



# The true cost of occupational asthma in Great Britain

Prepared by **Metroeconomica Limited** *in collaboration*  
*with* **the Institute of Occupational Medicine &**  
**the University of Aberdeen**  
for the Health and Safety Executive 2006

## RESEARCH REPORT 474



# The true cost of occupational asthma in Great Britain

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In 2000 the Health and Safety Commission (HSC) published a long-term (10-year) occupational health strategy for Great Britain. The strategy sets an ambitious target for occupational asthma (OA) of a reduction of 30% in newly incident cases by 2010. The strategy contains several components, including improved education and more research.

To raise awareness among employers, workers, and policy-makers as to the potential gains to be realised from adopting measures to reduce the incidence of OA, the HSE commissioned the present study to develop detailed estimates of the cost of OA in Great Britain. The study considers solely OA, and does not cover work-aggravated asthma.

This report and the work it describes were funded by the Health and Safety Executive (HSE). Its contents, including any opinions and/or conclusions expressed, are those of the authors alone and do not necessarily reflect HSE policy.

























































**Table 14: Mean Direct Medical Costs (1997 CHF per year per patient)**

<b>Cost Category</b>	<b>All Patients (n = 589)</b>	<b>Adults (n = 472)</b>
Outpatient care	196	210
Medication	653	731
Inpatient care	722	826
Referrals	12	11
<b>Total</b>	<b>1,583</b>	<b>1,778</b>

Source: Szucs, Anderhub and Rutishauser (1999)

**Table 15: Physicians Visits, Specialist Referrals, Diagnostic Measures and Hospitalisation**

<b>Status</b>	<b>Adults (n = 472)</b>
<b>Physician visits:</b>	
Total	2,634
Per patient	5.6
<b>Referrals:</b>	
Total	104
Per patient	0.22
<b>Hospitalisations:</b>	
Total	42
Per patient	0.09
Total patients	35
Hospital days per patient	0.83
Average length of stay per hospitalised patient days	11.2
Average length of hospitalisation days	9.32
<b>Days off work:</b>	
Total patients with days off work	53
In % of all adults	11.2
Days off work per patient	28
Total caregivers with days off work	3
In % of all adults	0.6
Days off work per patient caregiver	25

Source: Szucs, Anderhub and Rutishauser (1999)

Epidemiological studies in Switzerland suggest a prevalence of asthma of 6.7% in adults. Thus, about 395,000 adults in Switzerland suffer from asthma. The total estimated cost of



**Table 16: Annual Direct and Indirect Cost Estimates for Asthma in U.S.**

<b>Cost Component</b>	<b>1994 Million Dollars (95% CI)</b>
<b>Direct Costs:</b>	
Prescribed medicines	817.0 (640.1 - 994.0)
Ambulatory visits	
Office and clinic	616.2 (481.7 - 750.7)
Hospital and outpatient	565.8 (275.6 - 855.8)
Emergency room	348.0 (244.8 - 451.1)
Hospitalisation	2,799.5 (1,673.4 - 3,925.7)
Total	5,146.5 (3,315.7 - 6,977.2)
<b>Indirect Costs:</b>	
Housekeeping loss	20.6 (0.9 - 40.4)
Work loss	222.1 (79.8 - 364.4)
School loss	194.5 (123.9 - 265.1)
Bed days (age 0 - 4)	18.5 (5.5 - 31.4)
Restricted activity loss	217.5 (60.8 - 374.2)
Total	673.2 (270.9 - 1,075.5)
<b>Total Costs</b>	<b>5,819.7 (3,586.6 - 8,052.7)</b>

Source: Smith, et al (1997)

**Table 17: Annual Direct Cost Estimates for Asthma in U.S. by Age**

<b>Cost component</b>	<b>Older than 17</b>	<b>All Ages</b>
	1994 Million Dollars (% of total)	1994 Million Dollars (% of total)
Prescribed medicines	581.4 (16.5)	817.0 (15.9)
Ambulatory visits		
Office and clinic	415.5 (11.8)	616.2 (12.0)
Hospital outpatient	425.9 (12.1)	565.8 (11.0)
Emergency Department	165.4 (4.7)	348.0 (6.8)
Hospitalisation	1,926.0 (54.8)	2,799.5 (54.4)
Total	3,514.2 (100.0)	5,146.5 (100.0)

Source: Smith, et al (1997)

**Extended Abstract for: Burden of Allergic Disease in the UK: Secondary Analyses of National Databases<sup>22</sup>**

The aim of this study was to quantify the current health burden posed by allergic diseases in the UK, with a particular focus on asthma, the main allergic condition encountered in













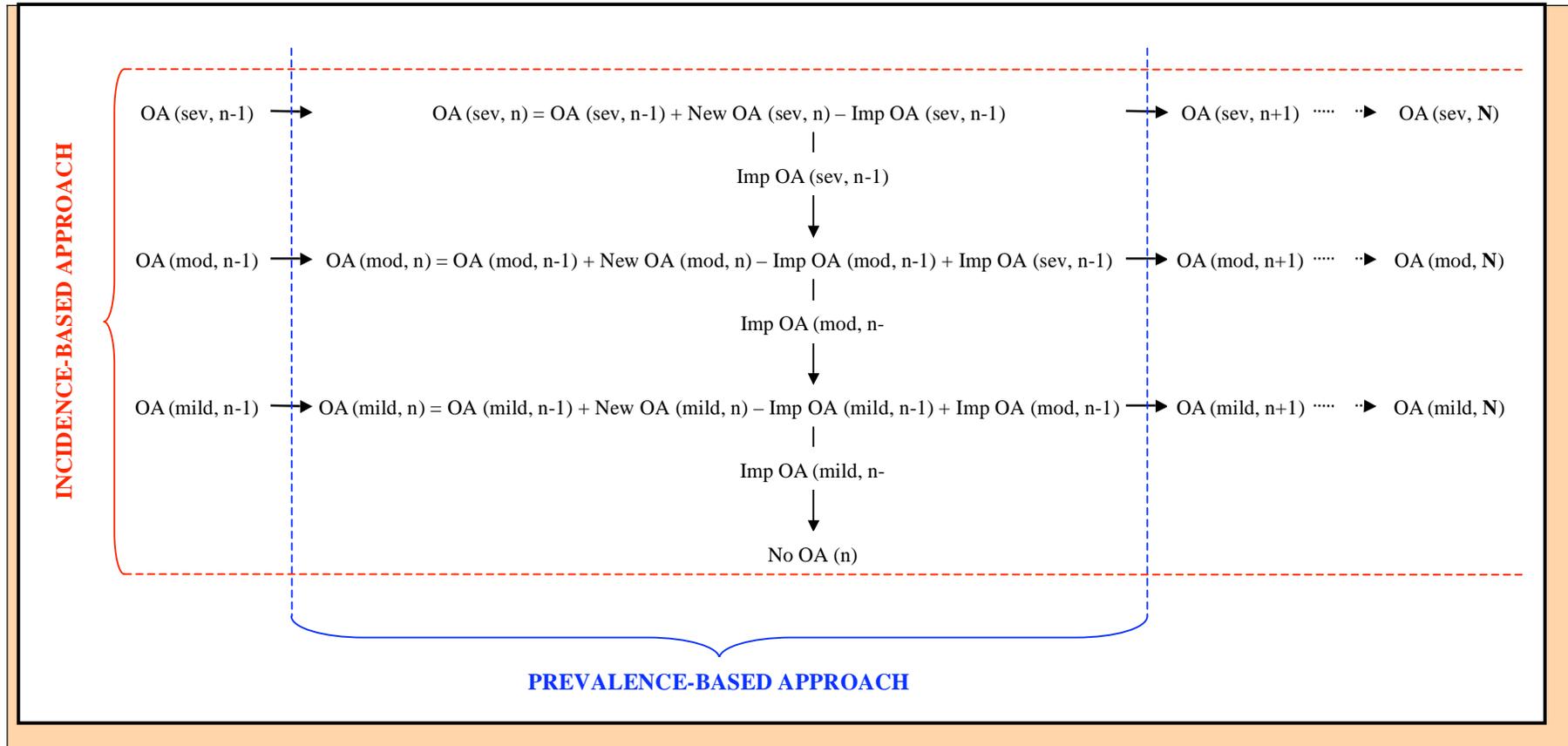








**Figure 1: Incidence-based Approach versus Prevalence-based Approach**



**Notes:** OA denotes the total number of cases of occupational asthma of given severity (sev = severe OA, mod = moderate OA, mild = mild OA) reported in a given year, n. Other notation refers to: N = year of cure or the death of the victim, New = new cases of assessed OA (by severity), and Imp = improvements in OA symptoms as a result of reductions in, or removal from, exposure to sensitising agent.

























**Table 24: Estimated Weighted Average Cost of Hospital Admissions and Bed-days per Admission in England**

	HRG Code	HRG Label	FCS	National Average Unit Cost (£)	Interquartile Range of Unit Costs		Bed-days	Average	No. of Data Submissions
					Lower Quartile	Upper Quartile			
					(number)	(£ per bed-day)			
Elective Inpatient	D21	Asthma with cc	173	1,796	812	2,296	1,091	6.3	64
	D22	Asthma without cc	573	1,128	636	1,641	2,002	3.5	130
		Weighted average	746	1,283	676	1,793	3,093	4.1	194
Non-elective Inpatient	D21	Asthma with cc	6,922	1,189	803	1,738	40,172	5.8	433
	D22	Asthma without cc	38,337	667	511	1,099	116,734	3.0	643
		Weighted average	45,259	747	556	1,197	156,906	3.5	1,076
		Weighted average	46,005	755	557	1,206	159,999	3.5	1,270

Source: NHS Reference Costs 2004, Department of Health

Note: Asthma with and with out complications ('cc').











**Table 28: Direct Resource Cost of OA for Six Case Study Individuals (2004 prices, £ per person per year)**

Cost Component	Incidence	Latex or Gluteraldehyde		Isocyanates		Flour or Grain	
		Male	Female	Male	Female	Male	Female
General practice (planned)	taxpayers	+14 to +19					
General practice (unplanned)	taxpayers	+16 to +27					
Medication (gross)	taxpayers	+100 to +110					
Prescription charges	individual	+3 to +38					
Medication (net)	taxpayers	+62 to +107					
Hospital admissions	taxpayers	+63 to +137					
Outpatient services	taxpayers	+9 to +13					
Commuting	individual	-22 to -16	-13 to -10	-22 to -16	-13 to -10	-22 to -16	-13 to -10
Additional transport	individual	+8					
DWP admin (SSP reimbursed)	taxpayers	Zero	Zero to +2	Zero to +1	Zero to +2	Zero to +2	Zero to +3
DWP admin (IB and IIDB)	taxpayers	+378	+371	+378	+371	+378	+371
Sub-total	taxpayers	+542 to +681	+535 to +676	+542 to +682	+535 to +676	+542 to +683	+535 to +677
Sub-total	individual	-11 to +30	-2 to +36	-11 to +30	-2 to +36	-11 to +30	-2 to +36
Total direct resource costs	society	+531 to +711	+533 to +712	+531 to +712	+533 to +712	+531 to +713	+533 to +713

















































































































































