

Occupational Disease in the British Construction Industry, 1996-2000

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Background

The protection of workers in the construction industry requires control of the many and varied hazards to which they are exposed. The pattern of occupational disease for this and other industries has been recorded in the UK since 1996 by some 3000 specialist physicians who report monthly to the Occupational Disease Intelligence Network (ODIN) [McDonald et al, 2001]. Of this total, some 2500 were in clinical specialties, and 500 in occupational health practice.

most part to illnesses referred by general practitioners for a consultant opinion, they will be used in all subsequent tables.

Disease distribution

It was seen in table 1 that there have been far more respiratory illnesses seen by the clinical specialists in construction workers, but fewer cases of mental illness, than in other industries. These differences are explained mainly by the high frequency of malignant and non-malignant asbestos-related

Table 1 Proportion of estimated male cases by major disease category, comparing the construction industry to the other industries (1996-2000)

Industry (n)	Respiratory	Skin	Musculo-skeletal	Mental ill health	Hearing disorders	Infectious	Total
<u>Clinical specialist reports</u>							
Construction (6167)	47%	18%	20%	11%	4%	<1%	100%
Other (35,630)	27%	18%	14%	32%	6%	3%	100%
<u>Occupational physicians reports</u>							
Construction (1009)	23%	12%	53%	3%	8%	1%	100%
Other (31,085)	9%	20%	44%	19%	7%	1%	100%
<u>All physicians</u>							
Construction (7176)	43%	17%	25%	10%	5%	<1%	100%
Other (66,715)	18%	19%	28%	26%	7%	2%	100%

During the 5 years period (1996-2000), from an estimated 73,891 new cases of work-related disease in men, 7176 (10%) were in construction and 66,715 (90%) were in other industries (table 1). Of an estimated 41,797 cases reported by the clinical specialists, 6167 (15%) were in construction workers, whereas for occupational physicians the corresponding proportion was 1009/32,094 (3%). These differences reflect the relatively small proportion of male construction workers (about 4%) who have access to an occupational physician [McDonald, 2002]. However, cases in construction workers reported by the clinical specialists (86%) probably provide the more reliable and representative picture of occupational morbidity in this industry. Though limited for the

disease in the former, and of stress disorders among teachers, health professionals and police in the latter.

In contrast to this general picture, the distribution of selected diagnoses by specific occupation, in the same period, has been more variable (table 2). Respiratory tract cancers (almost all the result of asbestos exposure) and musculoskeletal disorders are the major health problems, followed by a substantial amount of contact dermatitis. However, the detailed occupational distribution of these diseases is importantly different. Electricians, plumbers/heating engineers and carpenters/joiners have been most at risk from mesothelioma and lung cancer. Musculoskeletal disorders have affected all industrial occupa-

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tions in construction but especially bricklayers, painters/decorators and builders. In contrast, asthma has been important only in carpenters/joiners, and dermatitis, skin cancer and stress illnesses in certain trades, but in not others.

Of the remaining diseases in table 3, the association of asbestos with mesothelioma and noise with hearing loss are clear, but the causes of work-related mental ill health are more controversial. Useful information is available about

Table 2 Distribution of cases by selected diagnoses in specific occupations: clinical specialist reports (1996-2000)

Occupation	Total cases (100%)	Respiratory		Skin		Musculo-skeletal	Mental ill health	Hearing disorders
		Asthma	Cancer (Mesothelioma & Lung Ca)	Dermatitis	Cancer			
Carpenters/Joiners	529	52 (10%)	191 (36%)	109 (21%)	52 (10%)	84 (16%)	12 (2%)	29 (5%)
Builders	503	1 (1%)	46 (9%)	122 (24%)	96 (19%)	150 (30%)	36 (7%)	52 (10%)
Plumbers/ Heating engineers	328	1 (<1%)	203 (62%)	30 (9%)	13 (4%)	48 (15%)	24 (7%)	9 (3%)
Bricklayers	241	-	63 (26%)	67 (28%)	7 (3%)	87 (36%)	12 (5%)	5 (2%)
Painters/Decorators	186	3 (2%)	57 (31%)	45 (24%)	20 (11%)	60 (32%)	-	1 (1%)
Electricians	139	-	72 (52%)	16 (12%)	24 (17%)	12 (9%)	12 (9%)	3 (2%)
Fitters	45	-	26 (58%)	16 (36%)	-	-	-	3 (7%)
Miscellaneous trades	403	27 (7%)	23 (6%)	140 (35%)	31 (8%)	159 (39%)	12 (3%)	11 (3%)
Labourers etc.	623	3 (<1%)	350 (56%)	70 (11%)	21 (3%)	120 (19%)	36 (6%)	23 (4%)
All above	2997	87 (3%)	1031 (34%)	615 (21%)	264 (9%)	720 (24%)	144 (5%)	136 (5%)

As participation by specialist physicians throughout the UK in the ODIN scheme is close to universal, and the entire population has access to specialist care through the National Health Service, statistics from the country wide Labour Force Survey provide a useful denominator against which to calculate incidence rates. In table 3, average annual rates of new cases per million male employees are shown for the most frequently reported diseases in construction workers, for each of the six groups of clinical specialists. The considerable importance of musculoskeletal disorders, mesothelioma, contact dermatitis and mental ill health is clear. More detail is given in table 4 on the musculoskeletal problems; as in most other industries upper limb complaints predominate [Cherry et al, 2001]

agents incriminated in contact dermatitis and, though far less frequent, in occupational asthma. For contact dermatitis (table 5), three groups of agent – chromates, cements and resins – were together held responsible for 70% of cases. For asthma (table 6), wood dust and a few other agents commonly encountered by carpenters and joiners were almost as prominent.

Although less easy to interpret with confidence, data from the reports of occupational physicians were broadly similar to those from the clinical specialists (table 1). However, mesotheliomas were much less frequently reported, no doubt because relatively few cases occur in men still at work.

Table 3 Average annual incidence of most frequently reported diseases; clinical specialist reports (1996-2000)

Reporting physicians	Disease	Year of reporting	5 years total ¹	Rate/10 ⁶ /year ²
Rheumatologists	Musculoskeletal disorder	Oct 1997 – Dec 2000	1265	155
Chest physicians	Mesothelioma	Jan 1996 – Dec 2000	1073	132
Dermatologists	Contact Dermatitis	Jan 1996 – Dec 2000	699	86
Psychiatrists	Mental ill health	Jan 1999 – Dec 2000	690	85
Audiological physicians	Hearing loss	Oct 1997 – Dec 2000	237	29
Chest physicians	Asthma	Jan 1996 – Dec 2000	126	15
	Other diseases		2077	255
	All diseases		6167	757

¹ Estimated 5 year total based on limited years of reporting

² Using Labour Force Survey 1996 data as denominator

Table 4 Work-related musculoskeletal disorders reported by rheumatologists (Oct.1997 – Dec 2000), comparing the construction industry to the other industries

Disorders	Construction	Other
Hand/wrist/arm	39%	(42%)
Nerve entrapment	(7%)	(9%)
Inflammation tendon	(15%)	(11%)
Hand arm vibration Syndrome (HAVS)	(10%)	(11%)
Others	(7%)	(11%)
Elbow	16%	(10%)
Shoulder	12%	(14%)
Neck	11%	(10%)
Lumbar spine	15%	(17%)
Hip/knee	3%	(6%)
Ankle/foot	5%	(4%)
Others	6%	(3%)
Total cases	822 (100%)	3315 (100%)

Table 5 Attributed agents for occupational contact dermatitis; dermatologist reports (1996 – 2000)

Agents	Proportion of total
Chromium/chromates	33%
Cements and plaster	21%
Resins and acrylics	16%
Colophony	8%
Cobalt	8%
Glues and Paints	6%
Total cases:	699 (100%)

Table 6 Attributed agents for occupational asthma; chest physician reports (1996 – 2000)

Agents	Proportion of total
Wood dust	33%
Welding fume	12%
Paints	10%
Isocyanates	6%
Epoxy resins	2%
Total cases:	126 (100%)

On the other hand, musculoskeletal disorders accounted for 53% of all cases, with annual incidence rates even higher than that shown in table 3 for clinical specialists [Cherry and McDonald, 2002].

Implications

Ergonomic research and control measures are clearly needed to deal with the problem of musculoskeletal disorders in this industry. The control of mineral fibres, siliceous dusts, especially those containing chromates, continues to warrant priority. The prevention in certain trades of dermatitis, skin cancer, asthma and stress will all require detailed identification and evaluation of causal factors.

References

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