0.4	0.3	1.3	0.7

**References**

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