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Health and Safety
Statistics 2000/01



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from work activities
are properly controlled



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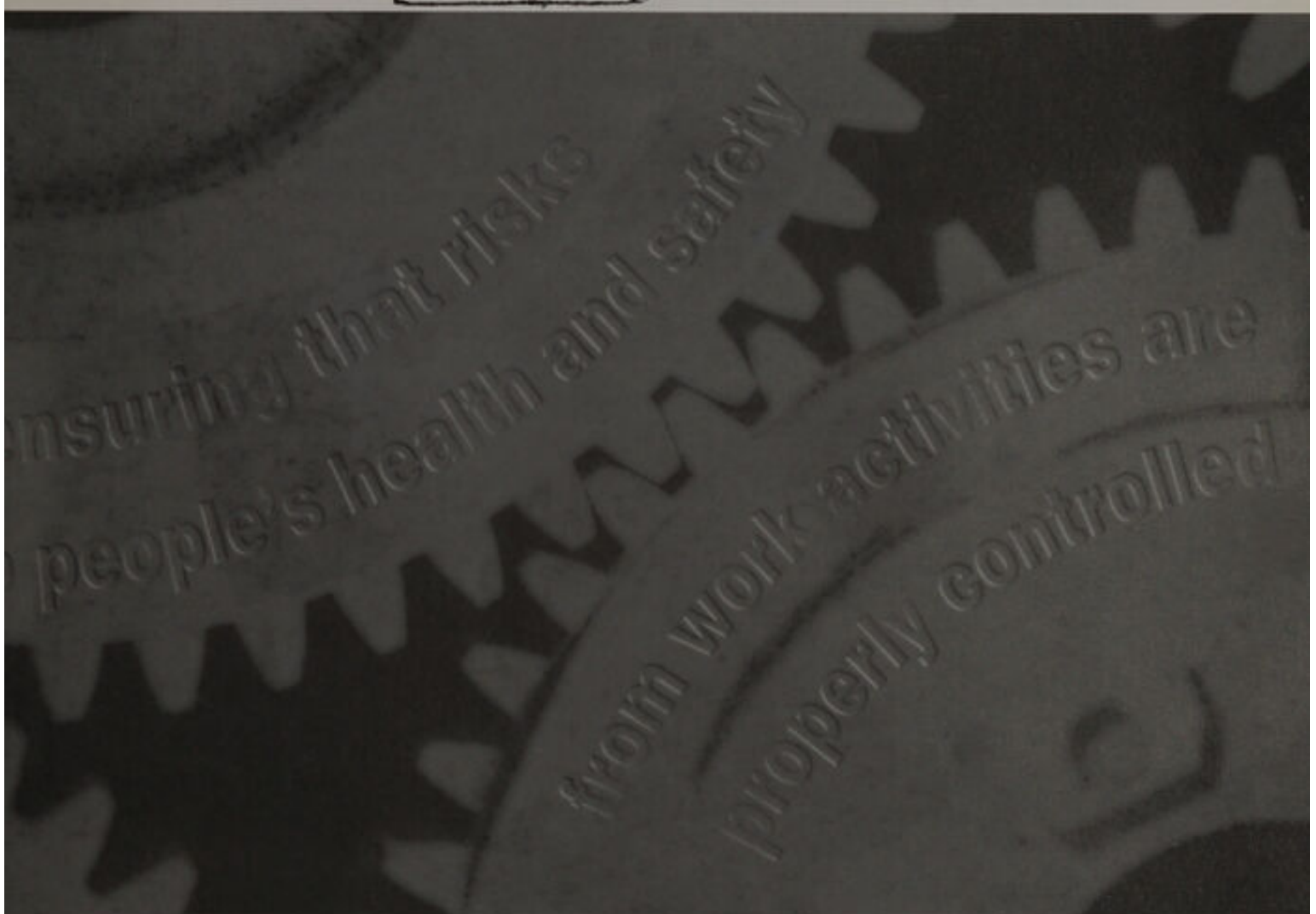
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HEALTH AND SAFETY STATISTICS HISTORY

Since 1992/93, statistics relating to health and safety at work have been published in both the Health and Safety Commission's *Annual report* and in *Health and Safety Statistics*.

The latest statistics are set out in summary in the *Annual report* and in more detail in this report. Before *Health and Safety Statistics*, figures were published in a supplement to the *Employment Gazette*.^{1,2,3}

FEEDBACK

We are interested to know what you think of this publication. Does it give you the information you need in the areas you are interested in? Is it presented clearly? Is there the right level of detail, too much or too little?

Please contact the authors at one of the first two contact points listed in Annex 3, or via the HSE website (www.hse.gov.uk/contact/frames/infoline.htm).

PART 1: STATISTICS OF WORKPLACE INJURY, GAS SAFETY, DANGEROUS OCCURRENCES AND ENFORCEMENT ACTION

INTRODUCTION

1.1 Part 1 of this report presents the latest picture on risks and trends in workplace injury based on two main sources of injury information.

- The flow of notifications made by employers and others to HSE or a local authority under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1985 and 1995 (RIDDOR). Each notification is for an injured person and is referred to as a reported injury. Notifications also include fatalities.
- Annual questions on workplace injury in the Labour Force Survey (LFS), a survey of around 60 000 private households.

1.2 The notifications or reported injuries cover workers (employees and self-employed people) who are injured at work or in connection with their work, and members of the public injured as a result of the work activity of someone else. The LFS provides estimates of the number of injured workers, and of the total number of days lost due to workplace injury. See the technical note at the end of Part 1 for details. The results from the LFS confirm HSE's concerns that non-fatal injuries are substantially under-reported. The reporting level for 1999/2000 is 44%.

1.3 The risks of workplace injury in the workforce are presented as the number of injuries per 100 000 employees, self-employed people or workers - as appropriate. This measure is an injury incidence rate, and in this document we refer to these more simply as injury rates.

1.4 The information in this part covers:

- The provisional injury numbers and rates for 2000/01 and finalised injury numbers and rates for 1999/2000.
- Trends in the rate of fatal and non-fatal injury for the economy as a whole.
- Trends in the commonest kinds of accident which lead to injury.
- Trends in the injury indicator in which the targets set by the Government and Health and Safety Commission (HSC) are to be measured. The targets are set under the *Revitalising Health and Safety* initiative as launched by the Government and HSC in June 2000.
- Overview of trends and main kinds of accident for broad categories of industry, agriculture, extraction, manufacturing, construction, health services, other service industries.
- Top-level injury numbers and rates for Wales and Scotland set alongside those for Great Britain.
- Rates of fatal and non-fatal injury for some parts of the workforce, including young and older workers, men and women, part-time workers, and employees new to their employer.

SUMMARY

Great Britain

- The rate of fatal injury to workers in 2000/01 is expected to be 1.05 per 100 000 workers.
- The rate of reported non-fatal injury in 2000/01 is expected to be 648.1 per 100 000 employees.
- The rate of reportable non-fatal injury from the Labour Force Survey in 1999/2000 was 1501 per 100 000 workers.
- The Government's *Revitalising Health and Safety* initiative set targets for the rate of fatal and major injury. The base year from which measurement started is 1999/2000 when the rate was 262.8 per 100 000 workers.

Fatal injuries

- The final number of fatal injuries to workers in 2000/01 is expected to be 75 greater than in 1999/2000, an increase from 220 to 295. The rate of fatal injury is expected to increase from 0.79 per 100 000 workers to 1.05.
- The number and rate of fatal injury to workers generally fell during the 1990s. The increase in the rate in 2000/01 is statistically significant against the figure expected from the estimated downward trend.
- The numbers and rates of fatal injury are higher in all main industrial sectors (agriculture, manufacturing, construction and services).
- There were substantial increases in the number of fatal injuries due to workers being hit by moving or falling objects, hit by a vehicle, or being trapped by something collapsing or overturning.
- 60% of fatal injuries to workers in the three years 1998/99 to 2000/01 occurred in construction, transport and storage, and in agriculture, forestry and fishing. These industries are among those with the highest risk of fatal injury.
- Each year, the commonest kinds of accident involved with fatal injuries are: falling from a height; being struck by a moving vehicle; and being struck by moving or falling objects.
- The number of fatal injuries to members of the public is expected to rise to 447 in 2000/01, up from 436 in 1999/2000. However, 298 involved trespassers and suicides on railway and transport systems in 2000/01, compared with 274 in 1999/2000.
- Most of the other 149 fatal injuries to members of the public are in service industries.

Non-fatal injuries

- The rate of reported major injury to employees is expected to fall by 5.4% in 2000/01. The rate of over-3-day injury is expected to fall by 2.4%.
- During the 1990s the rate of non-fatal injury has generally fallen. The rate of reported injury (major and over-3-day to employees combined) fell 20% in the ten-year period 1989/90 and 1999/2000; and the rate of reportable injury from the LFS fell by 40%.

- More recently, between 1997/98 and 1999/2000, the LFS rate of reportable injury has remained stable compared with the rate of reported injury, which fell by 7%. We estimate that the level of employer reporting (of non-fatal injuries) increased in the early 1990s but has declined since 1997/98. In 1999/2000 the level of reporting from employers was 44%.
- The rate of fatal and major injury fell in the four years to 1999/2000 and the figure for 2000/01 is expected to be similar that in 1999/2000.
- The number of non-fatal injuries to members of the public fell by 19% in 2000/01, and is 43% lower than in 1996, when RIDDOR 95 was introduced.

Injuries in Wales and Scotland

- In Scotland the rate of fatal injury to employees rose by 9% in 2000/01. In Wales the rate fell by 38%.
- The rate of fatal injury is higher in Scotland than in Great Britain but the rate of fatal injury in Wales has been dropping to become lower in 2000/01.
- The risk of non-fatal injury in Scotland and Wales is the same as that for Great Britain as a whole.

Characteristics of the worker or job

- Rates of fatal and non-fatal injury are higher in men than women.
- Rates of fatal injury are highest for older men workers - in main industrial sectors and in industries overall.
- There is no evidence to suggest that rates of non-fatal reportable injury are different between young and older workers.
- The rate of less serious injury is higher in young men compared with older men.
- Workers in the first few months with their employer have the highest rate of injury (once converted to a 12-month period).
- Workers on a low number of weekly hours have substantially higher rates of reportable injury than those working longer hours, and the rate gets lower as the number of weekly hours increases (once converted into hours of work).

Other reportable incidents

- The number of incidents involving flammable gas to premises by pipe and causing injury decreased: 169 reported in 2000/01 compared with 174 in 1999/2000.
- The estimated number of fatalities resulting from incidents involving gas was 31 in 2000/01 compared with a final total of 36 in 1999/2000.
- The provisional number of Dangerous Occurrences reported to HSE in 2000/01 was 10 046 compared with 10 412 in 1999/2000. Of the incidents reported in 2000/01, about 50% were specific to the operation of railway systems.

Enforcement by HSE

- HSE issued 11 058 enforcement notices in 2000/01, compared with 11 340 in 1999/2000. The number of notices fell in the early 1990s to reach 7444 in 1996/97 but has risen since then.
- About 70% (7747) of the notices were issued in the manufacturing and construction industries.
- In HSE prosecutions, the number of informations laid was 2077 in 2000/01, compared with 2115 in 1999/2000. The number generally fell in the early 1990s to 1490 in 1996/97 but has risen since then.
- About 70% (1431) of the informations laid were in the manufacturing and construction industries.
- HSE secured convictions against 1493 (72%) of the informations laid in 2000/01. The average penalty was £6250 in 2000/01 compared with £6820 in 1999/2000. If exceptional fines of £100 000 or more are excluded, the average penalty would rise 5.3% from £4651 in 1999/2000 to £4896 in 2000/01.

SUMMARY OF THE LATEST NUMBERS OF FATALITIES AND INJURIES 2000/01 COMPARED WITH 1999/2000

1.5 Statistics for 2000/01 are based on provisional figures. Final figures for non-fatal injuries are normally about 2.5% higher than provisional because of late reports. Therefore, provisional figures for 2000/01 have been adjusted to produce estimated final figures by examining trends in the difference between provisional and final figures from previous years.

1.6 Fatalities include deaths up to a year after the date of the accident. Estimated final figures for fatal injuries are based on the best information available at the time when the statistics were compiled. This report contains some estimated final figures for 2000/01, and are denoted 'ef'. Most detailed statistics for 2000/01 in this part are presented as provisional and labelled 'p'. The technical note at the end of Part 1 provides more tabular detail on the effects of finalisation on the numbers and rates of injury.

Fatal injuries 2000/01

1.7 The provisional number of reported fatal injuries to workers in 2000/01 is 291, up from 220 in 1999/2000. The number of fatal injuries expected on finalisation is 295, which represents a rise of 34% on the previous year. The number of fatal injuries to workers is expected to be higher in all main industrial sectors (agriculture, extraction, manufacturing, construction and services). The increase in 2000/01 follows year-on-year decreases during the 1990s (except a smaller increase in 1996/97).

1.8 In 1999/2000 there were 162 fatal injuries to employees and 58 to self-employed people. The corresponding provisional numbers for 2000/01 are 213 and 78.

1.9 For 2000/01, there are expected to be 215 fatal injuries to employees, the highest number since 1993/4. There are expected to be 80 fatal injuries to self-employed people, the highest since 1996/97 when the number also rose to 80.

1.10 The number of fatal injuries to members of the public is expected to rise by 11 from 436

to 447 in 2000/01. Two-thirds of these fatalities (298) are due to trespasses and suicides on railway and transport systems. The figure is up 24 from 274 in 1999/2000. In 2000/01, there were 33 other fatalities in railway premises or in trains, down 27 from 60 in 1999/2000.

1.11 There were 116 fatalities to members of the public in a range of other industries in 2000/01, 14 higher than in 1999/2000. 83% of fatalities were in the service industries.

Non-fatal injuries 2000/01

1.12 The number of non-fatal injuries to employees is expected to drop in 2000/01. The number of major injuries is expected to drop from 28 652 in 1999/2000 to 27 303 in 2000/01. The number of over-3-day injuries is expected to drop from 135 381 to 133 112. There are corresponding reductions in rates of injury.

- Major injury rate is expected to fall by 5.4%, from 116.6 to 110.3.

- Over-3-day injury rate is expected to fall by 2.4%, from 550.9 to 537.8.

1.13 The overall rate of non-fatal injury (major and over-3-day) is expected to *fall by 2.9%*, from 667.5 to 648.1. This is a contrast to the rise in the rate of fatal injury to workers and may reflect a small decline in the level of reporting by employers (see paragraphs 1.36 - 1.38).

1.14 The number and rate of reported non-fatal injuries to self-employed people are also expected to drop in 2000/01.

- 2.5% drop in the rate of major injury.

- 1.8% drop in the rate of over-3-day injury.

1.15 The number of reported non-fatal injuries to members of the public is expected to drop by 17% in 2000/01. Tables 1.1 and 1.2 provide further detail on the numbers and rates of fatal and non-fatal injuries in 1999/2000 and expected final figures for 2000/01.

Table 1.1 Summary of final injury numbers and rates by severity and type of injured person 1999/2000

Severity of injury	Employees		Self-employed		Members of the public
	Number of injuries	Injury rate (a)	Number of injuries	Injury rate (a)	Number of injuries (b)
Fatal	162	0.7	58	1.7	436
Non-fatal major	28 652	116.6	663	19.7	25 059
Over-3-day	135 381	550.9	732	21.8	-
All injuries	164 195	668.2	1 453	43.2	25 495

(a) Per 100 000 employed.

(b) The definition of a non-fatal injury to a member of the public is different to that for a worker (see technical note).

Table 1.2 Summary of estimated final injury numbers and rates by severity and type of injured person 2000/01

Severity of injury	Employees		Self-employed		Members of the public
	Number of injuries	Injury rate (a)	Number of injuries	Injury rate (a)	Number of injuries (b)
Fatal	215	0.9	80	2.4	447
Non-fatal major	27 303	110.3	632	19.2	-
Over-3-day	133 112	537.8	701	21.4	20 693
All injuries	160 630	649.0	1 413	43.0	21 140

(a) Per 100 000 employed.

(b) The definition of a non-fatal injury to a member of the public is different to that for a worker (see technical note).

FATAL INJURIES TO WORKERS 1991/92 - 2000/01

1.16 The numbers of fatal injuries since 1991/92 are presented in Table 1.3.

Table 1.3 Fatal injuries to workers 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01ef
Employees	297	276	245	191	209	207	212	188	162	215
Self-employed	71	63	51	81	49	80	62	65	58	80
Total workers	368	339	296	272	258	287	274	253	220	295

(a) Reported to all enforcing authorities.

1.17 The pattern in rates of fatal injury mirrors the number of fatal injuries. In 2000/01 the rate is expected to be 1.1 per 100 000 workers, and to be substantially higher than in 1999/2000. However, the increase is higher for self-employed people. The rate for employees is expected to increase from 0.7 to 0.9, representing a rise of over 30% (from rates derived to two decimal places). The rate for self-employed people is expected to increase from 1.7 to 2.4, an increase of over 40%. Rates of fatal injury are presented in Table 1.4.

Table 1.4 Rates of fatal injuries to workers 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01ef
Employees	1.4	1.3	1.2	0.9	1.0	0.9	0.9	0.8	0.7	0.9
Self-employed	2.1	2.0	1.6	2.5	1.5	2.3	1.8	1.9	1.7	2.4
Total workers	1.5	1.4	1.2	1.1	1.0	1.1	1.0	0.9	0.8	1.1

(a) Per 100 000 employed.

1.18 The numbers and rate of fatal injury generally fell in the 1990s. The increase in rate of fatal injury in 2000/01 follows a year with the lowest rate on record. These trends are presented in Figure 1.1, which shows the numbers and rates of fatal injury, and the injury trend line. The trend line is based upon the finalised rates 1991/92 - 1999/2000. The trend line is extended to the estimated final rate for 2000/01 to show the extent of the increase compared with an expected figure from the downward trend. The predicted rate for 2000/01 from this line is 0.76 (to two decimal places). The actual rate of fatal injury in 2000/01 is 1.05 (to two decimal places). The difference between the actual rate and predicted rate is statistically significant.

1.19 The profile of rates of fatal injury differs between employees and self-employed people. The rate for employees has generally declined in the 1990s (except for 1996/97) and has risen in 2000/01. In contrast, the rate for self-employed people fluctuated substantially. Figure 1.2 presents the rates of fatal injury to employees and self-employed people since 1991/92.

FIGURE 1.1
Fatal injuries to workers 1991/92 - 2000/01ef

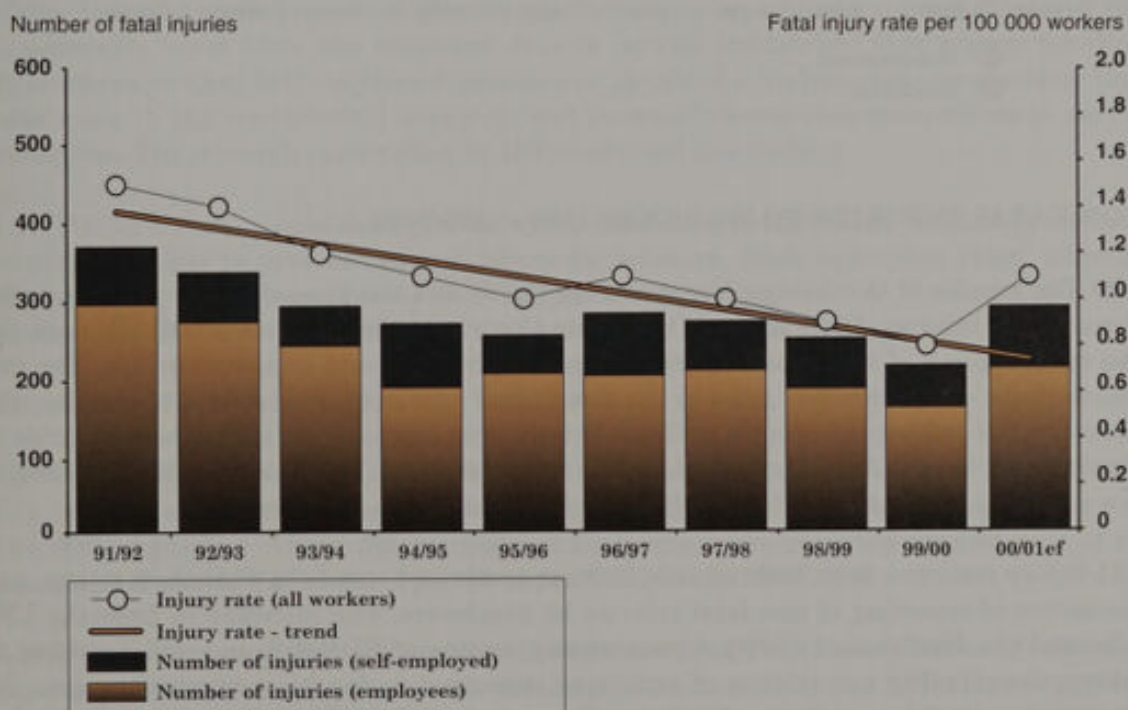
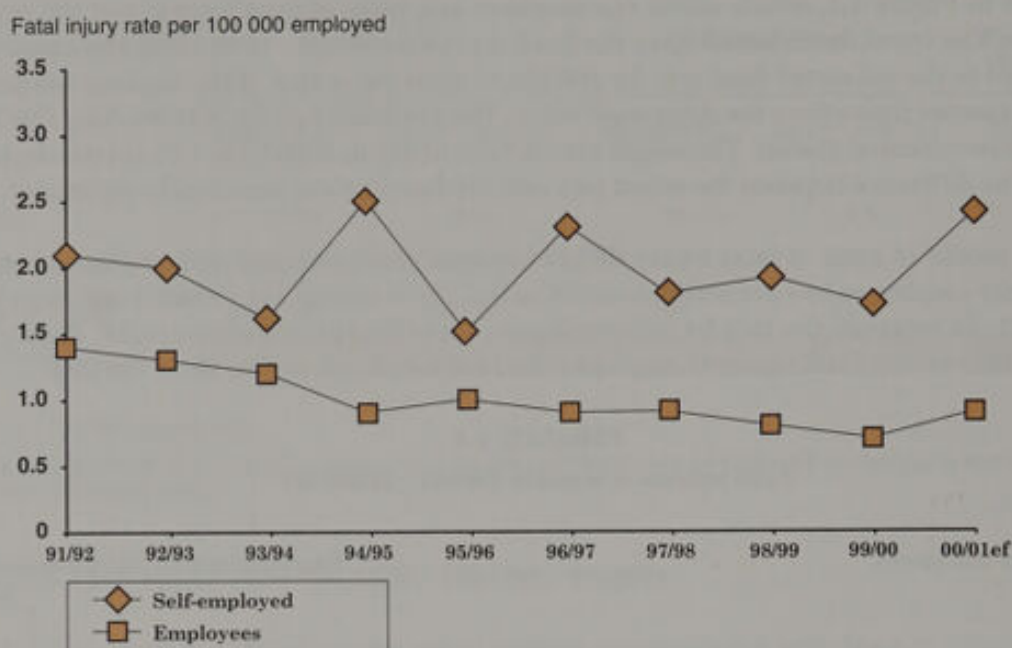


FIGURE 1.2

Fatal injury rates for employees and the self-employed 1991/92 - 2000/01ef



NON-FATAL INJURIES TO WORKERS 1990 - 1999/2000

1.20 The results of the Labour Force Survey (LFS) and the flow of injury reports under Reporting of Injuries, Diseases and Dangerous Occurrence Regulations (RIDDOR) form the two main sources of workplace injury information for HSE and local authorities. The two sources have complementary roles in the direction of resources, guidance of operations, the monitoring of safety performance in Great Britain, and comparisons with other countries in Europe and the USA. A fact sheet on the LFS results is available on HSE's website (www.hse.gov.uk/hsestats/lfsfact1.pdf) under Published Info - HSE Statistics.

1.21 Injury statistics from both sources indicate levels and trends in workplace injury, and the extent of reporting of non-fatal injuries by employers. The information from the LFS informed the Health and Safety Commission's review of RIDDOR and will continue to inform the ongoing monitoring of employer reporting and achievement of targets for *Revitalising Health and Safety*. Further information on the LFS is given in the technical note at the end of Part 1.

1.22 Information from the Labour Force Survey is available for 1989/90 and then for each year, from 1993/94, questions have been placed in the winter quarter, with the latest results relating to the 1999/2000 year. Rates of injury for the years since 1989/90 are presented as three year moving averages. This means combining the first three surveys (1993/94, 1994/95 and 1995/96) to give estimated rates of injury centred on 1994/95. Then, for each subsequent year, the first survey is dropped and the most recent survey added, for example the surveys of 1998/99, 1999/2000 and 2000/01 combine to produce an estimate centred on 1999/2000. This produces relatively stable trends, reducing year on year fluctuations in results due to errors associated with a sample survey. This report presents smoothed rates of injury for the years 1994/95 to 1999/2000. Further information on this technique is given in the technical note at the end of Part 1.

1.23 In 1999 the Institute of Employment Research (IER), based at Warwick University, carried out more detailed analysis of the LFS data on behalf of HSE to try to separate out the various influences of personal and job characteristics on the risk of workplace injury. A report of their findings is available via the HSE website on the HSE Statistics page.⁴ The IER also conducted research into the rates of reported injury, modelling a link between injury rates and economic indicators.

Total levels of workplace injury

1.24 Latest results from the Labour Force Survey indicate that, in 1999/2000, about 1.03 million workers suffered a work-related injury in Great Britain. There were 390 000 injuries to workers which led to more than three days' absence from work and so became reportable to HSE or a local authority under RIDDOR. These estimates lead to a rate of reportable injury of 1501, and a rate of all workplace injury of nearly 4000.

1.25 Annual results from the LFS indicate that rates of injury for self-employed people are not uniformly lower or higher than for employees. For example, the self-employed rate is higher than the employee rate in the construction industry, whereas the self-employed rate is generally lower than the employee rate in service industries. One reason for these differences is that self-employed people are in mainly higher-risk occupations than employees in the construction industry, and in mainly lower-risk occupations in service industries. The research undertaken by IER confirmed this finding.

1.26 The LFS results published in this report combine information for employees and self-employed people to provide rates of injury for workers. Such aggregate rates, although dominated by employees, are used to reduce the sampling error of the estimates. This makes little difference to the analysis and conclusions from the LFS.

Reporting of non-fatal injuries by industry

1.27 The LFS indicates that, of the 390 000 reportable injuries to workers in 1999/2000, 343 000 injuries were to employees. Employers, however, made injury reports on only 164 000 employees. These figures suggest that employers reported around 44% of the injuries that should have been reported under RIDDOR in 1999/2000.

1.28 The position regarding self-employed people is worse. They made 1395 non-fatal injury reports 1999/2000, compared with 35 000 injuries estimated by the LFS. This suggests a reporting level of less than 4%.

1.29 The estimates of reporting levels are derived from the ratio of the combined rate of reported non-fatal injury (major and over-3-day) to the LFS rate of reported injury. In 1999/2000 the LFS rate of reportable injury is 1501.

- The rate of reported non-fatal injury to employees in 1999/2000 was 667.5, suggesting a reporting level of 44.5% from employers.
- The rate of reported non-fatal injury in 1999/2000 for self-employed people was 41.5, suggesting a reporting level of less than 4% (2.8%).

1.30 The level of reporting varies substantially between industries. Table 1.5 presents, for the main industries, the number and rate of reportable injury estimated from the LFS, the rate of RIDDOR reported injury, and the reporting level.

1.31 The reporting levels confirm the suspected low reporting in agriculture and parts of the services sector. Reporting in the extractive and utility supply industry is estimated to be complete, but the LFS figures are based on a small number of cases with a high associated error. There are also relatively high levels of reporting in transport and communication, public administration and defence, and manufacturing.

Table 1.5 Numbers and rates of reportable non-fatal injury from the LFS, RIDDOR and reporting levels 1999/2000

<i>Industry</i>	<i>Estimated number from the LFS</i>	<i>LFS rate (a)</i>	<i>RIDDOR rate(b)</i>	<i>Reporting %</i>
Extraction & utility supply (c)	3 900	1 400	1 499	100%
Transport, storage & communication	38 000	2 140	1 592	75%
Public administration & defence	24 000	1 550	1 277	83%
Manufacturing	94 300	2 110	1 212	57%
Construction	45 500	2 530	1 313	52%
Education	16 900	810	316	39%
Health & social work	41 100	1 470	620	42%
Other community, social & personal service activities	18 300	1 200	483	40%
Distribution & repair	57 400	1 430	438	31%
Agriculture	9 000	2 520	711	28%
Finance, real estate & business activities	22 600	570	123	22%
Hotels & restaurants	15 000	1 400	267	19%

(a) Rate of injury expressed per 100 000 workers (employees and self-employed combined).

(b) Rate of injury expressed per 100 000 employees.

(c) Mining, quarrying, gas, electricity and water supply industries. Estimates are based on a relatively small number of cases and therefore have a relatively large sample error associated with them.

Reporting and types of injury

1.32 The results of the LFS do not identify the types of injury and so we cannot assess if injuries reported under RIDDOR are representative of those that occur. For example, we could not assess if employers report one type of injury (fracture) better than another. The special questions commissioned by Eurostat in the 1999 LFS of member states identified broad types of injury. They provide an opportunity to see whether the type of injuries reported to HSE under RIDDOR are representative of all reportable injuries. Some differences are expected as:

- reported injuries exclude road traffic accidents (RTA), but Eurostat questions covered RTAs; and
- the Eurostat questions capture information on types of injury in a different way from the RIDDOR reports.

Table 1.6 Proportion of injuries to workers in Great Britain by type of injury, from Eurostat's questions in summer 1999 LFS and RIDDOR reported injuries 1999/2000

<i>Type of injury</i>	<i>Eurostat Summer 1999/2000</i>	<i>RIDDOR 1999/2000</i>
Sprain, strain, dislocation	43.0%	38.6%
Broken/fractured bones	17.4%	16.9%
Cuts, lacerations	16.3%	16.9%
Bruising, contusions	12.3%	17.1%
Burns, scalds, frostbite	2.8%	2.9%
Amputation of limb(s)	0.5%	0.7%
Poisoning, gassing, asphyxiation	0.5%	0.4%
Other (known types or unknown)	7.3%	6.5%

1.33 Both sources show that:

- sprains and strains account for around 40% of reportable injuries to workers;
- broken or fractured bones, and cuts and lacerations each account for about 17% of all reportable injuries; and
- less than 1% of reportable injuries to workers result in amputation of limbs.

1.34 Despite the differences between the two sources, the proportions of injuries recorded under each type are very similar, indicating that the types of injuries reported under RIDDOR are broadly representative of all reportable injuries.

1.35 Major injuries are mainly defined by the type of injury suffered by workers. The main types of major injury reported are fractures/broken bones (73%), lacerations (5%), amputations (4%), and dislocation of joints (4%). These types of injury are not substantially under- or over-represented in *reported* injuries. Eurostat's questions do not separate dislocations from sprains and strains, which contribute mostly to over-3-day and not major injuries. In broad terms there is no evidence here to suggest that major injuries, as represented by the common types of injury, are substantially under- or over-reported compared with over-3-day injuries.

TRENDS IN NON-FATAL INJURIES

1.36 Most discussion on trends will focus on employee rates of injury due to the severe under-reporting of non-fatal injuries from self-employed people. This section will first consider trends in rates of non-fatal injury from both the LFS and from injuries reported under RIDDOR. Trends in reporting of injuries will be examined. Then trends in reported major injuries will be assessed against the background of reporting.

1.37 Table 1.7 presents rate of reported non-fatal injury also employees and the LFS rate of reportable injury, 1989/90 and 1994/95 - 1999/2000. The table also shows reporting levels. The main features are as follows:

- During the 1990s the rates of non-fatal injury have generally fallen. Between 1989/90 and 1999/2000, the rate of reported injury fell by 20%, and the rate of LFS injury fell by 40%.
- However, since 1997/98 the LFS rate of reportable has remained relatively stable compared with the rate of *reported* injury, which fell by nearly 7% between 1997/98 and 1999/2000.
- The level of employer reporting increased in the early 1990s but has declined from 47.4% in 1997/98 to 44.5% in 1999/2000.

Table 1.7 Rates of reported non-fatal (major and over-3-day) injuries and LFS (a) rate of reportable injury

	89/90	94/95	95/96	96/97(b)	97/98	98/99	99/00
LFS Reportable	2 482	1 737	1 644	1 587	1 514	1 490	1 501
RIDDOR Reported	835	738	684	708	717	689	668
Percentage of injuries reported	33.6	42.5	41.6	44.6	47.4	46.2	44.5

(a) Rate of reportable injury in the LFS are to workers, and are based on three surveys.

(b) Rates of reported injury increased in 1996/97 due to revised reporting requirements (RIDDOR 95) in 1996, which widened the definition of the major category of reportable injury.

1.38 The recent decline in the rate of reported non-fatal (major and over-3-day) injury appears to reflect worsening reporting by employers (1997/98 - 1999/2000). The rate of reported non-fatal injury is expected to fall 3% further in 2000/01. The LFS rate for 2000/01, being pooled over three years, will be ready next year when the result for the single year 2001/02 is available.

1.39 However, for the pooled rate to drop by 3% in 2000/01 (to mirror the 3% drop in rate of reported injury) the LFS result for the single year 2001/02 would need to drop substantially below the lowest year on record. The recent LFS series does not suggest this will happen. The LFS pooled rate for 2000/01 is likely therefore to be similar to the rate for 1999/2000, implying that the level of reporting *has fallen further in 2000/01*.

1.40 Within the recent decline in the rate reported injury, both the rate of reported major injury and rate of over-3-day injury have fallen. However, the rate of major injury has fallen faster. The rate of major injury is expected to fall by 13.5% between 1996/97 and 2000/01, and the rate of over-3-day injury by 7.3%. Table 1.8 provides the rates of reported non-fatal injury since 1996/97 when they were redefined in RIDDOR 95.

Table 1.8 Rates of major and over-3-day injury to employees 1996/97 - 2000/01ef (a)

Year	Rate of injury (b)		
	Major	Over-3-day	All non-fatal
1996/97	127.5	580.1	707.6
1997/98	127.6	589.2	716.8
1998/99	121.7	567.3	689.0
1999/2000	116.6	550.9	667.5
2000/01ef	110.3	537.8	648.1
% change 1996/97-2000/01	-13.5%	-7.3%	-8.4%

(a) Reported to all enforcing authorities.

(b) Per 100 000 employed.

1.41 Against the background of worsening of reporting by employers, the greater drop in the rate of major injury could reflect either:

- a greater decline in employer reporting of major injuries compared with over-3-day injuries (though major injuries are not substantially under- or over-reported compared with over-3-day injuries); or
- an improvement in the rate of major injury over and above any effect of worsening reporting.

1.42 The main features of the trends in the rate of non-fatal injury and of this year's rise in the rate of fatal injury suggest the following messages.

- There has been a downward trend in the 1990s in the rate of fatal and non-fatal injury.
- However, the downward trend in the rate of LFS reportable injury appears to be slowing which, coupled with the rise in rate of fatal injury, suggests that the general improvements in the 1990s have recently slowed down.
- The recent rates of LFS *reportable* injury, 1997/98 - 1999/2000 (and reasonable expectation in 2000/01) suggest that the level of reporting has been falling since 1997/98. Recent reductions in the rate of *reported* non-fatal injury reflect the worsening reporting levels.
- However, the recent fall in the rate of reported major injury may reflect worsening reporting *or* could reflect a small improvement on top of any effect of worsening reporting.

1.43 The research into rates of reported injury suggests that rates of reported injury 1986/87 - 1996/97 were linked to the economic cycle of high and low activity of that period. Injury rates tend to rise with increasing economic activity. The recent slowdown in the rate of LFS injury may reflect the steady growth since the mid-1990s. The recent decline in the rate of reported non-fatal injury runs counter to the economic argument but this may be due to worsening reporting by employers.

1.44 Growth in GDP during 2000/01, and related rises in employment, are not particularly high compared with the recent years and would not readily explain the rise in the rate of fatal injury in 2000/01.

REVITALISING HEALTH AND SAFETY

1.45 The *Revitalising Health and Safety* strategy statement, launched by the Deputy Prime Minister and the Chair of the Health and Safety Commission (HSC) in June 2000, set national targets for improving health and safety performance, these are to:

- reduce the number of **working days lost** per 100 000 workers from work-related injury and ill-health by **30% by 2010**;
- reduce the incidence rate of cases of **work-related ill-health** by **20% by 2010**;
- reduce the incidence rate of **fatalities and major injuries** by **10% by 2010**;
- achieve **half** the improvement under each target by **2004**.

1.46 The second of these, and also the first with regard to ill health, also featured among the targets announced in *Securing Health Together: A long-term occupational health strategy for Great Britain (SH2)*, launched in July 2000.

1.47 The publicity surrounding the launch implied a programme period of ten years from 2000 to 2010. For data organised on a financial year basis, the base year is 1999/2000, the mid-point 2004/05, and the end year is 2009/10. Information on the principles to be used by HSE when measuring progress against the targets is available in *Achieving the Revitalising Health and Safety Targets: Statistical Note on Progress Measurement*, see www.hse.gov.uk/hsestats/statnote.pdf on the HSE website.

Fatal and non-fatal major injury

1.48 The revitalising indicator for injuries combines the rate of reported fatal injury to workers and the rate of reported major injury to employees uprated by an estimate of under-reporting of non-fatal injuries by employers as derived from the LFS.

1.49 LFS results show that the reporting level from self-employed people is very low, however, as numbers are smaller than for employees, estimates are less robust. Therefore under-reporting can only be securely estimated for employees. Given that LFS results show no significant difference between injury rates for employees and self-employed people, we can take the uprated employee rate of major injury to represent the rate for all workers.

- The rate of fatal and major injury in 1999/2000, uprated for under-reporting, is 262.8 per 100 000 workers.

1.50 Table 1.9 presents trends in the rates of reported fatal and major injury, with and without uprating for under-reporting. The reporting factor for 2000/01 will be available in 2002 when the pooled LFS rate for 2000/01 becomes available. The LFS rate of reportable injury for 1999/2000 is taken to apply in 2000/01 (see paragraphs 1.38 - 39). Under this assumption, the reporting level in 2000/01 becomes 43.2% (rate of reported injury 648.1 divided by the LFS rate of reportable injury 1501 - from Tables 1.7 and 1.8). As a result, the

rate of fatal and major injury in 2000/01, uprated for under-reporting, is expected to be 256.6 (given in Table 1.9). This figure will rise if the reporting level falls by 1% or 2% in 2000/01, as discussed in paragraphs 1.38 - 1.39.

- The rate of reported fatal and major injury in fell in the four years to 1999/2000, whether or not an adjustment was made for under-reporting of major injuries.
- The rate of fatal and major injury in the first year of the programme period (2000/01) is not likely to be much different from the figure for the base year (1999/2000).

Table 1.9 Rates of reported fatal and major injury to workers 1996/97 - 2000/01p

	96/97	97/98	98/99	99/00	00/01p
Reported fatal and major rate (a)	128.6	128.6	122.6	117.4	111.4
Uprated fatal and major rate (Revitalising indicator)	287.0	270.2	264.3	262.8	256.6(b)

(a) Per 100 000 workers.

(b) The 2000/01 indicator is uprated for under-reporting using a reporting level derived from the pooled LFS rates for 1999/2000 and the rate of reported injury expected in 2000/01.

Days lost due to injury

1.51 The days lost indicator combines injury and ill-health statistics derived from different sources. The number of days' absence from work is derived from the LFS and SWI survey sources, which are currently the only ones available. The injury component is available for 1994/95 and every three years through an additional question in the LFS on the number of days' absence from work. The next estimate of days lost will be for 2000/01 from the LFS and will be available in early 2002.

1.52 The annual accident question in the LFS identify if an injured worker has returned to work on the same day, following day, second, third, fourth or fifth day after their accident. The additional question every third year asks the number of days absence of those injured workers who returned on or after the fifth day. Thus we can deduce, for each injured respondent in the LFS, the number of days absence from no days, one day, or longer. The estimate of the number of days lost is then the aggregate absence from all injured respondents. We can also apply a simple ratio of 5/7 to estimate the number of working days lost.

1.53 As a result, the estimated number of days lost due to workplace injury is 6 991 000 for 1994/95 and 6 516 000 for 1997/98. The corresponding rate of days lost per 100 000 workers is 28 770 for 1994/95 and 25 800 for 1997/98.

KINDS OF ACCIDENT

1.54 This section describes trends in statistics on the kind of accident for fatal (workers) and non-fatal (employees) injuries from 1991/92 - 2000/01. The kind of accident, recorded on the RIDDOR report form, covers what happened to injured people, for example contact with moving machinery, hit by moving vehicle, slipped or tripped, and fell from a height. Fuller statistics by these kinds are given in Tables A1.9 - 1.14 of Annex 1. In order to meet changing needs for injury statistics, HSE developed new classification frameworks on the kinds of accident and associated equipment agents. These new classifications are currently

in use at the electronic Incident Contact Centre, which began collecting injury data for the year 2001/02. Publications for 2001/02 will feature the extra detail from the new classifications.

Fatal injuries

1.55 Of the 291 fatal injuries to workers in 2000/01:

- 25% were involved falls from a height;
- 22% resulted from being struck by a moving vehicle; and
- 18% resulted from being struck by a moving or falling object.

1.56 These three kinds of accident were also the most common kinds involved with fatal injuries to workers in 1999/2000, accounting for 31%, 15% and 16% of the total number of fatalities respectively. The number of fatal injuries are shown in Table 1.10. In 2000/01, 13% of fatal injuries involved something collapsing or overturning.

1.57 Falls from a height continue to be the most common kind of accident involved with fatal injuries to workers, of which falls from a height greater than 2 metres account for 93%.

1.58 These three kinds of accident remain the most common kinds of fatality throughout the 1990s. Their numbers fluctuate as a percentage of all fatalities.

1.59 There were 3 fatal injuries to workers caused by acts of physical violence at work in 2000/01, the highest since the introduction of RIDDOR 95.

Table 1.10 Number of fatal injuries to workers by kinds of accident 1991/92 - 2000/01p(a)

	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	106	90	81	79	64	88	92	80	68	73
Struck by moving vehicle	63	51	46	45	42	43	45	48	34	64
Struck by moving/falling object	44	45	33	39	32	57	41	41	35	52
Trapped by something collapsing or overturning	29	36	52	33	41	16	25	15	16	37
Total workers	368	339	296	272	258	287	274	253	220	291

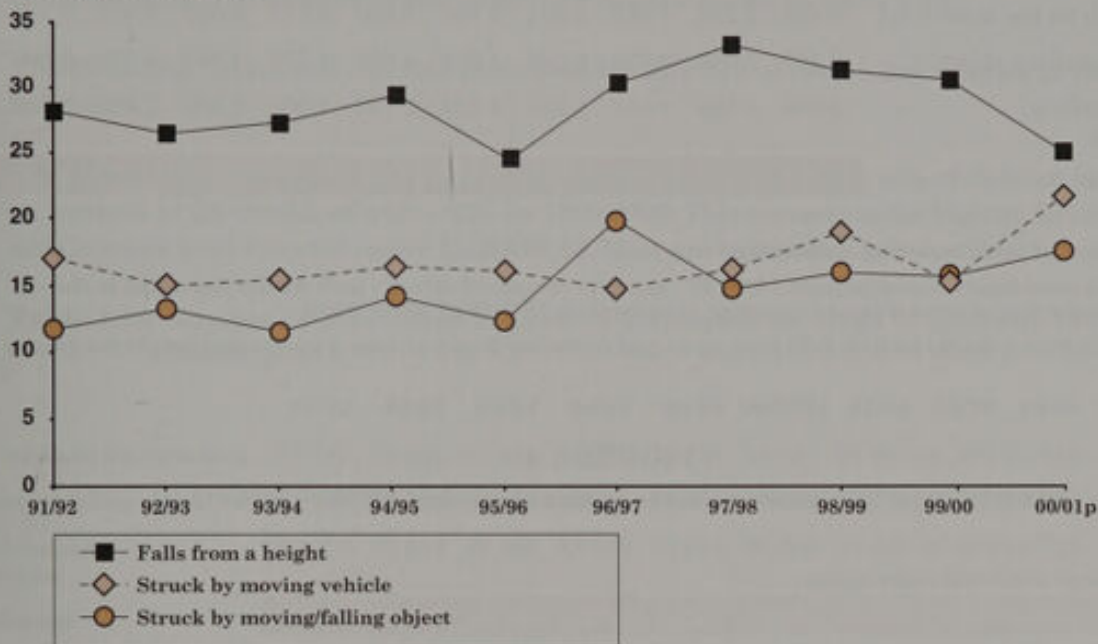
(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

FIGURE 1.3

Fatal injuries to workers by kind of accident 1991/92 - 2000/01p

Percentage of fatal injuries



Non-fatal major injuries

1.60 Of the 26 547 major injuries to employees in 2000/01:

- 33% were as a result of slips, trips and falls on the same level;
- 19% were caused by falls from a height;
- 15% resulted from being struck by a moving or falling object; and
- 10% resulted from being injured while handling, lifting or carrying.

1.61 These three kinds of accident are the commonest involved with major injuries since 1986 when current recording began with the introduction of RIDDOR. The number of major injuries are shown in Table 1.11.

1.62 In 2000/01, there were 777 major injuries to employees, resulting from acts of violence at work. This is the highest since such injuries became reportable under RIDDOR 95 (3% of all major injuries), and is up by 17% on 1996/97. Most are in the service industries.

Table 1.11 Number of major injuries to employees by kinds of accident 1991/92 - 2000/01p (a)

	91/92	92/93	93/94	94/95	95/96	96/97(b)	97/98	98/99	99/00	00/01p
Falls from a height (c)	3 994	3 741	3 503	3 552	3 530	5 023	5 382	5 454	5 500	5 105
Slips, trips or falls on the same level	5 628	5 513	5 962	5 941	5 800	8 562	8 671	9 007	9 087	8 703
Struck by moving/falling object	2 157	2 013	2 010	2 046	1 978	4 606	4 739	4 287	4 370	3 890
Injured while handling, lifting or carrying	1 098	1 092	1 087	1 235	1 134	2 745	3 002	2 894	2 862	2 544
Total employees	17 597	16 938	16 705	17 041	16 568	27 964	29 187	28 368	28 652	26 547

(a) Reported to all enforcing authorities.

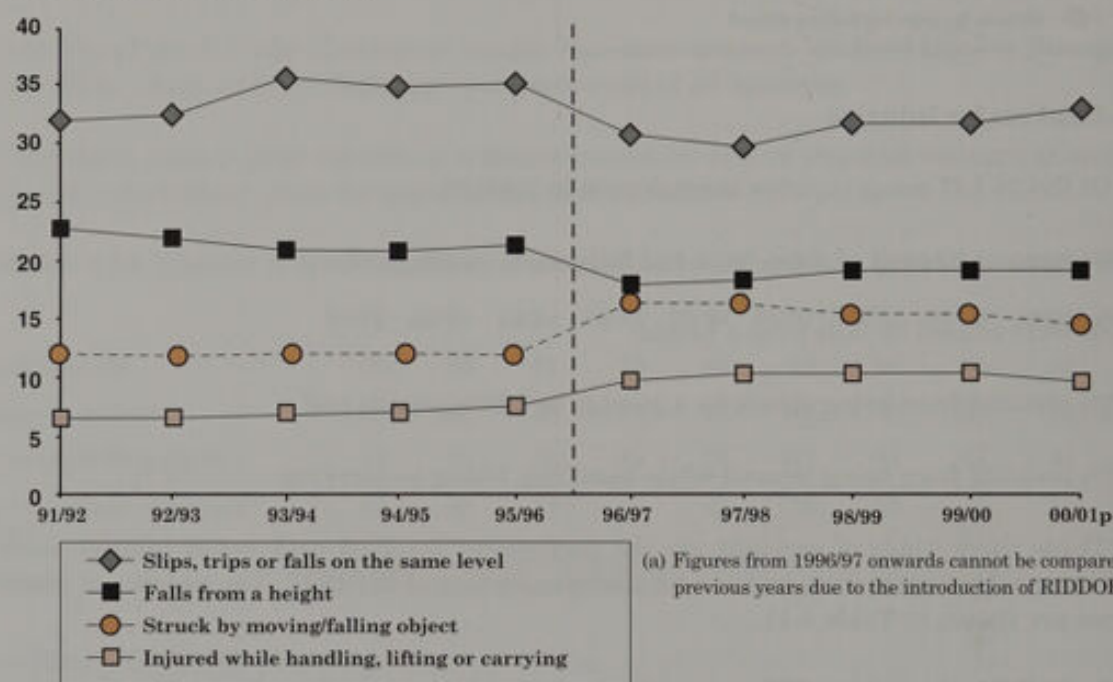
(b) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

(c) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

FIGURE 1.4

Non-fatal major injuries to employees by kind of accident 1991/92 - 2000/01p (a)

Percentage of non-fatal major injuries



Over-3-day injuries

1.63 Of the 129 344 over-3-day injuries to employees in 2000/01:

- 36% were injuries sustained while handling, lifting or carrying;
- 21% were caused by slips, trips or falls on the same level; and
- 13% resulted from being struck by a moving or falling object.

1.64 These three kinds of accident have been the most common kinds involved with over-3-day injury to employees since 1986 when current recording began. Of the 135 381 injuries reported in 1999/2000 they accounted for 36%, 20%, and 14% respectively. Direct comparison with figures for years prior to 1996/97 cannot be made due to the introduction of RIDDOR 95. The number of over-3-day injuries are shown in Table 1.12.

1.65 Handling, lifting and carrying accounted for 36%-37% of over-3-day injuries in the past five years.

1.66 There were 5412 over-3-day injuries to employees resulting from acts of violence at work, an increase of 2% compared with 5 320 for 1999/2000. This represents the highest figure since such injuries were reported under RIDDOR 95. Most are in the service industries.

Table 1.12 Number of over-3-day injuries to employees by kinds of accident 1991/92 - 2000/01p (a)

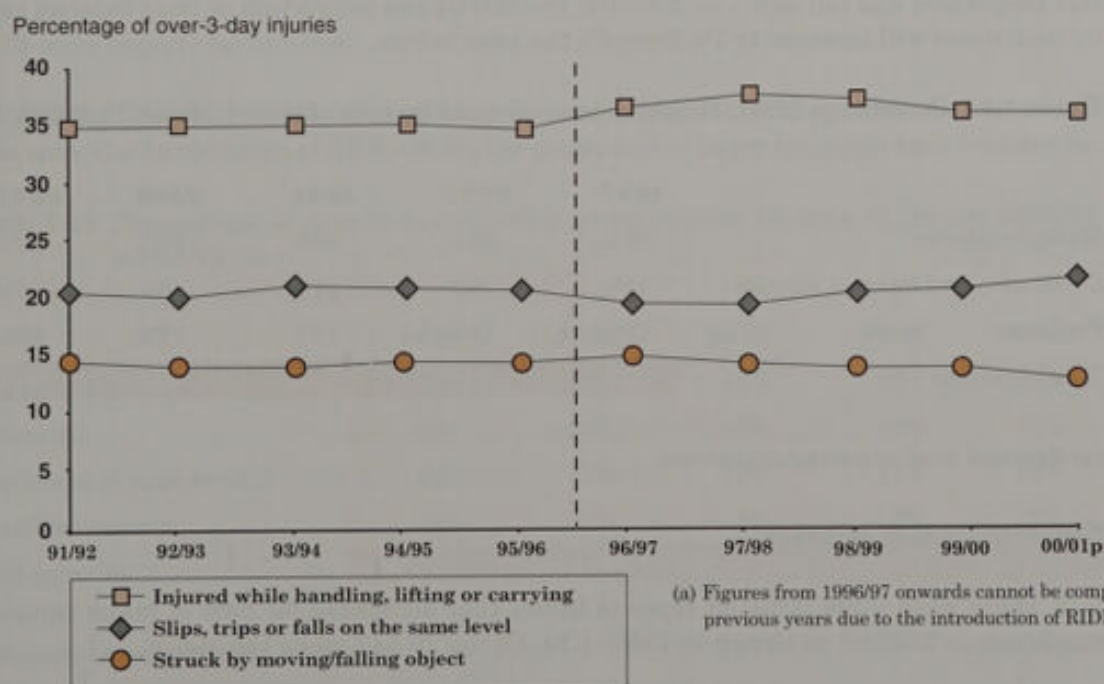
	91/92	92/93	93/94	94/95	95/96	96/97(b)	97/98	98/99	99/00	00/01p
Slips, trips or falls on the same level	31 082	28 501	28 441	28 537	26 790	24 537	25 883	26 687	27 615	27 620
Struck by moving/falling object	21 927	19 716	18 809	19 820	18 663	18 283	18 772	18 029	18 295	16 371
Injured while handling, lifting or carrying	53 109	49 664	46 885	48 563	45 015	46 366	50 640	49 044	48 729	46 357
Total employees	152 506	141 147	134 928	139 349	130 582	127 286	134 789	132 295	135 381	129 344

(a) Reported to all enforcing authorities.

(b) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

FIGURE 1.5

Over-3-day injuries to employees by kind of accident 1991/92 - 2000/01p (a)



TYPE OF INJURY

1.67 This section describes trends in statistics to employees by type of injury from 1991/92 - 2000/01.

Fatal injuries

1.68 There were three common types of injury that accounted for 63% of fatal injuries to employees in 2000/01 as shown in Table 1.13. Of the 213 fatal injuries:

- 33% were multiple injuries;
- 16% were fractures; and
- 14% were concussions and internal injuries.

1.69 The three most common types of fatal injury in 1999/2000 were:

- multiple injuries (28%);
- fractures (17%); and
- poisoning, gassing and asphyxiation injuries (9%).

1.70 In 1999/2000, the proportion of fatal injuries resulting from concussion and internal injuries decreased to 6% from 14% the year before. This proportion will increase again in 2000/01 to 14%. The proportion of fatal injuries resulting from multiple injuries increased by 2% in 1999/2000, and will increase by a further 5% to 33% in 2000/01.

1.71 The proportion of fatal injuries resulting from poisoning, gassing and asphyxiation increased to 9% in 1999/2000, the highest since the introduction of RIDDOR 95. However, this proportion will fall again in 2000/01. In 2000/01 the proportion of fatal injuries caused by contusions will increase to 7% from 4% the year before.

Table 1.13 Percentage of fatal injuries to employees by type of injury 1996/97 - 2000/01p(a)

	96/97	97/98	98/99	99/00	00/01p
Multiple injuries	27%	25%	26%	28%	33%
Concussion and internal injuries	14%	19%	14%	6%	14%
Fractures	13%	15%	18%	17%	16%
Total injuries	207	212	188	162	213

(a) Reported to all enforcing authorities.

Non-fatal major injuries

1.72 There were three common types of injury that accounted for 84% of major injuries to employees in 2000/01 as shown in Table 1.14. Of the 26 547 major injuries:

- 75% were fractures;

- 5% were dislocations; and
- 4% were lacerations or open wounds;

1.73 Although the total number of major injuries in 2000/01 has decreased by 7% from the year before, proportions of injury types have stayed very similar to those in the previous two years. The three most common types of major injury to employees in 1999/2000 were fractures (74%), lacerations or open wounds (5%) and amputations (4%).

Table 1.14 Percentage of major injuries to employees by type of injury 1996/97 - 2000/01p(a)

	96/97	97/98	98/99	99/00	00/01p
Fractures	72%	72%	74%	74%	75%
Lacerations or open wounds	5%	5%	4%	5%	4%
Amputations	4%	5%	4%	4%	4%
Total injuries	27 964	29 187	28 368	28 652	26 547

(a) Reported to all enforcing authorities.

Over-3-day injuries

1.74 There were four common types of injury that accounted for 84% of over-3-day injuries to employees in 2000/01, as shown in Table 1.15. Of the 129 344 over-3-day injuries:

- 46% were sprains and strains;
- 20% were contusions;
- 11% were lacerations or open wounds; and
- 7% were superficial injuries.

1.75 Although the total number of over-3-day injuries in 2000/01 has fluctuated over the last five years since the introduction of RIDDOR 95, the proportion of injury types has been very similar.

Table 1.15 Percentage of over-3-day injuries to employees by type of injury 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Sprains and strains	45%	46%	46%	46%	46%
Contusions	20%	20%	20%	20%	20%
Lacerations or open wounds	11%	11%	11%	11%	11%
Superficial injuries	9%	9%	8%	8%	7%
Total injuries	127 286	134 789	132 295	135 381	129 344

(a) Reported to all enforcing authorities.

SITE ON BODY OF INJURY

1.76 This section describes trends in statistics on the site or area on the body of the injury and is referred to as the 'site of injury'. The statistics relate to employees from 1991/92 - 2000/01.

Fatal injuries

1.77 Of the 213 fatal injuries to employees in 2000/01 (Table 1.16):

- Head injuries decreased by 1% to 22% from 23% in 1999/2000. The head has been one of the most common sites of fatal injury throughout the 1990s. Virtually all head injuries involve non-facial parts of the head.
- Injuries to the torso (mainly the trunk) increased to 16% from 13% in 1999/2000, the highest since 1997/98.
- Injuries to the upper and lower limbs together account for 5% of fatal injuries to employees, the same as in 1999/2000.

Table 1.16 Percentage of fatal injuries to employees by site of injury 1996/97 - 2000/01p(a)

	96/97	97/98	98/99	99/00	00/01p
Head locations	25%	24%	21%	23%	22%
Torso locations	20%	19%	14%	13%	16%
Total injuries	207	212	188	162	213

(a) Reported to all enforcing authorities.

Non-fatal major injuries

1.78 Of the 26 547 major injuries to employees in 2000/01 (Table 1.17):

- Upper limb injuries account for 47% of the total number, and have continued to be the most common site of injury.
- Injuries to the lower limb accounted for 29% of major injuries. In 2000/01, 36% of these injuries were due to the foot and 33% to the ankle, which is similar to the previous two years.
- Torso and head locations were the affected site in 10% and 7% of injuries respectively in 2000/01.

Table 1.17 Percentage of major injuries to employees by site of injury 1996/97 - 2000/01p(a)

	96/97	97/98	98/99	99/00	00/01p
Upper limb locations	46%	46%	46%	47%	47%
Lower limb locations	29%	29%	29%	28%	29%
Torso locations	11%	10%	10%	10%	10%
Head locations	8%	8%	8%	7%	7%
Total injuries	27 964	29 187	28 368	28 652	26 547

(a) Reported to all enforcing authorities.

Over-3-day injuries

1.79 Of the 129 344 over-3-day injuries to employees in 2000/01 (Table 1.18):

- Upper limb and torso locations continued to be the most common sites of injury, accounting for 31% and 30% respectively of the total number. Of the injuries to the upper limb 42% were injuries to one or more fingers, a similar proportion as the year before. Of the injuries to the torso, 80% were to the back in 2000/01, the same as in the previous three years.
- Lower limb locations were affected in 23% of injuries, of which 30% were to the ankle.
- Head locations were the affected site in 7% of injuries, the same proportion of over-3-day injuries since 1996/97. Of these 26% were to the eye.

Table 1.18 Percentage of over-3-day injuries to employees by site of injury 1996/97 - 2000/01p(a)

	96/97	97/98	98/99	99/00	00/01p
Upper limb locations	31%	31%	31%	30%	31%
Torso locations	31%	31%	31%	30%	30%
Lower limb locations	23%	23%	23%	22%	23%
Head locations	7%	7%	7%	7%	7%
Total injuries	127 286	134 789	132 295	135 381	129 344

(a) Reported to all enforcing authorities.

INDUSTRIES WITH THE HIGHEST RISK OF INJURY

1.80 The following section identifies the industries with the highest risk of fatal and non-fatal injuries over the three-year period 1998/99 - 2000/01p.

Fatal injuries

1.81 Over the three-year period 1998/99 - 2000/01p, 764 fatal injuries to workers (employees and the self-employed) were reported to HSE and local authorities. These industries account for 78% of all fatal injuries to workers. A breakdown of industries with the highest rates of fatal injury is given in Table 1.19.

1.82 Quarrying of stone, ore and clay has the highest rate (10.4), followed by agriculture, forestry and fishing (9.0). Extraction of coal, oil and gas also has a high rate of fatal injury though there were no fatal injuries in coal mines in the last two years and 4 in 1998/99. There were 8 in the extraction of oil and gas (6 offshore).

1.83 The rate of fatal injury in these industries is at least about 1.8 times the rate for industries overall.

1.84 When compared with fatal injuries in all industries over this time series, the three highest proportions of work-related deaths occurred within construction (33%); agriculture, hunting, forestry and fishing (17%); and transport, storage and communication (10%).

Table 1.19 Industries with the highest rates of fatal injuries to workers, 1998/99 - 2000/01p combined

<i>Standard Industrial Classification (SIC92)</i>	<i>SIC92</i>	<i>Number of fatal injuries</i>	<i>Number of workers (a)</i>	<i>Fatal rate per 100 000 workers</i>
Quarrying of stone, ore and clay	13-14	9	87	10.4
Agriculture, hunting, forestry and fishing	01, 02, 05	128	1 423	9.0
Extraction of coal, oil and gas	10-12	12	135	8.9
Construction	45	252	5 225	4.8
Manufacturing of basic metals and fabricated metal products	27/28	58	1 682	3.4
Manufacturing of wood and wood products	20	9	284	3.2
Manufacturing of other non-metallic mineral products	26	12	447	2.7
Manufacturing not elsewhere classified	36/37	17	737	2.3
Transport, storage and communication (b)	60-64	80	4 017	2.0
Electricity, gas and water supply	40/41	6	386	1.6
Manufacturing of rubber and plastic products	25	12	728	1.6
Total		595	15 151	-
All industries (c)		764	82 657	0.9

(a) Expressed in thousands of workers.

(b) Injuries arising from shore-based services only. Excludes incidents reported under merchant shipping legislation.

(c) Numbers and percentages do not sum to the total.

Non-fatal major injuries

1.85 Over the three-year period 1998/99 - 2000/01p, 83 567 major injuries to employees were reported to HSE and all local authorities. The ten industries with the highest rates of major injury are given in Table 1.20.

1.86 Quarrying of stone, ore and clay has the highest rate of major injury (449.7), followed by the manufacture of wood and wood products (420.5), and extraction of coal, oil and gas (392.6).

1.87 Agriculture, hunting, forestry and fishing has the lowest rate (212.2), representing 2% of all major injuries reported.

1.88 In comparison with major injuries reported to all industries over this period, the three highest proportions of major injuries occurred in construction (15%); transport, storage and communication (10%); and manufacture of basic metals and fabricated metal products (6%).

Table 1.20 Industries with the highest rates of major injuries to employees, 1998/99 - 2000/01p combined

<i>Standard Industrial Classification (SIC92)</i>	<i>SIC92</i>	<i>Number of major injuries</i>	<i>Number of employees (a)</i>	<i>Major rate per 100 000 employees</i>
Quarrying of stone, ore and clay	13-14	363	81	449.7
Manufacturing of wood and wood products	20	1 023	243	420.5
Extraction of coal, oil and gas	10-12	511	130	392.6
Construction	45	12 943	3 301	392.1
Manufacturing of food products; beverages and tobacco	15-16	4 353	1 418	306.9
Manufacturing of other non-metallic mineral products	26	1 247	412	302.8
Manufacturing of basic metals and fabricated metal products	27/28	4 690	1 576	297.7
Manufacturing of rubber and plastic products	25	1 898	692	274.4
Transport, storage and communication (b)	60-64	8 710	3 365	258.9
Agriculture, hunting, forestry and fishing	01, 02, 05	1 850	872	212.2
Total		37 588	12 090	-
All industries (c)		83 567	72 642	112.8

(a) Expressed in thousands of employees.

(b) Injuries arising from shore-based services only. Excludes incidents reported under merchant shipping legislation.

(c) Numbers and percentages do not sum to the total.

AGRICULTURE

1.89 This section describes the features and trends in statistics on injuries in the agriculture sector for the years 1991/92 to 2000/01 for workers and members of the public. Table 1.21 provides rates of injury in the past ten years.

1.90 The fatal injury rate to workers is expected to increase by 30% in 2000/01 to 10.0 from 7.7 in 1999/2000, and is due mainly to an increase in the number of fatal injuries to the self-employed from 23 in 1999/2000, to 32.

1.91 The major injury rate to employees is expected to decrease by 7% in 2000/01, from 224.4 to 209.5, the lowest since the introduction of RIDDOR 95 in 1996/97.

1.92 The over-3-day injury rate to employees in 2000/01 is expected to increase by 1% in 2000/01, from 487.0 in 1999/2000, to 491.9.

1.93 In the past six years, the rate of reported non-fatal injury has fluctuated with no apparent trend. This view is supported by the rate of reportable injury from the LFS.

Table 1.21 Rates of fatal injury to workers (a), non-fatal reported injury to employees (b) 1991/92-2000/01ef (c) and rate of reportable injury from the LFS 1994/95 - 1999/2000

	91/92	92/93	93/94	94/95	95/96	96/97(d)	97/98	98/99	99/00	00/01ef
Fatal	9.1	7.5	7.3	8.5	8.0	10.8	7.5	9.3	7.7	10.0
Non-fatal major	150.0	144.2	147.1	142.6	158.6	256.9	223.3	205.6	224.4	209.5
Over-3-day	529.2	483.0	436.1	441.8	497.3	552.0	443.9	427.5	487.0	491.9
LFS Reportable (e)	n/a	n/a	n/a	2 285	2 180	2 020	1 833	2 265	2 521	n/a

(a) Fatal injury rates are per 100 000 workers.

(b) Non-fatal major injury rate and over-3-day injury rate are per 100 000 employees.

(c) Reported to all enforcing authorities.

(d) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

(e) Rates of reportable injury from the LFS are per 100 000 workers.

1.94 Over the past ten years there have been 22 234 injuries in the agriculture sector reported to HSE and local authorities. Of these, 19 093 were to employees, 1866 were to the self-employed and 1275 were to members of the public.

■ 511 were fatal injuries; and

■ 15 123 were non-fatal injuries.

Fatal injuries

1.95 The number of fatal injuries to workers has fluctuated over the ten-year period (Table 1.22), with an increase of 28%, from 36 to 46 in 2000/01, compared to 1999/2000. There were a total of 437 fatal injuries to workers during 1991/92 to 2000/01, an average of 44 per year.

1.96 The number of fatal injuries to employees has fluctuated but the number has decreased since 1997/98. There is an increase of 8% in 2000/01, from 13 to 14, compared to 1999/2000. There were a total of 172 fatal injuries to employees during 1991/92 to 2000/01, an average of 17 per year.

1.97 The number of fatal injuries to the self-employed has fluctuated in the past ten years, with a total of 265, an average of 27 per year. There is an increase of 39% in 2000/01, compared to 1999/2000.

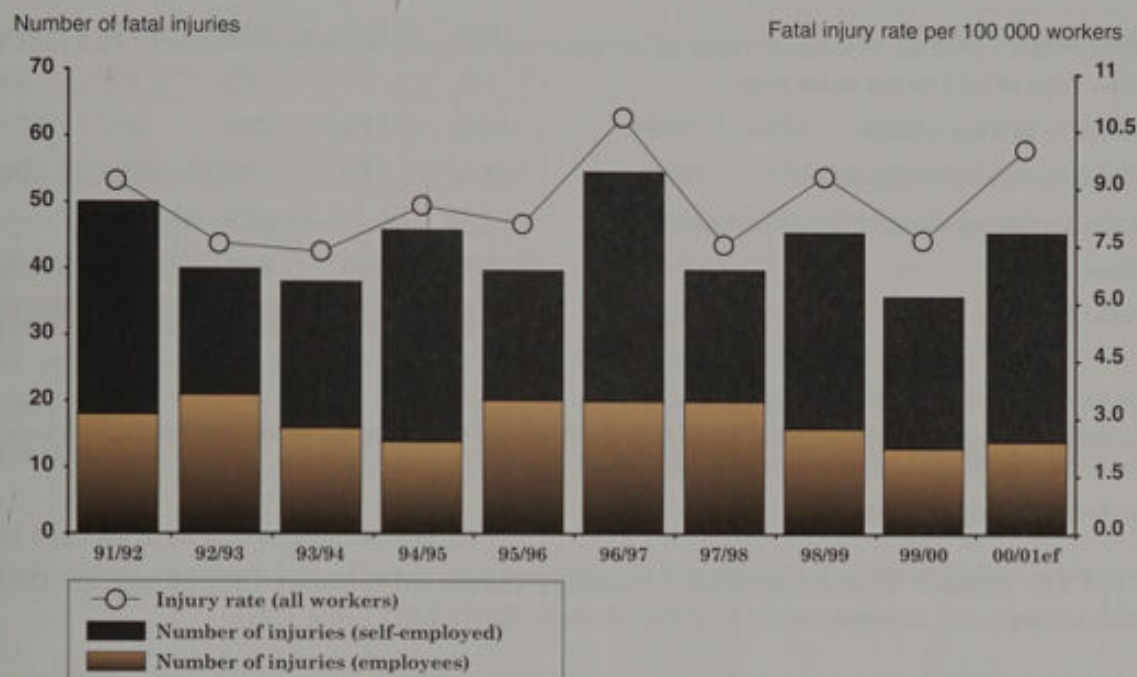
1.98 The number of fatalities to members of the public has fluctuated in the past ten years, though has dropped with a reduction in the past four years from 11 to 7, in 2000/01.

Table 1.22 Number of fatal injuries to workers and members of the public 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01ef
Employees	18	21	16	14	20	20	20	16	13	14
Self-employed	32	19	22	32	20	35	20	30	23	32
Members of the public	5	12	3	5	5	9	11	9	8	7

(a) Reported to all enforcing authorities.

FIGURE 1.6
Fatal injuries to workers in agriculture 1991/92 - 2000/01ef



1.99 In 2000/01 falls from a height and struck by a moving or falling object are the two most common kinds of fatal injury, accounting for 26% and 22% respectively (Table 1.23). These two kinds were the commonest in 1999/2000.

1.100 Increases in fatal injuries in 2000/01 are due mainly to workers falling from a height (up from 7 to 12), being hit by objects (up from 7 to 10), and being in contact with machinery (from 0 to 5).

1.101 Fatal injuries involving equipment are varied but the most common types of injury in 2000/01 are:

- falls from a height that involve roofs, gangways and platforms;
- being struck by objects that fall from collapsing stacked materials or those that just free-fall from stacks/racks; and
- being struck by vehicles (particularly tractors with and without attachments).

1.102 In 2000/01, there is a decrease in other kinds of accidents, compared to 1999/2000. There is a decrease of 4 in 2000/01, from 6 to 2, for injuries involving an animal, compared to 1999/2000.

Table 1.23 Percentage of fatal injuries to employees by kinds of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	18%	18%	22%	19%	26%
Slips, trips or falls on the same level	-	-	2%	3%	2%
Struck by moving vehicle	15%	18%	20%	14%	17%
Struck by moving/falling object	25%	15%	11%	19%	22%
Injured while handling, lifting or carrying	-	-	2%	-	-
Other	42%	49%	43%	45%	33%
Total injuries	55	40	46	36	46

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Non-fatal major injuries

1.103 The number of major injuries to workers fluctuated between 1991/92 and 2000/01, with an expected decrease of 9% in 2000/01, from 726 to 659 (Table 1.24).

1.104 In 2000/01, the number of major injuries to employees decreased from 652 to 601, compared to 1999/2000. The number fluctuated during the period 1991/92 and 1998/99, with an increase of 8% in 1999/2000, and an expected decrease of 8% in 2000/01.

1.105 The number of major injuries to the self-employed shows a downward trend since the introduction of RIDDOR 95, with a decrease of 22% in 2000/01, compared to 1999/2000.

1.106 The number of non-fatal injuries to members of the public in agriculture is the lowest since the introduction of RIDDOR 95 in 1996/97.

Table 1.24 Number of major injuries to workers and non-fatal injuries to members of the public (a) 1991/92 - 2000/01ef (b)

	91/92	92/93	93/94	94/95	95/96	96/97(c)	97/98	98/99	99/00	00/01ef
Employees	404	424	444	420	408	678	671	605	652	601
Self-employed	77	110	135	94	68	100	74	74	74	58
Members of the public	54	48	74	64	59	192	178	196	192	144

(a) The definition of a non-fatal injury to a member of the public is different to that for a worker (see technical note).

(b) Reported to all enforcing authorities.

(c) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.107 The commonest kinds of major injury have been the top kinds of accident in the past five years (Table 1.25) and in 2000/01 accounted for:

- slips, trips or falls on the same level, 23%;

- falls from a height, 18%; and
- struck by a moving or falling object, 18%.

Table 1.25 Percentage of major injuries to employees by kinds of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	20%	20%	23%	18%	18%
Slips, trips or falls on the same level	17%	15%	18%	16%	23%
Struck by moving vehicle	5%	5%	5%	5%	3%
Struck by moving/falling object	18%	18%	18%	18%	18%
Injured while handling, lifting or carrying	5%	7%	8%	7%	8%
Other	35%	35%	28%	36%	30%
Total injuries	678	605	671	652	593

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Over-3-day injuries

1.108 In 2000/01, the number of over-3-day injuries to employees decreased by 4, compared to 1999/2000, but increased by 12% in comparison with 1998/99, the lowest since 1996/97. The number dropped in the early 1990s but has fluctuated in the past five years (Table 1.26).

1.109 In 2000/01, the number of over-3-day injuries to the self-employed decreased by 37%, compared to 1999/2000 and by 35% in comparison with 1998/99, the lowest in the past ten years.

Table 1.26 Number of over-3-day injuries to workers 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97(b)	97/98	98/99	99/00	00/01ef
Employees	1 423	1 420	1 316	1 301	1 279	1 457	1 334	1 258	1 415	1 411
Self-employed	118	126	87	100	94	57	48	40	41	26

(a) Reported to all enforcing authorities.

(b) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.110 In the past five years the most common kinds of accident in over-3-day injuries to employees are (Table 1.27):

- injured while handling, lifting and carrying;
- slips, trips or falls on the same level; and
- struck by a moving or falling object.

Table 1.27 Percentage of over-3-day injuries to employees by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	10%	9%	10%	8%	9%
Slips, trips or falls on the same level	16%	16%	15%	15%	18%
Struck by moving vehicle	2%	2%	3%	3%	2%
Struck by moving/falling object	16%	18%	17%	19%	17%
Injured while handling, lifting or carrying	27%	27%	28%	28%	28%
Other	29%	28%	27%	27%	26%
Total injuries	1 457	1 258	1 334	1 415	1 400

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

EXTRACTIVE AND UTILITY SUPPLY

1.111 This section describes the features and trends in statistics on injuries in the extractive and utility supply industry for the years 1991/92 to 2000/01 for workers and members of the public. The extractive and utility industry is a composite of different activities, including the mining of coal, the extraction of petroleum and oil (with related services), the quarrying of ore and stone, nuclear installations, and the supply of gas, electricity and water (with related outlets). The enforcement of health and safety legislation in these activities is conducted by four directorates of HSE and by local authorities which inspect retail outlets counted in the utility activities. However, the bulk of the responsibility (and reported injuries) lies with the Hazardous Installations Directorate (HID) and with the Field Operations Directorate (FOD), as given below in simple terms.

HID is responsible for:

- offshore and onshore extraction (including diving offshore);
- coal mining; and
- onshore oil refining and gas distribution.

FOD is responsible for:

- quarrying; and
- electricity and water supply and treatment.

1.112 Table 1.28 provides rates of injury in the past ten years. The fatal injury rate to workers increased by 34% in 2000/01 to 4.7 from 3.5 in 1999/2000. The rate of fatal injury fluctuates but is lower now than in 1995/96.

1.113 The major injury rate to employees increased by 2% in 2000/01, from 244.1 to 248.5.

1.114 The over-3-day injury rate to employees in 2000/01, increased by 2% in 2000/01, from 1254.9 to 1281.3.

Table 1.28 Rates of fatal injury to workers (a) and non-fatal injury to employees (b) 1991/92 - 2000/01ef (c)

	91/92	92/93	93/94	94/95	95/96	96/97(d)	97/98	98/99	99/00	00/01ef
Fatal	n/a	n/a	n/a	n/a	7.7	4.0	8.0	5.0	3.5	4.7
Non-fatal major	223.2	255.6	235.5	194.6	225.9	315.1	282.7	246.8	244.1	248.5
Over-3-day	1965.1	2066.9	1767.7	1587.0	1411.5	1402.8	1482.6	1347.9	1254.9	1281.3

(a) Fatal injury rates are per 100 000 workers.

(b) Non-fatal major injury rate and over-3-day injury rate are per 100 000 employees.

(c) Reported to all enforcing authorities.

(d) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.115 In 2000/01 there are expected to be 2811 injuries to workers in the extraction and utility supply industry reported to HSE and local authorities, of which 2798 are to employees and 13 to the self-employed.

■ 9 were fatal injuries;

■ 459 were major injuries; and

■ 2343 were over-3-day injuries.

Fatal injuries

1.116 The number of fatal injuries to workers rose from 7 to 9 in 2000/01. The number has fallen in the 1990s, despite fluctuations (Table 1.29).

1.117 There are relatively few self-employed people in the extraction industries. There have been 5 fatal injuries in the past ten years.

1.118 The number of fatal injuries to members of the public was 3 in 2000/01, the highest number since 1996/97.

Table 1.29 Number of fatal injuries to workers and members of the public 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01ef
Employees	31	29	17	4	18	9	17	10	6	9
Self-employed	1	-	-	1	-	-	1	1	1	-
Members of the public	2	2	1	4	3	3	1	2	2	3

(a) Reported to all enforcing authorities.

1.119 The number of fatal injuries reported to the Hazardous Installations Directorate's Offshore Safety Division will rise from 2 to 3 in 2000/01.

1.120 In 1999/2000 and 2000/01, there are no fatal injuries reported to the Hazardous Installations Directorate's Mines Inspectorate.

Table 1.30 Number of fatal injuries to workers 1996/97 - 2000/01p

	96/97	97/98	98/99	99/00	00/01p
Hazardous Installations Directorate, offshore safety (a)	2	3	1	2	3
Hazardous Installations Directorate, mines	2	5	4	-	-
Quarrying of stone, ore and clay	1	4	2	2	5
Other (b)	4	6	4	3	1

(a) Includes on- and offshore drilling.

(b) Other includes: Onshore oil refining and gas distribution, and electricity and water supply and treatment.

1.121 In addition to the injuries in Table 1.31 in 2000/01, 3 fatalities were caused by being trapped by something collapsing or overturning.

- 2 of the fatal injuries were caused by vehicles falling from supports and overturning vehicles, the other was caused by collapsing plant lifting machinery or equipment.

Table 1.31 Number of fatal injuries to workers by kind of accident 1996/97 - 2000/01p combined (a)

	96/97-00/01p
Falls from a height (b)	8
Slips, trips or falls on the same level	-
Struck by moving vehicle	8
Struck by moving/falling object	12
Injured while handling, lifting or carrying	-
Other	26
Total injuries	54

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Non-fatal major injuries

1.122 Overall, the number of major injuries to workers and non-fatal injuries to members of the public decreased by 11% in 2000/01 to 496 (Table 1.32). The number of injuries is well below the average 617 per year since 1996/97.

1.123 Major injuries to the self-employed dropped from 39 in 1999/2000 to 6 in 2000/01.

1.124 The number of major injuries to employees and non-fatal injuries to members of public fell by 3% and 26% respectively.

Table 1.32 Number of major injuries to workers and non-fatal injuries to members of the public (a) 1991/92 - 2000/01ef (b)

	91/92	92/93	93/94	94/95	95/96	96/97(c)	97/98	98/99	99/00	00/01ef
Employees	935	825	657	481	508	679	608	521	467	453
Self-employed	11	18	14	11	17	15	76	34	39	6
Members of the public	12	27	14	15	7	40	29	32	50	37

(a) The definition of a non-fatal injury to a member of the public is different to that for a worker (see technical note).

(b) Reported to all enforcing authorities.

(c) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.125 The number of major injuries has generally fallen in the past five years. The rate of major injury to employees was 315.1 in 1996/97 and has dropped to 247.4 in 2000/01.

1.126 62% of major injuries in extraction and utilities were reported to the Field Operations Directorate in 2000/01, 37% to the Hazardous Installations Directorate and less than 1% to local authorities and the Nuclear Safety Division respectively.

Table 1.33 Number of major injuries to employees 1996/97 - 2000/01p

	96/97	97/98	98/99	99/00	00/01p
Hazardous Installations Directorate, offshore safety (a)	25	74	74	54	50
Hazardous Installations Directorate, mines (b)	171	118	98	79	98
Hazardous Installations Directorate, onshore oil refining and gas distribution	(c)	27	26	26	18
Field Operations Directorate	467	381	315	287	279
Local Authorities	16	2	-	4	2
Nuclear Safety Directorate, conventional safety	(c)	6	8	17	4

(a) Includes on- and offshore drilling.

(b) Figures for mines include injuries to direct employees of mine operators and exclude injuries to contractors.

(c) FOD includes NSD and CHID in 1996/97.

1.127 The key points on kinds of accident in major injuries are (Table 1.34):

- The percentage of major injuries due to falling from a height has increased over the past five years to 20% in 2000/01.
- The three commonest kinds of accident in major injuries are slips, trips or falls on the same level, falling from a height, and being struck by moving or falling objects.

Table 1.34 Percentage of major injuries to employees by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	15%	18%	18%	18%	20%
Slips, trips or falls on the same level	28%	25%	26%	26%	26%
Struck by moving vehicle	3%	4%	2%	3%	2%
Struck by moving/falling object	24%	22%	21%	24%	21%
Injured while handling, lifting or carrying	11%	10%	10%	8%	10%
Other	19%	21%	23%	21%	21%
Total injuries	679	608	521	467	451

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Over-3-day injuries

1.128 The number of over-3-day injuries in extraction and utilities has decreased steadily to reach 2336, the lowest number in ten years.

1.129 The number of over-3-day injuries to employees decreased by 3% in 2000/01, and injuries to the self-employed by 94% (from 110 to 7).

Table 1.35 Number of over-3-day injuries to workers 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97(b)	97/98	98/99	99/00	00/01ef
Employees	8 232	6 672	4 932	3 923	3 173	3 023	3 188	2 845	2 401	2 336
Self-employed	43	36	22	28	14	16	151	129	110	7

(a) Reported to all enforcing authorities.

(b) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.130 The number of over-3-day injuries reported to HID (offshore) and to FOD dropped in 2000/01. The number reported to HID (mines) increased by 15% (Table 1.36).

1.131 54% of over-3-day injuries were reported to Field Operations Directorate, 45% were reported to Hazardous Installations Directorate, 1% to Nuclear Safety Division, and less than 1% to local authorities.

Table 1.36 Number of over-3-day injuries to employees 1996/97 - 2000/01p

	96/97	97/98	98/99	99/00	00/01p
Hazardous Installations Directorate, offshore safety (a)	329	291	245	195	178
Hazardous Installations Directorate, mines (b)	516	896	812	684	786
Hazardous Installations Directorate, onshore oil refining and gas distribution	(c)	153	174	135	118
Field Operations Directorate	2 168	1 806	1 575	1 341	1 293
Local Authorities	10	10	-	5	6
Nuclear Safety Directorate, conventional safety	(c)	32	39	41	25

(a) Includes on- and offshore drilling.

(b) Figures for mines include injuries to direct employees of mine operators and exclude injuries to contractors.

(c) FOD includes NSD and CHID in 1996/97.

1.132 During the past five years, the commonest kinds of accident involved with over-3-day injuries (Table 1.37) are:

- injured while handling, lifting or carrying;
- slips, trips or falls on the same level; and
- struck by a moving or falling object.

Table 1.37 Percentage of over-3-day injuries to employees by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	8%	7%	7%	9%	8%
Slips, trips or falls on the same level	21%	23%	22%	24%	24%
Struck by moving vehicle	1%	1%	1%	1%	1%
Struck by moving/falling object	17%	17%	17%	15%	16%
Injured while handling, lifting or carrying	36%	35%	35%	35%	33%
Other	17%	17%	18%	16%	18%
Total injuries	3 023	3 188	2 845	2 401	2 306

(a) Reported to all enforcing authorities

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

MANUFACTURING

1.133 This section describes the trends in statistics on injuries in manufacturing industries for the years 1991/92 to 2000/01 for workers and members of the public. Table 1.38 provides the rates of injury in the past ten years.

1.134 The fatal injury rate to workers is expected to increase in 2000/01 to 1.2 from 1.0 in 1999/2000, the lowest figure on record.

1.135 In 2000/01 the major injury rate to employees is expected to fall by 4% to 195.0 from 204.1 in 1999/2000, the lowest rate since the introduction of RIDDOR 95 and a 10% reduction from the highest rate of 216.1 in 1997/98.

1.136 The over-3-day injury rate to employees in 2000/01 is expected to fall to 1003.9 from 1007.9 in 1999/2000. Since 1996/97 the rate has fluctuated, with no overall trend emerging. The rate of reported injury as a whole has fluctuated in the past five years. This view is supported from the LFS.

Table 1.38 Rates of fatal injury to workers (a), non-fatal reported injury to employees (b) 1991/92 - 2000/01ef (c) and rate of reportable injury from the LFS 1994/95 - 1999/2000

	91/92	92/93	93/94	94/95	95/96	96/97(d)	97/98	98/99	99/00	00/01ef
Fatal	1.6	1.3	1.5	1.3	1.0	1.4	1.4	1.6	1.0	1.2
Non-fatal major	128.8	136.2	138.6	138.9	130.5	206.4	216.1	201.5	204.1	195.0
Over-3-day	1 158.3	1 219.0	1 162.1	1 193.7	1 067.4	1 002.8	1 026.1	969.8	1 007.9	1 003.9
LFS Reportable (e)	n/a	n/a	n/a	2 233	2 128	1 959	1 976	1 955	2 111	n/a

(a) Fatal injury rates are per 100 000 workers.

(b) Non-fatal major injury rate and over-3-day injury rate are per 100 000 employees.

(c) Reported to all enforcing authorities.

(d) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

(e) Rates of reportable injury from the LFS are per 100 000 workers.

1.137 In 2000/01 there were 45 098 injuries to workers reported to HSE and local authorities in 2000/01, indicating 45 754 are expected upon finalisation. Of these, 45 615 were to employees and 139 were to the self-employed.

- 50 were fatal injuries.
- 7465 were major injuries.
- 38 239 were over-3-day injuries.

Fatal injuries

1.138 The number of fatal injuries to workers increased to 50 in 2000/01, up 22% compared with the previous year. This follows a decrease of 41% between 1998/99 and 1999/2000, as shown in Table 1.39.

1.139 Individual manufacturing industries show year-on-year fluctuations during the 1990s in the number of fatal injuries to workers. In 2000/01 there are expected to be 19 fatal injuries in the manufacture of basic metals and the fabrication of metal products, an increase from 17 in 1999/2000. This sector consistently has the highest number of fatal injuries within manufacturing industries.

1.140 The number of fatal injuries to employees increased in 2000/01 to 46 compared with 38 in 1999/2000. Since the introduction of RIDDOR 95 the highest number of fatal injuries was in 1998/99 (63) while the lowest was in 1999/2000 (38).

1.141 In 2000/01, the number of fatal injuries to the self-employed rose from 3 in 1999/2000 to 4 in 2000/01.

1.142 Figures indicate that in 2000/01 fatal injuries to members of the public will decrease to 2, compared with 4 in 1999/2000 and none in 1998/99. Such injuries have fluctuated since the introduction of RIDDOR 95.

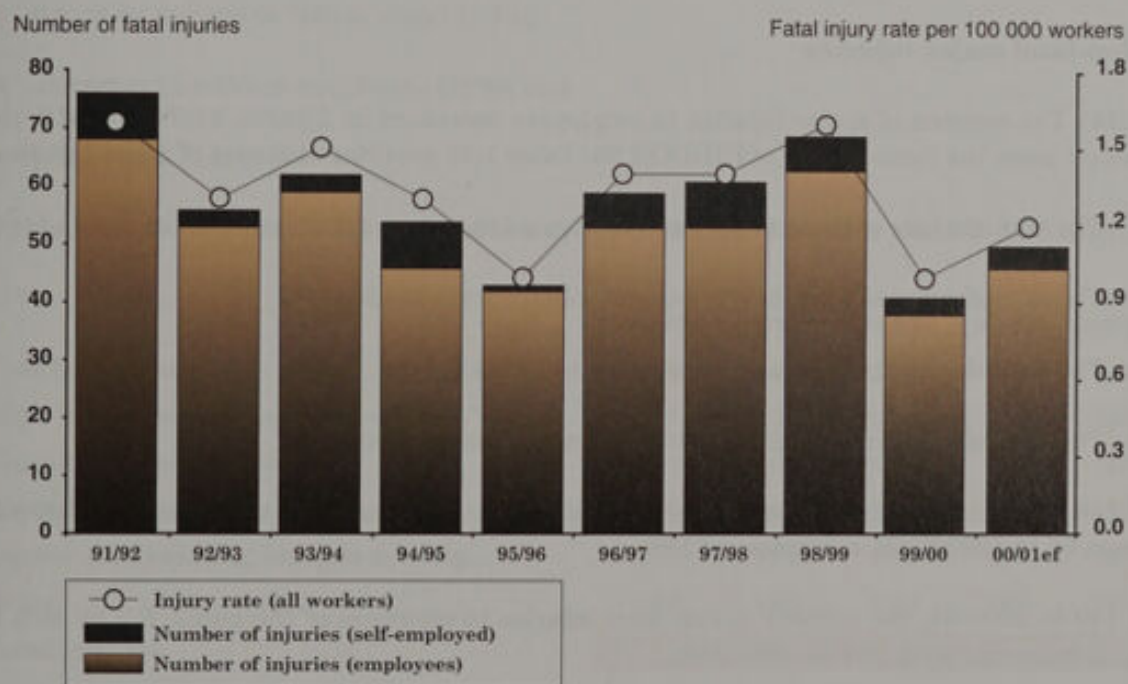
Table 1.39 Number of fatal injuries to workers and members of the public 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01ef
Employees	68	53	59	46	42	53	54	63	38	46
Self-employed	8	3	3	8	1	6	7	6	3	4
Members of the public	2	-	1	2	-	1	1	-	4	2

(a) Reported to all enforcing authorities.

FIGURE 1.7

Fatal injuries to workers in manufacturing 1991/92 - 2000/01ef



1.143 The number and percentage of fatal injuries in 2000/01 to workers due to falls from a height has fallen in the past five years. The percentage is at its lowest, dropping from 17% to 6% (Table 1.40).

1.144 The most common kind of accident is being struck by a moving or falling object and accounts for 21 (42%) of all fatal injuries to workers. This is the highest number and percentage in five years.

1.145 The number of fatal injuries involving contact with moving machinery increased slightly to 12 in 2000/01 from 11 in 1999/2000. However, despite this slight increase in injury number, there was a reduction in the proportion of fatal injuries.

1.146 The percentage of fatal injuries involving being struck by a moving vehicle has decreased in each of the last three years to 6% in 2000/01, the lowest percentage since 1996/97.

Table 1.40 Percentage of fatal injuries to workers by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	17%	25%	20%	10%	6%
Contact with moving machinery	17%	11%	20%	27%	24%
Struck by moving vehicle	12%	15%	9%	7%	6%
Struck by moving/falling object	27%	20%	23%	7%	42%
Trapped by something collapsing/overturning	2%	11%	4%	7%	8%
Other	25%	18%	24%	42%	14%
Total injuries	59	61	69	41	50

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Non-fatal major injuries

1.147 The number of major injuries to employees decreased in 2000/01 by 7% to 7412, the lowest since the introduction of RIDDOR 95. Table 1.41 provides numbers of major injuries.

- The manufacture of basic metals and fabricated metal products accounts for 21%.
- The manufacture of food, beverages and tobacco accounts for 18%.
- The manufacture of transport equipment accounts for 9%.
- The manufacture of machinery and equipment accounts for 8%.

1.148 The number of major injuries to the self-employed is expected to fall to 53 in 2000/01 from 65 in 1999/2000, a decrease of 18%.

1.149 In 2000/01, the number of non-fatal injuries to members of the public fell by 30% to 114, compared with 164 in 1999/2000.

- The manufacture of food, beverages and tobacco accounts for 26%.
- The manufacture of transport equipment accounts for 25%.

Table 1.41 Number of major injuries to workers and non-fatal injuries to members of the public (a) 1991/92 - 2000/01ef (b)

	91/92	92/93	93/94	94/95	95/96	96/97(c)	97/98	98/99	99/00	00/01ef
Employees	5 827	5 292	5 265	5 304	5 146	8 235	8 770	8 137	7 973	7 412
Self-employed	131	121	105	137	135	111	94	96	65	53
Members of the public	34	52	52	73	91	153	142	140	164	114

(a) The definition of a non-fatal injury to a member of the public is different to that for a worker (see technical note).

(b) Reported to all enforcing authorities.

(c) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.150 In the past five years the commonest kinds of accident have remained the same in percentage terms (Table 1.42). In 2000/01 the commonest kinds are:

- slips, trips or falls on the same level (25%);
- struck by moving or falling object (20%);
- contact with moving machinery (16%); and
- falls from a height (14%).

Table 1.42 Percentage of major injuries to employees by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	15%	14%	15%	15%	14%
Slips, trips or falls on the same level	24%	23%	24%	24%	25%
Contact with moving machinery	15%	16%	15%	16%	16%
Struck by moving/falling object	19%	20%	19%	19%	20%
Injured while handling, lifting or carrying	11%	11%	10%	10%	10%
Other	16%	16%	17%	16%	15%
Total injuries	8 235	8 770	8 137	7 973	7 298

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Over-3-day injuries

1.151 The number of over-3-day injuries to employees is expected to decrease to 38 157 in 2000/01 from 39 370 in 1999/2000, the lowest since the introduction of RIDDOR 95. Table 1.43 provides the numbers of over-3-day injuries.

1.152 Of the over-3-day injuries in 2000/01:

- 25% were in the manufacture of food, beverages and tobacco;
- 16% were in the manufacture of basic metals and fabricated metal products; and
- 10% were in the manufacture of transport equipment sector.

1.153 In 2000/01, the number of over-3-day injuries to the self-employed is expected to decrease by 9% to 82 compared with 90 in 1999/2000.

- The manufacture of food, beverages and tobacco accounts for 21%.
- The manufacture of basic metals and fabricated metal products accounts for 17%.
- The manufacture of machinery and equipment accounts for 14%.

Table 1.43 Number of over-3-day injuries to workers 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97(b)	97/98	98/99	99/00	00/01ef
Employees	5 240	47 358	44 142	45 594	42 097	40 005	41 648	39 168	39 370	38 157
Self-employed	160	164	185	218	204	154	94	96	90	82

(a) Reported to all enforcing authorities.

(c) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.154 All kinds of accident have remained constant over the past five years (Table 1.44). The three commonest kinds are:

- injured while handling, lifting or carrying;
- slips, trips or falls on the same level; and
- struck by moving or falling object.

Table 1.44 Percentage of over-3-day injuries to employees 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Strike against something fixed or stationary	6%	6%	6%	6%	6%
Slips, trips or falls on the same level	16%	16%	17%	17%	18%
Contact with moving machinery	11%	11%	11%	10%	10%
Struck by moving/falling object	17%	17%	17%	17%	16%
Injured while handling, lifting or carrying	35%	36%	36%	36%	35%
Other	15%	14%	13%	14%	15%
Total injuries	40 005	41 648	39 168	39 370	37 618

(a) Reported to all enforcing authorities.

CONSTRUCTION

1.155 This section describes the features and trends in statistics on fatal and non-fatal injuries in the construction industry for the years 1991/92 - 2000/01, for workers and members of the public. Table 1.45 presents rates of fatal and non-fatal injury, 1991/92 - 2000/01.

1.156 From the 'league table' of industries, the construction injury has one of the highest rates of fatal injury and of major injury.

1.157 In 2000/01:

- The rate of fatal injury to workers is 6.0 per 100 000 workers, 28% higher than in 1999/2000.
- The rate of major injury to employees is expected to be 383.1, 3% less than in 1999/2000.
- The rate of over-3-day injury to employees is expected to be 841.5, 8% less than in 1999/2000.
- The rate of all reported injury has fallen, and has gradually declined over the past five years. This view is supported from the LFS, which shows a drop of 15% in the rate of reportable injury between 1994/95 and 1999/2000.

Table 1.45 Rates of fatal injury to workers (a), non-fatal reported injury to employees (b) 1991/92 - 2000/01ef (c) and rate of reportable injury from the LFS 1994/95 - 1999/2000

	91/92	92/93	93/94	94/95	95/96	96/97(d)	97/98	98/99	99/00	00/01ef
Fatal	5.5	5.9	5.7	5.1	5.0	5.6	4.6	3.8	4.7	6.0
Non-fatal major	272.4	230.4	214.4	221.2	224.0	403.0	382.3	402.7	395.9	383.1
Over-3-day	1 588.7	1 277.6	1 127.4	1 139.4	1 030.3	1 078.6	966.3	863.4	917.0	841.5
LFS reportable (e)	n/a	n/a	n/a	2 967	2 549	2 697	2 431	2 589	2 534	n/a

(a) Fatal injury rates are per 100 000 workers.

(b) Non-fatal major injury rate and over-3-day injury rate are per 100 000 employees.

(c) Reported to all enforcing authorities.

(d) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

(e) Rates of reportable injury from the LFS are per 100 000 workers.

1.158 Over the past ten years there have been 150 417 injuries in the construction industry reported to HSE. Of these 131 949 were to employees, 15 969 were to the self-employed and 2499 were to members of the public.

- 921 were fatal injuries; and
- 149 496 were non-fatal injuries.

Fatal injuries

1.159 There were 870 fatal injuries to workers in 1991/92 - 2000/01, an average of 87 per year.

- The rate of fatal injury generally fell in the 1990s until 1998/99 but has risen since then.
- The number of fatal injuries is 106 in 2000/01, 31% higher than in 1999/2000, and is the highest for ten years (1991/92 - 2000/01).

1.160 The number of fatal injuries to employees is 72 in 2000/01, 18% higher compared with 1999/2000. This compares with an average of 65 in the ten-year period.

1.161 The number of fatal injuries to self-employed people is 34 in 2000/01, the highest level for ten years. The number has fluctuated with no clear trend up or down. Table 1.46 presents the numbers of fatal injuries since 1991/92.

1.162 The number of fatal injuries to members of the public increased to 8 in 2000/01, 33% higher compared to 1999/2000.

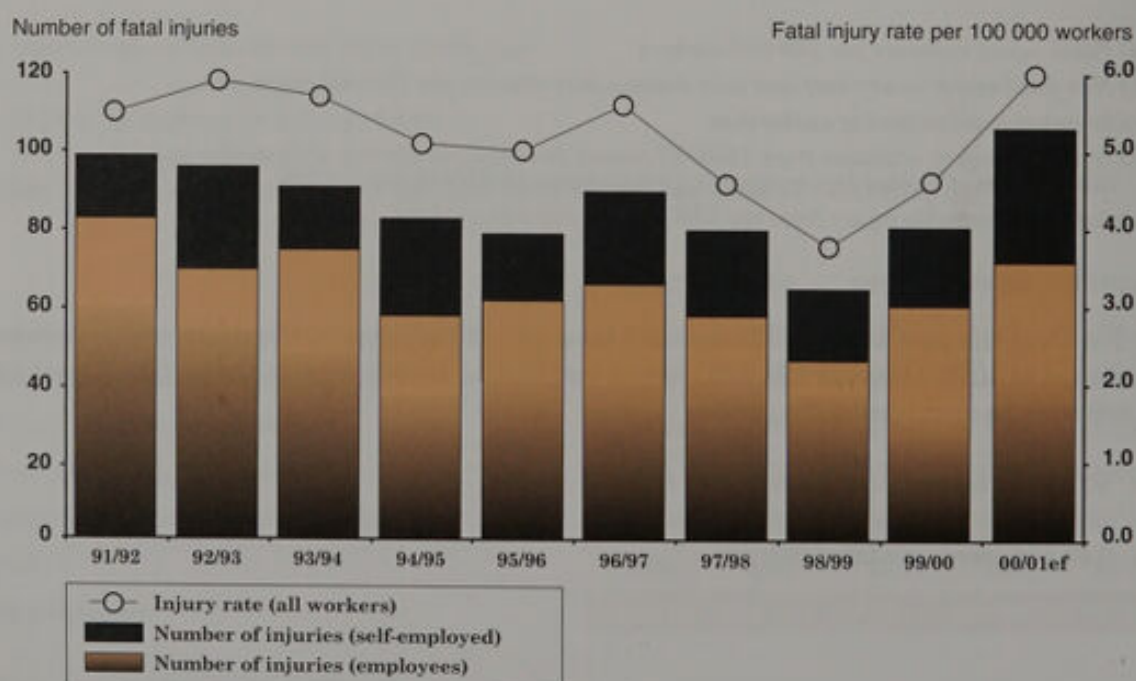
Table 1.46 Number of fatal injuries to workers and members of the public 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01ef
Employees	83	70	75	58	62	66	58	47	61	72
Self-employed	16	26	16	25	17	24	22	18	20	34
Members of the public	6	5	6	5	3	3	6	3	6	8

(a) Reported to all enforcing authorities.

FIGURE 1.8

Fatal injuries to workers in construction 1991/92 - 2000/01ef



1.163 The most common kind of accident for fatal injuries to workers in the construction industry is falls from a height, accounting for 224 of 422 deaths in the past five years.

1.164 Fatal injuries in 2000/01 (Table 1.47) involved:

- 47 workers falling from a height, and 29 of these falls were from roofs, roof edges, ladders or scaffolds/platforms;
- 18 workers being struck by a vehicle, many of these injuries involved plant or heavy goods vehicles; and
- 18 workers being trapped by something collapsing or overturning (mainly collapsing buildings, and overturning plant/vehicles).

1.165 The number of fatal injuries due to being struck by a moving or falling object fell in number and percentage in 2000/01. They involve mainly objects falling or swinging from a building, or while being lifted.

1.166 There is a decrease of 5% (from 19% to 14%) in other kinds of accident, with the number of fatal injuries due to collapsing or overturning increasing by 16, from 2 to 18, compared to 1999/2000. The equipment/items are buildings (9) and plant equipment (5).

Table 1.47 Percentage of fatal injuries to workers by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	56%	58%	60%	52%	44%
Struck by moving vehicle	11%	6%	12%	6%	17%
Struck by moving/falling object	12%	15%	12%	21%	8%
Trapped by something collapsing/overturning	7%	5%	5%	2%	17%
Other	14%	16%	11%	19%	14%
Total injuries	90	80	65	81	106

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Non-fatal major injuries

1.167 The number of reported major injuries to workers since 1996/97 has risen from 4054 to 4729 in 2000/01. The numbers are given in Table 1.48.

1.168 The number of reported major injuries to employees rose between 1996/97 and 1999/2000 from 3227 to 4386. In 2000/01, there is an expected decrease to 4321. But the rate of major injury to employees has dropped recently since 1997/98 to be the lowest since 1996/97 (when the major injury was redefined).

1.169 The number of reported major injuries to the self-employed dropped between 1991/92 and 1999/2000. The number is expected to increase in 2000/01, from 363 to 408.

1.170 The number of reported non-fatal injuries to members of the public fluctuated during 1991/92 to 1995/96 (allowing for the new reporting regulations in 1996/97). The number in 2000/01 is 317 and is the lowest for five years.

Table 1.48 Number of major injuries to workers and non-fatal injuries to members of the public (a) 1991/92 - 2000/01ef (b)

	91/92	92/93	93/94	94/95	95/96	96/97(c)	97/98	98/99	99/00	00/01ef
Employees	2 570	2 061	1 806	1 872	1 806	3 227	3 860	4 289	4 386	4 321
Self-employed	729	684	768	755	671	827	466	367	363	408
Members of the public	148	104	116	121	117	405	339	378	403	317

(a) The definition of a non-fatal injury to a member of the public is different to that for a worker (see technical note).

(b) Reported to all enforcing authorities.

(c) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.171 In the past five years, 1996/97 - 2000/01, the most common kinds of accident in major injuries are (Table 1.49):

- falls from a height (37%);
- slips, trips or falls on the same level (21%); and
- struck by a moving or falling object (18%).

1.172 The percentage of major injuries due to falling from a height has remained relatively stable over the past five years. The number is higher now (1560 in 2000/01) than in 1996/97 (1427) since the number of major injuries has risen.

1.173 The percentage of major injuries due to slipping and tripping has risen slightly in the past five years. The number has risen from 627 in 1996/97 to 907 in 2000/01.

Table 1.49 Percentage of major injuries to employees by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	35%	37%	37%	36%	37%
Slips, trips or falls on the same level	19%	19%	20%	21%	21%
Struck by moving vehicle	3%	2%	3%	2%	2%
Struck by moving/falling object	21%	20%	18%	18%	18%
Injured while handling, lifting or carrying	8%	9%	9%	10%	8%
Other	14%	13%	13%	13%	14%
Total injuries	3 227	3 860	4 289	4 386	4 268

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Over-3-day injuries

1.174 The number of over-3-day injuries to employees fell between 1991/92 and 1998/99 but then rose between then and 1999/2000. The number in 2000/01 is expected to be 9491, about 7% less than in 1999/2000. The numbers are shown in Table 1.50.

1.175 The rate of over-3-day injury is 841.5 in 2000/01 and is the lowest for ten years.

1.176 The number of over-3-day injuries to the self-employed has fluctuated since 1991/92, though in 2000/01 there is an increase of 24% from 345 to 429, compared to 1999/2000.

Table 1.50 Number of over-3-day injuries to workers 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97(b)	97/98	98/99	99/00	00/01ef
Employees	14 989	11 428	9 497	9 642	8 305	8 637	9 756	9 195	10 159	9 491
Self-employed	1 231	1 291	1 576	1 532	1 390	1 029	509	381	345	429

(a) Reported to all enforcing authorities.

(b) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.177 The most common kinds of accident in over-3-day injuries to employees are:

- injured while handling, lifting or carrying;
- slips, trips or falls on the same level;
- struck by a moving or falling object; and
- falls from a height.

Table 1.51 Percentage of over-3-day injuries to employees by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	12%	12%	14%	14%	14%
Slips, trips or falls on the same level	17%	17%	17%	18%	19%
Struck by moving vehicle	1%	1%	1%	2%	1%
Struck by moving/falling object	19%	18%	18%	19%	18%
Injured while handling, lifting or carrying	36%	36%	35%	34%	34%
Other	15%	16%	15%	13%	14%
Total injuries	8 637	9 756	9 195	10 159	9 427

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

SERVICES

1.178 This section describes the trends in statistics on injuries in the service industries for the years 1991/92 to 2000/01 for workers and members of the public. Table 1.52 provides rates of injury in the past ten years.

1.179 The fatal injury rate to workers increased in 2000/01 to 0.4 from 0.3 in 1999/2000, a return to the level seen in the mid-1990s.

1.180 In 2000/01 the major injury rate to employees fell by 6% to 75.0, the lowest major rate since the introduction of RIDDOR 95. The rate of major injury has fallen each year since 1996/97.

1.181 The over-3-day injury rate to employees in 2000/01 fell to 422.3 from 430.0 in 1999/2000. Since 1997/98 the rate has followed a downward trend, and in 2000/01 is the lowest rate since the introduction of RIDDOR 95.

1.182 The rate of non-fatal injury overall has fallen in the past five years: the rate of reported injury fell by 7% in the four years to 2000/01, and the LFS rate of reportable injury fell by 12% in the four years to 1999/2000.

Table 1.52 Rates of fatal injury to workers (a), non-fatal reported injury to employees (b) 1991/92 - 2000/01ef (c) and rate of reportable injury from the LFS 1994/95 - 1999/2000

	91/92	92/93	93/94	94/95	95/96	96/97(d)	97/98	98/99	99/00	00/01ef
Fatal	0.6	0.7	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.4
Non-fatal major	49.7	51.2	51.3	53.5	50.1	90.8	88.4	83.7	79.5	75.0
Over-3-day	482.9	462.3	459.9	479.4	447.5	444.9	456.1	450.8	430.0	422.3
LFS Reportable (e)	n/a	n/a	n/a	1 458	1 406	1 359	1 291	1 251	1 240	n/a

(a) Fatal injury rates are per 100 000 workers.

(b) Non-fatal major injury rate and over-3-day injury rate are per 100 000 employees.

(c) Reported to all enforcing authorities.

(d) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

(e) Rates of reportable injury from the LFS are per 100 000 workers.

1.183 In 2000/01 there were 92 883 provisional injuries to workers reported to HSE and local authorities. Of these 92 602 were to employees and 281 were to the self-employed.

- 80 were fatal injuries.
- 14 045 were major injuries.
- 78 758 were over-3-day injuries.

Fatal injuries

1.184 The number of fatal injuries to workers increased to 84 in 2000/01, an increase of 53% compared with the previous year, following decreases each year since 1997/98. This is a return to the level seen in the early 1990s. Table 1.53 provides the numbers of fatal injuries.

1.185 Individual service industries show fluctuations during the 1990s in the number of fatal injuries to workers. In the transport, storage and communication industry, there were 36 fatal injuries in 2000/01, compared with 19 in 1999/2000. In wholesale and retail distribution there were 12 in 2000/01, compared with 11 in 1999/2000.

1.186 The number of fatal injuries to employees increased by 68% to 74 in 2000/01 from 44 in 1999/2000. The number of fatal injuries in 2000/01 is the largest since 1993/94, following the lowest year on record in 1999/2000.

1.187 In 2000/01, the number of fatal injuries to the self-employed fell by one from 11 in 1999/2000 to 10. This follows a downward trend since 1996/97, and along with the number of fatal injuries in 1998/99 is the lowest number in service industries during the 1990s.

1.188 In 2000/01 fatal injuries to members of the public will increase by 3% to 427, compared with 416 fatalities in the previous year. Fatal injuries to members of the public have fluctuated year on year since the introduction of RIDDOR 95 though the figure for 2000/01 is the highest in the past five years.

1.189 In 2000/01, 331 fatalities were reported to the railway industry compared with 334 in 1999/2000. Of these:

- 298 (70% of fatal injuries in services) resulted from acts of suicide or trespass on railways compared with 274 in 1999/2000.
- There were a further 116 fatal injuries to members of the public in other industries, 14 more than in 1999/2000 the majority of these were in health and social services (42), and consumer and other services (26).

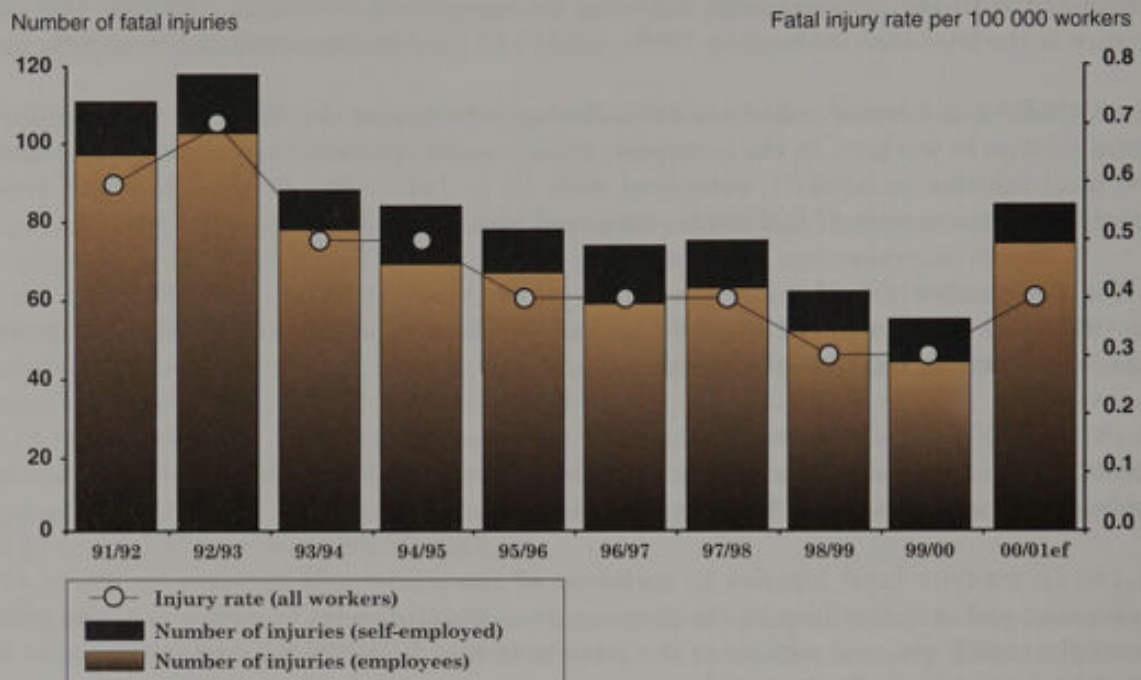
Table 1.53 Number of fatal injuries to workers and members of the public 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01ef
Employees	97	103	78	69	67	59	63	52	44	74
Self-employed	14	15	10	15	11	15	12	10	11	10
Members of the public	90	94	96	88	75	351	374	355	416	427

(a) Reported to all enforcing authorities.

FIGURE 1.9

Fatal injuries to workers in services 1991/92 - 2000/01ef



1.190 The percentage of fatal injuries to workers due to falls from a height dropped from 25% in 1999/2000 to 13% in 2000/01, the lowest proportion of fatal injuries since the introduction of RIDDOR 95. 79% of the falls from a height in 2000/01 were from heights greater than 2 metres.

1.191 In 2000/01 being struck by a vehicle is the most common kind of accident and accounts for 41% of all fatal injuries to workers. This is an increase of 6% from the previous year, and is the highest for five years.

1.192 Being struck by a moving or falling object accounted for 14% of fatal injuries to workers in 2000/01, about the same level since 1997/98.

1.193 There were 2 fatal injuries involving acts of violence to workers in 2000/01, the same as in 1996/97.

Table 1.54 Percentage of fatal injuries to workers by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	23%	29%	23%	25%	13%
Slips, trips or falls on the same level	3%	-	-	4%	1%
Struck by moving vehicle	23%	28%	40%	35%	41%
Struck by moving/falling object	18%	12%	13%	13%	14%
Injured while handling, lifting or carrying	-	1%	-	-	-
Other	33%	30%	24%	23%	31%
Total injuries	74	75	62	55	80

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Non-fatal major injuries

1.194 The number of major injuries to employees decreased in 2000/01 by 4% to 14 516, compared with the 2% increase in 1999/2000 to 15 174. The number of reported major injuries to employees in 2000/01 is the lowest in 2000/01 since the introduction of RIDDOR 95 in 1996/97. Table 1.55 provides the number of major injuries since 1991/92.

1.195 The service industries with the largest number of major injuries are:

- transport, storage and communication (21%);
- wholesale and retail trade (20%); and
- public administration and defence (15%).

1.196 The number of major injuries to the self-employed fell to 107 in 2000/01, a decrease of 12% from the previous year. Of the 107 major injuries, wholesale and retail trade, consumer and other services each accounted for 27.

1.197 In 2000/01, the number of non-fatal injuries to members of the public fell by 17% to 20 081, compared with 24 250 in 1999/2000. This follows a general downward trend and is the lowest number since the introduction of RIDDOR 95.

- Education accounts for 34% of non-fatal injuries to the public in services. The number fell by 20% from 8388 in 1999/2000 to 6734 in 2000/01.
- There were 3286 non-fatal injuries reported to transport, storage and communication in 2000/01.

Table 1.55 Number of major injuries to workers and non-fatal injuries to members of the public (a) 1991/92 - 2000/01ef (b)

	91/92	92/93	93/94	94/95	95/96	96/97(c)	97/98	98/99	99/00	00/01ef
Employees	7 640	8 037	8 136	8 557	8 110	15 145	15 278	14 816	15 174	14 516
Self-employed	125	139	202	223	165	303	105	114	122	107
Members of the public	10 705	10 341	11 190	12 272	12 771	34 904	27 925	23 054	24 250	20 081

(a) The definition of a non-fatal injury to a member of the public is different to that for a worker (see technical note).

(b) Reported to all enforcing authorities.

(c) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.198 The top kinds of accident in services in the past five years have shown that (Table 1.56):

- Slips, trips or falls on the same level has been the most common kind of accident for major injuries to employees since 1996/97, and has followed a marginal upward trend as a proportion of all major injuries. It is expected that the proportion of non-fatal injuries will increase by 1% to 41% in 2000/01.

- In 2000/01 it is expected that major injuries caused by falls from a height will account for 17% of the total number, following a constant trend (16%) in the four years previous. Of which 65% of the falls were from heights up to and including 2 metres.
- The proportion of major injuries to employees caused by an employee being struck by a moving or falling object has followed a downward trend since 1996/97, and is expected to account for 11% of major injuries in 2000/01.
- Injuries caused while handling, lifting or carrying an object and from being struck by a moving vehicle account for 10% and 3% respectively, the same as in 1999/2000.

Table 1.56 Percentage of major injuries to employees by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	16%	16%	16%	16%	17%
Slips, trips or falls on the same level	37%	37%	40%	40%	41%
Struck by moving vehicle	3%	3%	3%	3%	3%
Struck by moving/falling object	14%	13%	12%	12%	11%
Injured while handling, lifting or carrying	10%	11%	11%	10%	10%
Other	20%	20%	18%	19%	18%
Total injuries	15 145	15 278	14 816	15 174	1 3937

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Over-3-day injuries

1.199 The number of over-3-day injuries to employees is expected to decrease slightly to 81 717 in 2000/01 from 82 036 in 1999/2000. The general trend for over-3-day injuries has shown a gradual rise in injury numbers, as shown in Table 1.57.

1.200 Of the over-3-day injuries in 2000/01:

- 21 633 were in transport, storage and communication;
- 14 004 were in public administration and defence; and
- 13 686 were in wholesale and retail trade.

1.201 In 2000/01, the number of over-3-day injuries to the self-employed is expected to increase by 9 to 155 compared with 146 in 1999/2000.

- Transport, storage and communication accounted for 33.
- Community and social service industries accounted for 31.

Table 1.57 Number of over-3-day injuries to workers 1991/92 - 2000/01ef (a)

	91/92	92/93	93/94	94/95	95/96	96/97(b)	97/98	98/99	99/00	00/01ef
Employees	74 219	72 577	72 918	76 681	72 465	74 164	78 863	79 829	82 036	81 717
Self-employed	232	474	573	846	498	1 026	182	203	146	155

(a) Reported to all enforcing authorities.

(b) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

1.202 The most common kinds of accident for over-3-day injuries have remain at a consistent level over the past five years. The top three kinds of accident in 2000/01 were (Table 1.58):

- injured while handling, lifting or carrying;
- slips, trips or falls on the same level; and
- struck by moving or falling object.

Table 1.58 Percentage of over-3-day injuries to employees by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	6%	6%	6%	6%	6%
Slips, trips or falls on the same level	21%	21%	22%	22%	23%
Struck by moving vehicle	3%	3%	2%	3%	3%
Struck by moving/falling object	12%	12%	11%	11%	10%
Injured while handling, lifting or carrying	37%	39%	38%	37%	37%
Other	21%	19%	21%	21%	21%
Total injuries	74 164	78 863	79 829	82 036	78 593

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

HEALTH SERVICES

1.203 This section describes the trends in statistics on injuries in the health services as defined by the classes 85.10 and 85.20 of the SIC92, a subset of the service industries. Health services is one of the priority industries under the *Revitalising Health and Safety* initiative. The rates of injury for 2000/01 will become available at this level of industrial activity next year when the required estimates of employee numbers become available. Table 1.59 shows injury rates for employees for 1996/97 - 1999/2000.

1.204 In 1999/2000 there were no fatal injuries to employees in health services, the same as in the previous two years. In the past four years there has been 1 fatality, which occurred in 1996/97, giving a fatality rate of 0.1.

1.205 The rate of major injury to employees dropped by 10% in 1999/2000 to reach 84.1. This is the lowest rate for four years since 1996/97 and is expected to fall again in 2000/01 when the number of major injuries fell by 4%.

1.206 The rate of over-3-day injury is also lower in 1999/2000 compared with four years earlier in 1996/97. The rate is 671.3 in 1999/2000, 12% lower.

Table 1.59 Rate of fatal and non-fatal injury to employees (a) 1996/97 - 1999/2000 (b) (c)

	96/97	97/98	98/99	99/00 (d)
Fatal	0.1	-	-	-
Non-fatal major	94.2	94.3	93.1	84.1
Over-3-day	766.2	737.5	745.5	671.3

(a) Fatal, non-fatal major injury rate and over-3-day injury rate are per 100 000 employees.

(b) Rates for 2000/01 are not derived because employment estimates at this detail are not available for the derivation.

(c) Reported to all enforcing authorities.

(d) Rates for 1999/2000 are calculated using employment data from the ABI, rates for 1996/97 1998/99 are calculated using employment data from the AES.

1.207 In 2000/0, 11 478 injuries to workers were reported to HSE and local authorities. Of these, 11 466 were to employees and 12 were to the self-employed.

■ 2 were fatal injuries.

■ 1300 were major injuries.

■ 10 176 were over-3-day injuries.

Fatal injuries

1.208 In 2000/01, provisional figures indicate that there were two fatal injuries to workers, following three years where no fatal injuries were reported.

1.209 The number of fatal injuries to employees is expected to increase to two fatal injuries in 2000/01 from none in 1999/2000, the highest since 1996/97. In 1996/97 there was one fatality and no fatal injuries in 1997/98 and 1998/99. Table 1.60 provides the number of fatal injuries.

1.210 There are expected to be no fatal injuries to the self-employed in 2000/01, the same as in the previous years.

1.211 Provisional figures indicate that in 2000/01 the number of fatal injuries to members of the public will decrease by 33% to 24 from 36 in 1999/2000. Since 1996/97 the number of fatal injuries to members of the public has fluctuated though the figure is now lower than in 1996/97.

Table 1.60 Number of fatal injuries to workers and members of the public 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Employees	1	-	-	-	2
Self-employed	-	-	-	-	-
Members of the public	38	23	21	36	24

(a) Reported to all enforcing authorities.

1.212 In 2000/01 the two reported fatal injuries to employees occur in accidents caused by falls from a height and being struck by a moving vehicle. The one fatality that occurred in 1996/97 was caused by a fall from a height accident.

Non-fatal major injuries

1.213 The number of major injuries to employees is expected to decrease in 2000/01 by 4% to 1296, compared with 1350 in 1999/2000. The number of reported major injuries to employees is the lowest in 2000/01 since the introduction of RIDDOR 95 in 1996/97, and follows a downward trend since 1997/98 (Table 1.61).

1.214 The number of major injuries to the self-employed has fluctuated over the past five years and has increased to 4 in 2000/01, an increase of 1 fatality from the previous year. This follows a decrease in 1999/2000 of 2 fatal injuries.

1.215 In 2000/01, the number of non-fatal injuries to members of the public fell by 11% to 1075, compared with 1202 in 1999/2000. This follows a general downward trend and is the lowest since the introduction of RIDDOR 95.

Table 1.61 Number of major injuries to workers and non-fatal injuries to members of the public (a) 1996/97 - 2000/01p (b)

	96/97	97/98	98/99	99/00	00/01p
Employees	1 355	1 449	1 397	1 350	1 296
Self-employed	5	3	5	3	4
Members of the public	3 247	2 451	1 555	1 202	1 075

(a) The definition of a non-fatal injury to a member of the public is different to that for a worker (see technical note).

(b) Reported to all enforcing authorities.

1.216 Slips, trips or falls on the same level has been the most common kind of accident for major injuries to employees since 1996/97, and has fluctuated as a proportion of all major injuries. Slipping and tripping accounted for 48% of major injuries in 2000/01.

1.217 Other common kinds of accident of major injuries include (Table 1.62):

- falls from a height (accounting for 9% - 11%); and
- injured while handling and lifting (10% - 13%).

Table 1.62 Percentage of major injuries to employees by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	9%	10%	10%	9%	11%
Slips, trips or falls on the same level	46%	43%	45%	50%	48%
Struck by moving vehicle	1%	1%	-	1%	1%
Struck by moving/falling object	8%	9%	9%	8%	7%
Injured while handling, lifting or carrying	11%	13%	12%	10%	10%
Other	25%	24%	24%	22%	23%
Total injuries	1 355	1 449	1 397	1 350	1 296

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

Over-3-day injuries

1.218 The number of over-3-day injuries to employees is expected to decrease to 10 168 in 2000/01 from 10 770 in 1999/2000, the lowest since the introduction of RIDDOR 95. The number has dropped since 1997/98 when 11 333 were reported.

1.219 In 2000/01, the number of over-3-day injuries to the self-employed is relatively low and has dropped from 18 to 8 in the past five years (Table 1.63).

Table 1.63 Number of over-3-day injuries to workers 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Employees	11 018	11 333	11 189	10 770	10 168
Self-employed	18	17	11	10	8

(a) Reported to all enforcing authorities.

1.220 In 2000/01, half of over-3-day injuries involved being injured through handling, lifting and carrying. The level of handling and lifting of over-3-day injuries has dropped over the past five years, in number and as a percentage of over-3-day injuries (Table 1.64).

1.221 Slipping and tripping accounted for 17% of over-3-day injuries in 2000/01, compared with 14% in 1997/98.

1.222 In 2000/01 accidents resulting from employees being struck by a moving or falling object and from falling from a height account for 7% and 3% of over-3-day injuries respectively, the same as the year before.

Table 1.64 Percentage of over-3-day injuries to employees by kind of accident 1996/97 - 2000/01p (a)

	96/97	97/98	98/99	99/00	00/01p
Falls from a height (b)	2%	3%	2%	3%	3%
Slips, trips or falls on the same level	15%	14%	15%	16%	17%
Struck by moving vehicle	1%	-	-	-	-
Struck by moving/falling object	8%	7%	7%	7%	7%
Injured while handling, lifting or carrying	54%	55%	54%	53%	50%
Other	20%	21%	22%	21%	23%
Total injuries	11 018	11 333	11 189	10 770	10 168

(a) Reported to all enforcing authorities.

(b) Falls from a height include falls from up to and including 2 metres, over 2 metres and height not known.

TYPES OF WORKER AND RATES OF INJURY

1.223 This section will present and discuss the rates of fatal and non-fatal injuries for types of workers, for example:

- men and women;
- employees in age bands;
- part-time workers; and
- workers new to their employer.

1.224 The results of this section are based on rates of injury reported under RIDDOR and on research commissioned by HSE into data derived from the Labour Force Survey. The purpose of this research was to explore the risks of injury in the many parts of the workforce which are identified by the LFS (more detail is in a report available on HSE's website at www.hse.gov.uk/sources/index.htm). Under RIDDOR, employers have a duty to report injuries involving four days' absence from work and fatal injuries. The LFS provides incidence rates of reportable (four or more days) injury and also rates for all workplace injury, including injuries with less than four days' absence as recalled by LFS working respondents.

1.225 This section refers to injury rates for the three categories of injury: fatal, reportable, and all workplace injury. The rate of workplace injury in a group of workers may be higher than another and will be partly due to differences in job characteristics between the two groups. The research provides the relative risk between these groups after allowing for the effects of occupations, hours of work and other job characteristics.

Men and women

1.226 Table 1.65 presents injury rates for men and women. Rates for fatal injuries are expressed per 100 000 workers, and rates for non-fatal injuries are expressed per 100 000 employees.

Table 1.65 Rates of fatal and non-fatal injury for men and women 2000/01p

	Rate of fatal injury	Rate of non-fatal injury		
		Major	Over-3-day	All non-fatal
Men	1.85	154.3	742.2	896.5
Women	(a)	55.1	279.3	334.4

(a) Fatal injuries to women are too small to reliably compute a rate.

1.227 Rates of injury in 2000/01 are higher in men than women. For example:

- There were 291 fatal injuries to workers, giving a provisional rate of 1.04. However, the rate of fatal injury to men is 1.85, accounting for 284 work-related deaths (98% of all fatal injuries to workers), in comparison to 7 in women. This reflects the overwhelmingly higher rate of fatal injuries in men.
- In 2000/01, there were 26 540 major injuries to employees where the gender was known. Of these, 20 062 are to men, giving a rate of 154.3 per 100 000 employees, compared with 6 478 to women, a rate of 55.1.
- The rate of over-3-day injury in men is over 2.5 times that in women. Out of the 129 292 injuries where the gender was known, 96 476 were to men, giving a rate of 742.2, compared to 32 816 for women, a rate of 279.3.

1.228 The research into the LFS supports these results on reported injury rates for men and women. The research was based on the Labour Force Surveys of 1995/96 and 1996/97. The rate of reportable injury in 1996/97 in men is 2.0 (per hundred workers) compared with 1.1 in women. The research found that this higher injury rate in men is partly explained by the occupations, hours of work and other job characteristics. However, after allowing for these characteristics of jobs, men continue to face a higher risk of reportable injury than women.

- Men face a 35% higher risk of reportable injuries than women (not explained by the jobs held by men and women).

1.229 Men also face a higher risk of *all workplace injury*. The rate of all workplace injury in 1996/97 from the LFS is 5.8 per 100 men workers, compared with 3.3 for women. The all workplace injury rate is 76% higher in men. Job characteristics explain much of this higher rate in men but not all because men still have a 20% higher risk of all workplace injury not explained by the occupations and other characteristics of jobs held by men.

1.230 Taking the results from reported injuries and the LFS research:

- Men have higher rates of fatal and non-fatal injury than women - where men face a higher risk not explained by the types of jobs held by men.

Employees in age bands

1.231 The picture on the rates of injury between age groups varies between the three severity categories of injury:

- fatal injuries (to workers);
- reportable non-fatal injuries; and
- all workplace injuries derived from the Labour Force Survey.

Fatal injuries

1.232 Given that 96% - 98% of fatal injuries are to men, Table 1.66 presents the rates of fatal injury to male workers only. The years given are 1996/97 and 2000/01.

Table 1.66 Rates of fatal injury to men workers by age 1996/97 - 2000/01p

<i>Age band</i>	<i>Rate of fatal injury 1996/97</i>	<i>Rate of fatal injury 2000/01p</i>	<i>Number of 2000/01p fatalities</i>
16-24	1.37	1.16	23
25-34	1.50	1.14	44
35-44	1.83	1.85	76
45-54	2.37	1.95	65
55-59	2.53	2.74	33
60+	3.36	4.14	38
All ages	2.03	1.85	284

1.233 Comparing 1996/97 and 2000/01 data, the rate of fatal injury is lowest in younger workers aged 16-24 and 25-34.

1.234 The rate of fatal injury fell in the four years to 2000/01 in younger men workers (16-34) and in men aged 45-54.

- The rate of fatal injury increased substantially in older men, aged above 55.
- Rates of fatal injury are higher in older men. The rate in men aged above 55 is at least 2.3 times higher than in men aged below 35.

1.235 There is a preliminary analysis of fatal injuries by main industries to examine if the higher rate of fatal injury in older men occurs in all main industry sectors or is a feature of a particular high-risk industry.

1.236 Table 1.67 gives the numbers and rates of fatal injury for men in some main industrial sectors for the year 1999/2000 and 2000/01 combined. Two years' worth of fatal injuries are combined to increase the numbers involved and overcome year-on-year fluctuation in relatively small numbers. The estimates of worker numbers come from the LFS 2000/01 and are adjusted to the numbers of workers in the sectors as used elsewhere in this report to derive rates of fatal injury to workers.

Table 1.67 Rates of fatal injury to men workers in three grouped age bands, in industrial sectors, 1999/2000 - 2000/01p combined

<i>Age band</i>	<i>Agriculture</i>		<i>Construction</i>		<i>Other industries(a)</i>		<i>All industries</i>	
	number	rate	number	rate	number	rate	number	rate
16-34	8	3.1	54	4.6	61	0.6	123	1.1
35-54	32	9.7	84	5.2	116	0.9	232	1.6
55+	38	27.8	42	9.8	54	1.5	134	3.2
All ages	78	12.2	186	5.8	237	0.9	501	1.6

(a) *Other industries includes extraction, manufacturing and services.*

(b) *The total number of fatal injuries for all ages includes those where the age is not recorded.*

1.237 Further work is necessary to examine rate relative risks of fatal injury to older men in manufacturing and service industries. Nevertheless, Table 1.67 shows a number of points.

- Rates of fatal injury are not just higher in older men but higher in two high-risk sectors, agriculture and construction, and in all other industries as a whole. The higher rate in older men is not just a feature of agriculture and construction.
- In agriculture the rate of fatal injury in men aged 55 or more is 2.3 times the rate for all men, and 9 times that for younger men aged below 35. There is a steep increase in rate of fatal injury as men get older.

Reportable non-fatal injuries

1.238 There is a more complex picture of rates of non-fatal injury between age-bands. Table 1.68 displays rates of major and over-3-day-injury for men and women.

Men

1.239 The rate of major injury is higher in older men but the rate of over-3-day-injury is highest in men aged 25-44 and lowest in men aged 16-19 and 60 or over.

1.240 However, the rate of major injury in each age band varies less than 9% from the overall rate for men (except in young men aged 16-19 where the rate is 16% lower).

Women

1.241 The rate of major injury is highest in women aged 45 and above and lowest in women aged 25-44. This pattern is not as clear for over-3-day-injuries where the rate is highest for women aged between 45 and 59, and is lowest in women aged 16-19 and 60 or over.

1.242 Rates of non-fatal (major and over-3-day) injury in age bands vary from the overall rate by no more than 8% in men, and no more than 15% in women. The exception is in the youngest age band, 16-19, where the rate is substantially lower (28% in men, 32% in women).

Table 1.68 Rates of injury to employees, men and women by age 2000/01p

Age band	Rate of non-fatal injuries					
	Major		Over-3-day		Total non-fatal	
	Men	Women	Men	Women	Men	Women
16-19	129.2	46.4	517.8	181.5	647.0	227.9
20-24	148.9	45.2	676.8	243.1	825.7	288.3
25-34	141.8	39.9	733.2	243.3	875.1	283.2
35-44	141.6	40.4	775.3	267.2	916.9	307.6
45-54	150.8	59.6	693.3	290.2	844.1	349.8
55-59	161.0	83.9	664.3	285.6	825.3	369.5
60+	166.7	101.4	589.9	234.0	756.6	335.4
All ages	154.3	55.1	742.2	279.3	896.5	334.4

FIGURE 1.10

Non-fatal major injury rates for male and female employees by age of injured person 2000/01p (a)

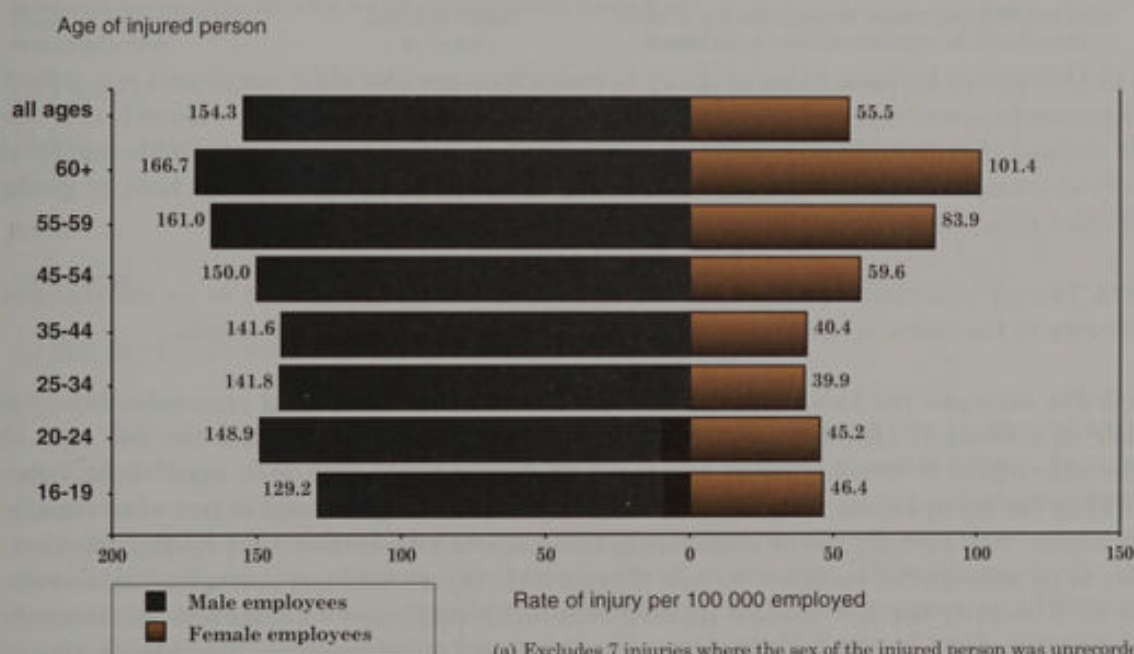
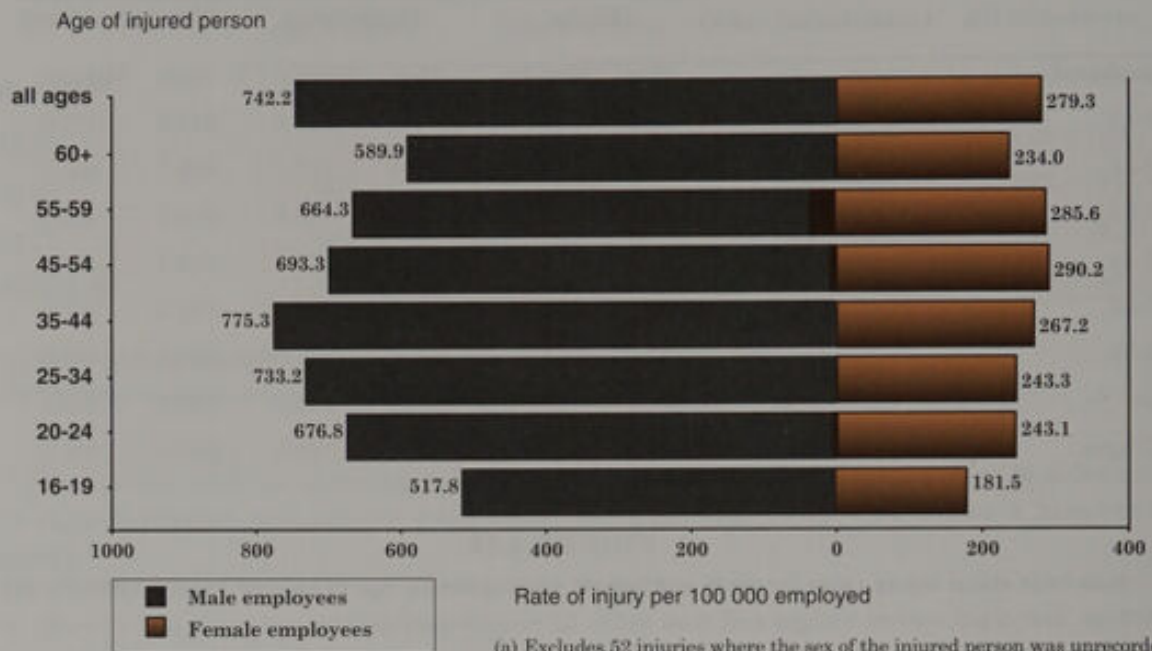


FIGURE 1.11

Over-3-day injury rates for male and female employees by age of injured person 2000/01p (a)



1.243 Differences between rates of injury between younger and older employees will reflect differences between types of jobs and any effect of under-reporting. The research into the LFS showed that there is *no significant difference* between the rate of reportable non-fatal injury in younger and older men, after allowing for the different types of jobs held by young and older men. The LFS results are free of under-reporting.

1.244 Taking reported injuries and the LFS results together, there is *no substantial difference in the risk of a reportable injury* between men in different age bands.

1.245 For example, the Labour Force Survey indicates that the rate of reportable injury is lower in men aged 16-19 than all age groups except for those above 55. The rate of reportable injury is 30% higher in men aged 20-24 compared with men aged 45-54. After allowing for occupations, the relative risk is just 12% higher and is not statistically significant. In summary, after considering the RIDDOR rates and LFS results together, there is no substantial variation in risk of reportable injury between young and older men. The LFS records too few women injured compared with men to calculate statistically significant risks by age groups. However, after allowing for occupations, the relative risk of injury is highest in women aged 55-59.

All workplace injuries derived from the Labour Force Survey

1.246 The LFS results for all workplace injury suggest that young men face a higher risk of all workplace injuries than older men even after allowing for the types of job held by younger and older men.

1.247 The rate of all workplace injury is substantially higher in young men, 16-24, compared with men aged 45-54. From the 1996/97 LFS, the rate is 6.7 per 100 men workers aged 16-19 and is 8.4 for men aged 20-24, compared with 4.9 for men aged 45-54. The rate is 37% higher for 16-19 year olds and over 70% higher in 20-24 year olds. Young men aged

16-24 still face a 40% higher relative risk of all workplace injury than men aged 45-54, even after allowing for occupations and other job characteristics.

1.248 *In summary*, the patterns in injury rates between age bands of worker differ between men and women between the categories of injury - a few clear messages emerge for injury by age and gender:

- Men aged 16-24 have a substantially higher risk of all workplace injury than older men workers (40% higher than 45-54 group) after allowance for job characteristics.
- For women, there is no substantial variation in risk of injury between age groups.
- However, there is no evidence to suggest a higher risk of reportable injury in young workers, men or women, compared with older ones.
- The rate of fatal injury is lowest in young men workers and increases with age.

Part-time workers

Table 1.69 Rate of all workplace injury by usual weekly hours of work, LFS 1996/97 (a)

<i>Band of usual weekly hours of work</i>	<i>Average hours in band</i>	<i>Rate of all workplace injury per 100 workers based on a weekly average of 39.5 hours</i>
Less than 16	7.5	8.0
16-29	22.5	4.3
30-49	39.5	3.8
50-59	54.5	3.2
60 or more	64.5	3.0

(a) *Rate of injury from the report by IER, July 1999.*

1.249 The weekly hours of work has an expected influence on the incidence rate of workplace injury. The rate of injury increases as the number of weekly hours increases, simply reflecting longer hours at work. However, incidence rates do not tell us if workers on very short or long hours have any additional risk of injury, compared with those who work a more standard number of hours. We bring rates of injury (per 100 workers) to the same basis of an average number of weekly hours of work. Table 1.69 reproduces LFS rates of injury from the IER research for five bands of usual weekly hours of work, ranging from less than 15 hours to more than 60 hours. These rates are brought to the same basis of an average 39.5 weekly hours. There are the following key messages.

- Workers on a low number of weekly hours have substantially higher rates of all workplace and reportable injury than those working longer hours, and the rate gets lower as the number of weekly hours increases.
- Those working less than 16 hours per week have double the rate of injury compared with those who work 30-50 hours per week (once converted into hours of work).
- The relatively high risk in workers with low hours remains after allowing for occupations and other job characteristics.

Workers new to their employment (job tenure)

1.250 The LFS can provide the rate of injury for workers who are new to their employer or been less than 12 months, or even six months with the employer. We have to allow for such short time with the employer when deriving the standard incidence rate which is expressed per year. Table 1.70 presents annualised rates of all workplace injury for workers whose job tenure with the employer ranges from less than six months to more than five years.

Table 1.70 Rate of all workplace injury by job tenure with employer (a)

<i>Job tenure</i>	<i>Rate of all workplace injury per 100 workers per 12 months</i>
Less than 6 months	11.4
6-11 months	5.6
12 months to less than 5 years	4.2
5 years or more	3.5

(a) Rate of injury from the report by IER, July 1999.

1.251 Workers in the first few months with their employer have the highest rate of injury once expressed per 12 months.

1.252 On a yearly basis, the rate of injury to workers in the first six months is over twice that in workers who have been with their employers for at least a year, whether all workplace injury or reportable injury.

1.253 The relatively high risk for new workers remains after allowing for occupations and hours of work. Other factors cannot explain the higher risk in workers new to their employers.

1.254 A review of literature in 1972⁵ provides some support in a conclusion about studies on 'length of service' which 'are all compatible with the idea that there is an initial learning effect of some sort which lasts a certain time after which the accident rate evens out'.

Temporary jobs

1.255 Nearly 3 in 5 (57%) temporary workers have been with their employer for less than 12 months. The risks to temporary workers are associated with the high risks to workers new to their employer.

INJURIES TO WORKERS IN SCOTLAND AND WALES

1.256 This section provides a summary of fatal and non-fatal injury statistics for Scotland and for Wales. The statistics are based on provisional rather than estimated final figures and exclude injuries to reportable to HSE's Hazardous Installations Directorate (offshore injuries).

Fatal injuries

1.257 In 2000/01:

- There were 291 fatal injuries to workers in Great Britain, 32% higher than in 1999/2000.
- In Scotland there were 36 fatal injuries to workers, 5 more than in 1999/2000.
- In Wales there were 11 fatal injuries to workers, 1 less than in 1999/2000.

1.258 The numbers of fatal injuries in industrial sectors are relatively small and can fluctuate year on year.

1.259 The numbers by industrial sector in the past two years are set out in the following paragraphs.

1.260 In Scotland the numbers of fatal injuries by industrial sector were as follows:

- In agriculture, there were 9 fatal injuries to workers in 2000/01 and 7 in 1999/2000.
- In manufacturing, there were 6 in 2000/01 and 3 in 1999/2000.
- In construction, there were 13 in 2000/01, the same as in 1999/2000.
- In services, there were 8 in 2000/01 and 7 in 1999/2000.

1.261 In Wales the numbers of fatal injuries by industrial sector were as follows:

- In agriculture, there were 6 fatal injuries to workers in 2000/01 and 4 in 1999/2000.
- In manufacturing, there were 2 in 2000/01 and 3 in 1999/2000.
- In construction, there were 3 in 2000/01, the same as in 1999/2000.
- In services, there were no injuries in 2000/01 and 2 in 1999/2000.

1.262 Table 1.71 provides the numbers and rates of fatal injuries to employees in Scotland and Wales. Rates of injury are derived for employees because reliable estimates of the number of employees are readily available. The main points from the table are:

- The rate of fatal injury to employees in Great Britain rose by 29% in 2000/01. In contrast, the rate rose by 9% in Scotland and fell by 38% in Wales.
- The rate of fatal injury to employees in Scotland has gradually dropped in the past five years.
- The rate of fatal injury to employees is higher in Scotland than in Great Britain.
- The rate of fatal injury to employees in Wales has been higher than in Great Britain but has been dropping to become lower in 2000/01.

Table 1.71 Number and rate (a) of fatal injuries to employees in Scotland and Wales 1996/97 - 2000/01p (b)

	<i>Number of fatalities</i>		<i>Fatal injury rate</i>		
	<i>Scotland</i>	<i>Wales</i>	<i>Scotland</i>	<i>Wales</i>	<i>Britain</i>
1996/97	28	22	1.4	2.3	0.9
1997/98	28	17	1.4	1.7	0.9
1998/99	26	14	1.3	1.4	0.8
1999/2000	23	8	1.1	0.8	0.7
2000/01p	26	5	1.2	0.5	0.9

(a) *Per 100 000 employees.*

(b) *Reported to all enforcing authorities.*

Non-fatal major injuries

1.263 Table 1.72 presents numbers and rates of major injury for employees in Scotland, Wales and rates for Great Britain. Further detail by industrial sector is given in Tables A1.6 - 1.8 in Annex 1.

1.264 There were 2720 major injuries to employees in Scotland in 2000/01 compared with 2723 in 1999/2000. The number and rate of major injury in 2000/01 remains similar to those of 1999/2000 but is lower than two years ago.

1.265 By industrial sector in Scotland, the number of major injuries in 2000/01:

- rose by 14% to 612 in construction;
- fell by 19% to 82 in agriculture, and by 8% to 572 in manufacturing; but
- changed little in services.

1.266 There were 1508 major injuries to employees in Wales in 2000/01 compared with 1870 in 1999/2000. The number and rate of major injury dropped by about 20% in 2000/01 and is substantially lower than two years ago.

1.267 By industrial sector in Wales, the number of major injuries in 2000/01:

- rose by 10% to 44 in extraction and utilities;
- fell by 61% to 12 in agriculture;
- fell by 27% to 188 in construction;
- fell by 17% to 549 in manufacturing; and
- fell by 19% to 715 in services.

Table 1.72 Number and rate (a) of major injuries to employees in Scotland and Wales 1996/97 - 2000/01p (b)

	<i>Number of major injuries</i>		<i>Major injury rate</i>		
	<i>Scotland</i>	<i>Wales</i>	<i>Scotland</i>	<i>Wales</i>	<i>Britain</i>
1998/99	2 776	1 766	137.5	175.7	121.7
1999/2000	2 723	1 870	127.6	175.4	116.6
2000/01p	2 720	1 508	127.9	140.4	107.3

(a) *Per 100 000 employees.*

(b) *Reported to all enforcing authorities.*

Over-3-day injuries

1.268 Table 1.73 presents numbers and rates of over-3-day injury for employees in Scotland, Wales and rates for Great Britain. Further detail by industrial sector is given in Tables A1.6 - 1.8 in Annex 1.

1.269 The number and rate of over-3-day injury fell in 2000/01 in both Scotland and in Wales. In Scotland, the rate fell by 6%, and in Wales it fell by 1%. In both countries, the rates of over-3-day injury are substantially lower than two years ago.

1.270 Rates of over-3-day injury fell in 2000/01 in all main sectors, except for construction in Wales, which rose by 19%.

Table 1.73 Number and rate (a) of over-3-day injuries to employees in Scotland and Wales 1998/99 - 2000/01p (b)

	<i>Number of over-3-day injuries</i>		<i>Over-3-day injury rate</i>		
	<i>Scotland</i>	<i>Wales</i>	<i>Scotland</i>	<i>Wales</i>	<i>Britain</i>
1998/99	12 235	7 278	606.2	724.2	567.3
1999/2000	11 855	7 401	555.6	694.3	550.9
2000/01p	11 128	7 358	523.3	685.0	522.6

(a) *Per 100 000 employees.*

(b) *Reported to all enforcing authorities.*

Comparisons with Great Britain

1.271 The rate of fatal injury is higher in Scotland than in Great Britain for the past five years. Interpretation of differences at a more detailed level is difficult because of the relatively small numbers involved. However, the higher rate of fatal injury in Scotland reflects a higher rate in the construction and services industries in the past two years. For example, the rate of fatal injury in construction for Scotland was 8.3 in 1999/2000 and was 9.0 in 2000/01. The corresponding figures for Wales are 5.5 and 6.2, and for Great Britain are 5.5 and 6.4.

1.272 Taking major and over-3-day injuries together, the rate of reported non-fatal injury in Scotland was 683.3 in 1999/2000 and 651.2 in 2000/01. The corresponding figures for Wales

are 869.8 and 825.4, and for Great Britain are 667.5 and 629.9. The rate of non-fatal injury is about 30% higher in Wales than in Great Britain.

1.273 However, the research into rates of reported injury by the Institute of Employment Research showed that differing rates of non-fatal injury between English regions and Wales and Scotland can be almost fully explained by the industries, occupations and other characteristics of the employed populations in those regions and countries. However, the research would not explain why rates of fatal injury are higher in Scotland.

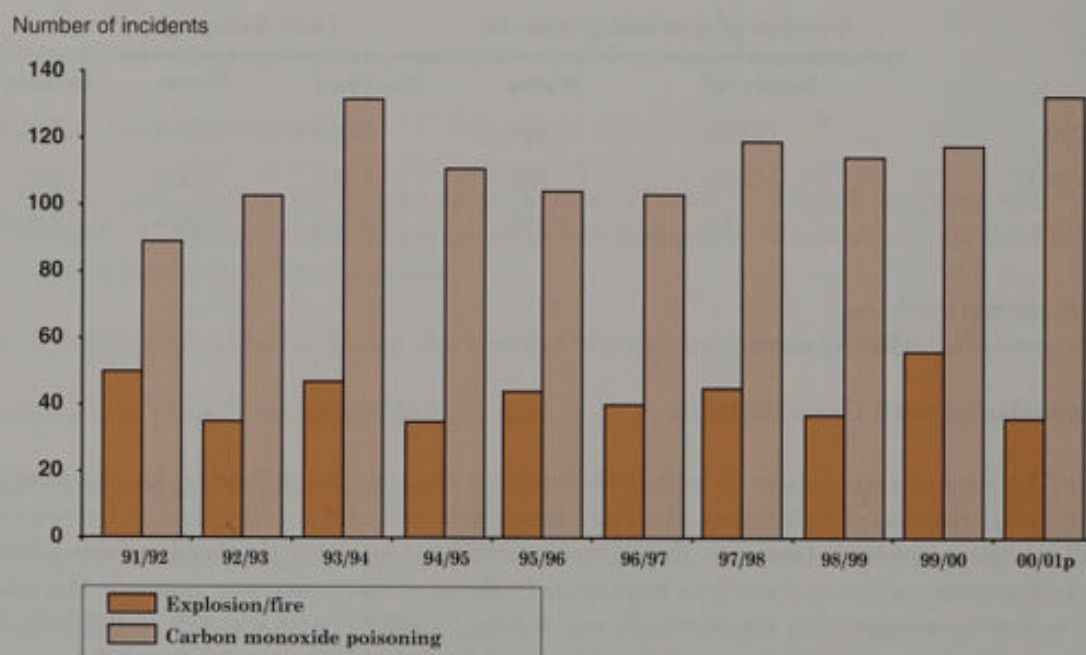
GAS SAFETY STATISTICS

1.274 Based on provisional figures, in 2000/01 there were 169 reported incidents relating to the supply and use of flammable gas, a decrease of 3% compared with the 174 incidents reported in 1999/2000.

1.275 For 2000/01 provisional figures:

- There were 36 incidents involving explosion/fire, the lowest since the introduction of RIDDOR 95. This compares with 56 in 1999/2000. The numbers for previous years (1991/92 - 1999/2000) have fluctuated around an average of 43 incidents.
- There were 133 incidents involving carbon monoxide poisoning, compared with 118 in 1999/2000. The number of these incidents each year increased in the early 1990s, reaching a peak of 132 in 1993/94. Since then the number of incidents has fluctuated from year to year, with the lowest of 89 in 1991/92 and the highest of 133 in 2000/01.

FIGURE 1.12
Incidents relating to the supply and use of flammable gas 1991/92 - 2000/01p



Fatalities resulting from incidents

1.276 Based on provisional figures, in 2000/01 there were 31 fatal injuries resulting from incidents relating to the supply and use of flammable gas. This was 5 less than the 1999/2000 figure of 36.

1.277 Of the 31 fatal injuries in 2000/01:

- 24 occurred as a result of carbon monoxide poisoning, 2 less than in 1999/2000. 1 is a suicide, compared with 3 in 1999/2000, 4 in 1998/99, and 1 in 1997/98.
- 7 occurred as a result of explosions or fires, compared with 10 in 1999/2000 and 11 in 1998/99, showing a steady decrease.

Non-fatal injuries resulting from incidents

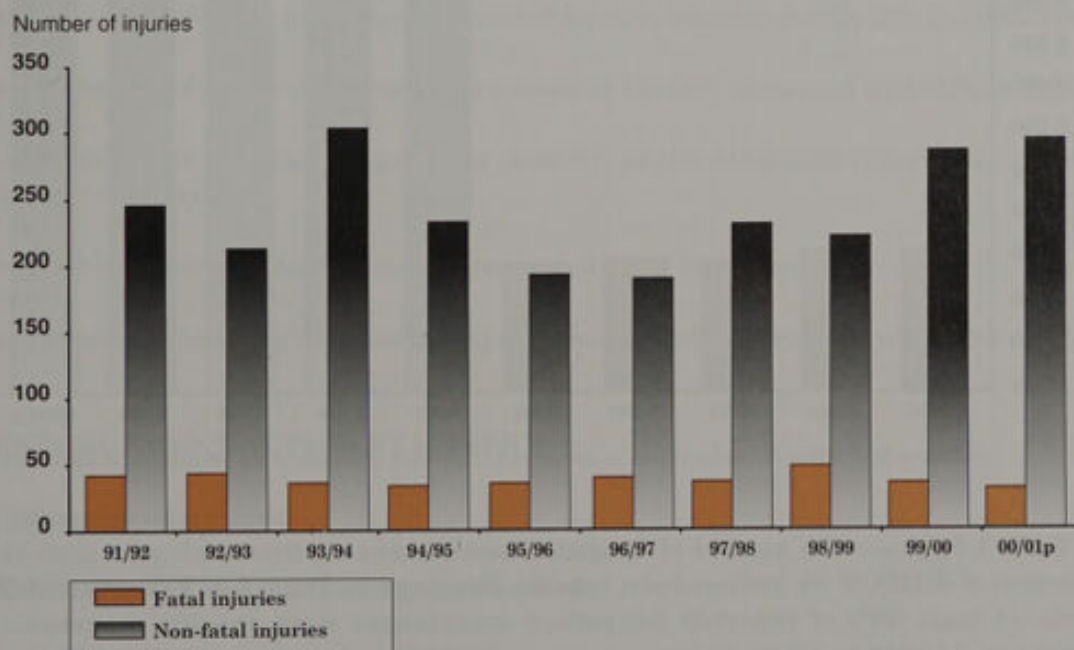
1.278 Based on provisional figures, in 2000/01 there were 296 non-fatal injuries resulting from incidents relating to the supply and use of flammable gas. This was an increase of 7 compared with 1999/2000. Again, numbers of injuries reported each year have fluctuated over the last ten years.

1.279 Of the 296 non-fatal injuries in 2000/01:

- 261 occurred as a result of carbon monoxide poisoning, 33 more than in the previous year.
- 35 occurred as a result of explosions or fires, compared with 61 in 1999/2000, 30 in 1998/99, and 43 in 1997/98. Again, the numbers of these injuries have fluctuated considerably over the last few years.

FIGURE 1.13

Injuries resulting from incidents in relation to the supply and use of flammable gas 1991/92 - 2000/01p



DANGEROUS OCCURRENCES

1.280 Selected incidents which have a high potential to cause death or serious injury, but which happen relatively frequently, are reportable under RIDDOR as 'dangerous occurrences'; a dangerous occurrence is reportable whether or not someone is injured.

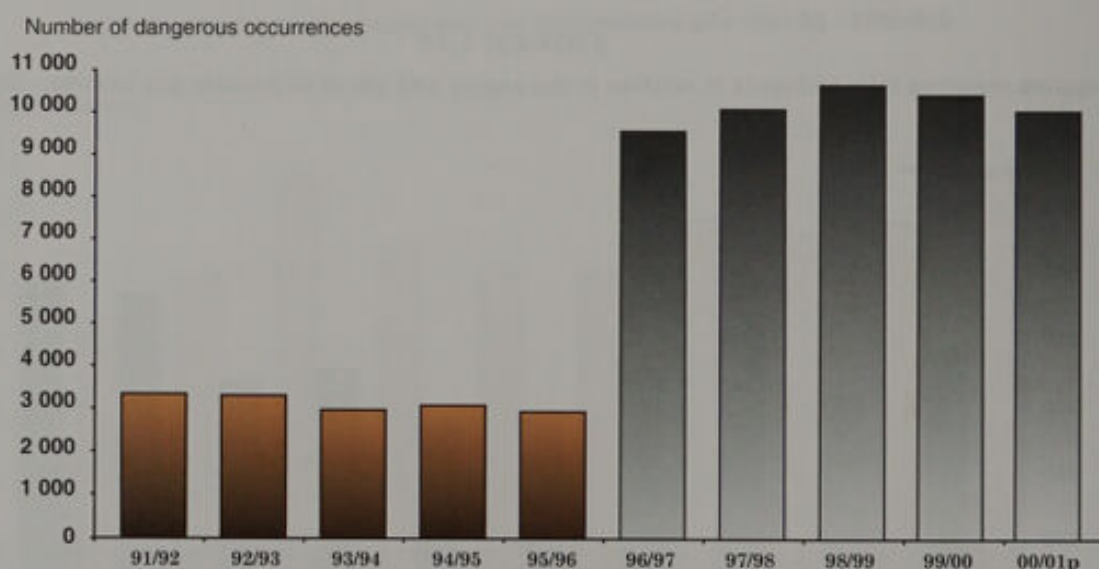
1.281 Statistics for 1990/91 - 1995/96 relate to reports made under RIDDOR 85 for which there were four sections, known as parts I, II, III and IV. Part I of schedule to RIDDOR 85 relating to the reporting of dangerous occurrences contains a general list for all places of work. Parts II, III and IV contain lists of dangerous occurrences which are specific to mines, quarries and railways respectively.

1.282 Statistics for 1996/97 - 2000/01 relate to reports made under RIDDOR 95. The updated reporting requirements differ considerably from RIDDOR 85. Due to the changes, figures from 1996/97 onwards cannot be compared with previous years. There are five sections under RIDDOR 95: an extra section (Part V) relating to dangerous occurrences at offshore workplaces was added. Part IV, dangerous reportable in respect of relevant transport systems, now covers dangerous occurrences which would previously have been reported under separate legislation and not under RIDDOR 85. Under RIDDOR 95 a broader range of more clearly defined dangerous occurrences are reportable.

1.283 Provisional figures for 2000/01 indicate that 10 046 dangerous occurrences were reported to HSE, a decrease of 366 (4%) compared with the previous year, and 594 less than 1998/99, when 10 640 occurrences were reported.

FIGURE 1.14

Dangerous occurrences reported to HSE 1991/92 - 2000/01p (a)



(a) Figures from 1996/97 onwards cannot be compared with previous years due to the introduction of RIDDOR 95.

1.284 Table 1.74 shows the number of dangerous occurrences reported each year since the introduction of RIDDOR 95, broken down into the five sections, Parts I to V. From 1996/97 onwards at least 50% of reported dangerous occurrences were specific occurrences reportable in relation to relevant transport systems and slightly over 40% were general occurrences reportable in relation to any workplace.

Table 1.74 Number and percentage of dangerous occurrences reported to HSE 1998/99 - 2000/01p

	<i>1998/99</i>	<i>1999/2000</i>	<i>2000/01p</i>
Part I. General	4 333 (41%)	4 479 (43%)	4 251 (42%)
Part II. Mines	114 (1%)	79 (1%)	68 (0.7%)
Part III. Quarries	122 (1%)	92 (1%)	64 (0.6%)
Part IV. Transport systems	5 625 (53%)	5 309 (51%)	5 136 (51%)
Part V. Offshore workplaces	446 (4%)	453 (4%)	527 (5%)
Total number of occurrences	10 640	10 412	10 046

1.285 Based on provisional figures in 2000/01, the number of general dangerous occurrences reportable in relation to offshore workplaces (Part V) has shown a slight increase on the previous year. The number of dangerous occurrences in the remaining sections (Parts I, II, III and IV) all decreased.

1.286 Based on provisional figures for 2000/01, of the general dangerous occurrences reported in relation to any place of work:

- Failures of lifting machinery accounted for 24%, compared with 25% in 1999/2000.
- Escapes of substances accounted for 13%, compared with 14% in 1999/2000.
- Failures of pipelines accounted for 12%, compared with 13% the previous year.

1.287 Based on provisional figures for 2000/01, of the dangerous occurrences reported in relation to mines:

- Occurrences in connection with locomotives accounted for 38%, compared with 44% in 1999/2000.
- Failures of plant or equipment accounted for 49%, compared with 33% in 1999/2000.
- Outbreaks of fire or ignitions of gas accounted for 13%, compared with 22% in 1999/2000.

1.288 Based on provisional figures for 2000/01, of the dangerous occurrences reported in relation to quarries:

- Misfires accounted for 53%, compared with 71% in 1999/2000.
- Occurrences involving movement of slopes accounted for 24%, compared with 15% in 1999/2000.

ENFORCEMENT ACTION STATISTICS

Enforcement notices

Notices issued by all enforcing authorities

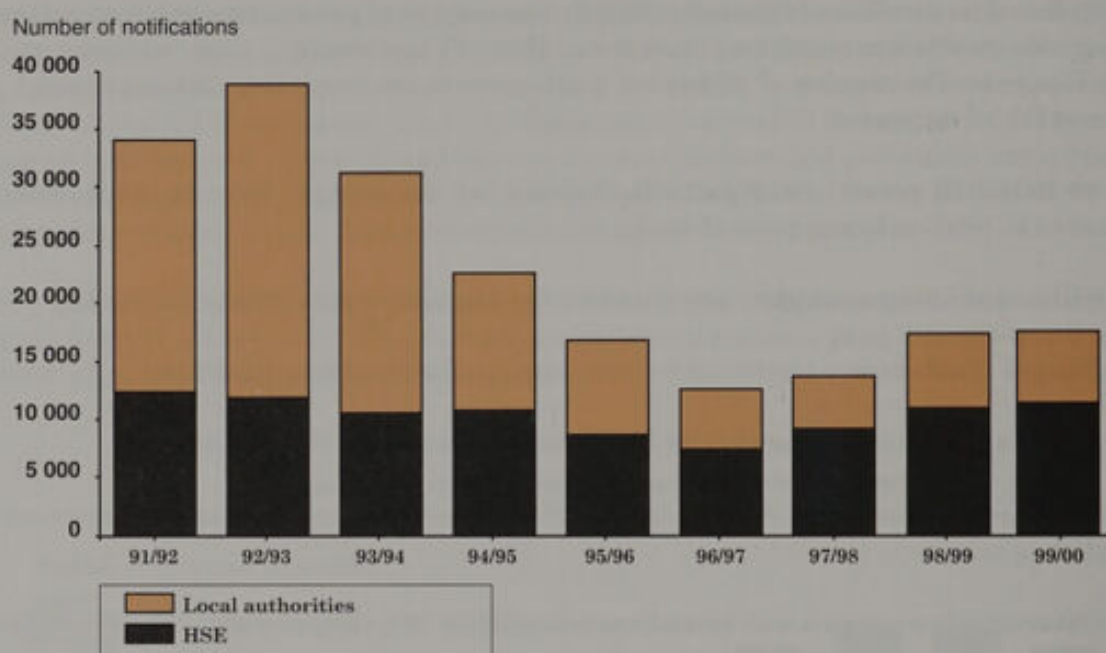
1.289 Provisional statistics for 2000/01 for enforcement notices issued by local authorities are not yet available. In 1999/2000, 17 440 notices were issued by all enforcing authorities

(including local authorities), a slight increase of compared with the 17 370 notices issued during the previous year. This compares with 12 614 in 1996/97, the lowest figure since 1985.

1.290 In 1999/2000:

- 68% of notices issued were improvement notices, compared with 66% in the previous year;
- 5618 prohibition notices were issued, a decrease of 4% compared with the previous year. Of these, 95% were immediate prohibition notices, the same as in the previous two years.

FIGURE 1.15
Enforcement notices issued by enforcing authorities 1991/92 - 1999/2000



Notices issued by HSE

1.291 Provisional figures for 2000/01 indicate that 11 058 enforcement notices were issued by HSE, 2% less than in 1999/2000. The 11 340 notices issued in 1999/2000 represented an increase of 4% compared with 1998/99, in which 10 900 notices were issued.

1.292 The number of notices fell in the early 1990s to reach 7444 in 1996/97 but has risen since then. The number rose in manufacturing from 3027 in 1996/97 to 5134 in 2000/01 and rose in construction from 1976 to 2613. However, in agriculture the number jumped from 1038 in 1996/97 to 1819 in 1997/98 and fell since then to 1301 in 2000/01.

1.293 Based on provisional figures in 2000/01:

- 6673 improvement notices were issued by HSE, a decrease of 4% compared with the number issued in the previous year.
- Improvement notices accounted for 60% of the total number of notices issued by HSE, compared with 61% in 1999/2000 and 58% in 1998/99.

- 148 deferred prohibition notices were issued by HSE. This was a slight reduction on figures for the previous three years.
- 97% of prohibition notices were immediate, a slight increase on figures for the previous two years.

1.294 Based on provisional figures for 2000/01, and when comparing the number of enforcement notices issued by HSE with the previous year, decreases were recorded for extractive and utility supply and manufacturing industries. Increases in the number of enforcement notices issued were evident in the remaining industry sectors. Comparing 1999/2000 with 1998/99, decreases were recorded in agriculture and the extractive and utilities supply industry, with modest increases in the remaining industries 2000/01:

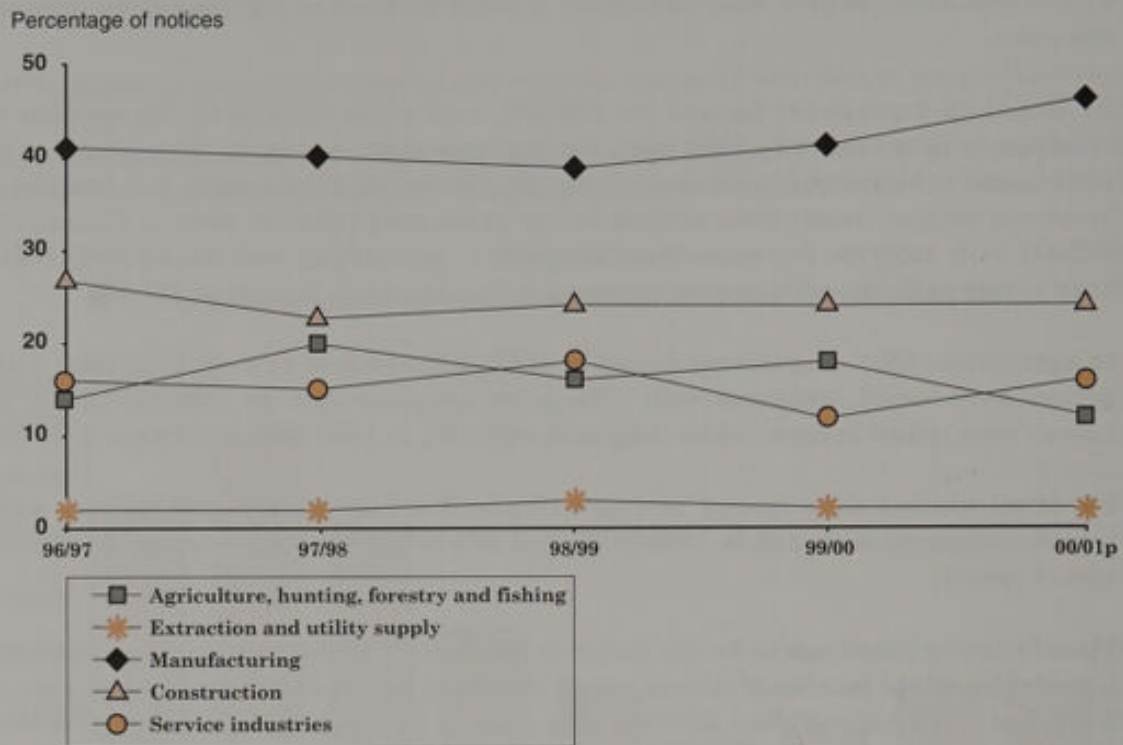
- In agriculture, 1301 notices were issued by HSE, a decrease of 21%. In 1999/2000, 1641 notices were issued, compared with 1765 in the previous year. In 2000/01, 12% of all notices were issued in agriculture, compared with 14% in 1999/2000 and 16% in 1998/99.
- 2% of all notices were issued in extraction and utility supply: 264 notices were issued, compared with 238 in 1999/2000 and 273 in 1998/99 (the highest number in recent years).
- Manufacturing continued to be the sector in which the highest number of notices were issued. The actual number of notices issued increased for the fourth consecutive year, to 5134, and is the highest since 1992/93. This shows a 11% increase when compared with the 4613 notices issued in 1999/2000. The figure for 2000/01 represents 46% of all industry notices issued, compared with 41% the previous year.
- In construction, there were 2613 notices - 24% of the total number issued across all industries, and the same proportion as the previous year. This represents a slight reduction of 6% compared with the 2768 notices issued in 1999/2000, the most in any year since 1992/93.
- 16% of the total number of notices were issued in the service sector, a slight reduction on the previous year. There were 1746 notices in 2000/01. This represents a decrease of 16% when compared with 2080 notices issued in 1999/2000.

1.295 Based on provisional figures for industries overall in 2000/01, improvement notices accounted for a similar percentage of all notices as in 1999/2000. In extractive and utility supply industries, 76% of the notices issued in 2000/01 were improvement notices compared with 62% of those issued in 1999/2000, and in agriculture 53% of notices were improvement notices compared with 59% in the previous year.

1.296 Based on provisional figures in 2000/01, with the exception of extractive and supply industries, more prohibition notices than improvement notices were issued in all industry sectors.

FIGURE 1.16

Enforcement notices by industrial sector as a proportion of all notices issued by HSE 1996/97 - 2000/01p



Notices issued by local authorities

1.297 Statistics for 2000/01 for enforcement notices issued by local authorities are not yet available. In 1999/2000, 6100 notices were issued by local authorities, a decrease of 6% compared with 6470 in 1998/99.

1.298 In 1999/2000:

- 4850 improvement notices accounted for 80% of the total number issued by local authorities.
- Local authorities issued 1250 prohibition notices, compared with 1330 in 1998/99 and 1180 in 1997/98.
- 94% of prohibition notices were immediate, a slight increase from the previous year. The number of deferred prohibition notices decreased from 130 in 1998/99 to 80.

Notices issued by all enforcing authorities in England, Scotland and Wales

1.299 This section examines the numbers of enforcement notices issued by all enforcing authorities, as determined by the country of location of the premises upon which the notice is served. Figures for 2000/01 for local authorities are not yet available, and those for HSE are provisional.

1.300 Provisional figures for 2000/01, HSE only, indicate 11 058 notices were issued in Great Britain. For England, there were 8891 notices issued (80% of the total), in Scotland this was 1328 notices were issued (12%), and in Wales 839 notices were issued (8%).

1.301 For 1999/2000, out of a total of 17 440 notices issued in Great Britain by HSE and local authorities, England issued 14 071, Scotland issued 2082, and Wales issued 1287 notices. These are represented by 81%, 12% and 7% respectively. The corresponding figures for the 1998/99 Great Britain total of 17 370 notices issued are: England 14 322 notices (82%), Scotland 1717 notices (10%), and Wales 1331 notices (8%). Similarly, of 13 411 notices issued in 1997/98 the figures are: England 11 029 notices (82%), Scotland 1335 notices (10%), and Wales 1047 notices (8%).

Table 1.75 Number of improvement and prohibition notices issued by all authorities (HSE and local authorities) by country 1997/98 - 1999/2000

	<i>England</i>		<i>Scotland</i>		<i>Wales</i>	
	<i>improvement</i>	<i>prohibition</i>	<i>improvement</i>	<i>prohibition</i>	<i>improvement</i>	<i>prohibition</i>
1997/98	6 532	4 497	541	794	658	389
1998/99	9 529	4 793	1 061	656	903	428
1999/2000	9 575	4 506	1 343	739	904	383

Prosecutions

1.302 Prosecution statistics are based on the informations laid by inspectors before the courts in England and Wales and on the charges preferred in Scottish courts. Each information laid or charge preferred relates to a breach of an individual legal requirement and a duty holder may be prosecuted for more than one of these breaches. In the following paragraphs, a charge preferred is treated as being an information laid.

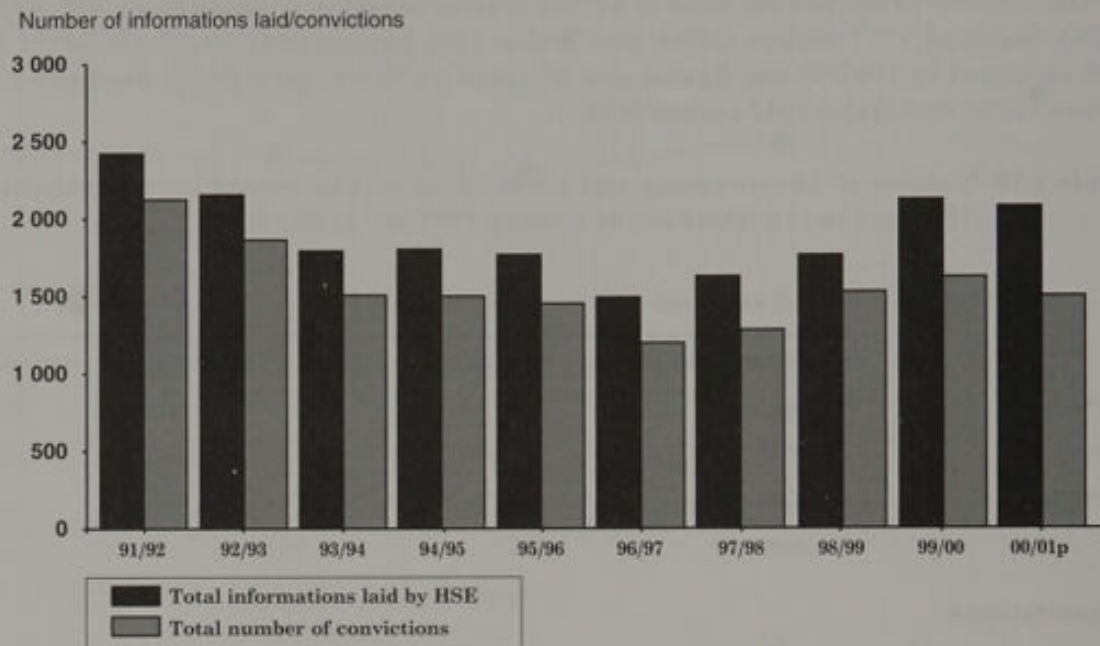
1.303 Conviction statistics are based on the number of informations laid which resulted in a conviction. The remaining informations laid are those which were subsequently withdrawn, resulted in verdicts of not guilty, were adjourned *sine die* etc. Some informations laid are 'alternative informations', which are laid in combination with other informations to produce a higher chance of conviction. If, for example, several alternative informations are laid against a duty holder who then pleads or is found guilty of one or more of the charges, then the other alternative informations may be withdrawn. Some informations are also withdrawn to increase the likelihood of securing convictions on the more serious charges laid against a duty holder.

Prosecutions by HSE

1.304 Based on provisional figures, in 2000/01:

- 2077 informations were laid by HSE, a 2% decrease compared with 2115 in the previous year. The figure for 1999/2000 represents the highest number of informations laid since 1991/92 (2424).
- The number generally fell in the early 1990s to 1490 in 1996/97 and has risen since then. The number of informations laid in main industries fluctuate year-on-year. Despite that, the number is higher in 2000/01 than five years ago for the manufacturing, construction and service sectors.
- The proportion of informations laid by HSE which resulted in a conviction was 72%, compared with 76% in 1999/2000, and 86% in 1998/99.

FIGURE 1.17
Total informations laid and number of convictions by HSE 1991/92 - 2000/01p



1.305 Based on provisional figures, in 2000/01, the average fine for offences which lead to a conviction under health and safety legislation brought by HSE was £6250, an decrease of 8% compared with the average of £6820 in 1999/2000. The 2000/01 figure is the second highest average fine to date. However, these figures are distorted by large fines. If fines of £100 000 or more are excluded, the average fine per conviction would have been £4896 in 2000/01 compared with £4651 in 1999/2000 and £3266 in 1996/97.

1.306 Based on provisional figures, in 2000/01 the number of informations laid increased substantially in agriculture (57%), when compared with 1999/2000. There were increases in manufacturing (2%) and the service sector (3%). Comparing 1999/2000 with 1998/99, all sectors showed a substantial increase. The 34 informations laid in the extractive and utility supply industries for 2000/01 represent the second lowest amount since 1996/97.

1.307 In construction, the lowest number of informations laid was for 1996/97 (508).

1.308 In 2000/01, provisional figures indicate that the percentage of informations laid which resulted in a conviction ranged from 32% in agriculture to 79% in manufacturing. In 1999/2000 the percentage ranged from 67% in extractive and utility supply to 85% in manufacturing. The conviction rate for all industries overall has marginally reduced in 2000/01 compared with 1999/2000. The rates for the extraction and utility supply industries (74%) and construction sector (75%) have, however, risen. The conviction rate for the manufacturing sector has been among the highest of all industries since 1991/92.

1.309 Provisional figures for 2000/01 indicate that the average fine for prosecutions by HSE which resulted in a conviction (excluding fines of £100 000 and over), when compared with 1999/2000, increased substantially in all sectors except agriculture, down 44% and manufacturing, down 16%.

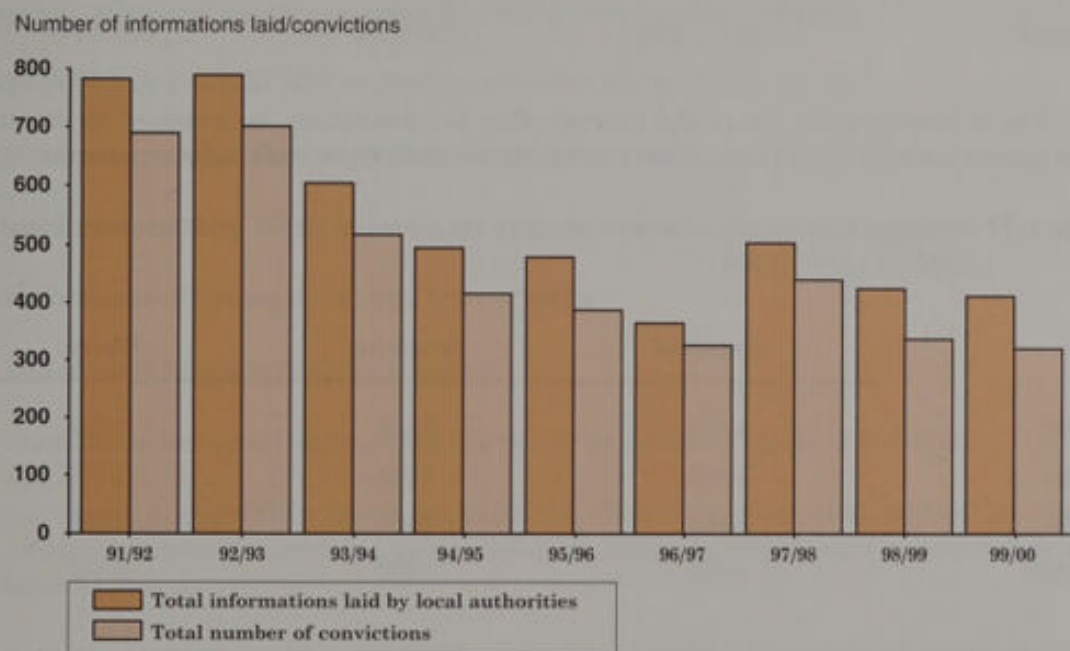
Prosecutions by local authorities

1.310 Statistics for 2000/01 for prosecutions by local authorities are not yet available. In 1999/2000:

- There were 412 informations laid by local authorities, a decrease of 3% compared with the previous year. 506 were recorded in 1997/98, the highest number since 1993/94. In 1999/2000 informations laid by local authorities accounted for 16% of the total number laid by all enforcing authorities.
- 78% of informations laid by local authority inspectors resulted in convictions, compared with 79% in 1998/99.
- The average fine per conviction by local authorities was £4595 compared with £4098 in 1998/99.

FIGURE 1.18

Total informations laid and number of convictions by local authorities 1991/92 - 1999/2000



Prosecutions by all enforcing authorities in England, Scotland and Wales

1.311 This section examines the numbers of informations laid and convictions for all enforcing authorities, and average fines imposed, as determined by the country of location where the court is located. Figures for 2000/01 for local authorities are not yet available.

1.312 From provisional figures for 2000/01 HSE issued 2077 informations laid in Great Britain. For England, this was 1728 (83% of the total), in Scotland it was 190 (9%), and in Wales 159 (8%). Corresponding numbers of convictions compare with a Great Britain total of 1493. In England there were 1240 convictions (83% of total convictions), in Scotland there were 114 convictions (8%), and in Wales 139 convictions (9%).

1.313 Provisionally, HSE secured convictions against 72% of informations laid in Great Britain (and in England). This conviction rate compares with 60% in Scotland, and 87% in Wales. The corresponding figures for 1999/2000 are: 76% in Great Britain and England, 71% in Scotland and 91% in Wales. The highest conviction rate is consistently in Wales.

1.314 Local authorities secured convictions against 78% of informations laid in Great Britain in 1999/2000. The figures for England, Scotland and Wales are: 79%, 52%, and 100%. Due to the small number of prosecutions by local authorities in Scotland and Wales, the conviction rate varies considerably each year.

Table 1.76 Number of informations laid by country, and corresponding convictions, HSE and local authorities 1996/97 - 1999/2000

	<i>England</i>	<i>Scotland</i>	<i>Wales</i>
1996/97	1 555 (1 282)	199 (147)	100 (89)
1997/98	1 759 (1 427)	186 (127)	188 (170)
1998/99	1 818 (1 566)	167 (113)	198 (170)
1999/2000	2 047 (1 558)	239 (165)	236 (216)

1.315 The following table shows the average fine per conviction, as imposed by country. These figures include large fines, so care needs to be taken when making comparisons.

Table 1.77 Average fine in pounds per penalty by country, HSE and local authorities 1996/97 - 1999/2000

	<i>England</i>	<i>Scotland</i>	<i>Wales</i>
1996/97	4 386	3 572	7 039
1997/98	3 833	6 898	3 887
1998/99	4 988	3 056	3 382
1999/2000	5 473	4 039	7 117

TECHNICAL NOTES AND DEFINITIONS

RIDDOR

Sources of injury, dangerous occurrence, and gas safety statistics

1.316 Injury and dangerous occurrence statistics given in this report for 1996/97 - 1999/2000 were compiled from reports made to HSE and local authorities under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR 95). These Regulations came into effect on 1 April 1996 and replaced RIDDOR 85, the Railways (Notice of Accidents) Order 1986, and certain provisions of the Offshore Installations (Inspectors and Casualties) Regulations 1973 and the Submarine Pipelines (Inspectors etc) Regulations 1977. Certain provisions of the Regulation of Railways Act 1871 and the Transport and Works Act 1992 were also repealed or amended.

1.317 Certain reporting requirements under RIDDOR 95 differ from those under the previous regulations, RIDDOR 85. Therefore many statistics from 1996/97 cannot be compared with those for previous years.

Injury reporting requirements of RIDDOR 95

1.318 All fatal injuries and certain non-fatal injuries arising from accidents at work (or in connection with work activities) are required to be reported to the HSE or local authorities under RIDDOR 95. The Regulations apply to injuries to employees, the self-employed and members of the public. The term *accident* includes acts of physical violence at work and acts of suicide or trespass on railways or other transport systems.

1.319 Non-fatal injuries to employees and the self-employed are reportable as *major injuries* if they are on the list of injuries specified as major under RIDDOR 95. Non-fatal injuries are reportable as *over-3-day injuries* if the injured person is unable to carry out their normal work for four days or more.

1.320 Non-fatal injuries to members of the public are reportable if the injured person is taken from the site of the accident to a hospital. However, if the accident occurred at a hospital, only those injuries on the list of major injuries are reportable.

1.321 Schedule 1 of RIDDOR 95 defines the following as major injuries:

- any fracture, other than to the fingers, thumbs or toes;
- any amputation;
- dislocations of the shoulder, hip, knee or spine;
- loss of sight (temporary or permanent);
- chemical or hot metal burns to the eye or any penetrating injury to the eye;
- any injury resulting from an electric shock or electrical burns leading to unconsciousness or requiring resuscitation or requiring admittance to hospital for more than 24 hours;
- any other injury: leading to hypothermia, heat-induced illness or unconsciousness; or requiring resuscitation; or requiring admittance to hospital for more than 24 hours;
- unconsciousness caused by asphyxia or exposure to a harmful substance or biological agent;
- acute illness requiring medical treatment, or loss of consciousness arising from absorption of any substance by inhalation, ingestion or through the skin;
- acute illness requiring medical treatment where there is a reason to believe that this resulted from exposure to a biological agent or its toxins or infected material.

Scope of RIDDOR 95

1.322 The following injuries are not reportable under RIDDOR 95:

- road traffic accidents involving people travelling in the course of their work, which are covered by road traffic legislation;
- accidents reportable under separate merchant shipping, civil aviation and air navigation legislation;
- accidents to members of the armed forces;
- fatal injuries to the self-employed arising out of accidents at premises which the injured person either owns or occupies.

Dangerous occurrences and gas incidents

1.323 Selected incidents which have a high potential to cause death or serious injury, but which happen relatively frequently, are reportable under RIDDOR 95 as *dangerous occurrences*. A dangerous occurrence is reportable whether or not someone is injured.

1.324 A list of specific dangerous occurrences in the following categories (or parts) are reportable:

- Part I: General (reportable in relation to any place of work);
- Part II: Dangerous occurrences in relation to mines;
- Part III: Dangerous occurrences in relation to quarries;
- Part IV: Dangerous occurrences in relation to railways and other relevant transport systems;
- Part V: Dangerous occurrences in relation to offshore workplaces.

1.325 Under RIDDOR 95, conveyors of natural gas and suppliers of LPG (liquid petroleum gas) have a duty to notify HSE of any death or injury which has arisen out of, or in connection with, the supply and use of the gas in question. These reports exclude incidents at the workplace. Dangerous gas fittings are also reportable; responsibility for reporting them lies with CORGI-registered gas businesses.

RIDDOR 85

1.326 Injury and dangerous occurrence statistics for 1986/87 - 1995/96 were compiled from reports made under RIDDOR 85. Under these Regulations, the range of reportable injuries and dangerous occurrences were generally not as extensive. In particular:

- Injuries resulting from acts of physical violence at work and acts of suicide or trespass on railways or other transport systems were not reportable.
- The list of defined major injuries was not as extensive. In particular, fractures of the hand, foot, collar bone, shoulder blade and ribs, dislocations of the spine, knee, hip and

shoulder were not reportable. Amputations of fingers, thumbs or toes were only reportable if the joint or bone was completely severed.

- Non-fatal injuries to members of the public were reportable only if the injury was on the list of major injuries.

1.327 Under RIDDOR 85, dangerous occurrences were reportable under four sections, similar to Parts I-IV of RIDDOR 95. However, these excluded a number of occurrences which are now reportable under RIDDOR 95. In particular, under Part IV, many of the occurrences relating to railways were not reportable under RIDDOR 85.

1.328 Additional occurrences reportable only in relation to offshore workplaces became reportable under a new section, Part V, of RIDDOR 95.

1.329 Under RIDDOR 85, the responsibility for reporting gas incidents rested with suppliers (or fillers/suppliers of refillable containers).

1.330 Estimates of the effect the changes in RIDDOR had on the statistics between 1995/96 and 1996/97 were published in *Health and Safety Statistics 1997/98*.

Sources of enforcement data

1.331 Action taken by HSE inspectorates and other enforcing authorities, including local authorities, to ensure compliance with the Health and Safety at Work etc Act 1974, and associated legislation, ranges from general advice through to the issue of enforcement notices and prosecutions. Statistics on the numbers of enforcement notices and prosecutions made by HSE are collected by individual enforcing authorities on an ongoing basis. These statistics are brought together and summarised in this report.

1.332 There are three main types of enforcement notice:

- Improvement notices require employers to put right a contravention of health and safety legislation within a specified time limit.
- Immediate prohibition notices stop work activity that gives, or will give, rise to a risk of serious personal injury.
- Deferred notices are those which stop a work activity within a specified time, for example because the risk of injury does not require immediate action to control it, or where it would be unwise to interrupt a process in mid-cycle.

1.333 Prosecution statistics are based on the informations laid by inspectors before the courts in England and Wales and on the charges preferred in Scottish courts. Conviction statistics are based on the number of informations laid which resulted in a conviction. The remaining informations laid are those which resulted in withdrawals, verdicts of not guilty etc.

RIDDOR finalisation process

1.334 Injury statistics for 1999/2000 and 2000/01 have been compiled from reports made to HSE's operating divisions and local authorities under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR 95). Table 1.78 shows the final and provisional numbers of injury reports received in 1999/2000 and 2000/01.

Table 1.78 Injury reports received by HSE and local authorities 1999/2000 - 2000/01p

	1999/2000	2000/01p
Field Operations Directorate	141 507	135 639
Hazardous Installations Directorate	2 935	2 872
Explosives Inspectorate	39	39
Nuclear Safety Directorate	104	71
Railway Inspectorate	5 715	5 658
Offshore Division	257	247
Mines Inspectorate	899	893
Local authorities	39 687	32 737
All enforcing authorities	191 143	178 156

1.335 Table 1.79 shows injuries by severity for workers and members of the public 1991/92 - 2000/01ef

Table 1.79 Injuries by severity of injury 1991/92 - 2000/01ef (includes injuries to employees, self-employed and members of the public)

		91/92	92/93	93/94	94/95	95/96	96/97(a)	97/98	98/99	99/00	00/01ef
Fatal		473	452	403	376	344	654	667	622	656	742
Major	<i>workers</i>	18 698	18 053	17 979	18 354	17 734	29 320	30 002	29 053	29 315	27 935
Non-fatal	<i>members of the public</i>	11 009	10 669	11 552	12 642	13 234	35 694	28 613	23 800	25 059	20 693
Over-3-day	<i>workers</i>	154 338	143 283	137 459	142 218	132 976	129 568	135 773	133 144	136 113	133 813
Total		184 518	172 457	167 393	173 590	164 288	195 236	195 055	186 619	191 143	183 183

(a) Non-fatal injury statistics from 1996/97 cannot be compared directly with earlier years due to the introduction of revised injury reporting requirements (RIDDOR 95) in 1996.

Employment data used to calculate injury rates

1.336 Injury rates for employees produced by HSE are based on employment estimates produced by the Office for National Statistics (ONS) in their 'Employees in Employment' series. Such estimates are normally subject to a number of revisions based on information from the Annual Employment Survey. When HSE finalises the provisional injury statistics, rates are revised using the employment data available at that particular time. Injury rates are not revised to incorporate subsequent revisions to employment estimates by the ONS. Such revisions are generally small, but as a result, injury rates calculated using HSE's injury statistics and finalised employment data from the ONS may differ slightly from finalised rates published in this report. The Annual Business Inquiry is used to obtain employment data to a four-digit level in 1999/2000. Previously the Annual Employment Survey was used to do this.

Labour Force Survey

1.337 The Labour Force Survey is a survey of around 60 000 private households throughout Great Britain. Interviewers from the Office for National Statistics ask each household member a range of questions on topics including household characteristics, employment history, and education and training. From 1992 onwards, the survey has been conducted on a quarterly basis in Great Britain. Each quarter's LFS sample of 60 000 households is made up of five 'waves', each of approximately 12 000 private households. Each wave is interviewed in five successive quarters, such that in any one quarter, one wave will be receiving their first interview, one wave their second, and so on, with one wave receiving their fifth and final interview.

1.338 A systematic random sample design is used for the survey and it is therefore representative of the whole of Great Britain. Each person in the survey is given a weight or 'grossing factor' related to that person's age, sex, region and residence. All estimates based on the LFS are subject to sampling error.

1.339 HSE has placed four questions on workplace injuries on the winter quarters of the LFS since 1993/94, with the latest questions relating to the winter quarter 1999/2000. The questions ask respondents if they had suffered an accident in the 12 months before the LFS interview, which resulted in injury at work or in the course of work. Injury rates are derived as the ratio of the estimated number of employed people who have suffered a workplace injury in the 12 months prior to the interview, to the estimated number of people employed at the time of the LFS interview. This approach to deriving an incidence rate of injury is described in a special feature to the Employment Gazette.

1.340 Every three years a further question is asked to establish the actual number of days off work following the workplace injury. The standard annual questions are designed to provide sufficient information to determine reportability (four or more days off work), but longer periods of absence are grouped together. By collecting the actual number of days off work we can estimate the total number of working days lost through workplace injury in Great Britain. This question was last asked on the winter quarter 1997/98 LFS. The total working days lost figure is based on those injuries which result in at least one full day being taken off work. Corresponding figures for reportable injuries are based on more than four days off work. No estimates of days lost are made for the small proportion of people who are still off work following an injury at the time of the LFS interview, or in the rare cases where the person expects never to return to work.

1.341 Where a household member is not available for interview, a proxy response from another household member can be taken. On average, about one third of all interviews are proxy interviews. Rates of injury can be lower in interviews with people who act as proxy than in personal interviews. The effect of proxy interviews on LFS rates of injury is relatively small (for example the reportable rate including proxy respondents in health and social work is about 6% lower than the rate excluding proxy responses). In previous years, rates for the construction industry have been adjusted because proxy respondents appeared to have a limited knowledge of workplace accidents. This no longer seems the case, therefore rates for the construction industry have not been adjusted.

1.342 To minimise the effect of sample error on rates of injury, LFS rates from 1993/94 onwards are displayed as three year moving averages. This means combining the first three surveys (1993/94, 1994/95 and 1995/96) to give estimated rates of injury centred on 1994/95. Then, for each subsequent year, the first survey is dropped from the three-year average and

the most recent survey added (eg 1997/98, 1998/99 and 1999/2000 combined to produce an estimate centred on 1998/99). Rates of injury for individual industries produced as three year moving averages have coefficients of variation of between 3% and 18%. The coefficients of variation for rates of injury from each individual year's survey are between 6% and 35%.

1.343 Results for employees and self-employed are combined in this chapter to reduce the sampling error of the estimates. This makes little difference to the analysis and conclusions.

1.344 The research undertaken by the IER used multivariate statistical techniques to identify and separate out the various influences on risk of workplace injury associated with job and personal characteristics. There are significant correlations between such characteristics which can make it difficult to ascertain which contribute most to workplace injury. Statistical modelling is used to find out whether, after adjusting for the effects of other characteristics, the separate effect of the variable in question is important. For example, after adjusting for the high-risk occupations found in the construction sector, does a sector-specific effect remain?

1.345 The LFS collects data on various jobs, including current main job, second jobs and job three months ago, and it is possible to allocate the relevant job characteristics to each injury. This is done for the main LFS analysis, but for purposes of statistical modelling, the LFS sample had to be restricted to workers who had suffered an injury in their current main job. The denominator for injury rates is the same as in the main LFS analysis 'all people currently employed'.

1.346 The quarterly timing and memory recall of respondents are potential factors for the lower rate of injury in Eurostat's summer LFS module. The recall period for respondents is best in the sixth months prior to the interview, as described in a special feature to the Employment Gazette. Research by the IER shows that more reportable accidents occur in autumn and winter quarters because of more hours worked in those quarters. HSE's questions in the winter quarter then have access to the best respondent recall in quarters with seasonally the highest level of accidents. In contrast, Eurostat's questions have access to the best respondent recall in quarters with a lower level of accidents. Eurostat's summer questions would then be expected to provide a lower rate of injury than HSE's winter questions.

1.347 Furthermore, Eurostat asked additional questions and approached their questions in a different way to HSE. By asking respondents how many injuries they had suffered in the last 12 months, before focusing remaining questions on the most recent injury, Eurostat may have helped to focus respondents thoughts on the most recent, and possibly a less serious, injury (where they have had more than one). HSE's questions focus immediately on the most recent injury and, given that they do not ask about other injuries, respondents may equate this, in their own minds, with their most serious injury. Although interviewers provide guidance on the questions, they are still open to a certain amount of individual interpretation. This highlights one of the problems with self-reported data.

PART 2: OCCUPATIONAL ILL-HEALTH STATISTICS

INTRODUCTION

2.1 The terms occupational or work-related ill health cover the wide range of diseases and disorders which can be said in some sense to be *attributable* to a person's work. Their effects range in severity from mild, short-lived symptoms to serious and/or long-lasting conditions. For some, such as lead poisoning and asbestosis, the link to work is clear since the exposures needed to cause them are highly unlikely to be found in a non-occupational context. However, most of the conditions which can arise from work exposures can also be caused by many other factors, sometimes interacting with each other. For example, back problems may be provoked by poor posture at work or at home, while stress may result from work pressures or from problems in outside life.

2.2 Another special feature of occupational ill health is that, unlike the injuries and fatalities covered in Part 1 of this report, it may not occur immediately after exposure to the relevant hazard. There is typically a period of *latency* between hazardous exposure and the appearance of actual harm, which may range from a few hours in the case of some infectious diseases to several decades for many cancers. Where this latent period is long, attribution to work causes may be especially difficult.

2.3 The multifactorial nature of ill health, combined with the effects of latency, can make it very hard to attribute individual cases of ill health to causation by work factors, or to determine whether the illness was 'caused' by these factors or 'made worse' by them. Moreover, because attribution is in many cases not clear-cut, it will be done differently by different people (eg specialist physicians, other health care professionals, employers and individual workers) reflecting their own perspectives, knowledge and awareness. All of this means that occupational ill health cannot be defined or measured in a single, straightforward way.

2.4 Part 2 of this report presents the available statistics on occupational ill health in Great Britain, in three main sections. The first gives a *summary* of the overall picture: after outlining the data sources that HSE uses, it sets out the latest figures on the prevalence of occupational ill health (covering the full range of illnesses from longstanding to new cases) and the incidence of the main diseases (the number of new cases in the last 12 months). It then looks at two breakdowns of the statistics: for different industry sectors, and for the three countries of Great Britain. The next section provides a detailed commentary on the statistics for individual *causes and kinds of disease*, grouped according to the nature of the hazard causing them. Finally, the third section gives *Further information on the data sources* used. The statistics themselves are presented in a series of tables in Annex 2.

SUMMARY

Sources of information

Over the years HSE has built up its information base on the occurrence of occupational illness by developing a range of sources. These are of five main types:

- **SWI:** Household surveys of self-reported work-related illness
- **ODIN:** Voluntary reporting of occupational diseases by specialist doctors in the Occupational Disease Intelligence Network

- **IIS:** New cases of assessed disablement under the Department for Work and Pensions' Industrial Injuries Scheme
- **RIDDOR:** Statutory reports under HSE's Reporting of Injuries, Diseases and Dangerous Occurrences Regulations
- **DCs:** Deaths from mesothelioma and other occupational lung diseases recorded on Death Certificates

2.5 No single source of information is available in Great Britain on the nature and full extent of occupational or work-related ill health. HSE's policy is to make the fullest use of a range of sources, and develop new ones where necessary. Different sources of information usually give varying sized estimates of the extent of work-related disease, reflecting differences in severity and the extent to which cases have been attributed to work causes. The statistics in this report are based on five main data sources, described briefly in the following paragraphs (see *Further information on data sources* at the end of Part 2 for more details).

2.6 *Household surveys* yield estimates of the number of people who say that they have conditions which they think have been caused or made worse by work. Such surveys obviously depend on lay people's perceptions of medical matters, but such perceptions are of interest in their own right, and responses can be validated in various ways. Surveys are the only way in which one can make any estimate of the large volume of work-related disease which may not be seen or recognised by doctors. HSE has carried out two surveys of self-reported work-related illness, in 1990 and 1995, and the European Union Statistical Office (EUROSTAT) undertook a third survey in 1998/99. Estimates derived from these surveys are subject to sampling error.

2.7 *Voluntary surveillance schemes* for the reporting of occupational disorders are co-ordinated by the University of Manchester with HSE funding. They include schemes known as SWORD (Surveillance of Work-related and Occupational Respiratory Disease), EPIDERM (Occupational Skin Surveillance Scheme Reported by Dermatologists), OPRA (Occupational Physicians Reporting Activity) and others which have been added under the umbrella scheme known as ODIN (Occupational Disease Intelligence Network). These schemes count new cases which are caused by work in the opinion of the specialist doctor who sees them. Statistics are presented in this volume for *occupational respiratory, skin, hearing and musculoskeletal disorders, infections, and psychological disorders (including stress)* based on reports from these schemes. It should be noted that not all cases of occupational disease will be seen by participating specialists, and that coverage by occupational physicians, who form a major component of ODIN, varies considerably according to industry and type of employer.

2.8 *The Industrial Injuries Scheme (IIS)*, operated by the Benefits Agency on behalf of the Department for Work and Pensions (DWP, formerly Department of Social Security (DSS)) gives compensation for specified '*prescribed diseases*' (PDs), which are conditions whose occupational cause is well established. Cases are individually confirmed by medical examination and checking of the work history. (References in the following text to assessed cases mean cases assessed under this scheme as having disability rated at 1% or greater.)

2.9 HSE's *Reporting of Injuries, Diseases and Dangerous Occurrences Regulations* (RIDDOR) require statutory reports by employers of cases of a defined list of diseases in their employees (based on a similar list to the IIS, expanded under RIDDOR 95). RIDDOR is of far less use for work-related ill health than it is for injuries, largely because it is subject to very substantial under-reporting - due to the strict criteria which need to be met for a case to be reported as well as the reporting mechanism itself.

2.10 Finally, *Death Certificates* (DCs) are useful for monitoring the most serious forms of some types of occupational lung disease including cancers, but are of limited use for other conditions.

2.11 There are also a few more specific sources which provide data limited to certain conditions (eg stress) or hazards (eg lead exposure). Taken together, all the sources provide a picture of the overall scale of work-related illness, the major types of health outcomes involved, the industries associated with them and their geographical location. These aspects are described in the remaining sections of this summary.

Overall prevalence of work-related illness

- Estimates of illness *prevalence* are provided by self-reporting (SWI) surveys. In 1995 an estimated 2 million individuals in Great Britain were suffering from an illness which they believed was caused by their current or past work, resulting in an estimated 18 million working days lost.
- The most common types of illness were musculoskeletal disorders (affecting an estimated 1.2 million people), stress, depression or anxiety and other stress-ascribed conditions (a total of over 0.5 million people).
- Only broad comparisons can be made between the results of the SWI surveys for different years, after applying a number of restrictions and other adjustments: these suggest that in 1998/99 the estimated prevalence rate of self-reported work-related illness was lower than the rates in both 1990 and 1995.

2.12 The most inclusive and broadly based indications of the overall *prevalence* of work-related ill health are obtained from sample surveys of the national population in which people are asked whether they had any illnesses or health problems, in the 12 months before the survey, which have been caused or made worse by their work (current or past). Surveys of this type have been carried out in 1990, 1995 and 1998/99 using samples of households from the Labour Force Survey. They are known as SWI90, SWI95 and SWI98/99 (surveys of Self-reported Work-related Illness). SWI95 remains the best available source for an overall prevalence estimate, but SWI98/99, which is based on a restricted data set (limited to people who worked in the 12 months prior to interview), provides some indication of changes over time.

2.13 In the SWI95 survey respondents who reported a work-related illness were asked for permission for HSE to obtain information from the treating doctor (usually the GP). Such information, where obtained, usually supported the respondent's belief about work-relatedness. (In only 11% of cases where medical opinion was obtained did the doctor consider that work was 'unlikely to be' or 'definitely not' a cause of the illness.)

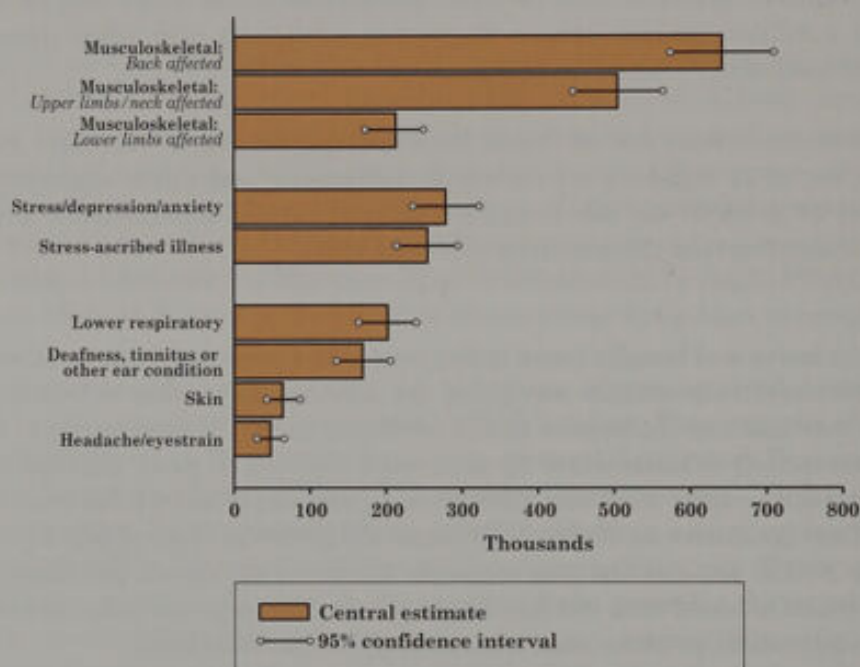
2.14 However, medical opinions were only available for about half the reported cases. All individual responses were therefore reviewed, and were excluded from the calculation of national estimates if the reported cause was implausible, taking account of the doctor's opinion when available, but not necessarily taking it as decisive. (Criteria for exclusion are described in the detailed report of the survey.⁶ Also excluded were illnesses caused by accidents other than manual handling accidents, and illnesses arising from war conditions.)

2.15 Illnesses such as heart disease, hypertension or other circulatory diseases, which respondents believed were caused by 'stress' at work, were accepted as being reports of stressful working conditions. Since respondents would not generally have been able to

observe the effects of stress on the disease process, such reports were counted in a separate category of stress-ascribed disease, rather than as valid reports of the stated disease being caused or made worse by work.

2.16 The main results from SWI95 are illustrated in Figure 2.1 and described in the following paragraphs (these are national estimates for Great Britain, derived from a sample of some 40 000 respondents). The estimated prevalence of self-reported work-related illness in Great Britain in 1995 was 2 million. The main categories of illness were musculoskeletal disorders, including those affecting the back (affecting an estimated 642 000 people), the upper limbs or neck (506 000) and the lower limbs (212 000); stress, depression or anxiety (279 000); and other stress-ascribed disease (254 000, over one-third of which were coded as hypertension, heart disease or stroke).

FIGURE 2.1
Estimated 1995 prevalence of self-reported
work-related illness by main disease groups



Notes: The prevalence estimates are subject to sampling error. See paragraph 2.230 in the commentary: 95% confidence intervals are displayed around the central estimate for each disease group. The prevalence estimates for disease groups will sum to more than the total. See paragraph 2.17 in the commentary.

2.17 Because an individual may report more than one illness, or for musculoskeletal disease more than one site may be affected, the categories shown in Figure 2.1 cannot simply be summed to give the total number of sufferers from groups of conditions. The estimated total suffering from musculoskeletal disorders was 1 155 000; the estimated total suffering from stress, depression or anxiety or an illness ascribed to stress was 515 000.

2.18 Other illness categories with substantial estimated numbers affected were asthma and other lower respiratory disease (202 000); deafness, tinnitus and other ear conditions (170 000); skin disease (66 000); and headache or 'eyestrain' (50 000); followed by - not shown in Figure 2.1 - vibration white finger (36 000), trauma (34 000) and pneumoconiosis (19 000).

2.19 Different health outcomes vary greatly in severity, and so a simple count of the number of cases can give a poor indication of the total amount of suffering or cost to society. A step towards this is to calculate the number of *working days* lost due to work-related illness. It is estimated from SWI95 that 721 000 of the two million people with a work-related disease did not work in the last 12 months. Of the remaining 1.3 million, 672 000 took no time off work and 624 000 lost an estimated 18 million working days through illness (these figures incorporate some revisions made since publication of the SWI95 report).⁶ More details are given in an information sheet available from HSE's Epidemiology and Medical Statistics Unit (EMSU) at the address in Annex 3.

2.20 The differences in the design and coverage of the three SWI surveys, along with the level of information collected, mean that only broad comparisons can be made between the results of each survey, and even these need to be treated with caution. Restricting the SWI90 and SWI95 surveys to people who worked in the last 12 months, and making a number of other adjustments for inconsistencies, indicates that the estimated prevalence rate for 1998/99 (for England and Wales) was lower than the rates for both 1990 and 1995, and that the differences were 'statistically significant', ie roughly speaking, there is less than a 5% chance that they were due to sampling error alone.

2.21 Musculoskeletal disorders followed by 'stress' (including heart conditions as well as stress, depression or anxiety) were the most commonly reported work-related illness in all three surveys. Estimated prevalence rates for England and Wales, for both disease groups, increased between 1990 and 1995. These increases were statistically significant. However, there was a striking change in the pattern in 1998/99. The rate for 'stress' continued to rise, but the rate for musculoskeletal disorders fell. Both changes were statistically significant. It is not known to what extent these changes were affected by changing public awareness of the importance of these conditions and of the possibility of work factors causing them or making them worse.

2.22 More details about the differences between the three SWI surveys and how comparable estimates were derived can be found in the report of the SWI98/99 survey.⁷

2.23 There are a number of other sources which give estimates of the prevalence of particular diseases or conditions. The 1998 Stress and Health at Work (SHAW)^{8,9} study indicated that nearly 1 in 5 of all working individuals thought their job was very or extremely stressful. Surveys by the Medical Research Council (MRC) in 1997-98^{10,11} have produced estimates of 509 000 people with hearing problems as a result of exposure to noise at work, and 301 000 sufferers from vibration white finger. These are much higher than the SWI estimates, probably reflecting methodological differences.

Current incidence of work-related illness

- According to SWI95, some 400 000 people with a work-related illness in 1995 first became aware of it in the previous 12 months. Data from sources other than SWI surveys, particularly the specialist doctor surveillance schemes (ODIN), provide more up-to-date estimates of the *incidence* of new cases but give much lower figures than self-reports.
- An estimated 7800 new cases of work-related *musculoskeletal disorders* were seen in 2000 by rheumatologists and occupational physicians reporting to the ODIN surveillance schemes. The number of new IIS cases of prescribed musculoskeletal (mainly upper limb) disorders is much smaller: it fell in 1999/2000, as it has for several years.

- An estimated 6600 cases of work-related *stress* and mental health problems were seen for the first time in 2000 by psychiatrists and occupational physicians reporting to ODIN. For both musculoskeletal disorders and stress the ODIN schemes have not been running long enough to assess trends.
- The number of deaths and disablement benefit cases due to *asbestos-related diseases* has continued to rise: mesothelioma deaths stand at almost 1600 per year and asbestosis benefit cases at around 450. Mesothelioma mortality is projected to rise further, although the number of deaths in younger age groups is now falling.
- The numbers of disablement benefit cases for the two respiratory diseases primarily affecting mineworkers, *chronic bronchitis/emphysema* and *pneumoconiosis* (other than asbestosis), have been distorted by changes in the IIS benefit rules for the former. Apart from these, the underlying trend for pneumoconiosis appears to be downward.
- An estimated 800 new cases of occupational *asthma* were seen in 2000 by chest and occupational physicians reporting to the ODIN schemes. The underlying incidence is probably broadly level at something under 1000 cases per year; recent falls in the much smaller number of IIS cases are partly due to administrative changes.
- An estimated 3400 cases of *contact dermatitis* were seen for the first time in 2000 by dermatologists and occupational physicians reporting to ODIN. Trends are difficult to discern but appear broadly level at between 3000 and 4000 cases per year - a contrast with the recent falls seen in IIS disablement benefit cases.
- Numbers of new IIS cases of *noise-induced deafness* have been declining steadily since the mid-1980s, reaching under 230 in 2000.
- The number of new IIS cases of *vibration white finger* was just over 3200 in 1999/2000 and has been between 3000 and 3300 in each of the last five years. Most cases are in examiners, whose propensity to claim has been boosted by civil litigation settlements.
- An estimated 560 cases of occupationally acquired *infections* were seen in 2000 by communicable disease consultants reporting to ODIN.

2.24 While the SWI surveys provide estimates of disease prevalence, other sources of information give estimates of the *incidence* of new cases. Incidence estimates can be derived from the SWI95 survey, but are subject to greater sampling error and have the potential for recall bias; for methodological reasons they cannot be estimated at all from SWI98/99. The other sources - the Occupational Disease Intelligence Network (ODIN), the DWP Industrial Injuries Scheme (IIS), and to a lesser extent death certificates and RIDDOR - can generally be taken as indicating numbers of newly diagnosed cases, though there may be some delay between the onset of disease and its reporting. They also have the feature that all cases have been verified by doctors. (As noted above, doctors' opinions were only available for about half of the SWI95 self-reported cases.)

2.25 A disadvantage of these data sources is that they give less inclusive estimates than the SWI surveys, for example, generally focusing on cases 'caused' rather than 'made worse' by work, and so may be said to underestimate the true scale of work-related ill health. The incidence estimates which are available from SWI95 give much higher figures: a total of 400 000 of the estimated 2 million people with self-reported work-related illness in 1995

first became aware of their condition in the previous 12 months. On the other hand, the non-SWI sources do provide information which is more timely and frequent, and so can be more useful when looking at trends over time.

2.26 Statistics on the incidence of occupational ill health are especially important in the context of the targets which have recently been set by the Government's *Revitalising Health and Safety* and *Securing Health Together* strategies.^{12,13} These set national targets, among other things, to reduce the incidence rate of work-related ill health by 20%, and reduce the number of working days lost per 100 000 workers by 30%, both by the year 2010. HSE has set out the principles which it will use to assess progress against these targets in a *Statistical Note on Progress Measurement*, which can be found on the HSE website.¹⁴ A fuller discussion of the targets for work-related injuries is in paragraphs 1.45 to 1.53 in Part 1 of this report.

2.27 Some key information on incidence and trends in the main work-related conditions is given below, starting with those which account for the largest numbers of cases, musculoskeletal disorders and stress; these are also two of the 'priority programmes' identified in the Health and Safety Commission's Strategic Plan.¹⁵ A fuller discussion for each of the conditions is presented in the section on *Causes and kinds of disease*.

2.28 An estimated 7792 new cases of work-related *musculoskeletal disorders* were seen in 2000 by doctors participating in the ODIN surveillance schemes: 5224 by occupational physicians (reporting to the OPRA scheme) and 2568 by rheumatologists (reporting to MOSS). In both schemes conditions affecting the hand, wrist or arm were the most commonly reported. Information from the specialist surveillance schemes has not been available for long enough to assess trends.

2.29 Looking at annual averages from MOSS for the years 1998-2000, the occupations with the highest incidence rates were computer operators and data processing operators for disorders affecting the upper limbs (72 cases per 100 000 workers) and personal and protective service and 'other occupations' for those affecting the spine or back (each with 4 cases per 100 000 workers).

2.30 Only a few specific musculoskeletal disorders - mostly affecting the upper limbs - qualify for compensation from the DWP as 'prescribed diseases' under the IIS: tenosynovitis, cramp of the hand or forearm, and the 'beat' conditions. The number of assessed cases reached a peak of nearly 1300 in 1992/93 and has fallen each year since, reaching 431 in 1999/2000. Since 1996/97 data on the 'prescribed' musculoskeletal disorders have also been available from RIDDOR: 669 cases were reported in 2000/01, similar to the numbers in earlier years.

2.31 All of these sources give estimates which are substantially lower than the number of self-reports: according to SWI95, 180 000 sufferers from work-related musculoskeletal disorders first became aware of their condition in the previous 12 months.

2.32 The incidence of *work-related stress and mental health problems* estimated from reports by specialist physicians in the ODIN schemes was 6555 in 2000: 3420 reported by psychiatrists (in the SOSMI scheme) and 3135 by occupational physicians (in OPRA). This is very close to the combined estimate for 1999, the first year for which SOSMI data are available.

2.33 The occupations with the highest annual average rates of work-related mental ill health reported by psychiatrists to SOSMI in 1999-2000 were medical practitioners

(175 cases per 100 000 workers), UK Armed Forces personnel (147 per 100 000), police officers (128 per 100 000) and primary school teachers (80 per 100 000).

2.34 As with musculoskeletal disorders, there are insufficient data from the surveillance schemes to permit an assessment of trends. Again, the figures are much lower than the available incidence estimates from SWI surveys: in 1995 an estimated 92 000 people first became aware of their work-related stress, depression or anxiety in the previous 12 months.

2.35 The occupational diseases which have caused the greatest number of deaths in recent years are *asbestos-related*: mesothelioma (a cancer mainly affecting the linings of the lungs and stomach), lung cancer and asbestosis (pneumoconiosis due to asbestos). Asbestos exposures are strictly regulated, and there is reason to hope that for workers who know they are dealing with asbestos, risks from current exposures are now low. However, the diseases it can cause have long and variable periods of latency (often decades) between the beginning of exposure and diagnosis, so that statistics of recent cases relate to working conditions in the past.

2.36 There were 1595 deaths from *mesothelioma* in 1999 (based on HSE's register derived from Death Certificates), over 85% of them in men. This continued the long-term upward trend, which has seen the numbers rise ten-fold in the past 30 years. However, the number of deaths in younger age groups (aged under 45 years), which are the best available indicator of the effects of relatively recent exposures, have fallen recently, more than halving since the early 1990s. New projections suggest that male deaths from mesothelioma may peak around the year 2011 at about 1700 deaths per year, but these rest on many uncertain and largely unverifiable assumptions.

2.37 Based on analysis of deaths to men aged 16-74 in England and Wales between 1979 and 1995, the occupations with the highest risk of mesothelioma were metal plate workers (including shipyard workers), vehicle body builders (including rail vehicles), plumbers and gas fitters, carpenters, and electricians.

2.38 Most cases of *lung cancer* due to asbestos cannot be individually counted, since they are clinically indistinguishable from the far greater number caused by tobacco, but the numbers are estimated to be at least equal to mesothelioma deaths. They are certainly many times higher than the numbers receiving disablement benefit or identified by ODIN participating doctors.

2.39 Cases of *asbestosis* assessed for disablement benefit under the IIS have risen erratically but strongly since the early 1980s. They rose by 70% between 1987 and 1996, reaching a peak of 479 cases, then fell for two years before rising again, to reach 447 in 2000.

2.40 Two other types of *long-latency respiratory disease* have well-recognised occupational causes: chronic bronchitis and emphysema (in coalminers), and pneumoconiosis (including silicosis and coalminers' pneumoconiosis). For both of these the IIS provides a time series, although this has been distorted by backlogs of claims for bronchitis after it was first prescribed in 1993 and after the DWP criteria were relaxed in 1997. Each of these backlogs appears to have had a knock-on effect on the figures for coalminers' pneumoconiosis.

2.41 There were 600 assessed cases of *chronic bronchitis or emphysema* in 2000. This is notably fewer than the numbers in the three preceding years, but still much more than the figure of around 270 per year in 1995-1996, which is probably closer to the true incidence of the disease. There is insufficient information to assess any long-term trend.

2.42 A total of 419 new cases of *pneumoconiosis* (excluding asbestosis) were assessed under the IIS in 2000, slightly fewer than in the previous two years and continuing the gradual long-term downward trend. The number of deaths with pneumoconiosis as the underlying cause has risen in the past two years, to 321 in 1999: until then these too had been showing a downward trend. The numbers of RIDDOR reports are much fewer; in contrast to IIS cases they generally refer to workers who are not yet retired. However, there has been an increase in RIDDOR numbers in the last two years: an annual average of 20 for 1999/2000-2000/01 compared with 4 for the previous two years.

2.43 Unlike the respiratory diseases mentioned previously, the chemical or biological substances that can cause *occupational asthma* usually do so within weeks or months of first exposure, and statistics for this disease therefore reflect recent exposures. An estimated 797 cases of occupational asthma were seen for the first time by specialists who reported to the ODIN schemes in 2000: 494 by chest physicians (reporting to the SWORD scheme) and 303 by occupational physicians (reporting to OPRA). The number has stayed roughly constant since 1992, at between 800 and 1100 per year.

2.44 This is much larger than the number of assessed cases under the IIS, which fell to just 168 in 2000: the numbers from this source have fallen sharply in recent years, partly due to changes in DWP data collection procedures. The agents cited as responsible for the asthma are similar for the two sources: isocyanates is the most common (accounting for nearly 15% from each source), followed by flour/grain and (for the IIS) solder flux.

2.45 Looking at annual averages from SWORD for the years 1998-2000, the occupations with the highest incidence rates were spray painters (72 cases per 100 000 workers), rubber process operatives (52 per 100 000) and welding trades (44 per 100 000).

2.46 *Occupational dermatitis* is another disorder which is usually linked to recent working conditions. The incidence of work-related skin disease estimated from reports by specialist physicians in the ODIN schemes was 4310 in 2000: 2684 reported by dermatologists (in the EPIDERM scheme) and 1626 by occupational physicians (in OPRA). About 80% of this was contact dermatitis - 3400 estimated cases in 2000.

2.47 The estimated incidence of contact dermatitis from ODIN has fluctuated between 3000 and 4000 since the schemes began in their present form in 1996. The much smaller number of IIS cases has declined steadily during the 1990s, to 208 in 1999/2000.

2.48 The occupations with the highest annual average rates of work-related contact dermatitis reported by dermatologists to EPIDERM in 1998-2000 were hairdressers and barbers (169 cases per 100 000 workers), grinding machine setters and operators (94 per 100 000), electroplaters, galvanisers and colour coaters (91 per 100 000), rubber process operatives (91 per 100 000) and printers (90 per 100 000). The most common agents cited as responsible for the dermatitis were rubber chemicals and materials (cited in 16% of cases), followed by wet work and soaps and cleaners.

2.49 *Noise-induced deafness* is a disease with a longer latency period (although not as long as some of the respiratory diseases discussed earlier). There were 226 awards for this under the IIS in 2000, a resumption of the long-term downward trend seen since the mid-1980s following a small rise in the previous year.

2.50 Analysis by occupation shows that half of new cases qualifying for benefit in 2000 were in metal machinery and related trades. Most of the remainder were in the occupational

groups extraction (mining), building trades, machine operators and assemblers, and labourers in mining, construction, manufacturing and transport.

2.51 To qualify for disablement benefit, claimants need to have quite substantial hearing loss (50 decibels) and to have worked for at least ten years in specified noisy occupations. The numbers reported to the ODIN surveillance schemes are higher (627 in 2000); for the limited period for which they have been available, these appear to confirm the picture of a decreasing trend.

2.52 *Vibration white finger*, caused by prolonged use of vibrating hand-held tools, also has quite a long period of latency. It is the most common prescribed disease in recent years, with 3212 IIS cases in 1999/2000. Numbers were similar in the four preceding years. Given that a substantial proportion of cases (85% in 1999-2000) are in ex-miners, who have been encouraged to claim by the successful settlement of civil litigation for this disease, these figures cannot be taken as representing the true incidence of disease arising from current working conditions, nor can one reliably estimate a trend from them. The numbers reported to ODIN and to RIDDOR are considerably lower: around 900 per year in each source.

2.53 Finally, most *occupationally acquired infections* have short latency periods. An estimated 561 cases were seen by communicable disease specialists and reported to the SIDAW scheme (part of ODIN) in 2000. The number has fallen in the past two years but this reflects a change in reporting requirements in mid-1999, which reduced the reporting of diarrhoeal disease cases. There is insufficient data to make any assessment of trends, though the more restricted data from IIS and RIDDOR suggest little underlying change.

Statistics for different industries

Data are available from various sources on the prevalence and incidence rates of occupational illnesses in different industries. Following are the main points for the three sectors included among the Health and Safety Commission's 'priority programmes':

- **Health services** (strictly, 'health and social work') had the highest overall prevalence rate of self-reported work-related ill health in 1998/99, and had high prevalence rates (from SWI98/99) and incidence rates (from the ODIN specialist surveillance schemes) for spine/back disorders and stress, as well as a very high incidence rate for infections.
- **Construction** had the highest prevalence rate of self-reported musculoskeletal disorders in 1998/99, along with a high incidence rate for upper limb disorders (from ODIN) and by far the highest rates of IIS cases of asbestosis and mesothelioma.
- **Agriculture** had high incidence rates (from ODIN) for upper limb disorders, asthma and dermatitis.

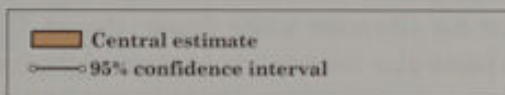
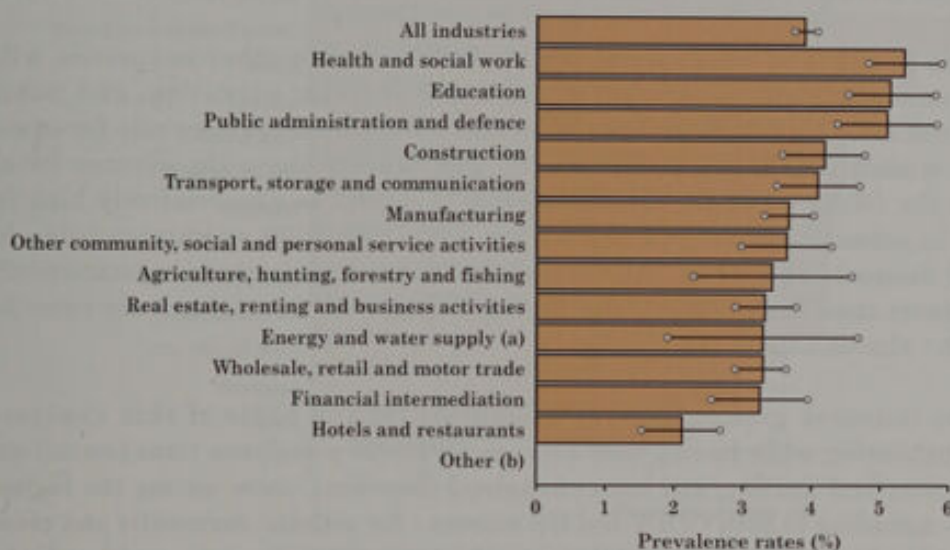
2.54 Most of the occupational ill-health incidence statistics presented in this report can be analysed by the industry in which the sufferer worked, according to the Standard Industrial Classification (SIC) 1992. Computing incidence rates as a proportion of the exposed population (normally per 100 000 workers) permits industries to be compared in terms of relative risk. The comparisons will be made at the level of SIC92 'Sections' (of which there are 17).

2.55 Average annual rates of new IIS cases in different industries in 1999-2000 are presented in Table A2.10 (per 100 000 employees - see the footnotes to the table for more

details). Incidence rates from the ODIN schemes, averaged over 1998-2000, are presented in Tables A2.15 (asthma), A2.19 (contact dermatitis), A2.24 (hearing loss), A2.27 (infections), A2.32 (upper limb disorders), A2.33 (spine/back disorders) and A2.37 (mental ill health). In each case it is the rates for the 'disease specialists' (eg chest physicians) rather than the occupational physicians which should be used in the comparisons, for reasons explained in footnotes to the tables. Figure 2.2 shows the prevalence rates from SWI98/99; these are based on a restricted coverage (only people who worked in the last 12 months) but this is unlikely to matter too much when comparing the relative risks in different industries.

FIGURE 2.2

Estimated 1998/99 prevalence rates (%) of self-reported illness caused or made worse by current or most recent job, by industry section, for people working in the last 12 months



Notes: The estimated prevalence rates are subject to sampling error. See paragraph 2.230 in the commentary. 95% confidence intervals are displayed around the central estimate for each industry section.

- (a) Estimate based on fewer than 30 sample cases.
 (b) Sample numbers too small to provide reliable estimates.

2.56 The following paragraphs aim to pick out the key points from the various sources for the industries of most interest, focusing on the three identified as 'priority programmes' in the Health and Safety Commission's Strategic Plan: health services (approximated by the SIC92 Section 'health and social work'), construction and agriculture.

2.57 *Health and social work* is the industry with the highest overall prevalence rate in SWI98/9. The excess over the average for all industries is statistically significant: roughly speaking, there is less than a 5% chance that it was due to sampling error alone. SWI98/99 also shows this industry to have relatively high (though not the highest) rates for musculoskeletal disorders and stress, depression or anxiety, the two main components of the total: both rates were statistically significantly higher than the average. The incidence rates from ODIN are consistent with this: health and social work has among the highest rates for spine/back disorders and mental ill health. ODIN also shows health and social

work as having the highest incidence rate for occupationally-acquired infections and a relatively high rate for dermatitis.

2.58 The overall SWI98/99 prevalence rate for *construction* is a little above the average for all industries. This sector has the highest SWI98/99 rate for musculoskeletal disorders, statistically significantly above the average. Its ODIN incidence rate for upper limb disorders is also relatively high. Construction has by far the highest rates of IIS cases of asbestosis and mesothelioma - between 5 and 6 times the average for all industries. It also has relatively high IIS incidence rates for vibration white finger, dermatitis and hearing loss (although the last two are not supported by the ODIN data).

2.59 *Agriculture* has an overall SWI98/99 prevalence rate somewhat below the average. However, it has one of the highest ODIN incidence rates for upper limb disorders and also has relatively high rates for asthma (from both ODIN and IIS) and dermatitis (from ODIN).

2.60 Apart from health and social work, SWI98/99 shows two other industries with prevalence rates statistically significantly above the average: education, and public administration and defence. *Education* has the highest SWI98/99 prevalence rate for stress, depression and anxiety (again this is statistically significantly above the average for all industries) and the ODIN incidence rate for mental ill health is also relatively high for education. *Public administration and defence* has high SWI98/99 prevalence rates for musculoskeletal disorders and stress, depression and anxiety (the latter being statistically significantly greater than the average), and among the highest ODIN incidence rates for mental ill health - almost 3 times the average.

2.61 Two other industry groups deserve a mention on the basis of this analysis. Manufacturing industries, while having near-average SWI98/99 prevalence rates (overall and for stress depression and anxiety, and musculoskeletal disorders), show among the highest incidence rates - according to both ODIN and IIS sources - for asthma, dermatitis and noise-related hearing loss. Extraction also has high rates for these three diseases, and has by far the highest for vibration white finger, though these rates are based on small numbers and subject to particular uncertainty because of the contraction of the coal mining industry.

Statistics for England, Scotland and Wales

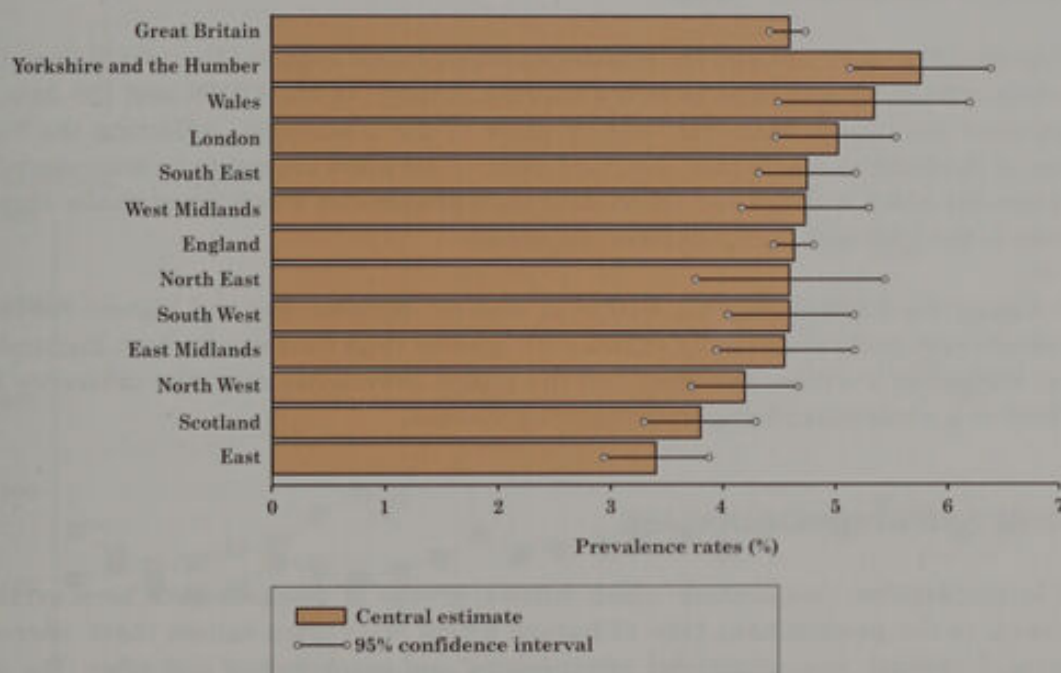
Various sources give information on the prevalence and incidence of occupational illnesses in the countries of Great Britain, and some of them also for the regions of England. Following are the main points for the three countries:

- **Scotland** had a below average prevalence rate of self-reported work-related ill health in 1998/99, but looking at IIS benefit cases and reports to the ODIN specialist surveillance schemes it had relatively high incidence for hearing loss and asthma.
- **Wales** had a somewhat above average prevalence rate of self-reported work-related illness in 1998/99, along with relatively high incidence of respiratory diseases, dermatitis and hearing loss.
- **England**, not surprisingly, had a SWI98/99 prevalence rate very close to Great Britain. Of the English regions, Yorkshire and the Humber had the highest rate and the East had the lowest.

2.62 Most of the occupational ill-health statistics presented in this report can be broken down by the country in which the sufferer lived or worked (England, Scotland or Wales) and some of them can be further disaggregated by English government office region (of which there are nine). Figure 2.3 shows the prevalence rates by country and region from SWI98/99; as for the industrial analysis presented above, these are based on a restricted coverage (only people who worked in the last 12 months) but this is unlikely to make too much difference to the relative risks in different regions.

FIGURE 2.3

Estimated 1998/99 prevalence rates (%) of self-reported illness caused or made worse by work, by country and government office region within England, for people working in the last 12 months



Notes: The estimated prevalence rates are subject to sampling error. See paragraph 2.230 in the commentary. 95% confidence intervals are displayed around the central estimate for each country or region.

2.63 The numbers of new IIS cases in different countries in recent years are presented in Tables A2.1 and A2.2. The numbers reported to the ODIN schemes are presented in Tables A2.13 (asthma), A2.17 (contact dermatitis), A2.22 (hearing loss), A2.29 (musculoskeletal disorders) and A2.35 (mental ill health). No breakdown is shown for occupational infections because nearly all of the cases reported are in England.

2.64 Unlike in the industrial analysis, these incidence figures are not shown as rates relative to the exposed population, which means it is more difficult to compare risks. However, crude comparisons can be made by looking at the *proportions* of cases in the different countries and seeing if these are greater or less than the corresponding proportions of the population aged 16 and over: from the 1999 Great Britain mid-year population estimates these are 86% in England, 9% in Scotland and 5% in Wales. It should be borne in mind that variations in the current and past industrial and occupational composition of the workforce, and (in the case of ODIN) differential coverage by reporting specialists, will strongly affect these comparisons.

2.65 For *Scotland*, the overall prevalence rate from SWI98/99 was lower than the average for Great Britain, the difference being statistically significant (ie roughly speaking, there is less than a 5% chance that it was due to sampling error alone). Comparing the share of incident cases accounted for by Scotland with the population figures quoted above, relatively high figures are seen for hearing loss (according to IIS benefit cases) and asthma (from both IIS and reports by ODIN doctors).

2.66 *Wales* had a higher SWI98/99 prevalence rate than Great Britain as a whole (though the difference was not statistically significant). Its share of incident cases relative to the population was high for respiratory diseases (according to IIS), dermatitis (according to both ODIN and IIS) and hearing loss (from both sources, although the proportion from ODIN is known to have been artificially boosted due to an exceptionally high level of reporting by audiologists in Wales).

2.67 As would be expected from the population numbers, for *England* the overall prevalence rate from SWI98/99 was close to that for Great Britain. In the ODIN and IIS data, the proportions were lower than the English share of the population, reflecting the higher shares of Scotland and/or Wales described above. The main exception is musculoskeletal disorders, for which both IIS and ODIN data show proportions which are virtually identical to those in the 1999 mid-year population estimates.

2.68 Among the English regions, *Yorkshire and the Humber* had the highest SWI98/99 prevalence rate, being statistically significantly greater than the rates for both England and Great Britain as a whole. The *East* had the lowest prevalence rate, the difference from England as a whole again being statistically significant.

CAUSES AND KINDS OF DISEASE

2.69 In the detailed commentary which follows, groups of diseases have been arranged according to the predominant type of hazard which most often causes them: *chemical, physical, biological, musculoskeletal, stress-related and psychological and other*. The main diseases are listed in the contents pages at the front of this report.

2.70 The classification by type of hazard is merely for convenience, and has not been applied so rigorously as to split up groups of diseases which are related from a medical point of view. For example, byssinosis, farmer's lung and some cases of asthma are caused by biological agents, but it is simpler to group them along with the other respiratory diseases which are nearly all caused by chemical agents (with which we include mineral fibres and dusts).

Chemical hazards

Asbestos-related diseases

Asbestosis

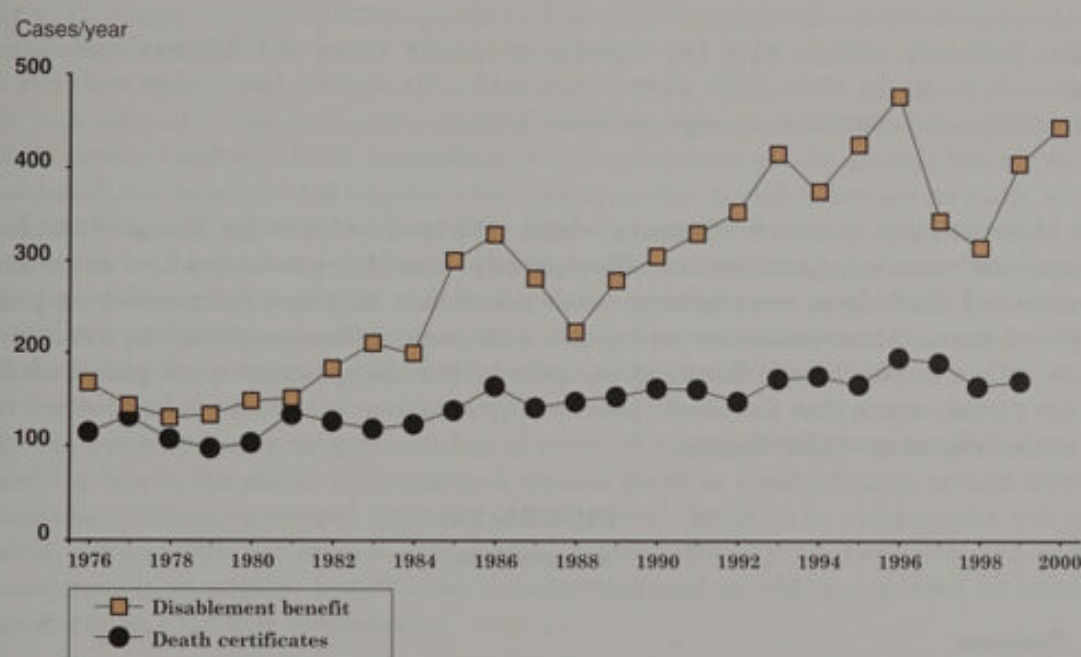
- Disablement benefit cases for asbestosis have risen erratically, but rather strongly since the early 1980s, reaching a peak of 479 in 1996. After falls in 1997 and 1998, the number of cases increased again to 407 in 1999 and 447 in 2000.
- Death certificates mentioning asbestosis (excluding those also mentioning mesothelioma) numbered 171 in 1999, 6 more than in the previous year but still less

than the 191 in 1997. Before 1998 the number had been following a slow upward trend since the 1970s.

- The industry groups with the highest incidence rates of DWP assessments for asbestosis, based on 1999-2000 figures, were construction (including insulation work and stripping), extraction energy and water supply, and manufacturing.

2.71 Asbestosis is a type of lung fibrosis caused by the inhalation of asbestos fibres. Table A2.6 shows the number of new cases of asbestosis (and other forms of pneumoconiosis) assessed under the Industrial Injuries Scheme, while Table A2.38 gives the number of death certificates mentioning asbestosis. Figure 2.4 shows how both of these have tended to rise over time.

FIGURE 2.4
Asbestosis



2.72 Table A2.7 shows the proportion of disablement benefit cases falling into the different percentage disablement categories. During the 1970s and early to mid-1980s, the distribution of cases across the different categories remained fairly stable. However, the proportion of awards assessed at 10% disablement or less has been falling over the last few years. In 2000 the proportion was 14% compared with 22% in 1996 and over 30% during the mid-1980s. The median age of first diagnosis had also remained constant at just under 60 years up to the beginning of the 1980s, but then began to rise slowly and is now towards the upper end of the 65-69 years age range.

2.73 These two continuing trends might indicate a tendency for individuals to claim benefit later in the course of the disease than previously. It might also reflect reductions: if groups of workers born more recently have progressively lower rates of asbestosis, the average age at diagnosis of new cases will increase. However, it is still the case that relatively higher numbers of younger (pre-retirement age) workers are affected by asbestosis than by pneumoconiosis in the coal mining industry, where the median age of first diagnosis is above 70 years.

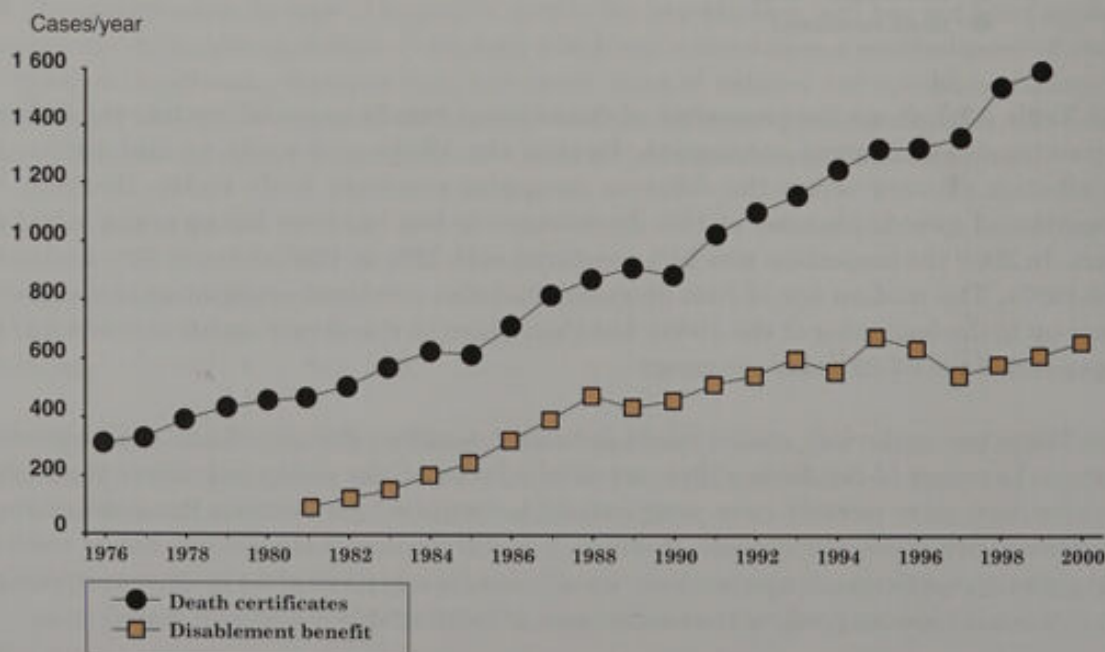
2.74 Table A2.10 shows the annual average rates of new assessments in 1999-2000 analysed by industry. Construction (including insulation work and stripping) had the highest rate, at 11.3 cases per 100 000 employees, followed by extraction, energy and water supply (3.7 per 100 000) and manufacturing (2.4 per 100 000).

Mesothelioma

- The annual number of mesothelioma deaths has increased rapidly from 153 in 1968 to 1535 in 1998 and 1595 in 1999.
- The latest projections suggest that male deaths from mesothelioma may peak around the year 2011, at about 1700 deaths per year.
- Occupations with the highest risk of mesothelioma for males include: metal plate workers (including shipyard workers), vehicle body builders (including rail vehicles), plumbers and gas fitters, carpenters and electricians.
- The industry groups with the highest incidence rates of DWP assessments for mesothelioma in 1999-2000 were construction (including insulation workers and strippers) and extraction, energy and water supply.

2.75 Mesothelioma is a form of cancer which principally affects the lining of the lungs (pleura) and stomach (peritoneum). The typically long delay between first exposure to asbestos and death from mesothelioma (seldom less than 15 years, but possibly as long as 60 years) means that deaths occurring now and most of those expected to occur in the future reflect industrial conditions of the past rather than current work practices. This latency period means that the effectiveness of current controls cannot yet be assessed from the mesothelioma mortality figures.

FIGURE 2.5
Mesothelioma



2.76 The annual number of mesothelioma deaths in Great Britain has risen rapidly since 1968 (when the HSE register of mesothelioma deaths was introduced) - see Table A2.38 and Figure 2.5. Although the rate of increase appeared to slow down in 1996 and 1997, the number of deaths in 1998 and 1999 continued to follow an overall upward trend established by deaths in earlier years.

2.77 Previous analysis of mesothelioma deaths up to 1991 was used by HSE as a basis for predictions that deaths would continue to rise well beyond the year 2000, based on an assumption that the pattern of age-specific death rates would be the same regardless of the year of birth. However, more recent data have departed from this prediction, with people born early in the century having higher numbers of deaths and those born more recently having lower numbers than predicted.

2.78 A new projection approach has been used to assess the potential benefits of a proposed duty to survey asbestos in buildings.¹⁶ This approach used the observed mortality and the assumed form of the relationship between asbestos exposure and mesothelioma to estimate the past track of the population's 'collective dose' of asbestos, and examined the predicted effects of a range of possible future paths for this collective exposure on the future course of mesothelioma deaths.

2.79 This approach tells us that the peak of asbestos exposure occurred in the 1960s, some time between 1962 and 1967 depending on the exact form of the model. For all models considered, the implied total exposure fell steeply in the period following its peak, and by the mid-1970s had fallen by at least 75% from the peak level, more likely by 80 or 90%. Since there is a lag between asbestos exposure and the occurrence of mesothelioma, the strength of the inferences that can be drawn about exposure levels falls quite rapidly towards the end of the observation period, and our observations of mortality (up to 1998 in this modelling) tell us nothing (directly) about exposure levels since 1980.

2.80 The predicted peak annual number of cases of mesothelioma in men implied by this modelling lies in the range 1450 (reached around 2008) to 2000 (reached around 2018). A reasonable illustrative central estimate would be that the peak in male deaths will occur around the year 2011, at around 1700 deaths per year. These projections rest on a number of uncertain (and largely unverifiable) assumptions and should be regarded as informed guesses rather than firm forecasts.

2.81 These projections are for men only. Mesothelioma deaths in women are running at about one-sixth of the level in men, and these lower numbers do not provide an adequate basis for detailed modelling.

2.82 The number of female mesothelioma deaths has always been much smaller than the corresponding number of male deaths and the ratio of male to female deaths has risen from 4.6:1 in 1976 to 6.1:1 in 1999, reflecting the higher rate of increase in male deaths over the period, and the much lower proportion of female deaths attributable to asbestos. The ratio of male to female deaths has fluctuated over the years 1976-1999, and that seen in 1999 is the lowest since 1991.

2.83 Table A2.39 gives a breakdown by age and sex for eight three-year time periods from 1976-78 to 1997-99. The number of male deaths in the youngest age group (under 44) has fallen in each of the last three time periods. Between the time periods 1991-93 and 1994-96, the number of male mesothelioma deaths in this age group fell by over a half. The number of male mesothelioma deaths in the 45 to 54 age group also fell in the most recent time

period, while the numbers of deaths in all other age groups have continued to grow over time. For males, the rate of increase is highest for the oldest age group, where the number of deaths in 1997-99, at 1233, was 43% higher than in 1994-96.

2.84 The number of female deaths in the oldest age group has increased in each period. In the most recent time period the percentage increase was the same as for males (43%). Changes in the number of female deaths for other age groups over time have been more erratic although all age groups except for those aged under 44 have seen an increase in the number of deaths from the first time period shown (1976-78) to the latest period (1997-99).

2.85 Table A2.40 shows the mesothelioma death rate (per million) by standard statistical region and for Great Britain as a whole for the three time periods: 1991-93, 1994-96 and 1997-99. For both males and females the rates for Great Britain follow an upward trend, reaching 46 and 7 deaths per million respectively. For males the North of England had the highest death rate in all three time periods. In the latest time period the South West had the second highest death rate followed by the South East excluding Greater London. Male death rates increased across all three time periods in all regions. The South West had the largest increase in the most recent time period, followed by the North West. Despite this increase, the North West still had a lower death rate than Great Britain.

2.86 Smaller numbers make the pattern of female regional death rates more variable. The North had the highest death rate in the most recent time period but the South West had the largest increase in the death rate with a rise from 2.6 to 5.9 deaths per million in the most recent time period. At the other end of the scale, the only fall in the death rate for females was in Wales, where the rate fell from 4.0 to 3.1 deaths per million.

2.87 Analysis based on mesothelioma deaths of males aged 16 to 74 in England and Wales between 1979 and 1995 (excluding 1981 when industrial action by registration officers made the occupational data less reliable) showed the occupations with the highest risks. These can generally be associated with three broad areas of asbestos use: shipbuilding; railway carriage building and the installation and maintenance of lagging or other insulation materials in buildings or industrial plant. Workers in asbestos manufacturing are not brought together under a single occupational code, and do not emerge as an identifiable high-risk group in this analysis. The occupations with the highest risk of mesothelioma from this analysis were: metal plate workers (including shipyard workers); vehicle body builders (including rail vehicles); plumbers and gas fitters; carpenters; and electricians.

2.88 An information sheet containing the full analysis by occupation is available from HSE's Epidemiology and Medical Statistics Unit at the address given in Annex 3. Two similar information sheets giving statistics on mesothelioma deaths by county district for the years 1976-1991 and 1986-1995 can be obtained from the same address.

2.89 Figure 2.5 above also shows the number of disablement benefit cases made each year for mesothelioma. Analysis of average rates of new assessments in 1999-2000 by industry (Table A2.10) showed that, with a rate of 15.3 cases per 100 000 employees per year, the construction industry (including insulation workers and strippers) had the highest rate followed by extraction, energy and water supply industries with an annual rate of 4.4 cases per 100 000 employees.

Asbestos-related lung cancer

2.90 Lung cancer as a prescribed disease in connection with asbestos exposure has consistently given rise to between 50-80 awards each year from 1987-1996 (see Table A2.5

and Figure 2.10 below). Over the four years 1997-2000, annual numbers were somewhat lower at 26, 42, 38, and 42 respectively. Reports from the SWORD and OPRA schemes indicate higher numbers, although these are nevertheless of a similar magnitude (81 cases in 1999 and 126 in 2000, though some of these lung cancers may have been caused by occupational agents other than asbestos).

2.91 There is evidence to suggest that these figures substantially underestimate the true extent of the disease. In heavily exposed populations there have typically been at least as many, sometimes up to five times as many, excess lung cancers as there have been mesotheliomas. The ratio depends on a range of factors (the most important of which are type of asbestos, level of exposure, age at exposure and smoking), so one cannot be too precise about the overall ratio. A reasonable rule of thumb would be to allow for one or two extra lung cancers for each mesothelioma. Going forward in time the ratio is likely to fall, because the mesotheliomas will increasingly be generated by low exposure levels (meaning fewer lung cancers per mesothelioma) and because smoking levels have fallen since the 1960s.

Diffuse pleural thickening

2.92 Another disease associated with asbestos exposure is diffuse pleural thickening. An upward trend in the number of cases assessed for disablement benefit is evident over the last 10 years with the number reaching 273 in 2000, compared with 146 in 1990 (see Table A2.5). However, the larger number of assessed cases over the last three years - which followed a drop in the number of cases in 1996 and 1997 - may be connected with the admission of unilateral cases of disease (ie cases where only one lung is affected) from April 1997. Previously, DWP regulations limited compensation to cases of bilateral disease, where both lungs are affected.

2.93 The numbers of cases of pleural thickening and similar disorders reported via SWORD/OPRA under the heading of benign (in the sense of non-cancerous) pleural disease, nearly all of them attributed to asbestos, are appreciably bigger. There were 1080 estimated SWORD/OPRA cases in 2000, which will include cases falling outside the DWP definitions.

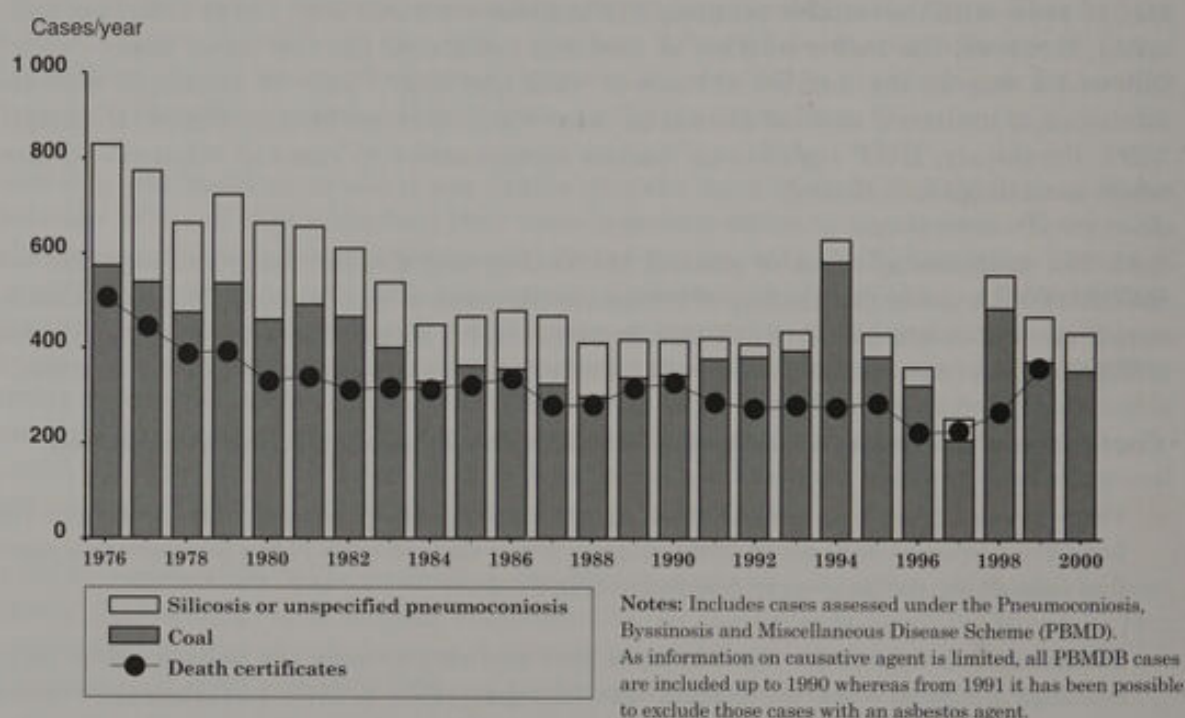
Coalworkers' pneumoconiosis and silicosis, chronic bronchitis and emphysema

- There were 419 new assessed cases of pneumoconiosis (excluding asbestosis) in the Industrial Injuries Scheme in 2000, slightly fewer than in each of the previous two years and continuing the long-term downward trend.
- Compensation figures for chronic bronchitis and emphysema are dominated by large backlogs of claims when the disease was first prescribed in 1993 and when the criteria were relaxed in 1997; these had knock-on effects on the number of claims for pneumoconiosis.
- Most new compensated cases of pneumoconiosis (excluding asbestosis) occur in retired workers, the majority from the coal mining industry; other industries affected are quarrying, foundries and potteries, where silica is the predominant cause.
- There has been an increase in each of the last two years in the number of current workers reporting pneumoconiosis through RIDDOR, although numbers remain very small (19 in 1999/2000 and 21 in 2000/2001).

2.94 The term 'pneumoconiosis' refers to a group of lung diseases caused by the inhalation - and retention in the lungs - of dusts. The most commonly occurring type of pneumoconiosis (apart from asbestosis) is coal workers' pneumoconiosis, arising from the inhalation of coal dust. There is a long delay - almost invariably 10 years or more - between exposure and onset of disease and hence most new cases or deaths from pneumoconiosis reflect the working conditions of the past. The majority of Industrial Injuries Scheme claims (75% in 2000) for agents other than asbestos are made by people aged 65 and over.

2.95 The compensation figures for pneumoconiosis are believed to be a relatively good indication of disease incidence because compensation is well established within affected industries. However, they are subject to fluctuations from time to time in response to changes to the administration of the compensation system. In particular, pneumoconiosis awards are known to have been affected by the introduction of benefit for coal miners with chronic bronchitis and emphysema in September 1993, and the changes to the eligibility criteria for these diseases in 1997. Claimants who fail to meet the criteria for these diseases often receive awards in respect of pneumoconiosis: in both 1994 and 1998 there was a sharp rise in pneumoconiosis claims which tailed off in subsequent years (see Figure 2.6 and Table A2.6).

FIGURE 2.6
Coalworkers' pneumoconiosis and silicosis



2.96 Bearing the above comments in mind, Figure 2.6 shows that the current rate of incidence for coal workers' pneumoconiosis claims is lower than it was during the 1970s and, apart from the fluctuations mentioned above, shows a slow long-term downward trend. Similarly, claims for silicosis (pneumoconiosis due to silica exposure) and other agents show a pronounced long-term downward trend which was not affected by the changes to the rules for chronic bronchitis and emphysema. There has been a rise in the last two years in the number of deaths with pneumoconiosis as the underlying cause (see Table A2.41); this may represent a fluctuation from the long-term downward trend, which is largely determined by changes in the size and employment conditions of the mining industry many years ago.

2.97 Numbers of RIDDOR reports of pneumoconiosis (see Table A2.11) are much fewer than DWP assessments, and unlike them they generally refer to workers who have not yet reached retirement. There has been an increase in recent RIDDOR figures (21 in 2000/01 and 19 in 1999/2000, compared with 5 in 1998/99 and 3 in 1997/98). Investigation by Her Majesty's Mines Inspectorate indicates that a number of these cases appear to be linked to excessive working hours (and hence excess personal dust exposures) at some collieries in recent years. HSE is working to prohibit such harmful exposures by means of appropriate regulatory changes but the effects of these changes are unlikely to be seen for a few years.

2.98 Chronic bronchitis and emphysema became prescribed diseases in September 1993 for coal miners with a specified level of lung function impairment and a minimum of 20 years underground exposure to coal dust. As often happens when a disease is newly prescribed, there was a large number of claimants initially, resulting in a total of over 4000 assessed cases up to the end of 1994 (Table A2.5). Numbers fell back in 1995 and 1996 to around 270 per year, which is probably closer to the annual incidence of new cases meeting the DWP criteria, but then rose dramatically in 1997 and 1998 to over 3000 per year, as a result of a relaxation in the criteria for benefit effective from April 1997. The number of cases fell to 1451 in 1999 and then to 600 in 2000, suggesting that the backlog of claimants satisfying the current criteria is reducing as claims are processed.

Occupational asthma

- The 1995 Self-reported Work-related Illness survey estimated that there were 151 000 people with asthma symptoms which they believed to be work-related.
- An estimated 797 cases of occupational asthma were seen for the first time by occupational and chest physicians who reported to the SWORD/OPRA surveillance schemes in 2000, bringing the average incidence over the three years 1998-2000 to 911, or around 3 cases per 100 000 workers per year.
- Trends in occupational asthma are difficult to assess from the available data sources, but there appears to have been little change in incidence over the last ten years, over which period the average annual incidence has been nearly 1000 cases per year.
- Isocyanates were the most commonly cited agents for both SWORD/OPRA and Industrial Injuries Scheme cases in the three years 1998-2000, with flour/grain being the second most commonly incriminated agent group from the former source and solder flux from the latter.
- Over half the cases reported to SWORD in the three years 1998-2000 came from the manufacturing sector, with the highest rates in the manufacture of food and beverages and of motor vehicles, both of which had rates of over six times the national average.
- The occupation with the highest incidence rate of occupational asthma as reported to chest physicians was spray painters, where the estimated rate was over 30 times the national average.

2.99 Occupational asthma occurs when workplace exposures to particular substances result in a biological change in a person's airways, known as the hypersensitive state, so that subsequent exposure to the same substance triggers an asthma attack. The mechanism by which this happens varies from one substance to another. Because the range of industries

which use substances with the potential to cause asthma is quite broad, and not all employees in these industries will necessarily be exposed, it is difficult to estimate with any confidence the total number of workers at risk.

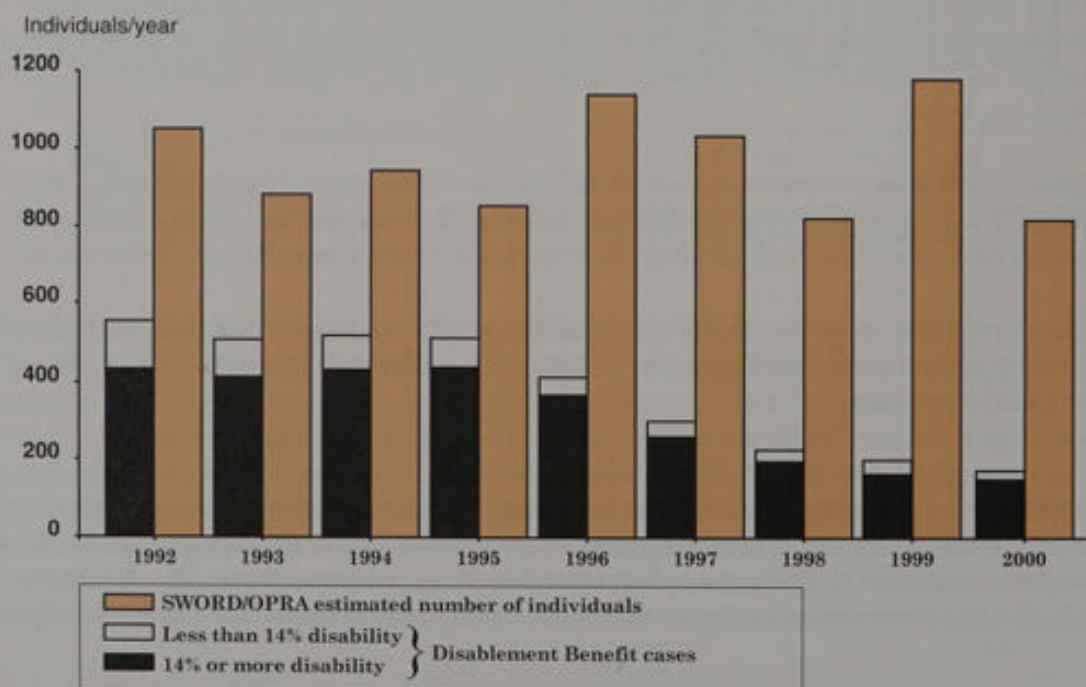
2.100 The Surveys of Self-reported Work-related Illness provide the only estimate of the prevalence (as opposed to incidence of new cases) of asthma symptoms caused or made worse by work: 151 000 self-reported cases in 1995. Three-quarters of respondents first became aware of their condition over five years ago, and 90% reported that it was caused by inhaling a substance, most commonly dust or fibres. The general comments made regarding self-reported work-related disease in the section *Further information on data sources* (at the end of Part 2) apply to these figures. More recent estimates are available from SWI98/99 but these have a more restricted coverage and are not directly comparable.

2.101 Table A2.8 shows DWP Industrial Injuries Scheme (IIS) data on disablement benefit for occupational asthma. Benefit first became payable for this disease in 1982 in respect of a specified list of substances, initially only agents 1 to 7 in Table A2.8. This list of specific substances was extended (by the addition of agents 8 to 14) in 1986 and again (agents 15 to 24) in 1991 when the addition included an 'open category' which allows benefit to be paid for occupational asthma caused by an agent not specifically listed, provided a causal link is proven in each case. The list has remained constant for the period shown in Table A2.8 and Figure 2.7. However, the considerable fall in the number of cases assessed, each year since 1997, may be due to changes in DWP data collection procedures which took effect from that year and which continue to affect levels of reporting of assessed cases.

2.102 A better indication of the overall incidence of occupational asthma can be obtained from the reports of new cases of the disease seen by the physicians who participate in the Surveillance of Work-related and Occupational Respiratory Disease (SWORD) and Occupational Physicians Reporting Activity (OPRA).¹⁷ Numbers of cases from both these schemes are shown in Figure 2.7, along with the IIS data, and in Table 2.12, along with SWORD and OPRA data for other respiratory diseases.

FIGURE 2.7

Occupational asthma: disablement benefit and SWORD/OPRA data



2.103 Over the past three years, SWORD/OPRA has recorded more than four times as many cases of occupational asthma in Great Britain (2733) as were assessed under the Industrial Injuries Scheme (586). While the latter is known to exclude certain categories of sufferer, the figures from SWORD and OPRA are also affected by under-reporting. Many cases will not be reported, including those which are not serious enough to be seen by chest physicians and which occur in individuals who do not have access to occupational physicians, and those asthmas that are simply never diagnosed or recognised as occupational.

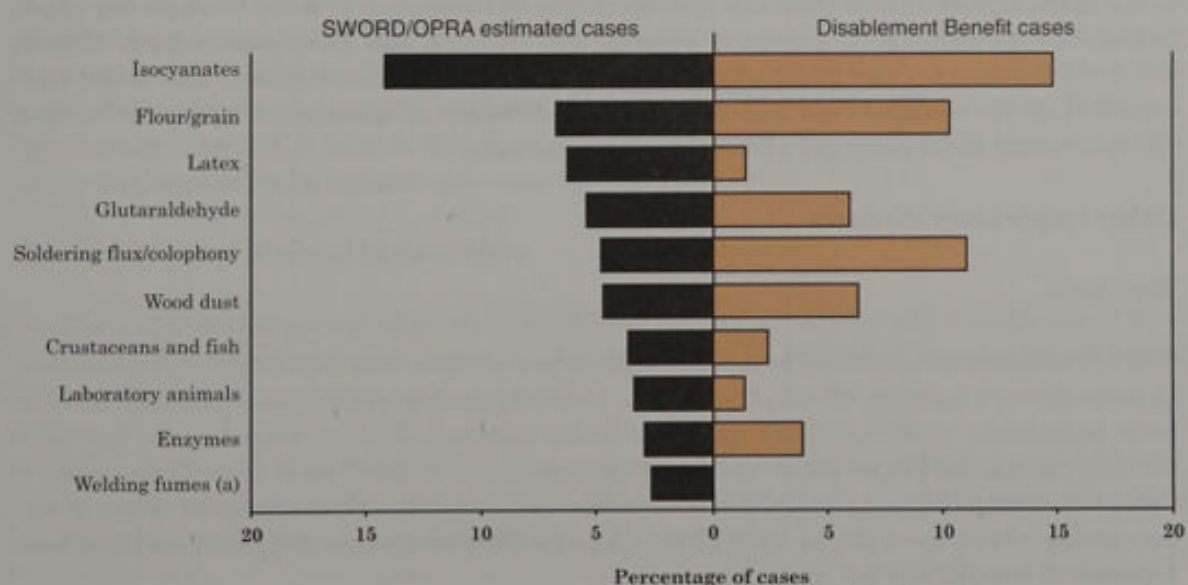
2.104 Previous reviews of the data¹⁸ have estimated that the true incidence of occupational asthma diagnosed by consultant physicians may be as high as 1500-2000 or 6-8 cases per 100 000 workers, per year. As most cases of occupational respiratory disease are not seen by a consultant physician, the total incidence of the disease may be several times higher still, perhaps as many as 20 or more cases per 100 000.

2.105 As Figure 2.7 shows, there have been year-on-year fluctuations in the numbers of new cases reported to SWORD/OPRA, at least part of which may be due to variations in levels of participation by the reporting physicians rather than to genuine changes in incidence. The underlying rate of occurrence has stayed roughly constant since 1992, when the schemes in their current form began, at something under 1000 cases per year. During this period the proportion of total SWORD/OPRA reports accounted for by occupational asthma has fallen, from around 28% in 1992-1994 to 24% in 1998-2000. While this percentage will, of course, be affected by trends for other diagnostic categories as well as asthma it may be taken to indicate a slight fall in the true incidence of occupational asthma, though not nearly such a dramatic one as that suggested by the IIS data.

2.106 One possible explanation for the differences between the two sources of data (beyond that relating to the DWP data collection procedures) is that the IIS tends not to pick up cases arising from substances or in occupational settings where the link with asthma is less well established or well known. One instance of this can be seen in Figure 2.8, which shows the percentage of both SWORD/OPRA and DWP cases accounted for by the ten most

FIGURE 2.8

Top 10 agents for occupational asthma cases reported to SWORD/OPRA 1998-2000



Notes: (a) Excludes fumes from stainless steel welding; figure not available for benefit cases

commonly cited agents in SWORD/OPRA reports. While the percentages for the DWP cases are broadly similar to those for SWORD/OPRA cases for most agents, a striking exception is latex, which accounted for 6% of SWORD/OPRA cases and only 1% of DWP cases (where it is included in the 'open' category) in the three-year period 1998-2000.

2.107 Both SWORD/OPRA and DWP Industrial Injuries Scheme figures continue to implicate isocyanates as the chemical group responsible for the highest proportion of new cases of occupational asthma, as they have for some years: nearly 15% from each source. SWORD/OPRA also continues to show flour/grain as the next most commonly cited agent, accounting for 7% of the total, while for IIS cases this is just exceeded by solder flux, responsible for 11% of all new cases.

2.108 Industrial and occupational analyses of SWORD/OPRA cases can give some insight into the types of workplaces and activities that are currently causing occupational asthma in the British workforce. Tables A2.14 and A2.15 show the average number of SWORD and OPRA cases reported per year during the period 1998-2000, by occupation and industry respectively, together with estimated rates per 100 000 workers. Because the coverage of British industry by occupational physicians varies by type of industry and occupation (see paragraphs 2.226-227 under *Further information on data sources*), the chest physician (SWORD) data alone should be used for making comparative statements between different industries and occupations. Data from both chest and occupational physicians (OPRA) can be used to give the most complete available estimate for any particular subgroup.

2.109 Adopting this approach, Table A2.14 shows that the occupational category 'coach painters and other spray painters' has the highest rate of occupational asthma as seen by chest physicians (72 cases per 100 000 workers per year), followed by rubber process operatives (52 cases per 100 000 workers per year) and welding trades (44 cases per 100 000 per year). As explained above, these rates are quoted for the purposes of comparison only and, because they exclude reports from occupational physicians, are in all cases underestimates. The best estimate of the rate for any one specific occupation, to be looked at in isolation, would include reports from both types of physician, although this will still be an underestimate. For example, our best estimate of the rate for spray painters would be 95 cases per 100 000 workers per year as opposed to the 72 quoted above.

2.110 Considering the data in Table 2.15 in the same manner shows that the individual industry division with the highest rate of occupational asthma as seen by chest physicians is the manufacture of food products and beverages (13 cases per 100 000 workers per year), followed by the manufacture of motor vehicles and research and development (both 12 cases per 100 000 workers per year). Again, these figures are underestimates and if we were considering, for example food and beverage manufacture in isolation, a better estimate of the rate would be 25 cases per 100 000 workers per year.

Other respiratory diseases

Byssinosis

2.111 Byssinosis is an illness associated with exposure to cotton dust with both acute and, in some cases, long-term effects. Changes in the compensation rules, most recently in 1979, have periodically produced sharp increases in the numbers of compensated cases, but these are now decreasing (Table A2.5) and there are now only a handful each year. The number of death certificates per year with byssinosis recorded as the underlying cause of death is also decreasing: there were six in 1999 (Table A2.41). Only two cases of byssinosis have been reported to SWORD/OPRA in recent years.

Farmer's lung and other allergic alveolitis

- The SWORD/OPRA schemes recorded an estimated average of 36 new cases of occupational allergic alveolitis per year in Great Britain in the three years 1998-2000.
- By far the highest annual rates (by industry) of allergic alveolitis reported to SWORD were in farming or veterinary activities, where the attributed agents were hay, mushrooms and avian proteins.

2.112 Allergic alveolitis is the general term for a group of diseases characterised by an allergic reaction to organic material. Farmer's lung, which arises from the inhalation of mouldy hay, grain and straw, is the most common form of the disease. Few cases are recorded through the compensation system (Table A2.5). The latest figure of 2 cases in 2000 is the lowest on record but follows an exceptionally high figure (13) in 1999: usually numbers are below 10 per year. The number of deaths where Farmer's lung (or a similar condition) was the underlying cause is generally of a similar order of magnitude: 9 in 1999 (Table A2.41). As the disease only rarely progresses to a life-threatening level, this suggests that there are substantially more cases than those receiving compensation.

2.113 Evidence from SWORD/OPRA supports this: an average of 36 new cases per year were reported during the three-year period 1998-2000, almost all of whom were seen by chest physicians (see Table A2.12). This is many more than the number of Disablement Benefit cases. One possible explanation for the small number of compensated cases is that farmers, who constitute the largest group of sufferers, are often self-employed and therefore ineligible for compensation. There can be wide variation in the numbers of cases reported to SWORD/OPRA for individual years but there does not appear to be a strong trend in either direction.

Allergic rhinitis

2.114 From March 1996 the prescribed disease called 'inflammation or ulceration of the upper respiratory tract or mouth' was redefined by the DWP as 'allergic rhinitis', with a list of recognised prescribed agents as for asthma. Under the earlier prescription any occupation exposed to harmful dust, liquid or vapour could qualify.

2.115 There were 80 assessed cases of this condition in 1999/2000 compared with 135 in 1998/99 (see Table A2.3). This is the fourth successive year in which the number of cases has fallen. The 1996/97 figure is likely to have been reduced by changes both to the prescription rules and, possibly, to the method of data collection for IIS statistics. However, the further substantial falls in the three subsequent years suggest that the number of new cases may genuinely be beginning to ease off.

Dermatitis and other skin disorders

- The 1995 Self-reported Work-related Illness survey estimated the prevalence of self-reported work-related skin disease in Great Britain as 66 000, of which approximately two-thirds had dermatitis or eczema.
- Over the period 1998-2000, there were an estimated 4540 workers each year with work-related skin disease seen by specialist physicians, of which approximately 80% were diagnosed as having contact dermatitis.

- The annual number of workers with occupational dermatitis assessed as having some degree of disablement under the Industrial Injuries Scheme continued to fall from just over 400 in the early 1990s to just over 200 in 2000.
- Trends in dermatitis incidence from the EPIDERM and OPRA surveillance schemes are difficult to discern, but it is evident that the estimated annual number of workers seen by reporting doctors currently fluctuates between 3000 and 4000.
- The occupations estimated to be at highest risk in 1998-2000 according to dermatologists reporting to EPIDERM are hairdressers and barbers, grinding machine setters and operators, electroplaters, galvanisers and colour coaters, rubber process operatives and printers.
- The industries estimated to be at highest risk in 1998-2000 according to dermatologists reporting to EPIDERM are other services (mainly hairdressing), manufacture of basic metals and oil and gas extraction etc.
- During 1998-2000, the most common agents cited by both dermatologists and occupational physicians are rubber chemicals and materials, followed by wet work and soaps and cleaners respectively.

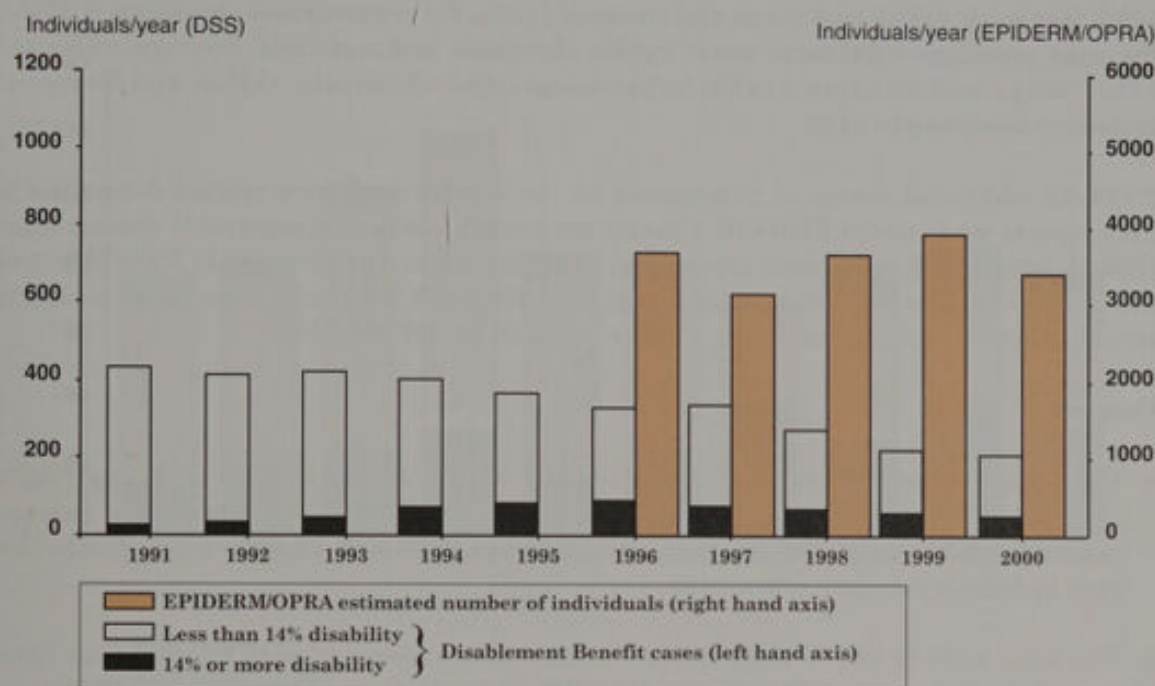
2.116 The best estimate of the *prevalence* of work-related skin disease comes from the SWI95. This provides an estimated prevalence of self-reported work-related skin disease of 66 000 workers for Great Britain. More recent estimates are available from SWI98/99 but these have a more restricted coverage and are not directly comparable.

2.117 The best source of information on the incidence of work-related skin disease, and contact dermatitis in particular, is from the EPIDERM and OPRA voluntary surveillance schemes¹⁹ (see *Further information on data sources* at the end of Part 2). Trends are difficult to determine from the surveillance schemes, but since 1996, when the schemes began in their present form, the estimated annual number of workers with skin disease seen by reporting doctors has been between 4000 and 5000 (assuming that there is little overlap between the two schemes). The average annual incidence is approximately 4400 workers per year.

2.118 For EPIDERM and OPRA combined, the majority of estimated workers with skin disease in the last three years, 1998-2000, were: contact dermatitis (78%); skin neoplasia, usually attributed to exposure to sunlight (8.4%); contact urticaria (3.9%); other dermatoses (4.0%); and infective skin disease (3.1%). The other diagnoses each contributed to less than 1% (Table A2.16). Of the total estimated number of workers, 54% were male. For contact dermatitis, the age pattern is slightly different for males and females, with increasing incidence with age in males, but higher in younger age groups in females.¹⁹

2.119 The figures from EPIDERM and OPRA are subject to variability due to sampling. A source of information on trends in occupational dermatitis, which is not subject to sampling error but which has much more restricted coverage (generally the more severe cases), is disablement benefit data from the DWP Industrial Injuries Scheme (IIS). Figure 2.9 shows the number of workers assessed as having more than 1% disability for the years 1990/91 to 1999/2000, alongside the estimates from EPIDERM/OPRA. The number of workers in the IIS data has shown a continuing steady decline from the early 1990s: the number fell from 433 in 1990/91 to 208 in 1999/2000.

FIGURE 2.9
Occupational dermatitis: disablement benefit and EPIDERM/OPRA data



Notes: Figures for EPIDERM/OPRA are based on calendar years, that is, January to December.
DSS data is collected for years starting October 1, and is shown in the Figure under the next year.
For example, data collection between October 1998 and September 1999 is shown as 1999.

2.120 Occupations in which more than ten workers with contact dermatitis were reported to EPIDERM/OPRA during the period 1998-2000 are set out in Table A2.18. The overall estimated rate of contact dermatitis reported to dermatologists (EPIDERM) over this time period was 8 per 100 000 workers per year, and for workers reporting to occupational physicians (OPRA) was an estimated 6 per 100 000 workers per year. Because the rates based on OPRA data will be affected by the coverage of occupational physicians, comparisons between different occupations (and industries) should be based on rates from EPIDERM alone - see paragraphs 2.226-227 under *Further information on data sources*.

2.121 The occupations with the highest estimated rates of contact dermatitis reported to dermatologists (EPIDERM) were: 'hairdressers and barbers' (169 per 100 000 workers per year); 'grinding machine setters and operators' (94 per 100 000); 'electroplaters, galvanisers and colour coaters' (91 per 100 000); 'rubber process operatives' (91 per 100 000); and 'printers' (90 per 100 000). A recent study²⁰ provides further information on the prevalence of contact dermatitis (23% in the last 12 months) among chemical process operatives in small to medium-sized enterprises.

2.122 Industrial groupings in which more than ten workers were reported in 1998-2000 for EPIDERM or OPRA are set out in Table A2.19. The industries with the highest estimated rates of contact dermatitis reported to dermatologists (EPIDERM) were: 'other services (mainly hairdressing)' (61 per 100 000 workers per year); 'manufacture of basic metals' (34 per 100 000) and 'oil and gas extraction etc' (33 per 100 000). A recent study²¹ provides additional information on the prevalence of contact dermatitis (26% currently) in the printing industry.

2.123 The most common agents during 1998-2000 that were reported for 10 or more workers to EPIDERM or OPRA are set out in Table A2.20. For dermatologists (EPIDERM), the most common substances were: 'rubber chemicals and materials' (average estimated 16%); 'wet work' (13%); and 'soaps and cleaners' (11%). For occupational physicians (OPRA), the most prevalent substances were: 'rubber chemicals and materials' (average estimated 17%); 'soaps and cleaners' (14%); 'other unspecified chemicals' (14%); and 'personal protective equipment' (13%).

2.124 An additional source of information on the incidence of work-related dermatitis is from reports made under RIDDOR. Contact dermatitis has been a reportable disease since 1996. A total of 463 cases were reported in 1997/98, 506 in 1998/99, 563 in 1999/2000 and 446 in 2000/01. It is difficult to infer trends from RIDDOR, especially since there is clearly very substantial under-reporting by comparison with EPIDERM/OPRA.

Cancers

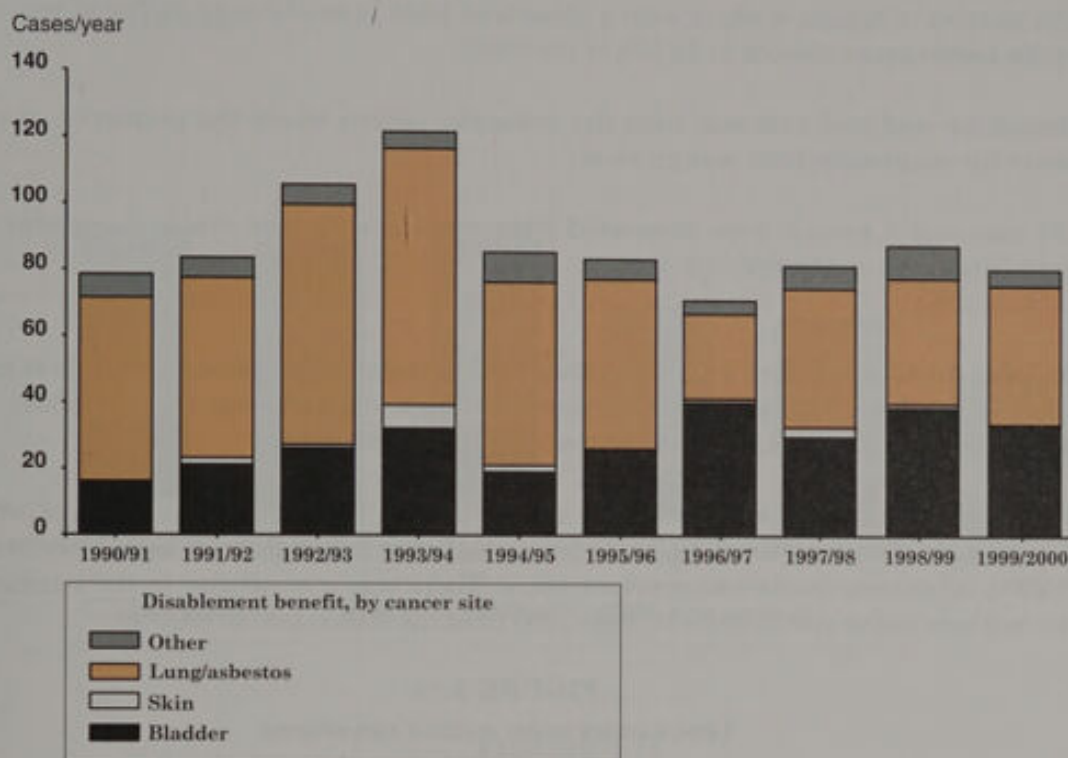
- Currently the best estimate of occupationally caused cancer derives from applying a 1981 estimate of between 2 and 8% of cancers attributable to occupation to current cancer mortality data. This suggests that between 3000 and 12 000 cancer deaths per year in Britain may be work-related.
- The total number of IIS disablement benefit cases associated with cancer other than mesothelioma is around 80 cases per year, falling from a peak of 120 cases in 1993/94.

2.125 Cancer generally is caused by a complex interplay of factors and as such it is difficult to assess the role of occupational exposures in the causes of cancer. Furthermore, many solid tumours can have latencies of over ten years, making the association of disease with relevant occupational exposures particularly difficult to establish. An occupational causal link has been well established for only a few cancers, and data on these collected via RIDDOR and DWP Industrial Injuries Scheme (IIS) provides no basis for estimating the true incidence of work-related cancer in Britain.

2.126 Apart from mesothelioma which is dealt with in an earlier section, there are various types of cancer which have a well established occupational origin, eg angiosarcoma of the liver arising from exposure to vinyl chloride monomer, bladder cancer from exposure to beta-naphthylamine, nasal carcinoma from exposure to hard wood dust, and lung and skin cancers due to various agents or industrial processes. Most of these cancers qualify for compensation under the IIS disablement benefit scheme.

2.127 The total number of IIS disablement benefit cases associated with cancer other than mesothelioma is typically around 80 cases per year in recent years, with asbestos-related lung cancer and papilloma of the bladder being the only two normally reaching double figures (Tables A2.3 and A2.4). (As noted in the section on asbestos-related diseases, the true number of asbestos-related lung cancers considerably exceeds the number assessed for disablement benefit.) The annual number of bladder cancers has increased slowly over the last decade from around 20 cases at the start of the 1990s to around 30 to 40 cases in the last few years. The number of lung cancers due to asbestos has declined from a peak of 77 in 1993/94 to around 40 over the last three years for which data are available (Figure 2.10).

FIGURE 2.10
Occupational cancer other than mesothelioma



2.128 Some of these cancers are also reportable under RIDDOR, but reports are usually much fewer in number (Table A2.11). The latent period before the disease is manifest means that many sufferers will no longer be employed in the relevant occupation, and so such cases will not be reportable.

2.129 An important estimate of the overall proportion of cancer attributable to occupational exposure remains that put forward by Doll and Peto in 1981 in a report²² to the US Congress. They estimated that 4% (plausible range of estimates 2% to 8%) of cancer mortality was due to occupational causes. This equates to approximately 6000 cancer deaths per year in Great Britain (plausible range 3000 to 12 000). Although, these estimates relate to the US over two decades ago they are seen as broadly applicable to Britain today and probably the best overall estimates available for all cancers. It should be noted that the annual number of deaths from mesothelioma alone is known to be in excess of 1500 (see Table A2.38 and Figure 2.5).

Exposure to lead

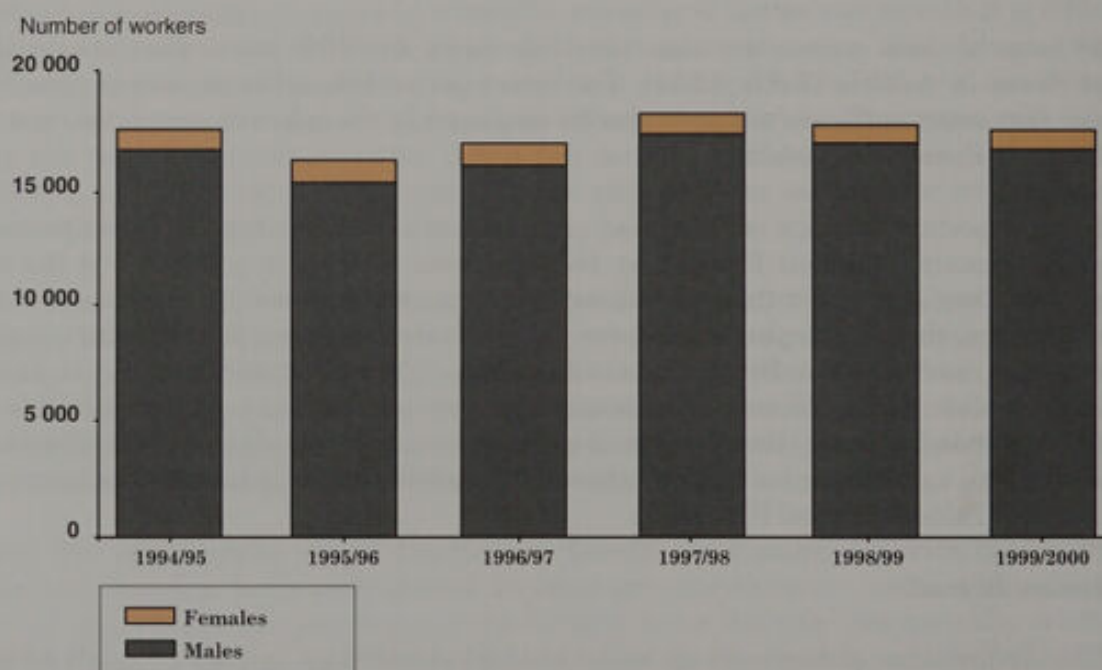
- The total number of lead workers under medical surveillance in 1999/2000 fell for the second consecutive year to 17 600.
- 1999/2000 was the second year that the new suspension levels introduced by the Control of Lead at Work Regulations 1998 have been in place. These are 60 µg/100ml (micrograms of lead per 100 millilitres of blood) for males, and 30 µg/100ml for females of reproductive capacity.

- The number of male workers with a blood-lead level at or above 60 $\mu\text{g}/100\text{ml}$ was 212 (1% of the total), the lowest on record.
- The number of female workers with a blood-lead level at or above 30 $\mu\text{g}/100\text{ml}$ was also at the lowest ever recorded at 22 (3% of the total).
- Demolition and lead batteries were the industrial sectors where the proportion of men above the suspension limit was greatest.
- 117 men and 7 women were suspended from working with lead due to being over the limit, large falls on the previous year.

2.130 Table A2.42 and Figure 2.11 summarise the statistics on the blood-lead levels of male and female workers with significant exposure to lead, derived from returns under the Control of Lead at Work (CLAW) Regulations 1980 and 1998.

2.131 The total number of workers under surveillance in 1999/2000 was 17 600, of whom 95% were male. The number of males under surveillance fell slightly in both 1998/99 and 1999/2000, after rises in the two previous years. There was a small rise in the number of female workers under surveillance in 1999/2000 from the record low in 1998/99.

FIGURE 2.11
Lead workers under medical surveillance



2.132 Figures 2.12 and 2.13 show how the proportions of male and female workers with high blood-lead levels have moved over recent years. Three cut-off points are illustrated: the suspension levels under the 1980 Regulations; the suspension levels introduced with effect from 1 April 1998 by the 1998 Regulations; and the action levels under the 1998 Regulations. These are 70, 60 and 50 $\mu\text{g}/100\text{ml}$ respectively for males (and for females not of reproductive capacity), and 40, 30 and 25 $\mu\text{g}/100\text{ml}$ for females of reproductive capacity (data on the latter two categories is only available from 1996/97).

FIGURE 2.12
Blood-lead levels of male workers

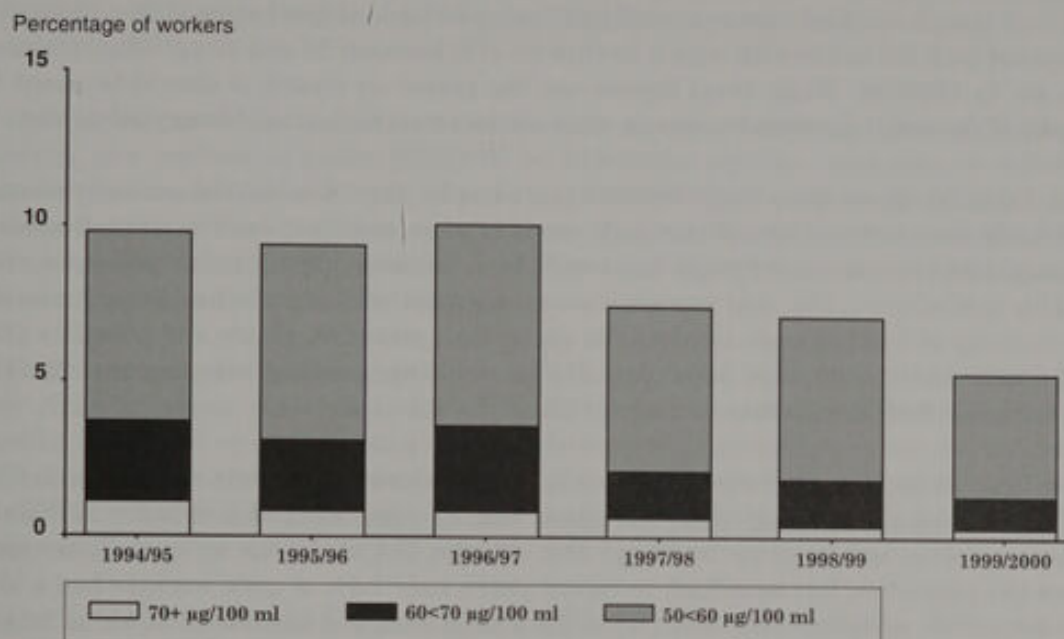
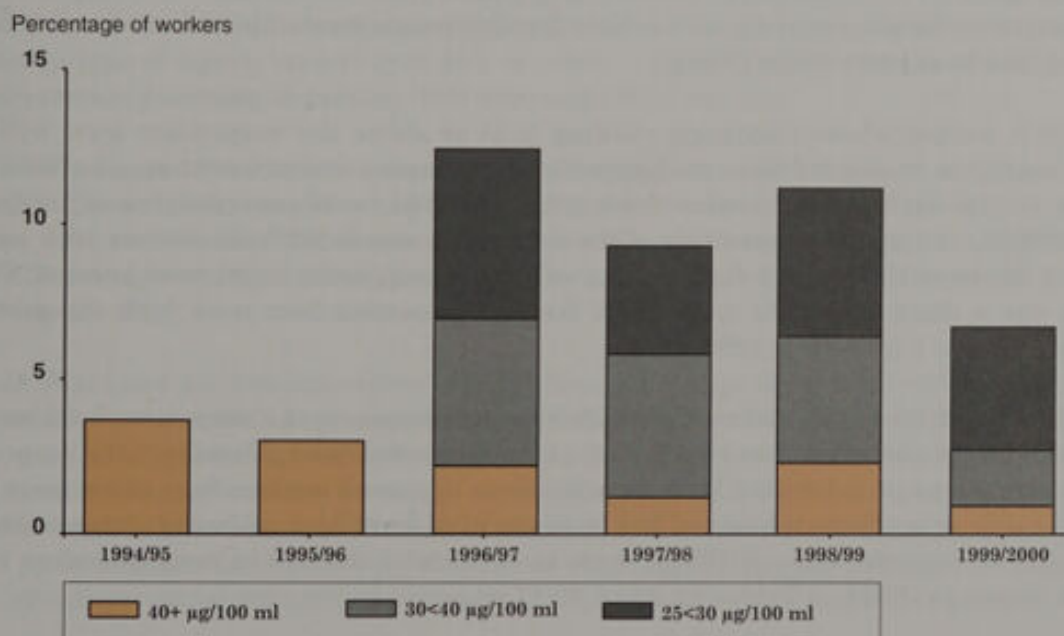


FIGURE 2.13
Blood-lead levels of female workers (a)



Notes: (a) Data on lower two categories only available from 1996/97.

2.133 The proportion of workers with high blood-lead levels has continued to decline. For male workers the proportion with a blood-lead level of 50 µg/100ml or over is now the lowest on record, having halved in the last three years (from 10% in 1996/97 to just over 5% in 1999/2000). In 1999/2000 only 212 (1%) of the male workers under surveillance had blood-lead levels in excess of 60 µg/100ml, the third consecutive annual fall and the lowest on record. Of these, almost a quarter (47) had blood-lead levels at 70 µg/100ml or above.

2.134 1999/2000 saw a marked reduction over the previous year in the proportion of female workers with high blood-lead levels. There were reductions in the proportions at all three cut-off points, but most notably at the higher two (30 µg/100ml or over and 40 µg/100ml or over). 1% (7) of female workers under surveillance had a blood-lead level at or above 40 µg/100ml (compared with 2% in 1998/99) with a further 2% (15) between 30 and 40 µg/100ml (compared with 4% in 1998/99). While these figures are the lowest on record, it should be noted that because of the small numbers for female workers they tend to fluctuate from year to year.

2.135 Table A2.43 analyses the 1999/2000 statistics for the 13 industrial sectors covered by the CLAW Regulations. 80% of the male workers were employed in five sectors: smelting, refining, alloying, casting (23% of the total); lead batteries (22%); other processes (16%); metallic lead/alloys (11%); and manufacture of inorganic and organic lead compounds (9%). The majority of females were employed in six sectors: potteries, glazes and transfers (22%); glass making (15%); metallic lead/alloys (15%); smelting, refining, alloying, casting (14%); lead batteries (12%); and other processes (12%).

2.136 There were three industry sectors where the proportion of male workers with blood-lead levels at or above 60 µg/100ml was more than 2%: the demolition industry (2.9%); lead batteries (2.4%); and painting buildings and vehicles (2.1%). In the scrap industry sector, where the proportion has been high in recent years, only 1.4% of male workers had a blood-lead level of 60 µg/100ml or above. Of the 22 women who had blood-lead levels at or above 30 µg/100ml, 8 worked in the lead batteries sector. (Because the numbers of females with high blood-lead levels in individual sectors are very small, percentages could be misleading and so the data in Table A2.43 is given as absolute numbers.)

2.137 Table A2.43 also shows the number of young people (aged 18 or under) under surveillance in each sector. Of the 54 young people under surveillance, over a third were employed in the glass-making sector. Only 2 young people (one male and one female) had a blood lead level above 30 µg/100ml.

2.138 A worker whose maximum reading is at or above the suspension level will not necessarily be suspended from working with lead: a repeat measurement may be below the level, or in the case of females the worker may not be of reproductive capacity. In 1999/2000, 117 male workers (0.7% of the total) were suspended from working with lead, a sharp fall from 1998/99, the first year for which the suspension limits were lowered. There was also a sharp fall in the numbers of females suspended from work from the previous year - down to 7 from 18 in 1998/99.

2.139 Neither the number of workers with measurements over the suspension level nor the number suspended should be interpreted as the number of 'lead poisonings'; the purpose of the arrangements under the CLAW Regulations is to remove workers from exposure to lead before any toxic effects can occur. The numbers of cases of lead poisoning compensated by the IIS, or reported under RIDDOR, have been no more than 10 in each year since these both began, as shown in Tables A2.3 and A2.11 respectively.

Acute poisonings and injuries from chemicals

- The average number of reportable injuries per year under RIDDOR over the past four years resulting from exposure accidents was 1620 per year. Of these, 76% were to male workers.
- Major injuries (as defined by RIDDOR 95) occurred in 35% of cases, and over-3-day injuries in 64%.

- An annual average of 80 investigated incidents in which pesticides had been alleged to cause ill health went before the Pesticide Incidents Appraisal Panel (PIAP) in the two years to March 2001. The Panel confirmed that the ill health was linked to pesticide exposure, or assessed the link as likely, in 12% of these cases.

2.140 Injuries caused by chemicals at work, such as acute poisonings, burns, scalds, and gassings, are reportable under RIDDOR as industrial injuries (and also as reportable illnesses in the case of certain substances - see Table A2.11). These are included in the injuries figures in Part 1 of this report. Given that injuries in general are substantially under-reported in RIDDOR (as is noted in Part 1), it should be assumed that figures for chemical injuries will similarly be incomplete.

2.141 The figures given below cover the four-year period 1 April 1997 to 31 March 2001. They refer to events reported under RIDDOR where the coding indicates exposure to a harmful substance or asphyxiation (but not drowning). However, it is sometimes difficult to distinguish chemical burns from those due to hot water, steam or hot solids; or asphyxiation due to poisonous gases from drowning or smothering by other inert substances.

2.142 The majority of injury reports under RIDDOR were for employees (88%), with less than 1% of reports coming from the self-employed. Results from the LFS suggest that the level of reporting under RIDDOR is much lower in this group than for employees. The remaining 11% of RIDDOR reported injuries were to members of the public, of which most were to students.

2.143 Reportable injuries occurred more frequently in younger people. Of injured people whose age was recorded, almost two-thirds were under the age of 40. Burns were the most common type of injury, occurring in 48% of cases. A further 23% of injuries resulted from asphyxiation, poisoning or gassing; 14% were superficial injuries.

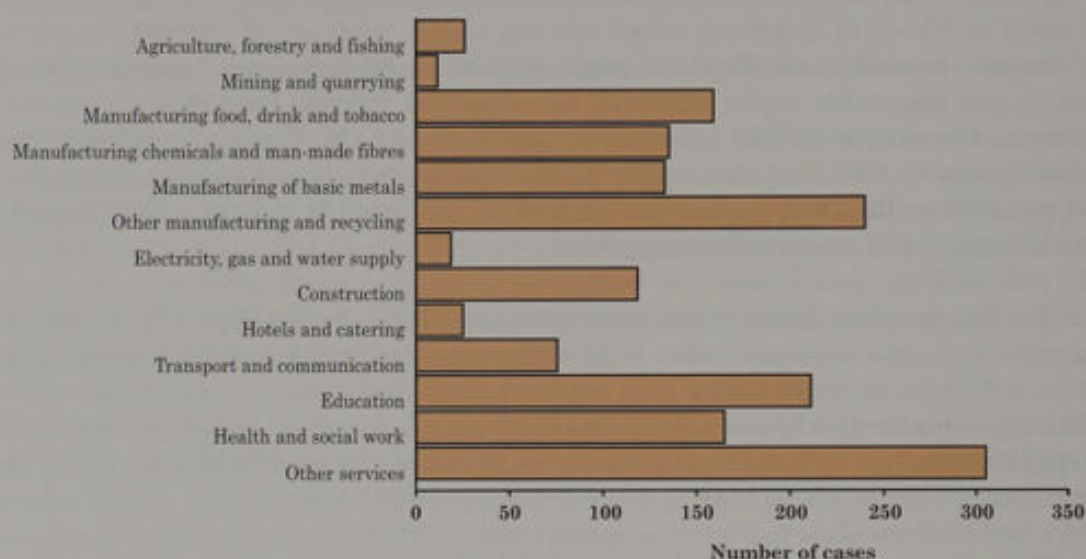
2.144 The majority of injuries resulted from exposure to liquids (60%). A further 27% resulted from exposure to gases and 8% from exposure to dust or solids. More detailed agent codes were recorded in 36% of cases. Of these, acids and caustic alkalis were responsible for 15% of injuries; gases including carbon monoxide for 14%; petroleum products and solvents for 3%.

2.145 'Plant and machine operatives' was the occupational group in which the most injuries occurred over the four-year period, accounting for 32% of injuries. Craft and related occupations accounted for 16% of injuries, of which 24% were injuries to metal working production and maintenance fitters. Of the total number of injuries, 10% were to people in professional/technical or associated occupations, a further 10% were to people in personal and protective service occupations, 9% were to students, 2% to managers and 2% to people in clerical/secretarial occupations.

2.146 Figure 2.14 shows an analysis by industry of RIDDOR reports for the four-year period. 48% of injuries occurred in services, 41% in manufacturing and 7% in construction. Within services 27% were in education and 21% in health and social work. Within manufacturing, 24% were in food, drink and tobacco manufacture, 20% in chemical and man-made fibre manufacture and 20% in basic metal manufacture.

FIGURE 2.14

Chemical injuries reported under RIDDOR, by industry, annual average April 1997 to March 2001



2.147 Physicians in the SWORD and OPRA schemes reported an annual average of 150 cases of illness from inhalation accidents in the three-year period 1998-2000 (see Table A2.12). Analysis of an earlier period²³ indicated that gaseous agents and combustion products were responsible for 50% of such cases.

2.148 The Pesticide Incidents Appraisal Panel (PIAP) evaluates cases investigated by HSE's field staff or by local authorities where the use of pesticides has been alleged to cause ill health among workers or members of the public. In the two years from April 1999 to March 2001 there were 161 such incidents involving 282 people. PIAP has yet to consider 25 of these cases but 12% (20 cases) of those on which it has reached a decision were considered as having 'confirmed' or 'likely' links to pesticide exposure.

2.149 The 20 cases assessed by PIAP as 'confirmed' or 'likely' in these two years involved the use of active ingredients from 19 different chemical types, the most commonly occurring of which were pyrethroid (used in 5 cases) and glycine derivative (used in 3 cases) and the pesticides were mostly either herbicides or fungicides. Most (23) of the people involved in these incidents were members of the public and PIAP assessed the symptoms of most of them (17) as 'mild', while 6 were assessed as 'moderate' and 2 as 'severe'.

Physical hazards

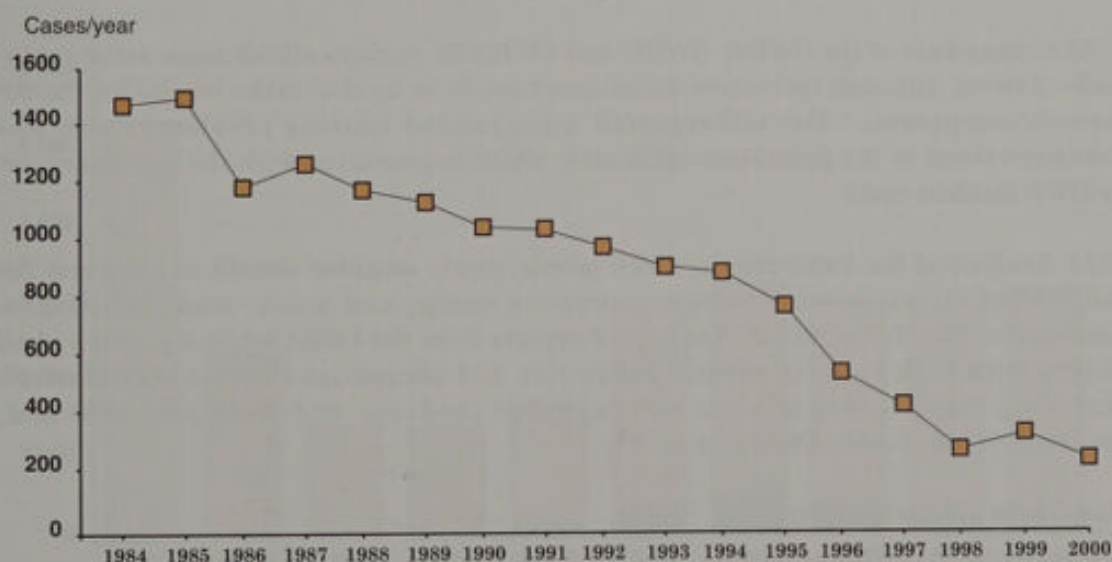
Noise-induced deafness

- The SWI95 survey gave a prevalence estimate of 170 000 cases of self-reported deafness, tinnitus or other ear conditions caused by work.
- A Medical Research Council (MRC) survey in 1997-98 gave a national prevalence estimate of 509 000 persons in Great Britain suffering from hearing difficulties as a result of exposure to noise at work.

- Numbers of new cases of noise-induced deafness qualifying for disablement benefit have been falling steadily since the mid-1980s. After a small rise from 258 cases in 1998 to 316 in 1999, the number fell again to 226 in 2000.
- The industry groups with the highest average annual incidence rates of new cases qualifying for benefit (based on 1999 and 2000 figures) were extraction energy and water supply (7.9 cases per 100 000 employees), manufacturing (3.9) and construction (2.3).
- The estimated number of cases seen for the first time in 2000 by occupational and audiological physicians in the OPRA and OSSA (Occupational Surveillance Scheme for Audiologists) reporting schemes was 627.
- The main occupational groups with the highest incidence rates were craft and related occupations, and plant and machine operatives. More specific occupations with high incidence rates included labourers in foundries, electrical/energy and related plant operatives, metal plate workers, and labourers in engineering.

2.150 There must be at least 50 decibels of hearing loss in order to qualify for benefit, the degree of disability being calculated from the hearing loss in such a way that 50 decibels in both ears equates to 20% disability. Under current rules, a worker must have been employed for a minimum of ten years in specified noisy occupations. Table A2.3 and Figure 2.15 show annual (calendar year) numbers of new awards of disablement benefit for occupational deafness. A clear downward trend in the number of awards each year is evident. The number of awards reached its lowest level in 2000.

FIGURE 2.15
Occupational deafness: disablement benefit cases



2.151 The requirement of 50 decibels or more of hearing loss represents quite a substantial impairment. For deafness, unlike other prescribed diseases, the information available from DWP does not give, on a comparable basis, the number of cases with insufficient disability to qualify for an award. However, estimates based on DWP audiological examinations in 1998 show that of almost 2000 claims disallowed because the claimants had less than 50 decibels hearing loss, over 800 had between 35 and 49 decibels of hearing loss.

2.152 Of new cases qualifying for benefit in 1999 and 2000, 11% were in ship building, repair or breaking, and 9% were in the coal mining industry. 52% of new cases qualifying for benefit in 2000 were in the occupation group of metal machinery and related trades workers. Other frequently occurring occupations were: extraction (mining) and building trade workers (14% of cases qualifying in 2000); machine operators and assemblers (9%); and labourers in mining, construction, manufacturing and transport (8%).

2.153 Based on reports to occupational physicians in the Occupational Physicians Reporting Activity (OPRA) scheme, there were an estimated 348 new cases of occupational hearing loss in 2000, compared with 278 in the previous year. 2000 represents the third full year of operation of the Occupational Surveillance Scheme for Audiologists (OSSA). There were 279 cases in 2000 compared with 436 in 1999. The total number of cases of sensory hearing loss reported to the two schemes was 627 in 2000, compared with 714 in 1999 (see Table A2.21).

2.154 DWP estimate from a 10% sample of their records that a total of 14 250 people were receiving disablement benefit for occupational deafness in April 2000. The difference between this prevalence estimate and a much higher figure of 509 000 derived from a Medical Research Council survey in 1997-98¹⁰ was probably due mainly to the latter survey including many sufferers who did not meet the DWP criteria.

2.155 An intermediate prevalence estimate of 170 000 people with self-reported work-related ear conditions was obtained from the SWI95 survey. The latter was based on people who spontaneously reported ear problems when interviewed, which may account for the estimate being lower than in the MRC survey in which all interviewees were specifically asked about hearing difficulties. The wide range of hearing ability which exists in the population inevitably means that different prevalence estimates can be obtained depending on the precise methodology used to identify those with a problem.

2.156 Comparison of the SWI90, SWI95 and SWI98/99 surveys allows some estimate to be made of trend, although restrictive definitions have to be used to make results for the three surveys comparable.⁷ For self-reported work-related hearing problems there was a downward trend in the prevalence estimates, which is consistent with the downward trend for DWP incident cases.

2.157 Analysis of the industries in which people, newly awarded benefit in 1999 and 2000, had worked shows elevated rates in extraction energy and water, manufacturing, and construction (see Table A2.10). Analysis of reports from the OSSA scheme shows a similar picture with high rates in certain industries and occupations within manufacturing (including manufacture of basic metals, metal products, and wood products) and in construction (see Tables A2.23 and A2.24).

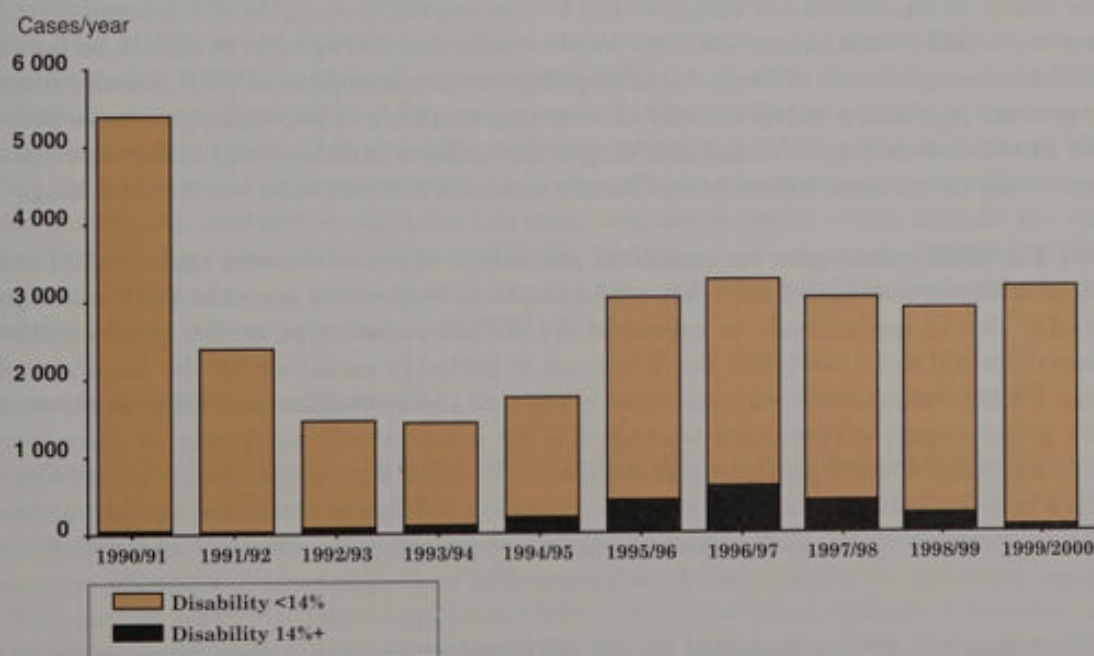
Hand-arm vibration syndrome

- A Medical Research Council (MRC) survey in 1997-98 gave a national prevalence estimate of 301 000 sufferers from vibration white finger (VWF). This is much larger than the available estimates from the SWI surveys.
- The number of new cases of VWF assessed for disablement benefit was 3212 in 1999/2000 and has remained fairly constant over the last five years with an average of some 3140 cases annually. Figures for earlier years fluctuated widely, peaking at 5403 in 1990/91 and falling to 1425 in 1993/94.

- The industry with the highest average rate of new assessments of disability at 1% or more in 1999-2000 was extraction energy and water supply, due to the relatively large number of claims made by current or former coal miners.
- The number of new cases of carpal tunnel syndrome assessed for disablement benefit has been increasing each year since 1993/94 when it was made a prescribed disease. In 1999/2000, 475 new cases were assessed compared with 267 in 1993/94.
- An estimated total of 935 new cases of hand-arm vibration syndrome (HAVS) were seen by occupational physicians and rheumatologists in the OPRA and MOSS surveillance schemes in 2000. A similar number of HAVS cases were reported under RIDDOR (876 in 1999/2000 and 905 in 2000/01).

2.158 *Vibration white finger* (VWF) is the most common prescribed disease in recent years (see Tables A2.3 and A2.4). It is a disorder of the blood supply to the fingers and hand which can be caused by regular use of vibrating hand-held tools. Sufferers from VWF may have a permanent loss of sensation in their fingers, causing difficulty in picking up and manipulating small objects. Nearly two-thirds of the people who reported VWF in the SWI95 survey also said, in answer to a specific question, that they had difficulties of that kind. However, while VWF and carpal tunnel syndrome (see paragraph 2.166) qualify for compensation by DWP, the loss of sensation does not. Approximately 40% of those reporting VWF in SWI95 also reported work-related deafness or other ear problems, reflecting the fact that work which exposes people to hand-arm vibration is often noisy.

FIGURE 2.16
Vibration white finger: disablement benefit cases



2.159 The annual numbers of DWP assessed cases are unlikely to be a true reflection of the underlying incidence of the disease, especially as the length of vibration exposure needed to produce the disease is usually both long and variable. The industry group with the highest average rate of new assessments in 1999 and 2000 was extraction, energy and water supply

with over 700 per 100 000 employees. However, due to the marked contraction of the coal mining industry over recent years affecting the denominator, this rate should be treated with caution. Also, due to the high proportion of cases in coal miners (85% of cases in 1999-2000), the rate is artificially high when compared with other industries, since numbers of claims among this group have almost certainly been inflated by civil litigation proceedings. One particular case involving miners in early 1996 attracted a substantial amount of publicity.

2.160 The marked reduction in the size of the coal industry in recent years, leading to redundant miners making claims, is one likely influence on the numbers. This is supported by the fact that in 1999-2000 the median age of coal miners with VWF assessed at 1% disability or more was 54 years, with only 23% aged 65 or older, which compares with a median age of 58 and 31% aged 65 or older in 1998-99. Other related influences on the number of claims are likely to include active concern shown by trade unions and the efforts of welfare rights advisers.

2.161 Of the new assessments in other industries 3% were in shipbuilding, repair or breaking, 5% in other manufacturing industries and 4% in construction. The minority of VWF cases assessed at 14% or more disability was reduced to 3% of assessments in 2000/01.

2.162 An estimated 743 cases of VWF and related conditions were seen for the first time by occupational physicians in the OPRA scheme in 2000, compared with 535 in 1999 and 605 in 1998. The majority of cases continued to be in males in 2000. An estimated 192 cases were seen by rheumatologists participating in the MOSS scheme in 2000, compared with 228 in 1999 and 84 in 1998. The total number of cases of HAVS/VWF/Raynauds was 935 in 2000 compared with 763 in 1999 (see Table A2.28).

2.163 Prevalence estimates for VWF have been derived from SWI95 and more recently from a specific survey commissioned by HSE and carried out by the MRC in 1997/98.¹¹ Both surveys were based on questionnaires administered to representative samples of the population, but there were differences in methodology. When comparing the results, it should be borne in mind that the symptoms of finger blanching that are characteristic of VWF can also occur in the general population independently of vibration exposure. Also, although severe cases of VWF are undoubtedly painful and disabling to the sufferer, sufferers may under-report minor cases if they do not regard them as sufficiently serious a problem to be worth mentioning.

2.164 The MRC survey gave an estimated prevalence of 268 000 males and 33 400 females in Great Britain suffering from VWF, with symptoms that would meet the DWP assessment criteria. This is considerably in excess of the SWI95 estimate of 36 000 (95% confidence interval 19 000 to 53 000), but the difference is probably explained by the likelihood that many SWI95 respondents may not have attributed their symptoms to their work, or may have given negative responses because SWI95 asked about work-related disorders in general without specific prompting about VWF. The MRC survey specifically asked whether people had the kind of symptoms that are typical of VWF, and estimated the prevalence of VWF by comparing the prevalence of symptoms in vibration-exposed and non-exposed groups, regardless of whether individuals attributed their symptoms to vibration exposure.

2.165 Among the groups identified by the MRC survey as having high exposures to hand-arm vibration were bricklayers and masons, gardeners and groundsmen, carpenters and joiners, electricians and electrical maintenance fitters, and builders and building contractors.

2.166 Other disorders may also be caused by vibration, such as *carpal tunnel syndrome* (CTS), where symptoms are thought to arise in part from entrapment or compression of

nerves in the wrist. CTS caused by hand-held vibrating tools was made a prescribed disease from April 1993. Based on the total number of cases in 1999 and 2000 (calendar years), coal mining accounted for 46%, construction 12%, and shipbuilding, repair or breaking 4%. This disease may have other occupational causes, such as repetitive twisting or gripping movements of the hand, but such cases do not qualify for compensation by DWP (see the section on musculoskeletal disorders).

2.167 Hand-arm vibration syndrome and carpal tunnel syndrome are among the diseases which are most commonly reported under RIDDOR. In 2000/01 there were 905 cases of HAVS and 119 cases of CTS compared with 876 and 212 cases respectively in 1999/2000 (Table A2.11). However, the numbers are so low in comparison with DWP figures for VWF and CTS as to suggest substantial under-reporting.

2.168 Musculoskeletal disorders may also be associated with *whole body vibration* (WBV), such as affects drivers of lorries, tractors, off-road vehicles etc. Various studies have indicated that drivers of commercial or industrial vehicles may be prone to musculoskeletal disorders, especially of the back. However, it is not a simple matter to determine how many cases are specifically caused by WBV since the sufferers are liable to be exposed to other possible causes such as prolonged sitting in the driving posture, manual lifting when loading or unloading goods, or climbing when entering or leaving vehicles, where the driver's seat is high off the ground.

2.169 In SWI95, an estimated 31 000 road transport operatives (95% confidence interval 16 000 to 47 000) and 11 000 other transport and machinery operatives (95% confidence interval 2000 to 19 000) suffered from back problems which they attributed to work. However, very few respondents specifically mentioned vibration as a perceived cause, the complaints being most often attributed to other causes including manual handling, bending or stooping, or prolonged sitting or driving (without specific mention of vibration).

2.170 The MRC survey referred to above also looked at occupational vehicle use and possible health effects. It yielded a prevalence estimate of some 150 000 people suffering from back pain attributable to riding on industrial vehicles. However, this estimate should be treated with reserve since the difference in the frequency of back pain between those using and those not using industrial vehicles was not statistically significant, and consequently the prevalence estimate has wide confidence limits which include the value zero. The findings resembled those of SWI95, in that other causative factors (eg lifting weights of 10 kg or more, working with hands above shoulder height) appeared to be more frequent causes of back pain than industrial vehicle use.

Exposure to ionising radiation

- During the 1990s, there was a steady decline in the number of classified workers who are potentially exposed to ionising radiation. Likewise, there were continual reductions in both collective doses and mean doses during the same period.
- The largest occupational categories in 1999 for all classified radiation workers were other nuclear industrials, reactor operations, reactor maintenance and fuel reprocessing.
- The occupational categories with the largest *collective* dose in 1999 were other nuclear industrials, reactor operations, reactor maintenance and fuel reprocessing.

- The occupational categories with the largest *mean* dose in 1999 were other underground miners, transport work and fuel processing.

2.171 Usually, there are only a few cases of compensated or reported radiation injury in any year. For instance, there was only a single case of prescribed industrial disease in 1999/2000 relating to radiation effects (see Table A2.3).

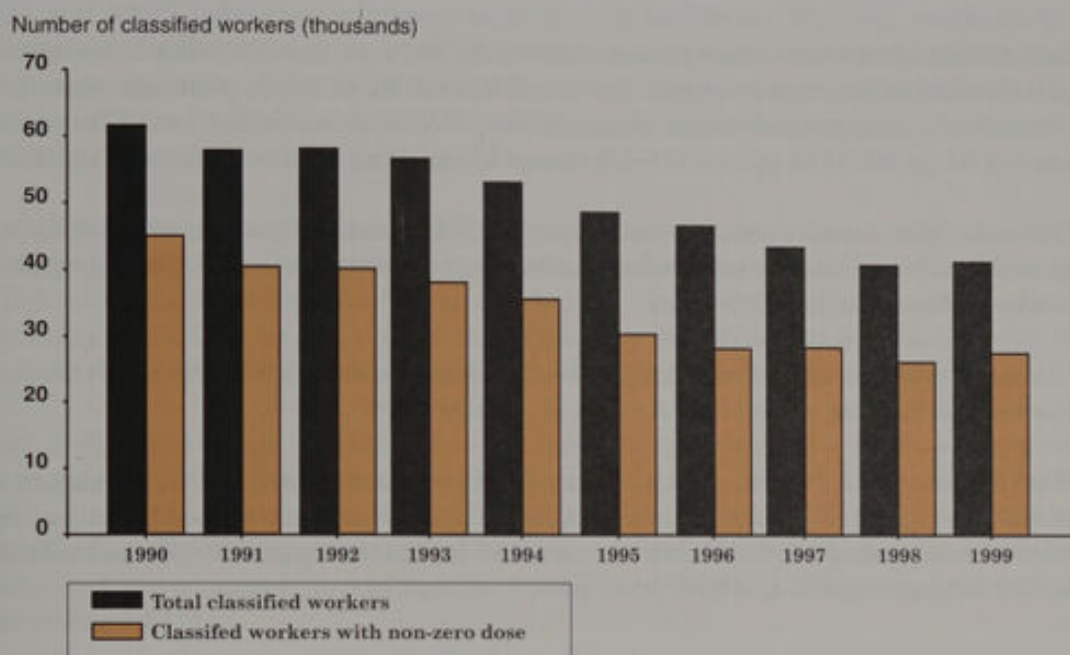
2.172 In Great Britain, there is widespread monitoring of workers potentially exposed to ionising radiation in the course of their work and are consequently classified under Regulation 20 of the Ionising Radiation Regulations 1999 (IRR99).²⁴ The principal aim of these Regulations and the supporting Approved Code of Practice (ACOP) is to establish a framework for ensuring that exposure to ionising radiation arising from work activities is kept as low as reasonably practicable, and does not exceed dose limits specified for individuals. The results of this monitoring are recorded by Approved Dosimetry Services (ADSs). Approval to make assessments is granted to suitable dosimetry services by HSE, and it is a condition of approval for dose record keeping that annual dose summaries for individuals should be sent to the Central Index of Dose Information (CIDI).

2.173 Statistical summaries of CIDI data have been published from 1986 to 1999 inclusive. The statistical summary for 1999²⁵ shows that doses were reported for 41 527 workers with a collective whole-body dose, after standard corrections, of 27 personSv, giving a mean whole-body dose per classified worker for 1999 of 0.6 mSv. 27 740 (67%) of these workers were associated with a non-zero dose, giving a mean whole-body dose per classified worker receiving a non-zero dose in 1999 of 1.0 mSv. Furthermore, 1106 (2.7%) classified workers received a dose of more than 5 mSv, 13 (0.03%) received a dose of more than the principal investigation level of 15 mSv, and 5 (0.01%) workers received a dose of more than 50 mSv.

2.174 The largest occupational categories in 1999 for all classified radiation workers were other nuclear industrials (7394 workers, 18% of all classified workers), reactor operations (5823, 14%), reactor maintenance (5034, 12%), and fuel reprocessing (3521, 8.5%). The occupational categories with the largest collective dose were other nuclear industrials (5.3 personSv, 20% of total collective dose), reactor operations (4.0 personSv, 15%), reactor maintenance (4.0 personSv, 15%) and fuel reprocessing (3.8 personSv, 14%). The occupational categories with the largest mean occupational dose were other underground miners (8.5 mSv, based on 64 workers), transport work (1.3 mSv, 84 workers), and fuel reprocessing (1.1 mSv, 3521 workers).

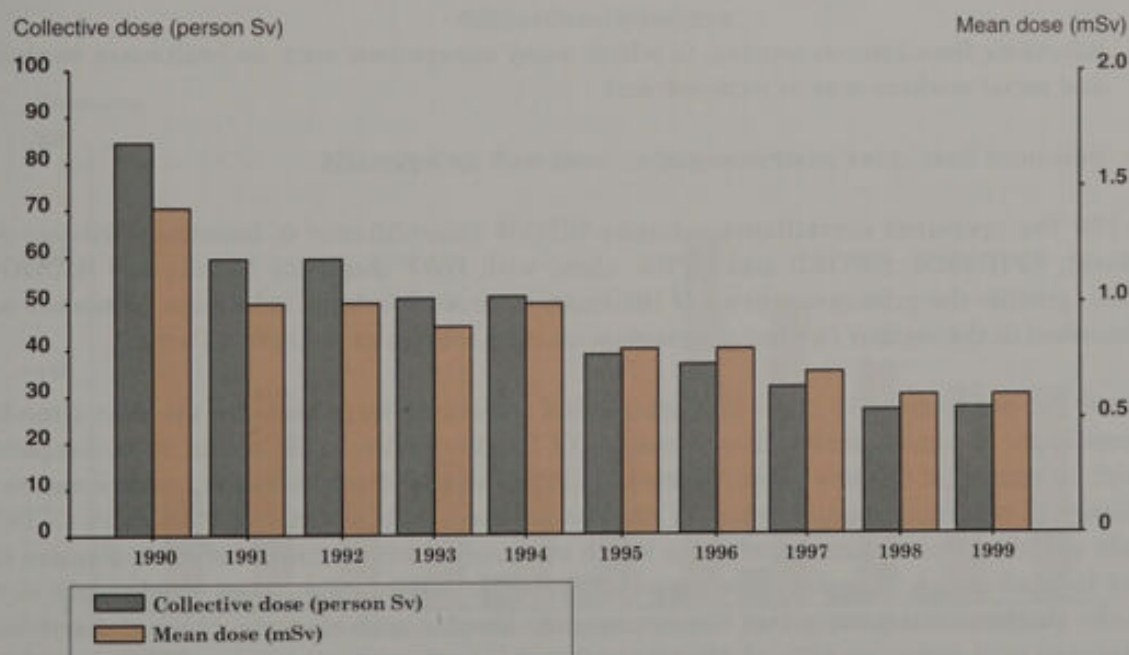
2.175 It is evident from Figure 2.17 that there was a steady decline in the number of classified workers during the 1990s, with the numbers dropping from just above 61 000 in 1990 to approximately 41 500 in 1999. A similar picture can be seen for the number of classified workers having a non-zero dose, falling from almost 45 000 to nearly 28 000 within the same period. There is also some evidence that the numbers of total classified workers with a non-zero dose has levelled off within the last four years.

FIGURE 2.17
Number of classified workers on the Central Index of Dose Information (CIDI)



2.176 It can be seen from Figure 2.18 that the collective dose reduced from 84 Sv in 1990 to 27 Sv in 1999. Likewise, the mean dose fell from 1.4 mSv in 1990 to 0.6 mSv in the same period. Hence, both collective dose and mean dose reduced substantially in the 1990s.

FIGURE 2.18
Collective and mean doses on the Central Index of Dose Information (CIDI)



Biological hazards

Infections

- Consultants in communicable disease control (CCDCs) in the SIDAW scheme reported 561 new cases of occupationally acquired infections in 2000, although this figure substantially underestimates the true incidence of occupational infections in Britain. The number fell in 2000 but this reflected a change in reporting requirements in mid-1999.
- The underlying trend in recent years from RIDDOR and DWP data, which focus on a limited group of usually more serious infections, suggests relatively little change in the numbers of occupational infections.
- The most common type of work-related infections reported to SIDAW were diarrhoeal diseases, comprising approximately 66% of cases in 2000.
- SIDAW data indicates that healthcare workers, particularly care assistants and attendants, have the highest estimated *number* of cases of work-related infections. High *rates* of work-related infections were reported for the occupational groups containing poultry dressers, non-UK armed forces personnel, and care workers.

2.177 The health effects of workplace biological hazards are mediated primarily by two mechanisms. These are infection, and immunological reactions such as asthma, byssinosis and farmer's lung, which have been discussed in the preceding section dealing with chemical agents.

2.178 Occupational infections include:

- zoonoses (infections from live or dead animals), to which occupations such as farmers, veterinarians and slaughtermen are at risk;
- infections from human sources, to which many occupations such as healthcare workers and social workers may be exposed; and
- infections from other environmental sources such as legionella.

2.179 The specialist surveillance schemes SIDAW (Surveillance of Infectious Disease At Work), EPIDERM, SWORD and OPRA, along with DWP disability benefit and RIDDOR data, provide the principal sources of information on work-related infections. These are all described in the section *Further information on data sources* at the end of Part 2.

2.180 An estimated 561 cases of work-related infections were seen for the first time by consultants in communicable disease control (CCDCs) reporting to SIDAW in 2000, compared with an estimated 622 new cases reported in 1999 (Table A2.25). This fall in cases relates to a change in reporting requirements for diarrhoeal diseases from October 1999, with CCDCs only asked to report numbers of cases which occurred within outbreaks of such diseases (ie not isolated cases). This simplification of reporting for diarrhoeal diseases was brought in to make the task of reporting less time-consuming. Despite such changes, cases of diarrhoeal diseases still comprise 66% of all work-related infections reported by CCDCs in 2000. Compared with 1999 the SIDAW category of other infections has risen, especially among females where it now comprises 46% of all infections reported by CCDCs. This other infections group comprises mainly scabies infestations among staff in care homes and hostels.

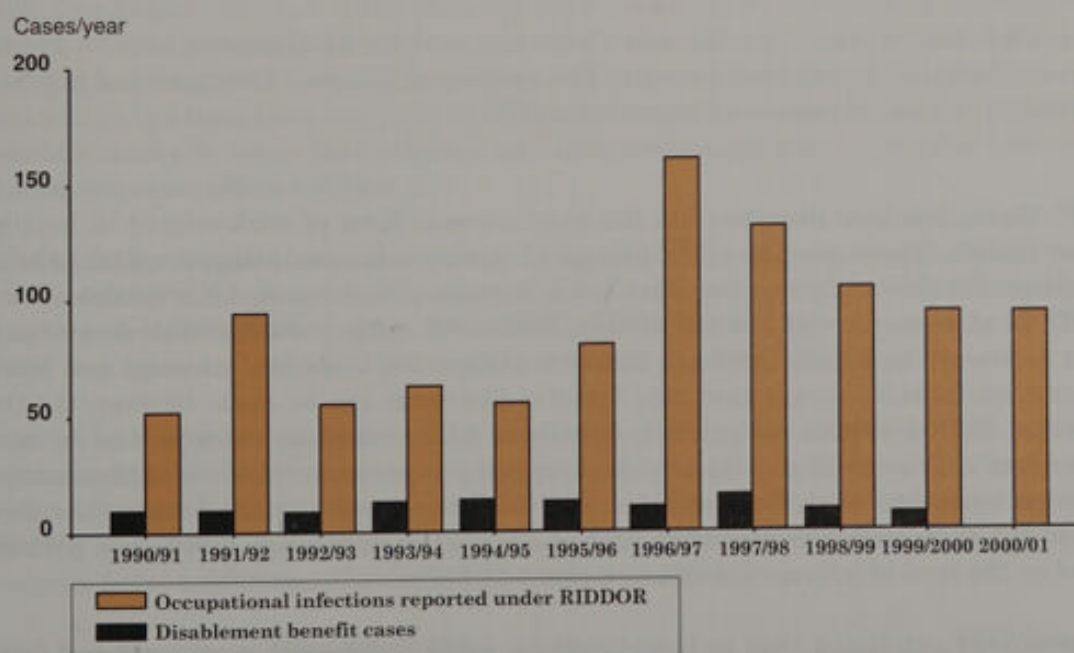
2.181 The sex distribution of work-related infections indicates that more cases are reported among females than males. These sex differences probably reflect the gender distribution within occupations with greatest risk. Analysis by occupation and industry shown in Tables A2.26 and A2.27 indicates most cases occur among healthcare workers, particularly care assistants and attendants, and nurses. However, the highest rates were among fishmongers and poultry dressers and non-UK armed forces personnel, as well as care assistants and attendants. Data from previous SIDAW publications suggest that the high rate for the first of these groups relates mainly to poultry dressers.²⁶

2.182 The total estimated incidence of work-related infections provided by SIDAW considerably underestimates the true incidence of work-related infections. Generally CCDCs reporting to SIDAW will be more likely to see infections that receive a relatively high degree of attention or intervention. This may be influenced by the severity of the infection, the duration of infection, and its impact on a person's work or activity.

2.183 A different range of work-related infections specific to the skin and respiratory systems are reported through other surveillance schemes. An estimated 88 new cases of infective skin disease were reported to EPIDERM and OPRA in 2000 compared with 142 in 1999 (Table A2.16). Of respiratory diseases caused by infections (including tuberculosis), an estimated 77 new cases were reported to SWORD and OPRA in 2000 compared with 63 in 1999 (Table A2.12).

2.184 DWP disability benefit and RIDDOR data provide other sources of information on occupational infections although these give even lower annual estimates of cases than the surveillance data. Some infections (Tables A2.3 and A2.4) are prescribed diseases, although these figures will only include those with some long-term and usually severe disability. Recently the total numbers for these prescribed infections have fallen to single figures (Figure 2.19).

FIGURE 2.19
Occupational infections



2.185 RIDDOR reports provide data on a number of specific infections under defined conditions, while others are reported under a general category of other infections reliably attributable to specified kinds of work (Table A2.11). This 'other infections' RIDDOR category showed a large increase in reporting in 1996/97, although since then there appears to be a declining trend back to pre-1996/97 levels (see Figure 2.19). The peak in this particular RIDDOR category, along with the relatively stable reported numbers in other RIDDOR categories and DWP disability benefit cases, suggests a change connected with the revised wording used to define this category in RIDDOR 95.

2.186 Furthermore, the 1994 revisions to the Control of Substances Hazardous to Health Regulations 1994 (COSHH), and in particular the associated biological agents Approved Code of Practice, probably temporarily raised employers' awareness of the need to report occupational infections, contributing to this peak in RIDDOR cases. Apart from this, RIDDOR data appear not to suggest any strong underlying upward or downward trend in occupational infections in recent years.

Musculoskeletal disorders

- The 1995 SWI survey estimated that 1 155 000 people in Great Britain believed they were suffering from a musculoskeletal disorder caused by work.
- SWI98/99 indicates that the estimated prevalence rate of self-reported musculoskeletal disorders caused or made worse by work in England and Wales has fallen since 1995 and is lower than it was in 1990.
- Occupations with the highest rates for musculoskeletal disorders in the SWI95 survey were coal mining, nursing, construction and other processing.
- Each year thousands of new cases of musculoskeletal disorders require some level of specialist intervention. An estimated 7800 cases were seen for the first time in 2000 by rheumatologists and occupational physicians reporting to the MOSS and OPRA surveillance schemes.
- In 1999/2000, there were 431 new cases assessed for disablement benefit due to a prescribed musculoskeletal disorder. The number of assessed cases reached a peak in 1992/93 and has decreased each year since then.

2.187 Musculoskeletal disorders are the most common form of work-related ill health in Great Britain. There are five main sources of statistics for occupational musculoskeletal disorders. The first of these is provided by the surveys of Self-reported Work-related Illness (SWI). In all three surveys (SWI90, SWI95, SWI98/99) musculoskeletal disorders were the most commonly reported conditions. However, differences in design, coverage and level of information collected means that only broad comparisons can be made between the three surveys. SWI95, which collected a wealth of data including information from the respondent's doctor, still provides the best overall prevalence estimate of musculoskeletal disorders caused by work. This estimate excludes cases where the link between the illness and work are implausible. Excluding such cases was not possible in SWI90 and SWI98/99 based on the level of information collected about each illness.

2.188 SWI95 estimated that in Great Britain 1 155 000 people were suffering from a musculoskeletal condition caused by their work. Half of these had been suffering for at least

five years, reflecting the substantial number of persistent cases. A further 16%, an estimated 180 000 individuals, first became aware of their condition in the previous 12 months.

2.189 Of the estimated number of individuals suffering from a musculoskeletal disorder, 44% were suffering from a disorder that affected their back only, 32% their upper limbs or neck only and 9% only their lower limbs. A further 16% of individuals were suffering from a disorder that affected more than one part of their body or their whole body and 3% a condition that affected an internal part of their body, eg hernia.

2.190 SWI95 occupational rates have been calculated for individuals who ascribed their work-related illness to their current or most recent job (within the last eight years). The occupations with the highest rates for musculoskeletal disorders were: nurses; construction workers; other processors; and coal miners. The occupation groups with the highest rates for disorders affecting the back were similar to those for all musculoskeletal disorders but also included care workers and electrical processors. For disorders affecting the upper limb or neck the occupations with the highest rates were: armed forces; construction; textile processing and other processing.

2.191 SWI95 estimated that 9.9 million working days were lost in 1995 due to a musculoskeletal disorder caused by work. On average each sufferer took an estimated 13 days off work because of their complaint. (These figures incorporate some revisions made since the publication of SWI95 report.⁶ More details are in an information sheet available from the Epidemiology and Medical Statistics Unit at the address given in Annex 3.)

2.192 Restricting SWI90 and SWI95 data sets to people who worked in the last 12 months and making a number of adjustments for inconsistencies between the three surveys (see SWI98/99 published report⁷ for more details) shows that the estimated prevalence rate of self-reported work-related musculoskeletal disorders for England and Wales increased between 1990 and 1995. There was a striking change in the pattern in 1998/99 when the rate fell and was even lower than the rate in 1990. Estimates for Great Britain were only available from the SWI95 and SWI98/99 surveys (SWI90 only covered England and Wales). As for England and Wales, the rate for Great Britain fell between 1995 and 1998/99.

2.193 The second source of statistics is the OPRA and MOSS surveillance schemes. Since January 1996, occupational physicians have reported new cases of musculoskeletal disorders, along with other occupational diseases to OPRA. Since October 1997 rheumatologists have been reporting to MOSS, the surveillance scheme for musculoskeletal disorders caused by work. Both schemes are described in more detail in *Further information on data sources* at the end of Part 2.

2.194 In 2000, occupational physicians reporting to OPRA saw an estimated 5224 new cases of work-related musculoskeletal disorders and a further 2568 were seen by rheumatologists reporting to MOSS (Table A2.28). The number of estimated cases reported to OPRA and MOSS rose between 1998 and 1999 from 7666 to 8635 but fell in 2000 to 7792.

2.195 In both schemes musculoskeletal conditions affecting the hand/wrist/arm (excluding Raynauds/HAVS/VWF) were the most commonly reported, with over 50% more cases reported for females than males in 1998-2000. Males were reported to have more conditions affecting the lumbar spine/trunk and lower limbs (hip/knee/leg, ankle/foot) than females but generally fewer conditions affecting the neck/thoracic spine.

2.196 For the years 1998-2000, Tables A2.30-A2.33 give the annual average estimated number of cases of work-related upper limb and spine/back disorders reported by

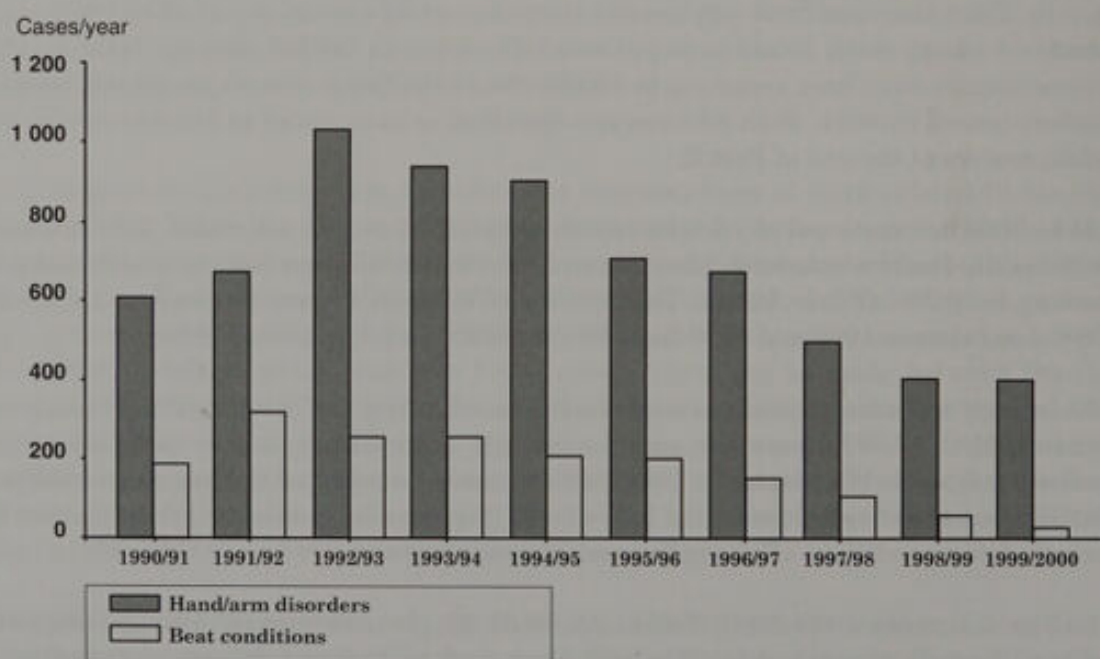
rheumatologists and occupational physicians in Great Britain to MOSS/OPRA and the estimated average annual rates per 100 000 workers, by occupation and industry. Because the rates based on OPRA data will be affected by the coverage of occupational physicians, comparisons between different occupations and industries should be based on rates from MOSS alone - see paragraphs 2.226-227 under *Further information on data sources*.

2.197 Of the occupations reported to MOSS with sufficiently large actual numbers, 'computer operators and data processing operators', with an estimated rate of 72 per 100 000 workers, had the highest average annual incidence rate of *upper limb disorders* (Table A2.30). The occupations with the highest average annual rates of work-related musculoskeletal disorders affecting the *spine/back* were 'other occupations' and 'personal and protective service', each with an estimated rate of 4 per 100 000 workers (Table A2.31).

2.198 Where the number of reported actual numbers were sufficiently large, the *industry* with the highest average annual rate (per 100 000 workers) of work-related musculoskeletal disorders affecting the *upper limbs* reported to MOSS in 1998-2000 was 'mining of coal and lignite, extraction of peat' with an estimated rate of 350 per 100 000 workers (Table A2.32). The industries with the highest average annual rates (per 100 000 workers) of work-related musculoskeletal disorders affecting the *spine/back* were 'health and social work', 'public administration and defence' and 'transport, storage and communication', each with an estimated annual rate of 4 per 100 000 workers (Table A2.33).

2.199 The third of the sources is the Industrial Injuries Scheme, which provides statistics on the number of assessed cases confirmed as having some disability (1% or more) from a 'prescribed disease'. A limited number of specifically work-related musculoskeletal disorders are classed as prescribed diseases under the scheme, namely beat hand, beat knee, beat elbow, cramp of the hand or forearm and inflammation of tendons of the hand, forearm or associated tendon sheaths (tenosynovitis). Except for beat knee, these are all upper limb disorders.

FIGURE 2.20
Musculoskeletal (mainly upper limb) disorders: disablement benefit cases



2.200 The number of assessed cases having 1% or more disability has continued to fall, from 1283 in 1992/93 to 431 in 1999/2000 (see Figure 2.20). In the latest year (Table A2.3), the majority of assessed cases were for tenosynovitis (81% of the total). For beat conditions, all but one of the assessed cases were males, whereas the majority of assessed cases for hand and forearm conditions (76%) were females. The proportion of cases that were assessed as having 14% or greater disability for all musculoskeletal conditions was similar to previous years, at 45%.

2.201 Analysis of the average rates of new assessments in 1999-2000 by industry (Table A2.10) shows that the extraction, energy and water supply industries had the highest rate of assessed cases with 10 cases per 100 000 employees. Manufacturing had the second highest rate of cases with a rate of 4 cases per 100 000 employees.

2.202 The fourth source of statistics is a series of questions in the Office for National Statistics Omnibus Survey. The questions were commissioned in 1996 by the Department of Health to identify adults who had experienced lower back pain in the 12 months before the interview. A total of 40% of adults were affected by lower back pain in the previous year. The most common reasons for the onset of pain were work-related: 24% believed their pain to be related to the type of work they did, and 12% attributed their pain to an accident or injury at work. This survey is a repeat of a survey carried out in 1993 which gave very similar results.

2.203 The fifth source of statistics is from RIDDOR. Since April 1996, the musculoskeletal disorders in the DWP list of prescribed diseases have been reportable diseases under RIDDOR. A total of 669 cases were reported to RIDDOR in 2000/2001, making musculoskeletal disorders one of the most commonly reported disease groups. The number of cases reported to RIDDOR between 1998/99 and 1999/2000 fell from 640 to 606, but rose to 669 in 2000/2001 (Table A2.11). However, comparisons with other data sources (eg OPRA/MOSS) suggest substantial under-reporting, as with other diseases reportable under RIDDOR.

2.204 Statistical information sheets are available on work-related back disorders and work-related upper limb disorders from the Epidemiology and Medical Statistics Unit at the address given in Annex 3.

Stress-related and psychological disorders

- SWI prevalence estimates suggest approximately half a million individuals in Britain believed they were experiencing work-related stress at a level that was making them ill. The Stress and Health at Work Study (SHAW) indicated that nearly 1 in 5 of all working individuals thought their job was very or extremely stressful.
- The annual incidence of work-related mental health problems in Britain, as estimated from the surveillance schemes OPRA and SOSMI, is around 6600 new cases per year. This almost certainly underestimates the true incidence of these conditions in the British workforce.
- Currently information to assess the trends over time of these work-related conditions in the British workforce is limited. Surveys of work-related illness suggest an increase in the reported prevalence rate of work-related stress, although such an increase could be caused by factors other than or as well as a genuine rise in work stress.
- Occupation and industry groups containing teachers and nurses have the highest prevalence rates of work-related stress in SWI and SHAW surveys. SOSMI and OPRA also report high incident rates of work-related mental illness for these occupational groups, along with groups containing police officers, social workers, probation officers, UK armed forces personnel and medical practitioners.

2.205 Several large surveys have collected relevant self-reported information on the prevalence of work-related stress. These include SWI90, SWI95 and SWI98/99, which provide information on the prevalence of self-reported ill health related to work stress, and the *Stress and health at work study* (SHAW), undertaken in 1998,^{8,9} which reports on how stressful individuals believed their jobs were. This latter survey may best be considered as measuring exposure prevalence, and the SWI surveys as measuring the prevalence of work stress at levels believed to be causing ill health. The simple self-reported data from these surveys provides the best estimate of the overall prevalence of work-related stress in Britain, but has limitations regarding assessment of temporal trends.

2.206 All three SWI surveys indicate that stress and related conditions form the second most commonly reported group of work-related ill-health conditions after musculoskeletal disorders. SWI95 estimated that work-related stress, depression or anxiety affected 279 000 people in Great Britain. A third of these affected individuals first became aware of this condition within the last 12 months. A further estimated 254 000 people ascribed a physical condition to the effects of stress at work (stress-ascribed condition). In total, this survey estimated a prevalence of half a million individuals who believed they had experienced work-related stress at a level that was making them ill.

2.207 The results from the SWI98/99 survey are not directly comparable, but the best available comparable estimates across these studies suggest the prevalence rate of self-reported work-related stress has doubled between SWI90 and SWI98/99, with the rate increasing by about half between SWI95 and SWI98/99. Such surveys have limitations in respect of assessing trends: their incomparability in design, measurement of prevalence, and use of simple self-reporting of stress. Simple self-reporting of stress may be affected by many factors such as awareness of, and attitudes to, stress that may vary markedly with time.

2.208 The Stress and Health at Work (SHAW) study conducted in 1998 estimated that 1 in 5 of the British working population, or approximately 5 million workers, believed their job was extremely or very stressful.

2.209 Sources of data on the incidence of work-related stress and psychological disorders are the two surveillance schemes SOSMI and OPRA, representing reports of new work-related cases of mental ill health seen by psychiatrists and occupational physicians respectively (for more detail see *Further information on data sources* at the end of Part 2). Incidence data on work-related mental ill-health reported by occupational physicians for 1998-2000, and by psychiatrists for 1999-2000, are presented in Table A2.34. An estimated 3420 cases of work-related mental ill health were seen for the first time by psychiatrists reporting to SOSMI in 2000 compared to 3996 cases in 1999. Work-related mental ill-health cases seen for the first time by occupational health physicians reporting to OPRA rose to 3135 in 2000 compared to 2570 in 1999.

2.210 Taken together, these schemes indicate an estimated 6555 new cases of work-related mental ill health in Great Britain in 2000, little changed from the combined 1999 estimate (Table A2.34). This figure probably significantly underestimates the true incidence of these work-related conditions in Great Britain, given that SWI95 estimated that 92 000 people first became aware of their work-related stress, anxiety and depression in the previous 12 months. However, these two types of data provide different measures, and surveillance scheme data are likely to represent more severe cases with more reliable diagnostic classification and are best placed to assess trends over time in such conditions. Currently the limited number of years of data available from these schemes does not allow for meaningful assessment of trends, although there is no evidence for a sharp increase between 1999 and 2000.

2.211 Information on the occupational and industrial distribution of new cases of work-related mental illness is provided by the SOSMI surveillance scheme data (Tables A2.36 and A2.37), whereas SWI90, SWI95, SWI98/99 and SHAW provide some information on the occupational distribution of the prevalence of work-related stress. These surveys indicate that teachers and nurses have the highest prevalence rates of work-related stress. This is supported by surveillance scheme data that demonstrate high incidence rates for occupational and industrial groups that contain these workers along with groups containing social workers, probation officers, police officers, UK armed forces personnel, and medical practitioners.

Other hazards

Building-related sickness

2.212 Building-related sickness includes both sick building syndrome (SBS) and other more specific diseases such as humidifier fever, legionnaires' disease and exposure to toxic agents in the environment. There are no definitive estimates of the scale of building-related sickness, although some information is available from SWI95 and RIDDOR 95, for SBS and legionnaires' disease respectively. Virtually no cases of building-related sickness were reported to SWORD in the past ten years.

2.213 The prevalence of SBS is difficult to assess since the symptoms are common in the general population and, for the most part, not serious. Typical reported symptoms include headaches, nasal problems, eye irritation, dry skin and tiredness. No single specific causative factor has been identified for SBS, but factors which could be implicated include physical and environmental factors, eg ventilation and poor lighting, and job factors, eg variety and interest of particular jobs.

2.214 The SWI95 survey collected information from respondents on illnesses they attribute to their work and on the way in which they believe their work has caused their illness. This information has been used to derive a prevalence estimate of SBS by linking cases of sick building type symptoms with the appropriate types of cause. The SWI95 survey shows that in 1995 between 2000 and 15 000 office workers (with a central estimate of 9000) suffered from 'sick building type' symptoms which they believed were caused by their indoor working environment or indoor lighting at work. Excluding those cases caused by indoor lighting where VDU use was also cited as the cause of illness, this estimate reduced to a maximum of 10 000 cases.

2.215 However, because of the ill-defined nature of SBS and the common nature of symptoms in the general public, many respondents suffering from SBS may not have associated their symptoms with work, or indeed may not have thought the illness serious enough to warrant reporting to the survey. The SWI95 prevalence estimate may, therefore, be much lower than the true figure. However, it can be seen as a lower bound estimate of the prevalence of SBS among office workers and suggests that SBS is not a widespread source of concern.

2.216 In the three years 1998/99 to 2000/2001, 31 cases of legionnaires' disease were reported to HSE under RIDDOR. However, because of known under-reporting to RIDDOR, this figure probably substantially underestimates the true incidence.

FURTHER INFORMATION ON DATA SOURCES

Industrial Injuries Scheme (IIS)

2.217 The Industrial Injuries Scheme administered by the Department for Work and Pensions (DWP) compensates workers who have been disabled by a prescribed occupational disease. The self-employed are not covered by this scheme. Diseases are prescribed in connection with defined occupations or occupational conditions. They are only prescribed if an occupational cause is well established, and if terms of prescription can be framed in such a way that the majority of cases falling within the terms of prescription will be of genuine occupational origin.

2.218 Where there is a long delay (latency) between the cause of a disease and its appearance, it may be difficult both to identify and prove occupational causes, and to frame satisfactory terms of prescription. Even when this is done, the numbers of awards probably understate the disease's incidence, because individuals may be unaware of the possible occupational origin of their disease or the availability of compensation; this applies to shorter latency diseases as well.

2.219 Respiratory diseases are assessed by *Special Medical Boards*, and there are also separate arrangements for assessing *occupational deafness*. Figures for these diseases are published on a calendar year basis, those for the respiratory diseases being shown in Tables A2.5-A2.9. Figures for other prescribed diseases (PDs) are published for years starting 1 October (Tables A2.3-A2.4). For convenience, the deafness figures are shown in Tables A2.3-A2.4, although they are on a calendar year basis like the respiratory diseases.

2.220 For most diseases, benefit is payable if the extent of disability (from a single PD or from a number of PDs together) is assessed at 14% or more. However, figures are available for all newly assessed cases including those assessed at 1-13% disability. This so called '14% rule' was introduced for all claims lodged after 1 October 1986, for all diseases except *pneumoconiosis*, *mesothelioma*, and *byssinosis* (where benefit is still payable for lesser degrees of disability) and deafness (where the benefit threshold is 20% disability). This change substantially reduced the numbers qualifying for disablement benefit, and seems also (with the notable exception of vibration white finger) to have reduced the numbers making claims. For pneumoconiosis, byssinosis, and mesothelioma, benefit continues to be paid and statistics are collected for all cases assessed at 1% or more disability. For deafness the available figures do not identify those assessed at less than 20% disability, who do not qualify for benefit.

2.221 Tables A2.3 and A2.5 show (for completeness) the totals for the prescribed diseases. Care needs to be taken in interpreting both the annual totals and their trend. Prescribed diseases are a mixture of different types of disease, and they do not represent the full spectrum of work-related illness. Individual components of the total are liable to be strongly affected by changes in prescription and factors affecting the take-up of claims (eg the contraction of traditional industries where the availability of compensation is well known, and the shift in employment to newer industries where it may be less well known). Much of the total is accounted for by lung diseases, vibration white finger, and deafness, and many such cases are a legacy of past working conditions which would be judged inadequate or in some cases illegal by today's standards.

Voluntary reporting of occupational diseases by specialist doctors

2.222 In 1989 the first of several clinically-based reporting schemes for occupational disease was developed at the National Heart and Lung Institute in London. This scheme, the

Surveillance of Work-related and Occupational Respiratory Disease (SWORD), relies on systematic, voluntary and confidential reporting of all new cases seen by consultant chest physicians.²⁷ EPIDERM, a scheme for surveillance of occupational skin disease by dermatologists, was begun in 1993,¹⁹ followed in 1996 by Surveillance of Infectious Disease at Work (SIDAW), by consultants in communicable disease control.²⁸ Three other schemes were started more recently, OSSA (Occupational Surveillance Scheme for Audiologists), MOSS (Musculoskeletal Occupational Surveillance Scheme) and SOSMI (Surveillance of Occupational Stress and Mental Illness).²⁹ In MOSS and SOSMI, unlike the other specialist schemes, the physicians are advised to report cases either caused or made worse by work. In all the schemes a very high proportion of physicians in the relevant specialities participate systematically and voluntarily.

2.223 Occupational physicians reported to SWORD from its inception and to EPIDERM from 1994. In 1996 the Occupational Physicians Reporting Activity (OPRA) was established as a separate scheme for all types of work-related disease.³⁰ Since 1998 all seven schemes have been brought together and run from the University of Manchester as constituents of the Occupational Disease Intelligence Network (ODIN).

2.224 In most of these schemes (SIDAW and OSSA being the exceptions), there is a sampling process whereby most participating doctors are asked to send in reports for one month in each year, and the numbers of cases that they report are multiplied by 12 in arriving at the estimated annual totals. To avoid any systematic seasonal biases the sampled doctors are randomly allocated their reporting month, and this allocation changes from year to year. Not all reporting doctors are sampled; some are so called 'core' reporters, who report cases every month throughout the year. Cases reported by them are included in the estimated annual totals without any scaling up. All the figures presented in this volume are estimated annual totals (or rates derived from them) rather than actual numbers of reported cases.

2.225 It should be remembered, therefore, that many of the estimated numbers shown in this volume are based on smaller (often considerably smaller) numbers of actual reported cases, and caution should be exercised in examining apparent year-on-year changes, as well as rates derived from estimated cases. The numbers are inevitably subject to more random variation than if there were no sampling. Many cases of work-related disease will fall outside the catchment of the ODIN schemes. This is because many workers will not have access to an occupational physician at their place of work, and other specialists such as chest physicians, dermatologists, psychiatrists etc will largely see only the more serious or difficult-to-resolve cases that are referred to them by other doctors. (They do, however, see patients over a wider age range than the occupational physicians, who generally see patients who have not yet retired.) Therefore, figures from the ODIN schemes should be regarded very much as minimal estimates of the true incidence of work-related disease. Figures in this volume relate to Great Britain only, although the ODIN schemes do collect reports from doctors throughout the UK.

2.226 The incidence rates for ODIN cases, per 100 000 workers in each occupation or industry, are calculated using denominators from the Labour Force Survey (LFS). The fact that in many industries few, or even no, sufferers will have access to occupational physicians means that incidence rates based on or including OPRA reports cannot be used as a fair basis of comparisons between industries or occupations which have different degrees of coverage by such doctors. For example, hairdressers are shown by reports from dermatologists to have a high risk for dermatitis, but occupational physicians deal with few such workers and, consequently, see very few cases. Comparisons between industries or occupations (bearing in mind the preceding warnings about small sample numbers) are best

made by using rates based only on reports by 'disease specialists' (eg dermatologists, chest physicians etc). Such specialists are accessible via the NHS to patients with all kinds of employer (including small businesses and the self-employed).

2.227 At the same time, it must be remembered that disease specialists see only a subset of all cases and probably those at the more serious end of the spectrum and that to ignore cases seen by occupational physicians entirely may also be misleading. The incidence rates based on OPRA reports can be added to those from the appropriate 'disease specialist' scheme (eg EPIDERM, SWORD). It is true that such combined rates will still underestimate the true incidence, partly because only a small proportion of the workers included in the LFS denominators are served by occupational physicians reporting to OPRA.³¹ However, there are no reliable estimates of the extent of occupational physician coverage - certainly not on the distribution by industry or occupation - and even if there were, to use these as denominators could well lead to the rates being overestimates for the working population as a whole (since access to occupational physicians will tend to some extent to be concentrated in workplaces where the risks are higher). HSE statisticians believe that the combined rates give as complete a picture of occupational disease incidence as is possible with the available information.

Surveys of self-reported work-related ill health (SWI90, SWI95 and SWI98/99)

2.228 Results from a survey of self-reported work-related illness in 1998/99 have recently been published on the HSE website.⁷ This is the third survey of self-reported work-related illness undertaken in conjunction with the Labour Force Survey (LFS) to gain a view of work-related illness based on individuals' perceptions. HSE commissioned surveys in 1990 and 1995, which are known as SWI90 and SWI95 (surveys of Self-reported Work-related Illness). The European Union Statistical Office (EUROSTAT) commissioned the latest survey which included most member states.

2.229 All three surveys provide an indication of the overall prevalence of work-related illness and its distribution by major disease groups and a range of demographic and employment-related variables. Responses obviously depend on lay people's perceptions of medical matters, but such perceptions are of interest and importance in their own right. However, they cannot be taken directly as an indicator of the 'true' extent of work-related illness. People's beliefs may be mistaken: they may ascribe the cause of illness to their work when there is no such link; and they fail to recognise a link with working conditions when there is one.

2.230 All estimates derived from these three surveys are subject to a margin of error. The main factor which determines the width of the margin is the number of sample cases an estimate is based on. In the published report for each survey,^{6,7,32} the sampling errors have been expressed as 95% confidence intervals. Each of these represents a range of values which has a 95% chance of containing the true value. For simplicity, the commentary quotes only a single estimate which represents the mid-point of a range of estimates. However, confidence intervals have been quoted whenever there are less than 30 sample cases.

2.231 The SWI90 consisted of a 'trailer' questionnaire to the main LFS. Nearly 74 000 adults living in *England and Wales* who had *ever been employed* were asked the following screening question:

'In the last 12 months [apart from the accident you have just told me about] have you suffered from any illness, disability or other physical problem that was caused or made worse by your work? Please include any work you have done in the past.'

2.232 Follow-up questions concentrated on the *most serious* illness if more than one illness was reported, and established the nature of the illness and the job that was thought to give rise to it. Although there were many advantages in conducting the survey in conjunction with the LFS, one of the main disadvantages was the time limit on the 'trailer' questionnaire. As it was administered at the end of a long main questionnaire, it had to be limited to an average administration time of 5 minutes, which restricted its scope. Detailed results were published in 1993.³²

2.233 Changes in the design of the LFS in 1992 meant that the same survey process could not be followed in 1995. However, between August 1995 and February 1996 nearly 40 000 survey subjects in *Great Britain* participating in the fifth wave of the LFS were administered a set of work-related illness screening questions. Although the sample included Scotland, the sample size was smaller than in SWI90 and attracted a larger sampling error. The screening questions, including the above question, were administered to the *ever worked*.

2.234 Respondents who said 'Yes' to this question were asked if they would agree to a further interview to record details of their work-related illness. Follow-up interviews were with the sufferer only and the detailed questionnaire covered:

- the nature of the illness;
- the job which caused it (or made it worse);
- how the job had led to the illness;
- the number of work days lost;
- the presence and intensity of a selected list of risk factors in the job linked with the illness;
- the level of knowledge of the risk in the workplace and preventive measures taken;
- symptom descriptions (for some disease categories); and
- smoking habit (for subjects reporting lower respiratory disease).

2.235 In addition to the interviews with sufferers, the 1995 study included two further elements. Firstly, with the respondent's written consent, the doctor or specialist who treated the illness was contacted, and asked to confirm (or correct) the recorded diagnosis, and offer their own opinion about the link with work. Secondly, to help identify features of the job which may be associated with a work-related illness, a control population was asked the same questions on working conditions that appeared in the follow-up questions for sufferers of work-related illness. In addition, to aid interpretation of the main survey, the same questions on chest problems, smoking and general health were asked so that background levels of certain health problems could be determined. The control population questions were included in two monthly cycles of the Office for National Statistics (ONS) Omnibus survey (in August and October 1995).

2.236 Illnesses thought by respondents to be caused by 'stress' were treated as a separate category, described as 'stress-ascribed' diseases. Regardless of whether the disease reported can in fact be caused by stress, these cases are best considered as indirect reports of stressful work conditions. This is because for most diseases the affected individual has no way of observing

the effect of stress on the disease process. Thus, while there is good evidence that working conditions do affect the risk of circulatory disease in people exposed to them, estimates of the extent of work-related circulatory disease can only properly be based on controlled epidemiological study of working populations in which other risk factors are appropriately measured and allowed for. Self-reports of heart disease caused by stress may be correct, but cannot be regarded as a reliable basis for estimating the extent of work-related heart disease.

2.237 All individual responses were reviewed, and excluded if the link between illness and work was implausible (also excluded were illnesses caused by accidents other than manual handling accidents, and illnesses caused in war conditions). These exclusions reduced the overall prevalence from 2.6 million to 2 million, a drop of 24%. Detailed results based on the reviewed data set were published in 1998.⁶

2.238 In the latest survey (SWI98/99) around 66 000 adults in Great Britain were administered a slightly reworded screening question. Unlike SWI90 and SWI95, the question was only administered to people who *worked in the last 12 months (people who had been retired or had been inactive for over a year were excluded)*.

2.239 Individuals responding positively to the screening question were asked a limited number of questions about their *most serious* illness. Unlike the previous two surveys, the complete module of work-related illness questions was included in the main LFS (though there were fewer such questions than in the two previous surveys). There was not enough information to review and exclude cases (as had been done in SWI95): SWI98/99 (as well as SWI90) results include all self-reports.

2.240 The differences in the design, coverage and level of information collected means that only broad comparisons can be made between the results of each survey, and even these need to be treated with caution. To allow some form of comparison between the three surveys, the 1990 and 1995 results had to be restricted to people who worked in the last 12 months, and a number of further adjustments had to be made. For example, cases excluded in the 1995 analysis were retained to allow consistency with the 1990 and 1998/99 estimates. More details about the differences and how comparable estimates were derived can be found in the SWI98/99 published report.⁷

Deaths from asbestos-related diseases

2.241 The figures in Tables A2.38 to A2.40 are derived from HSE's registers of deaths from asbestosis and mesothelioma. Table A2.38 shows the numbers of death certificates issued each year on which either asbestosis or mesothelioma (or both) are mentioned. Electronic details of these are sent to HSE by the Office for National Statistics (ONS) and the General Register Office for Scotland (GRO(S)).

2.242 Some death certificates mentioning both asbestosis and mesothelioma do so in ways which suggest that the word 'asbestosis' is being used to indicate the role of asbestos in causing mesothelioma, rather than the presence of asbestos-induced lung fibrosis, which is what the word strictly means. Consequently, the trends in deaths from asbestosis are probably better reflected by the figures for asbestosis without mention of mesothelioma, rather than the total of certificates mentioning asbestosis.

2.243 Before 1993, if there was insufficient information on a death certificate to accurately classify the death, the Office for National Statistics (ONS) sent a 'medical enquiry' to the

certifying doctor for further information. This procedure was discontinued for deaths registered from 1993 onwards, but ONS hope to reintroduce it sometime in the future. This discontinuation has affected the site coding of mesothelioma deaths, the proportion coded as 'site not specified' rose from 24% in 1992 to 44% in 1993.

Deaths from other occupational lung diseases

2.244 Table A2.41 gives the number of deaths from pneumoconiosis, byssinosis and occupational allergic alveolitis (farmer's lung, mushroom picker's lung and other pneumonitis), recorded on death certificates as the underlying cause of death and obtained from data supplied by ONS and GRO(S).

Statutory reporting of occupational diseases and accidents (RIDDOR)

2.245 The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1985 (RIDDOR 85) were introduced in April 1986, and have now been replaced by RIDDOR 95 (effective from 1 April 1996). The Regulations require employers to report all cases of a defined list of diseases occurring among their employees where:

- they receive a doctor's written diagnosis; and
- the affected employee's current job involves the work activity specifically associated with the disease.

2.246 The diseases and their associated occupational conditions are listed in a Schedule to the Regulations.³³ This list (based on the DWP list of prescribed diseases but with some exceptions) was revised and extended in the new Regulations, the most significant changes being the addition of specified musculoskeletal (mainly upper limb) disorders and occupational dermatitis. There have also been revisions to some of the definitions, eg the category shown as 'other reportable infections' corresponds in part to that previously called pathogenic infection, but the broadening of the definition probably explains some of the appreciable increase in the numbers reported. It is not possible to isolate the effects of all such changes on the figures. The wide publicity given to the new Regulations is also likely to have encouraged reporting of diseases. The latest figures for reports of diseases under RIDDOR are shown in Table A2.11.

2.247 Comparison of these figures with those for disablement benefit for the corresponding DWP prescribed diseases in Tables A2.3 and A2.5 suggests that there is still substantial under-reporting under RIDDOR, particularly for diseases with long induction periods (for example, the pneumoconioses and occupational cancers). The criteria which need to be fulfilled in order for a case to be reported, together with the reporting mechanism itself, are thought largely to be responsible for this under-reporting.

2.248 The reportable diseases include poisoning by some specified chemicals, but in addition, any accidental injury or poisoning by a chemical agent is reportable under RIDDOR if it causes more than three days' unfitness for work, or is a 'major' injury (as defined in RIDDOR, see Part 1 of this volume). Figures of such incidents reported as injuries under RIDDOR are shown in Figure 2.14. As with the disease reports there is substantial under-reporting. Due to changes in the definition of a major injury under RIDDOR 95, figures from 1996/97 cannot be compared with earlier years.

Surveillance of workers exposed to lead

2.249 Under the Control of Lead at Work Regulations (CLAW) 1980 and 1998, all workers with significant exposure to lead are required to be under medical surveillance by an appointed doctor or one of HSE's medical inspectors. The surveillance includes measurement of each worker's 'blood-lead level', the amount of lead in samples of their blood, expressed in micrograms per hundred millilitres ($\mu\text{g}/100\text{ml}$). Annual returns give summary statistics for each workplace based on the maximum blood-lead level recorded for each worker under surveillance.

2.250 The Approved Code of Practice issued with the Regulations lays down levels of blood-lead concentration above which the appointed doctor is required to decide whether to certify that the worker should no longer be exposed to lead. If a worker's blood-lead level exceeds this 'suspension level' a repeat measurement must be made, and if this is still over the level the worker should be suspended from working with lead. The number of such workers suspended is also recorded annually and analysed in the statistics. Under the 1980 Regulations the suspension levels were $70 \mu\text{g}/100\text{ml}$ for males ($80 \mu\text{g}/100\text{ml}$ up to 1986) and $40 \mu\text{g}/100\text{ml}$ for females of reproductive capacity (to protect the health of any developing foetus). The suspension levels were lowered in the 1998 Regulations, to 60 and $30 \mu\text{g}/100\text{ml}$ respectively, with new 'action levels' of 50 and $25 \mu\text{g}/100\text{ml}$.

2.251 Because of the time required to collate and validate the returns from all the appointed doctors and medical inspectors, the latest year for which data are available is 1999/2000. The figures for 1999/2000 were first published in a press notice on 28 February 2001. Figures for 2000/01 will be published in a press notice in early 2002.

Surveillance of workers exposed to ionising radiation

2.252 The Central Index of Dose Information (CIDI) is HSE's national database of occupational exposure to ionising radiation and is operated under contract by the National Radiological Protection Board (NRPB). All records are treated confidentially in accordance with the appropriate legislation. CIDI has several functions:

- to receive annual dose summaries from which statistical information can be generated;
- to provide an index to show which ADS is, or has been, responsible for the dose record-keeping of classified workers, and to act as a back-up for dosimetric information on workers;
- to confirm that the number of classified workers is known and is consistent with the number of registrations and terminations of classified persons since the previous year; and
- to act as the link between the old and new ADS when a worker changes employers.

2.253 The data submitted by ADSs contain a relatively small fraction of 'notional doses'. Notional doses are substitute dose values in the record of a person for a period when no dose assessment was available; they are based on the proportion of the relevant annual dose limit for that period.

ANNEX 1: SAFETY AND ENFORCEMENT TABLES

Table A1.1a Injuries in Great Britain by industry and severity of injury 2000/01p
As reported to all enforcing authorities

			EMPLOYEES (including trainees)					
			<i>Fatal injuries</i>	<i>Non-fatal major injuries</i>	<i>Over-3-day injuries</i>	<i>Total injuries</i>	<i>Fatal and major injuries: rate per 100 000 employees</i>	<i>All reported injuries: rate per 100 000 employees</i>
STANDARD INDUSTRIAL CLASSIFICATION (SIC92)	Section							
Agriculture, hunting, forestry and fishing (a)	A, B	01,02,05	14	593	1 400	2 007	211.6	699.6
Extractive and utility supply industries	C, E	10-14,40/41	9	451	2 306	2 766	252.3	1 517.1
Mining and quarrying	C	10-14	9	284	1 468	1 761	431.8	2 595.2
Mining and quarrying of energy producing materials	CA	10-12	4	165	1 038	1 207	392.7	2 804.7
Mining and quarrying except energy producing materials	CB	13/14	5	119	430	554	499.6	2 232.1
Electricity, gas and water supply	E	40/41	-	167	838	1 005	145.9	878.0
Manufacturing	D	15-37	46	7 298	37 618	44 962	193.2	1 183.0
– food products; beverages and tobacco	DA	15/16	4	1 320	9 247	10 571	278.0	2 219.3
– textiles and textile products	DB	17/18	3	245	1 116	1 364	104.3	573.5
– leather and leather products	DC	19	-	22	160	182	87.3	722.0
– wood and wood products	DD	20	3	329	1 029	1 361	406.3	1 665.8
– pulp, paper and paper products; publishing and printing	DE	21/22	-	459	2 506	2 965	100.0	645.7
– coke, refined petroleum products and nuclear fuel	DF	23	-	41	114	155	157.7	596.1
– chemicals, chemical products and man-made fibres	DG	24	-	381	1 857	2 238	162.4	953.7
– rubber and plastic products	DH	25	5	606	3 226	3 837	272.9	1 714.0
– other non-metallic mineral products	DI	26	5	409	2 030	2 444	301.1	1 777.5
– basic metals and fabricated metal products	DJ	27/28	17	1 502	5 903	7 422	294.5	1 438.7
– machinery and equipment nec	DK	29	4	613	2 840	3 457	177.6	995.0
– electrical and optical equipment	DL	30-33	2	415	2 284	2 701	87.3	565.3
– transport equipment	DM	34/35	1	654	3 833	4 488	186.9	1 280.5
– manufacturing nec	DN	36/37	2	302	1 473	1 777	146.9	858.7
Construction	F	45	72	4 268	9 427	13 767	384.8	1 220.6
Total service industries	G-Q	50-99	72	13 937	78 593	92 602	72.4	478.5
Wholesale and retail trade, and repairs	G	50-52	10	2 739	13 686	16 435	63.2	377.7
Hotels and restaurants	H	55	3	690	3 089	3 782	42.6	232.8
Transport, storage and communication (b)	I	60-64	32	2 885	21 633	24 550	557.3	4 689.9
Financial intermediation	J	65-67	1	140	517	658	13.4	62.5
Real estate, renting and business activities	K	70-74	7	998	3 560	4 565	27.6	125.2
Public administration and defence	L	75	4	2 025	14 004	16 033	151.4	1 196.4
Education	M	80	3	1 413	4 534	5 950	68.8	289.2
Health and social work	N	85	2	1 798	12 966	14 766	71.9	590.1
Other community, social and personal service activities	O, P, Q	90-93,95,99	10	1 249	4 604	5 863	101.5	472.9
All industries	A-Q	01-99	213	26 547	129 344	156 104	108.1	630.7

(a) Excludes sea fishing.

(b) Injuries arising from shore-based services only. Excludes incidents reported under merchant shipping legislation.

p Provisional

nec Not elsewhere classified.

SELF-EMPLOYED

MEMBERS OF
THE PUBLIC

TOTAL

<i>Fatal injuries</i>	<i>Non-fatal major injuries</i>	<i>Over-3-day injuries</i>	<i>Total injuries</i>	<i>Fatal injuries</i>	<i>Non-fatal injuries</i>	<i>Fatal injuries</i>	<i>Non-fatal major injuries</i>	<i>Over-3-day injuries</i>	<i>Total injuries</i>
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32	57	25	114
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-	4	7	11
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-	3	5	8
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-	-	-	-
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-	3	5	8
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-	1	2	3
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4	51	81	136
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-	3	17	20
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1	2	2	5
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-	-	-	-
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1	11	6	18
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-	3	5	8
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-	-	-	-
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-	4	3	7
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-	1	3	4
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-	5	7	12
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2	7	14	23
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-	3	11	14
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-	6	5	11
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-	1	7	8
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-	5	1	6
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34	404	425	863
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8	108	165	281
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2	27	23	52
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-	3	5	8
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4	12	33	49
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-	4	8	12
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1	19	22	42
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-	6	20	26
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-	5	10	15
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-	5	13	18
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1	27	31	59
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78	624	703	1 405
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7	147
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3	37
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2	12
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2	3
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-	9
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1	25
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2	115
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-	30
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-	1
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-	-
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-	10
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-	6
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-	1
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-	2
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-	5
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1	3
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-	7
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-	7
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-	9
---	---

1	29
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-	5
---	---

8	312
---	-----

425	19 591
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2	2 336
---	-------

5	872
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333	286
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-	55
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7	230
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5	1 044
---	-------

5	6 734
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42	1 974
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26	3 060
----	-------

445	20 202
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53	797	1 425	2 275
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12	492	2 313	2 817
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11	299	1 473	1 783
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6	168	1 038	1 212
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5	131	435	571
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1	193	840	1 034
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52	7 464	37 699	45 215
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4	1 353	9 264	10 621
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4	248	1 118	1 370
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-	22	160	182
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4	350	1 035	1 389
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-	468	2 511	2 979
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-	42	114	156
---	----	-----	-----

-	387	1 860	2 247
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5	612	3 229	3 846
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6	417	2 037	2 460
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19	1 516	5 917	7 452
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4	623	2 851	3 478
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2	430	2 289	2 721
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2	684	3 840	4 526
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2	312	1 474	1 788
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114	4 984	9 852	14 950
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505	33 636	78 758	112 899
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14	5 102	13 709	18 825
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8	1 565	3 094	4 667
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369	6 183	21 666	28 218
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1	199	525	725
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15	1 247	3 582	4 844
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9	3 075	14 024	17 108
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8	8 152	4 544	12 704
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44	3 777	12 979	16 800
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37	4 336	4 635	9 008
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736	47 373	130 047	178 156
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Table A1.1b Injuries in Great Britain by industry and severity of injury 1999/2000
As reported to all enforcing authorities

			EMPLOYEES (including trainees)					
			<i>Fatal injuries</i>	<i>Non-fatal major injuries</i>	<i>Over-3-day injuries</i>	<i>Total injuries</i>	<i>Fatal and major injuries: rate per 100 000 employees</i>	<i>All reported injuries: rate per 100 000 employees</i>
STANDARD INDUSTRIAL CLASSIFICATION (SIC92)	Section							
Agriculture, hunting, forestry and fishing (a)	A, B	01,02,05	13	652	1 415	2 080	228.9	715.9
Extractive and utility supply industries	C, E	10-14,40/41	6	467	2 401	2 874	247.2	1 502.1
Mining and quarrying	C	10-14	4	277	1 394	1 675	404.8	2 413.1
Mining and quarrying of energy producing materials	CA	10-12	3	161	931	1 095	382.8	2 555.9
Mining and quarrying except energy producing materials	CB	13/14	1	116	463	580	440.3	2 182.7
Electricity, gas and water supply	E	40/41	2	190	1 007	1 199	157.5	983.4
Manufacturing	D	15-37	38	7 973	39 370	47 381	205.1	1 213.0
– food products; beverages and tobacco	DA	15/16	1	1 526	9 778	11 305	316.7	2 344.5
– textiles and textile products	DB	17/18	1	260	1 337	1 598	98.9	605.5
– leather and leather products	DC	19	1	38	132	171	139.1	610.0
– wood and wood products	DD	20	1	357	1 061	1 419	445.5	1 766.0
– pulp, paper and paper products; publishing and printing	DE	21/22	3	490	2 540	3 033	106.6	656.1
– coke, refined petroleum products and nuclear fuel	DF	23	-	48	121	169	174.2	613.3
– chemicals, chemical products and man-made fibres	DG	24	2	424	1 931	2 357	176.5	976.3
– rubber and plastic products	DH	25	2	646	3 530	4 178	278.9	1 798.2
– other non-metallic mineral products	DI	26	-	421	2 087	2 508	311.6	1 856.2
– basic metals and fabricated metal products	DJ	27/28	16	1 548	6 106	7 670	297.0	1 456.3
– machinery and equipment nec	DK	29	4	631	2 854	3 489	177.3	973.9
– electrical and optical equipment	DL	30-33	-	472	2 280	2 752	97.3	567.1
– transport equipment	DM	34/35	2	715	4 088	4 805	192.2	1 288.1
– manufacturing nec	DN	36/37	5	397	1 525	1 927	191.6	918.5
Construction	F	45	61	4 386	10 159	14 606	401.4	1 318.4
Total service industries	G-Q	50-99	44	15 174	82 036	97 254	79.8	509.8
Wholesale and retail trade, and repairs	G	50-52	6	3 194	15 549	18 749	74.7	437.9
Hotels and restaurants	H	55	1	866	3 432	4 299	53.8	266.8
Transport, storage and communication (b)	I	60-64	19	2 964	20 581	23 564	201.7	1 593.2
Financial intermediation	J	65-67	-	159	576	735	14.9	69.1
Real estate, renting and business activities	K	70-74	7	1 113	3 858	4 978	31.3	139.2
Public administration and defence	L	75	2	2 213	14 878	17 093	165.5	1 277.5
Education	M	80	-	1 471	4 759	6 230	74.6	316.0
Health and social work	N	85	-	1 856	13 810	15 666	73.5	620.0
Other community, social and personal service activities	O, P, Q	90-93,95,99	9	1 338	4 593	5 940	109.6	483.4
All industries	A-Q	01-99	162	28 652	135 381	164 195	117.3	668.2

(a) Excludes sea fishing.

(b) Injuries arising from shore-based services only. Excludes incidents reported under merchant shipping legislation.

nec Not elsewhere classified.

SELF-EMPLOYED

MEMBERS OF
THE PUBLIC

TOTAL

<i>Fatal injuries</i>	<i>Non-fatal major injuries</i>	<i>Over-3-day injuries</i>	<i>Total injuries</i>	<i>Fatal injuries</i>	<i>Non-fatal injuries</i>	<i>Fatal injuries</i>	<i>Non-fatal major injuries</i>	<i>Over-3-day injuries</i>	<i>Total injuries</i>
23	74	41	138	8	192	44	918	1 456	2 418
1	39	110	150	2	50	9	556	2 511	3 076
1	36	109	146	2	8	7	321	1 503	1 831
-	28	98	126	-	4	3	193	1 029	1 225
1	8	11	20	2	4	4	128	474	606
-	3	1	4	-	42	2	235	1 008	1 245
3	65	90	158	4	164	45	8 202	39 480	47 707
-	10	18	28	-	68	1	1 604	9 796	11 401
-	2	4	6	-	2	1	264	1 341	1 606
-	-	-	-	-	-	1	38	132	171
-	4	3	7	-	6	1	367	1 064	1 432
-	3	7	10	1	4	4	497	2 547	3 048
-	-	-	-	-	2	-	50	121	171
-	4	5	9	-	3	2	431	1 936	2 369
-	7	5	12	-	1	2	654	3 535	4 191
1	7	8	16	-	5	1	433	2 095	2 529
1	8	13	22	1	7	18	1 563	6 119	7 700
-	7	5	12	-	5	4	643	2 859	3 506
-	1	4	5	-	6	-	479	2 284	2 763
-	6	12	18	2	40	4	761	4 100	4 865
1	6	6	13	-	15	6	418	1 531	1 955
20	363	345	728	6	403	87	5 152	10 504	15 743
11	122	146	279	416	24 250	471	39 546	82 182	122 199
5	27	19	51	1	3 457	12	6 678	15 568	22 258
-	8	7	15	6	1 284	7	2 158	3 439	5 604
-	14	22	36	337	3 236	356	6 214	20 603	27 173
-	-	3	3	-	71	-	230	579	809
3	21	21	45	3	349	13	1 483	3 879	5 375
1	14	30	45	2	1 052	5	3 279	14 908	18 192
-	4	8	12	4	8 388	4	9 863	4 767	14 634
-	7	15	22	49	2 581	49	4 444	13 825	18 318
2	27	21	50	14	3 832	25	5 197	4 614	9 836
58	663	732	1 453	436	25 059	656	54 374	136 113	191 143

Table A1.2 Fatal injuries reported to all enforcing authorities by industry 1996/97 - 2000/01p

STANDARD INDUSTRIAL CLASSIFICATION (SIC92)		Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries	All industries
	Section	A,B	C,E	D	F	G-Q	
INJURY NUMBERS:							
	Year						
EMPLOYEES	96/97	20	9	53	66	59	207
	97/98	20	17	54	58	63	212
	98/99	16	10	63	47	52	188
	99/00	13	6	38	61	44	162
	00/01p	14	9	46	72	72	213
SELF-EMPLOYED	96/97	35	-	6	24	15	80
	97/98	20	1	7	22	12	62
	98/99	30	1	6	18	10	65
	99/00	23	1	3	20	11	58
	00/01p	32	-	4	34	8	78
MEMBERS OF THE PUBLIC	96/97	9	3	1	3	351	367
	97/98	11	1	1	6	374	393
	98/99	9	2	-	3	355	369
	99/00	8	2	4	6	416	436
	00/01p	7	3	2	8	425	445
INCIDENCE RATES (PER 100 000):							
EMPLOYEES	96/97	7.6	4.2	1.3	8.2	0.4	0.9
	97/98	6.7	7.9	1.3	5.7	0.4	0.9
	98/99	5.4	4.7	1.6	4.4	0.3	0.8
	99/00	4.5	3.1	1.0	5.5	0.2	0.7
	00/01p	4.9	4.9	1.2	6.4	0.4	0.9
SELF-EMPLOYED	96/97	14.3	-	2.3	3.0	0.7	2.3
	97/98	8.7	10.3	2.7	3.1	0.5	1.8
	98/99	15.0	13.0	2.2	2.8	0.4	1.9
	99/00	13.0	13.7	1.2	3.2	0.5	1.7
	00/01p	18.4	-	1.8	5.3	0.4	2.4

(a) Excludes sea fishing.

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Table A1.3 Non-fatal major injuries reported to all enforcing authorities by industry
1996/97 - 2000/01p

STANDARD INDUSTRIAL CLASSIFICATION (SIC92)		Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries	All industries
Section		A,B	C,E	D	F	G-Q	
INJURY NUMBERS:		Year					
EMPLOYEES	96/97	678	679	8 235	3 227	15 145	27 964
	97/98	671	608	8 770	3 860	15 278	29 187
	98/99	605	521	8 137	4 289	14 816	28 368
	99/00	652	467	7 973	4 386	15 174	28 652
	00/01p	593	451	7 298	4 268	13 937	26 547
SELF-EMPLOYED	96/97	100	15	111	827	303	1 356
	97/98	74	76	94	466	105	815
	98/99	74	34	96	367	114	685
	99/00	74	39	65	363	122	663
	00/01p	57	4	51	404	108	624
INCIDENCE RATES (PER 100 000):							
EMPLOYEES	96/97	256.9	315.1	206.4	403.0	90.8	127.5
	97/98	223.3	282.7	216.1	382.3	88.4	127.6
	98/99	205.6	246.8	201.5	402.7	83.7	121.7
	99/00	224.4	244.1	204.1	395.9	79.5	116.6
	00/01p	206.7	247.4	192.0	378.4	72.0	107.3
SELF-EMPLOYED	96/97	40.9	211.7	41.7	104.0	13.7	38.4
	97/98	32.3	780.8	35.7	65.4	4.6	23.3
	98/99	36.9	441.5	35.2	56.5	5.1	20.3
	99/00	41.8	532.7	25.9	57.7	5.3	19.7
	00/01p	32.7	53.8	22.9	62.5	4.8	19.0

(a) Excludes sea fishing.
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Table A1.4 Over-3-day injuries reported to all enforcing authorities by industry 1996/97 - 2000/01p

STANDARD INDUSTRIAL CLASSIFICATION (SIC92)		Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries	All industries
	Section	A,B	C,E	D	F	G-Q	
INJURY NUMBERS:	Year						
EMPLOYEES	96/97	1 457	3 023	40 005	8 637	74 164	127 286
	97/98	1 334	3 188	41 648	9 756	78 863	134 789
	98/99	1 258	2 845	39 168	9 195	79 829	132 295
	99/00	1 415	2 401	39 370	10 159	82 036	135 381
	00/01p	1 400	2 306	37 618	9 427	78 593	129 344
SELF-EMPLOYED	96/97	57	16	154	1 029	1 026	2 282
	97/98	48	151	94	509	182	984
	98/99	40	129	96	381	203	849
	99/00	41	110	90	345	146	732
	00/01p	25	7	81	425	165	703
INCIDENCE RATES (PER 100 000):							
EMPLOYEES	96/97	552.0	1 402.8	1 002.8	1 078.6	444.9	580.1
	97/98	443.9	1 482.6	1 026.1	966.3	456.1	589.2
	98/99	427.5	1 347.9	969.8	863.4	450.8	567.3
	99/00	487.0	1 254.9	1 007.9	917.0	430.0	550.9
	00/01p	488.0	1 264.8	989.7	835.8	406.1	522.6
SELF-EMPLOYED	96/97	23.3	225.8	57.9	129.4	46.4	64.6
	97/98	20.9	1 551.3	35.7	71.4	8.0	28.1
	98/99	20.0	1 675.1	35.2	58.7	9.1	25.2
	99/00	23.2	1 502.5	35.9	54.9	6.4	21.8
	00/01p	14.4	94.1	36.4	65.8	7.4	21.4

(a) Excludes sea fishing.
p Provisional

Table A1.5

Non-fatal injuries to members of the public reported to all enforcing authorities by industry 1996/97 - 2000/01p

STANDARD INDUSTRIAL CLASSIFICATION (SIC92)	Section Year	<i>Agriculture, hunting, forestry & fishing (a)</i>	<i>Extractive & utility supply industries</i>	<i>Manufacturing industries</i>	<i>Construction</i>	<i>Service industries</i>	<i>All industries</i>
		A,B	C,E	D	F	G-Q	
NUMBER OF NON-FATAL INJURIES							
	96/97	192	40	153	405	34 904	35 694
	97/98	178	29	142	339	27 925	28 613
	98/99	196	32	140	378	23 054	23 800
	99/00	192	50	164	403	24 250	25 059
	00/01p	147	37	115	312	19 591	20 202

(a) Excludes sea fishing.

p Provisional

Table A1.6 Fatal injuries reported to all enforcing authorities for employees in Scotland and Wales by industry 1998/99 - 2000/01p

STANDARD INDUSTRIAL CLASSIFICATION (SIC92)		<i>Agriculture, hunting, forestry & fishing (a)</i>	<i>Extractive & utility supply industries (b)</i>	<i>Manufacturing industries (c)</i>	<i>Construction</i>	<i>Service industries (d)</i>	<i>All industries</i>
	Section	A,B	C,E	D	F	G-Q	
	Year						
INJURY NUMBERS:							
SCOTLAND	98/99	3	1	11	7	4	26
	99/00	3	1	3	11	5	23
	00/01p	2	-	5	12	7	26
WALES	98/99	1	2	5	3	3	14
	99/00	-	-	3	3	2	8
	00/01p	-	-	2	3	-	5
INCIDENCE RATES (PER 100 000):							
SCOTLAND	98/99	8.2	2.2	3.5	6.0	0.3	1.3
	99/00	7.4	2.5	1.0	8.3	0.3	1.1
	00/01p	5.0	-	1.6	9.0	0.4	1.2
WALES	98/99	5.4	19.9	2.3	5.8	0.4	1.4
	99/00	-	-	1.5	5.5	0.3	0.8
	00/01p	-	-	1.0	6.2	-	0.5

(a) Excludes sea fishing.

(b) Excludes injuries reportable to HSE's Hazardous Installations Directorate Offshore Division occurring in GB waters or the UK continental shelf.

(c) 1998/99 data exclude injuries reportable to HSE's Explosives Inspectorate.

(d) 1998/99 data exclude injuries reportable to HSE's Railway Inspectorate.

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Table A1.7 Non-fatal major injuries reported to all enforcing authorities for employees in Scotland and Wales by industry 1998/99 - 2000/01p

STANDARD INDUSTRIAL CLASSIFICATION (SIC92)		<i>Agriculture, hunting, forestry & fishing (a)</i>	<i>Extractive & utility supply industries (b)</i>	<i>Manufacturing industries (c)</i>	<i>Construction</i>	<i>Service industries (d)</i>	<i>All industries</i>
	Section Year	A,B	C,E	D	F	G-Q	
INJURY NUMBERS:							
SCOTLAND	98/99	77	55	707	570	1 367	2 776
	99/00	101	62	620	539	1 401	2 723
	00/01p	82	54	572	612	1 400	2 720
WALES	98/99	13	40	640	239	834	1 766
	99/00	31	40	658	256	885	1 870
	00/01p	12	44	549	188	715	1 508
INCIDENCE RATES (PER 100 000):							
SCOTLAND	98/99	211.1	123.2	226.2	490.3	90.6	137.5
	99/00	249.6	156.2	198.2	405.9	87.1	127.6
	00/01p	207.0	140.8	187.5	460.2	86.9	127.9
WALES	98/99	69.9	398.9	298.0	461.9	117.5	175.7
	99/00	178.8	429.9	318.7	467.7	113.7	175.4
	00/01p	69.1	513.4	270.9	390.5	89.7	140.4

(a) Excludes sea fishing.

(b) Excludes injuries reportable to HSE's Hazardous Installations Directorate Offshore Division occurring in GB waters or the UK continental shelf.

(c) 1998/99 data exclude injuries reportable to HSE's Explosives Inspectorate.

(d) 1998/99 data exclude injuries reportable to HSE's Railway Inspectorate.

p Provisional

Table A1.8 Over-3-day injuries reported to all enforcing authorities for employees in Scotland and Wales by industry 1998/99 - 2000/01p

STANDARD INDUSTRIAL CLASSIFICATION (SIC92)		<i>Agriculture, hunting, forestry & fishing (a)</i>	<i>Extractive & utility supply industries (b)</i>	<i>Manufacturing industries (c)</i>	<i>Construction</i>	<i>Service industries (d)</i>	<i>All industries</i>
	Section Year	A,B	C,E	D	F	G-Q	
INJURY NUMBERS:							
SCOTLAND	98/99	170	388	3 105	1 332	7 240	12 235
	99/00	219	314	2 809	1 384	7 129	11 855
	00/01p	218	266	2 726	1 314	6 604	11 128
WALES	98/99	44	187	2 678	405	3 964	7 278
	99/00	52	159	2 877	420	3 893	7 401
	00/01p	30	143	2 840	438	3 907	7 358
INCIDENCE RATES (PER 100 000):							
SCOTLAND	98/99	466.0	869.2	993.2	1 145.8	480.0	606.2
	99/00	541.3	791.0	897.9	1 042.1	443.4	555.6
	00/01p	550.4	693.7	893.6	988.0	410.1	523.3
WALES	98/99	236.5	1 864.8	1 247.1	782.7	558.4	724.2
	99/00	300.0	1 708.8	1 393.3	767.3	500.4	694.3
	00/01p	172.9	1 668.6	1 401.3	909.8	490.0	685.0

(a) Excludes sea fishing.

(b) Excludes injuries reportable to HSE's Hazardous Installations Directorate Offshore Division occurring in GB waters or the UK continental shelf.

(c) 1998/99 data exclude injuries reportable to HSE's Explosives Inspectorate.

(d) 1998/99 data exclude injuries reportable to HSE's Railway Inspectorate.

p Provisional

Table A1.9

Injuries to employees by kind of accident and severity of injury 1996/97 - 2000/01p
As reported to all enforcing authorities

Kind of accident	Fatal				
	96/97	97/98	98/99	99/00	00/01p
Contact with moving machinery	15	19	18	13	16
Struck by moving, including flying/falling, object	43	34	35	30	41
Struck by moving vehicle	35	43	38	27	54
Strike against something fixed or stationary	3	3	-	-	-
Injured while handling, lifting or carrying	-	3	1	-	1
Slips, trips or falls on same level	2	-	3	3	2
Falls from a height of which:	56	64	48	43	45
- up to and inc 2 metres	5	9	6	2	3
- over 2 metres	48	52	41	36	42
- height not stated	3	3	1	5	-
Trapped by something collapsing/overturning	10	16	11	10	24
Drowning or asphyxiation	7	7	5	5	7
Exposure to, or contact with, a harmful substance	3	4	2	5	1
Exposure to fire	3	2	3	6	2
Exposure to an explosion	6	4	5	2	1
Contact with electricity or electrical discharge	15	12	16	12	9
Injured by an animal	1	-	2	2	2
Acts of violence	2	-	1	-	3
Other kind of accident	4	1	-	3	4
Injuries not classified by kind	2	-	-	1	1
Total	207	212	188	162	213

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Non-fatal major

Over-3-day

<i>96/97</i>	<i>97/98</i>	<i>98/99</i>	<i>99/00</i>	<i>00/01p</i>	<i>96/97</i>	<i>97/98</i>	<i>98/99</i>	<i>99/00</i>	<i>00/01p</i>
1 703	1 915	1 696	1 779	1 611	5 686	6 015	5 677	5 624	5 229
4 606	4 739	4 287	4 370	3 891	18 283	18 772	18 029	18 293	16 371
903	915	928	959	802	2 810	3 071	2 934	3 172	2 966
1 497	1 547	1 357	1 277	1 200	7 324	7 458	7 023	6 891	6 446
2 745	3 002	2 894	2 862	2 544	46 366	50 640	49 044	48 729	46 356
8 562	8 671	9 007	9 087	8 703	24 537	25 883	26 687	27 615	27 621
5 023	5 382	5 454	5 500	5 105	8 492	8 452	8 452	9 019	8 789
2 387	2 593	3 140	3 196	3 108	4 944	4 854	5 829	6 321	6 232
1 220	1 392	1 640	1 616	1 408	864	923	1 171	1 232	1 185
1 416	1 397	674	688	589	2 684	2 675	1 452	1 466	1 372
165	157	218	214	185	305	268	526	511	476
53	50	59	49	78	126	95	109	116	88
906	997	844	713	609	3 819	4 066	4 121	3 913	3 597
97	94	59	77	52	376	359	272	323	302
71	51	56	47	61	167	142	133	163	123
210	258	221	231	183	515	493	461	504	462
152	162	166	205	170	771	850	863	893	873
665	680	633	715	777	3 866	4 400	4 621	5 320	5 412
557	509	450	492	479	3 554	3 552	3 106	3 985	3 766
49	58	39	75	97	289	273	237	310	467
7 964	29 187	28 368	28 652	26 547	127 286	134 789	132 295	135 381	129 344

Table A1.10

Fatal injuries to employees, self-employed and workers by kind of accident 1996/97 - 2000/01p
As reported to all enforcing authorities

Kind of accident	Employees				
	96/97	97/98	98/99	99/00	00/01p
Contact with moving machinery	15	19	18	13	16
Struck by moving, including flying/falling, object	43	34	35	30	41
Struck by moving vehicle	35	43	38	27	54
Strike against something fixed or stationary	3	3	-	-	-
Injured while handling, lifting or carrying	-	3	1	-	1
Slips, trips or falls on same level	2	-	3	3	2
Falls from a height of which:	56	64	48	43	45
- up to and inc 2 metres	5	9	6	2	3
- over 2 metres	48	52	41	36	42
- height not stated	3	3	1	5	-
Trapped by something collapsing/overturning	10	16	11	10	24
Drowning or asphyxiation	7	7	5	5	7
Exposure to, or contact with, a harmful substance	3	4	2	5	1
Exposure to fire	3	2	3	6	2
Exposure to an explosion	6	4	5	2	1
Contact with electricity or electrical discharge	15	12	16	12	9
Injured by an animal	1	-	2	2	2
Acts of violence	2	-	1	-	3
Other kind of accident	4	1	-	3	4
Injuries not classified by kind	2	-	-	1	1
Total	207	212	188	162	213

p Provisional

Self-employed

Workers

96/97	97/98	98/99	99/00	00/01p	96/97	97/98	98/99	99/00	00/01p
5	2	3	1	5	20	21	21	14	21
14	7	6	5	11	57	41	41	35	52
8	2	10	7	10	43	45	48	34	64
1	-	-	1	-	4	3	-	1	-
-	-	-	-	-	-	3	1	-	1
-	-	-	-	1	2	-	3	3	3
32	28	32	25	28	88	92	80	68	73
5	3	3	3	2	10	12	9	5	5
22	19	29	22	26	70	71	70	58	68
5	6	-	-	-	8	9	1	5	-
6	9	4	6	13	16	25	15	16	37
2	-	4	2	1	9	7	9	7	8
4	-	-	-	2	7	4	2	5	3
2	-	1	1	-	5	2	4	7	2
1	2	1	-	-	7	6	6	2	1
1	5	1	6	6	16	17	17	18	15
3	6	2	4	1	4	6	4	6	3
-	-	-	-	-	2	-	1	-	3
1	-	1	-	-	5	1	1	3	4
-	1	-	-	-	2	1	-	1	1
80	62	65	58	78	287	274	253	220	291

Table A1.11

Injuries to employees by kind of accident, severity of injury and industry 1999/2000
As reported to all enforcing authorities

Kind of accident	Fatal				
	Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries
Contact with moving machinery	-	1	11	-	1
Struck by moving, including flying/falling, object	3	1	2	17	7
Struck by moving vehicle	2	1	2	5	17
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	-	-	-	-
Slips, trips or falls on same level	1	-	-	-	2
Falls from a height of which:	1	1	4	29	8
- up to and inc 2 metres	-	-	-	2	-
- over 2 metres	1	1	4	24	6
- height not stated	-	-	-	3	2
Trapped by something collapsing/overturning	2	-	3	2	3
Drowning or asphyxiation	1	-	3	-	1
Exposure to, or contact with, a harmful substance	-	-	4	-	1
Exposure to fire	-	-	5	1	-
Exposure to an explosion	-	1	1	-	-
Contact with electricity or electrical discharge	1	1	2	6	2
Injured by an animal	2	-	-	-	-
Acts of violence	-	-	-	-	-
Other kind of accident	-	-	1	1	1
Injuries not classified by kind	-	-	-	-	1
Total	13	6	38	61	44

(a) Excludes sea fishing.

Non-fatal major

Over-3-day

<i>Agriculture, hunting, forestry & fishing (a)</i>	<i>Extractive & utility supply industries</i>	<i>Manufacturing industries</i>	<i>Construction</i>	<i>Service industries</i>	<i>Agriculture, hunting, forestry & fishing (a)</i>	<i>Extractive & utility supply industries</i>	<i>Manufacturing industries</i>	<i>Construction</i>	<i>Service industries</i>
87	22	1 260	136	274	103	31	4 082	280	1 126
120	110	1 532	788	1 820	262	366	6 514	1 901	9 252
33	15	286	102	523	37	19	813	154	2 149
18	21	343	126	769	83	104	2 282	508	3 914
48	38	829	429	1 518	403	840	14 008	3 430	30 048
105	122	1 909	908	6 043	210	577	6 834	1 818	18 176
119	85	1 228	1 594	2 474	117	207	2 244	1 411	5 040
68	58	825	774	1 471	73	172	1 810	868	3 398
36	22	304	740	514	25	16	213	410	568
15	5	99	80	489	19	19	221	133	1 074
10	3	31	57	113	9	8	85	45	364
1	1	19	7	21	1	3	15	5	92
17	15	318	53	310	35	43	1 421	198	2 216
3	1	32	11	30	8	6	109	37	163
2	3	20	6	16	-	4	50	21	88
5	13	60	96	57	2	20	108	90	284
64	1	8	1	131	100	5	45	12	731
1	2	14	10	688	6	8	90	25	5 191
18	14	71	49	340	32	154	619	194	2 986
1	1	13	13	47	7	6	51	30	216
652	467	7 973	4 386	15 174	1 415	2 401	39 370	10 159	82 036

Table A1.12 Injuries to employees by kind of accident, severity of injury and industry 2000/01p
As reported to all enforcing authorities

Kind of accident	Fatal				
	Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries
Contact with moving machinery	1	-	11	2	2
Struck by moving, including flying/falling, object	1	2	21	7	10
Struck by moving vehicle	1	2	3	16	32
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	-	1	-	-
Slips, trips or falls on same level	1	-	1	-	-
Falls from a height of which:	7	1	2	27	8
- up to and inc 2 metres	2	-	1	-	-
- over 2 metres	5	1	1	27	8
- height not stated	-	-	-	-	-
Trapped by something collapsing/overturning	-	3	3	11	7
Drowning or asphyxiation	1	-	1	2	3
Exposure to, or contact with, a harmful substance	-	-	-	-	1
Exposure to fire	-	-	-	2	-
Exposure to an explosion	-	-	1	-	-
Contact with electricity or electrical discharge	1	-	1	4	3
Injured by an animal	1	-	-	-	1
Acts of violence	-	-	1	-	2
Other kind of accident	-	1	-	-	3
Injuries not classified by kind	-	-	-	1	-
Total	14	9	46	72	72

(a) Excludes sea fishing.

p Provisional

Non-fatal major

Over-3-day

<i>Agriculture, hunting, forestry & fishing (a)</i>	<i>Extractive & utility supply industries</i>	<i>Manufacturing industries</i>	<i>Construction</i>	<i>Service industries</i>
76	13	1 142	146	234
105	96	1 424	778	1 487
20	8	248	90	436
14	21	370	129	667
45	45	708	345	1 401
135	117	1 841	907	5 703
107	92	1 037	1 560	2 309
61	61	694	795	1 497
34	20	240	687	427
12	11	103	78	385
5	2	35	57	86
3	-	16	10	49
8	14	275	63	247
1	-	16	20	15
2	3	28	8	20
-	11	43	71	58
63	-	11	3	93
3	1	12	15	746
6	26	77	48	322
-	2	15	18	64
593	451	7 298	4 268	13 937

<i>Agriculture, hunting, forestry & fishing (a)</i>	<i>Extractive & utility supply industries</i>	<i>Manufacturing industries</i>	<i>Construction</i>	<i>Service industries</i>
90	38	3 832	284	985
234	378	6 050	1 669	8 040
34	27	796	138	1 972
65	91	2 202	416	3 673
393	750	13 296	3 190	28 728
254	561	6 759	1 808	18 238
132	177	2 215	1 295	4 970
93	130	1 721	818	3 470
23	20	210	377	555
16	27	284	100	945
11	9	91	33	332
-	1	25	3	59
33	45	1 253	214	2 052
8	5	116	32	141
2	5	44	10	62
5	9	135	72	241
82	9	29	30	723
9	7	80	29	5 287
47	191	636	174	2 718
1	3	59	30	372
1 400	2 306	37 618	9 427	78 593

Table A1.13 Fatal injuries to employees, self-employed and workers by kind of accident and severity of injury 1999/2000
As reported to all enforcing authorities

Kind of accident	Employees				
	Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries
Contact with moving machinery	-	1	11	-	1
Struck by moving, including flying/falling, object	3	1	2	17	7
Struck by moving vehicle	2	1	2	5	17
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	-	-	-	-
Slips, trips or falls on same level	1	-	-	-	2
Falls from a height of which:	1	1	4	29	8
- up to and inc 2 metres	-	-	-	2	-
- over 2 metres	1	1	4	24	6
- height not stated	-	-	-	3	2
Trapped by something collapsing/overturning	2	-	3	2	3
Drowning or asphyxiation	1	-	3	-	1
Exposure to, or contact with, a harmful substance	-	-	4	-	1
Exposure to fire	-	-	5	1	-
Exposure to an explosion	-	1	1	-	-
Contact with electricity or electrical discharge	1	1	2	6	2
Injured by an animal	2	-	-	-	-
Acts of violence	-	-	-	-	-
Other kind of accident	-	-	1	1	1
Injuries not classified by kind	-	-	-	-	1
Total	13	6	38	61	44

(a) Excludes sea fishing.

Self-employed

Workers

Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries	Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries
-	-	-	1	-	-	1	11	1	1
4	-	1	-	-	7	1	3	17	7
3	1	1	-	2	5	2	3	5	19
-	-	-	1	-	-	-	-	1	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	1	-	-	-	2
6	-	-	13	6	7	1	4	42	14
2	-	-	-	1	2	-	-	2	1
4	-	-	13	5	5	1	4	37	11
-	-	-	-	-	-	-	-	3	2
4	-	-	-	2	6	-	3	2	5
1	-	-	1	-	2	-	3	1	1
-	-	-	-	-	-	-	4	-	1
-	-	1	-	-	-	-	6	1	-
-	-	-	-	-	-	1	1	-	-
1	-	-	4	1	2	1	2	10	3
4	-	-	-	-	6	-	-	-	-
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	1	1	1
-	-	-	-	-	-	-	-	-	1
23	1	3	20	11	36	7	41	81	55

Table A1.14 Fatal injuries to employees, self-employed and workers by kind of accident and industry
2000/01p
As reported to all enforcing authorities

Kind of accident	Employees				
	Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries
Contact with moving machinery	1	-	11	2	2
Struck by moving, including flying/falling, object	1	2	21	7	10
Struck by moving vehicle	1	2	3	16	32
Strike against something fixed or stationary	-	-	-	-	-
Injured while handling, lifting or carrying	-	-	1	-	-
Slips, trips or falls on same level	1	-	1	-	-
Falls from a height of which:	7	1	2	27	8
- up to and inc 2 metres	2	-	1	-	-
- over 2 metres	5	1	1	27	8
- height not stated	-	-	-	-	-
Trapped by something collapsing/overturning	-	3	3	11	7
Drowning or asphyxiation	1	-	1	2	3
Exposure to, or contact with, a harmful substance	-	-	-	-	1
Exposure to fire	-	-	-	2	-
Exposure to an explosion	-	-	1	-	-
Contact with electricity or electrical discharge	1	-	1	4	3
Injured by an animal	1	-	-	-	1
Acts of violence	-	-	1	-	2
Other kind of accident	-	1	-	-	3
Injuries not classified by kind	-	-	-	1	-
Total	14	9	46	72	72

(a) Excludes sea fishing.

p Provisional

Self-employed

Workers

Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries	Agriculture, hunting, forestry & fishing (a)	Extractive & utility supply industries	Manufacturing industries	Construction	Service industries
4	-	1	-	-	5	-	12	2	2
9	-	-	1	1	10	2	21	8	11
7	-	-	2	1	8	2	3	18	33
-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	1	-	-
-	-	-	-	1	1	-	1	-	1
5	-	1	20	2	12	1	3	47	10
1	-	-	1	-	3	-	1	1	-
4	-	1	19	2	9	1	2	46	10
-	-	-	-	-	-	-	-	-	-
4	-	1	7	1	4	3	4	18	8
-	-	-	-	1	1	-	1	2	4
1	-	1	-	-	1	-	1	-	1
-	-	-	-	-	-	-	-	2	-
-	-	-	-	-	-	-	1	-	-
1	-	-	4	1	2	-	1	8	4
1	-	-	-	-	2	-	-	-	1
-	-	-	-	-	-	-	1	-	2
-	-	-	-	-	-	1	-	-	3
-	-	-	-	-	-	-	-	1	-
32	-	4	34	8	46	9	50	106	80

Table A1.15 Injuries to employees by nature and severity of injury 1999/2000 - 2000/01p
As reported to all enforcing authorities

	Fatal		Non-fatal major		Over-3-day	
	99/00	00/01p	99/00	00/01p	99/00	00/01p
Nature of injury						
Amputation	-	2	1 176	1 071	2	-
Loss of sight of eye	-	-	119	111	25	20
Fracture	28	34	21 140	19 805	6 209	5 646
Dislocation	-	-	1 174	1 197	531	466
Concussion and internal injuries	10	29	638	609	772	739
Lacerations and open wounds	3	1	1 355	1 168	14 830	14 487
Contusions	7	15	560	433	27 644	26 458
Burns	6	4	661	622	4 079	3 848
Poisonings and gassings	15	10	193	185	414	366
Sprains and strains	-	-	314	199	62 017	60 029
Superficial injuries	-	1	302	276	10 852	9 380
Natural causes	-	-	-	8	15	7
Other injuries caused by contact with electricity	12	8	127	101	345	272
Injuries of more than one type	46	70	536	521	3 844	4 240
Injuries not elsewhere classified	19	15	205	156	1 445	1 566
Injuries not known	16	24	152	85	2 357	1 820
Total	162	213	28 652	26 547	135 381	129 344

p Provisional

Table A1.16 Injuries to employees by site and severity of injury 1999/2000 - 2000/01p
As reported to all enforcing authorities

Site of injury	Fatal		Non-fatal major		Over-3-day	
	99/00	00/01p	99/00	00/01p	99/00	00/01p
Eye	1	-	656	671	2 734	2 424
Ear	-	-	13	4	146	135
Other parts of face	-	-	497	359	2 263	2 260
Head (excluding face)	33	43	747	673	4 107	4 012
Several locations of head	4	4	51	44	406	341
Total: Head locations	38	47	1 964	1 751	9 656	9 172
Neck	1	3	102	100	2 636	2 408
Back	-	-	681	586	32 324	31 503
Trunk	15	24	2 015	1 907	4 673	4 541
Several locations of torso	5	7	75	79	695	686
Total: Torso locations	21	34	2 873	2 672	40 328	39 138
One or more finger/thumb(s)	-	-	1 936	1 809	17 622	16 557
Hand	-	-	2 422	2 236	7 736	7 403
Wrist	-	-	4 260	3 921	3 399	3 202
Rest of upper limb	-	-	4 598	4 418	11 294	11 215
Several locations of upper limb	4	2	255	211	1 217	1 178
Total: Upper limb locations	4	2	13 471	12 595	41 268	39 555
One or more toes	-	-	94	73	2 115	1 825
Foot	-	-	2 913	2 764	4 586	4 303
Ankle	1	1	2 602	2 525	9 204	8 777
Rest of lower limb	3	7	2 404	2 250	13 546	13 424
Several locations of lower limb	-	1	150	126	915	795
Total: Lower limb locations	4	9	8 163	7 738	30 366	29 124
Several locations	40	71	1 382	1 231	11 138	11 000
General locations	40	30	544	521	977	954
Unspecified locations	15	20	255	39	1 648	401
Total: All locations	162	213	28 652	26 547	135 381	129 344

p Provisional

Table A1.17 Injuries to male employees by age of injured person and severity of injury
1996/97 - 2000/01p
As reported to all enforcing authorities

		96/97	97/98	98/99(a)	99/00(b)	00/01p(c)
Severity of injury and age of injured person						
Fatal	Under 16	1	1	-	-	-
	16-19	5	10	6	6	8
	20-24	13	12	14	12	10
	25-34	44	47	40	28	36
	35-44	45	43	39	30	59
	45-54	52	45	43	43	46
	55-59	24	25	19	22	24
	60-64	8	16	18	10	13
	65+	2	6	2	7	6
	Unknown	10	3	3	4	5
	Total	204	208	184	162	207
Non-fatal major	Under 16	11	17	7	16	19
	16-19	1 135	1 220	1 107	1 234	938
	20-24	1 972	2 013	1 845	1 800	1 738
	25-34	5 285	5 664	5 451	5 471	4 854
	35-44	4 539	4 931	4 858	5 069	4 871
	45-54	3 945	4 176	4 236	4 114	4 061
	55-59	1 459	1 536	1 520	1 563	1 489
	60-64	823	878	896	906	903
	65+	135	119	109	129	138
	Unknown	1 522	1 396	1 350	1 288	1 051
	Total	20 826	21 950	21 379	21 590	20 062
Over-3-day	Under 16	19	19	17	17	28
	16-19	3 511	4 072	4 166	4 124	3 759
	20-24	8 397	8 965	8 384	8 505	7 902
	25-34	26 502	27 795	26 700	27 170	25 094
	35-44	22 447	24 692	25 159	26 676	26 676
	45-54	17 864	18 976	18 637	19 093	18 669
	55-59	5 692	5 752	5 765	6 104	6 144
	60-64	3 257	3 389	3 364	3 551	3 423
	65+	181	192	221	241	260
	Unknown	5 562	5 535	4 983	4 900	4 521
	Total	93 432	99 387	97 396	100 381	96 476

(a) The sex of 14 people who suffered a major injury and 50 people who suffered an over-3-day injury is unknown and not included in the table above.

(b) The sex of 6 people who suffered a major injury and 36 people who suffered an over-3-day injury is unknown and not included in the table above.

(c) The sex of 7 people who suffered a major injury and 52 people who suffered an over-3-day injury is unknown and not included in the table above.

p Provisional

Table A1.18 Injuries to female employees by age of injured person and severity of injury
1996/97 - 2000/01p
As reported to all enforcing authorities

		96/97	97/98	98/99(a)	99/00(b)	00/01p(c)
Severity of injury and age of injured person						
Fatal	Under 16	-	-	-	-	-
	16-19	-	1	-	-	-
	20-24	-	2	-	-	-
	25-34	-	-	1	-	1
	35-44	1	-	-	-	1
	45-54	1	-	3	-	1
	55-59	-	1	-	-	1
	60-64	-	-	-	-	1
	65+	1	-	-	-	1
	Unknown	-	-	-	-	-
Total		3	4	4	-	6
Non-fatal major	Under 16	3	6	5	3	7
	16-19	349	419	414	388	338
	20-24	609	628	582	583	481
	25-34	1 255	1 264	1 283	1 280	1 134
	35-44	1 247	1 337	1 264	1 372	1 258
	45-54	1 746	1 687	1 659	1 680	1 601
	55-59	819	764	798	741	727
	60-64	384	352	368	368	330
	65+	126	120	97	143	129
	Unknown	593	653	505	498	473
Total		7 131	7 230	6 975	7 056	6 478
Over-3-day	Under 16	5	3	5	7	15
	16-19	1 310	1 550	1 599	1 494	1 322
	20-24	3 032	3 102	2 976	2 813	2 586
	25-34	7 468	7 931	7 894	7 861	6 916
	35-44	7 703	8 205	8 259	8 580	8 310
	45-54	8 023	8 385	8 080	8 025	7 793
	55-59	2 506	2 596	2 634	2 749	2 476
	60-64	880	865	950	964	918
	65+	102	116	177	156	141
	Unknown	2 737	2 592	2 275	2 315	2 339
Total		33 766	35 345	34 849	34 964	32 816

(a) The sex of 14 people who suffered a major injury and 50 people who suffered an over-3-day injury is unknown and not included in the table above.

(b) The sex of 6 people who suffered a major injury and 36 people who suffered an over-3-day injury is unknown and not included in the table above.

(c) The sex of 7 people who suffered a major injury and 52 people who suffered an over-3-day injury is unknown and not included in the table above.

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Table A1.19 Injuries to members of the public by age of injured person and severity of injury
1996/97 - 2000/01p
As reported to all enforcing authorities

		96/97	97/98	98/99	99/00	00/01p
Severity of injury and age of injured person						
Fatal	Under 16	34	29	19	26	35
	16-19	22	34	26	12	29
	20-24	39	40	39	34	33
	25-34	67	74	77	74	79
	35-44	39	33	46	49	50
	45-54	40	33	38	43	41
	55-59	13	17	19	24	15
	60-64	11	19	6	14	6
	65+	47	56	53	54	58
	Unknown	55	58	46	106	99
Total		367	393	369	436	445
Non-fatal	Under 16	17 162	13 896	11 176	10 521	8 155
	16-19	2 343	1 858	1 496	1 676	1 244
	20-24	925	841	734	774	676
	25-34	1 402	1 176	1 112	1 269	994
	35-44	978	784	817	1 021	778
	45-54	826	790	770	899	752
	55-59	331	285	258	361	243
	60-64	648	499	436	579	457
	65+	6 518	4 579	3 438	3 858	2 821
	Unknown	4 561	3 902	3 563	4 101	4 082
Total		35 694	28 610	23 800	25 059	20 202

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Variable	Description		Unit	Source
	Variable	Definition		
1	Y	Dependent variable		
	X	Independent variable		
2	Y	Dependent variable		
	X	Independent variable		
3	Y	Dependent variable		
	X	Independent variable		
4	Y	Dependent variable		
	X	Independent variable		
5	Y	Dependent variable		
	X	Independent variable		
6	Y	Dependent variable		
	X	Independent variable		
7	Y	Dependent variable		
	X	Independent variable		
8	Y	Dependent variable		
	X	Independent variable		
9	Y	Dependent variable		
	X	Independent variable		
10	Y	Dependent variable		
	X	Independent variable		
11	Y	Dependent variable		
	X	Independent variable		
12	Y	Dependent variable		
	X	Independent variable		
13	Y	Dependent variable		
	X	Independent variable		
14	Y	Dependent variable		
	X	Independent variable		
15	Y	Dependent variable		
	X	Independent variable		
16	Y	Dependent variable		
	X	Independent variable		
17	Y	Dependent variable		
	X	Independent variable		
18	Y	Dependent variable		
	X	Independent variable		
19	Y	Dependent variable		
	X	Independent variable		
20	Y	Dependent variable		
	X	Independent variable		
21	Y	Dependent variable		
	X	Independent variable		
22	Y	Dependent variable		
	X	Independent variable		
23	Y	Dependent variable		
	X	Independent variable		
24	Y	Dependent variable		
	X	Independent variable		
25	Y	Dependent variable		
	X	Independent variable		
26	Y	Dependent variable		
	X	Independent variable		
27	Y	Dependent variable		
	X	Independent variable		
28	Y	Dependent variable		
	X	Independent variable		
29	Y	Dependent variable		
	X	Independent variable		
30	Y	Dependent variable		
	X	Independent variable		
31	Y	Dependent variable		
	X	Independent variable		
32	Y	Dependent variable		
	X	Independent variable		
33	Y	Dependent variable		
	X	Independent variable		
34	Y	Dependent variable		
	X	Independent variable		
35	Y	Dependent variable		
	X	Independent variable		
36	Y	Dependent variable		
	X	Independent variable		
37	Y	Dependent variable		
	X	Independent variable		
38	Y	Dependent variable		
	X	Independent variable		
39	Y	Dependent variable		
	X	Independent variable		
40	Y	Dependent variable		
	X	Independent variable		
41	Y	Dependent variable		
	X	Independent variable		
42	Y	Dependent variable		
	X	Independent variable		
43	Y	Dependent variable		
	X	Independent variable		
44	Y	Dependent variable		
	X	Independent variable		
45	Y	Dependent variable		
	X	Independent variable		
46	Y	Dependent variable		
	X	Independent variable		
47	Y	Dependent variable		
	X	Independent variable		
48	Y	Dependent variable		
	X	Independent variable		
49	Y	Dependent variable		
	X	Independent variable		
50	Y	Dependent variable		
	X	Independent variable		

Table A1.20 Dangerous occurrences 1996/97 - 2000/01p
As reported to HSE

Reported to HSE

	96/97	97/98	98/99	99/00	00/01p
Part 1 (Notifiable in relation to any place of work)					
1 Failure, collapse or overturning of lifting machinery, excavator, pile driving frame or mobile powered access platform	1 056	1 139	1 072	1 111	1 041
2 The failure of any closed vessel including boiler or of any associated pipework, in which the internal pressure was above or below atmospheric pressure	209	208	183	158	175
3 The failure of any freight container in any of its load-bearing parts while it is being raised, lowered or suspended	28	42	32	24	27
4 Plant or equipment either comes into contact with overhead electric line in which the voltage exceeds 200 volts or causes an electrical discharge	361	291	321	298	323
5 Electrical short circuit which results in the stoppage of the plant for more than 24 hours	279	381	364	356	369
6 Unintentional ignition or explosion of explosives	53	81	67	48	58
7 The release or escape of a biological agent likely to cause human infection or illness	139	233	152	137	131
8 The malfunction of radiation generators	10	12	11	16	16
9 Failure of breathing apparatus in service	106	123	112	124	122
10 Failure of any lifting or life-support equipment during a diving operation which puts a diver at risk	9	10	26	23	16
11 Complete or partial collapse of scaffold over 5 m high	79	78	90	67	63
12 Any unintended collision of a train with any other train or vehicle (other than one recorded in part 4 of this table) which caused, or might have caused, the death of or major injury to any person	10	6	16	15	8
13 Incidents in relation to a well (other than a well sunk for the purpose of the abstraction of water)	93	75	94	69	67

		96/97	97/98	98/99	99/00	00/01p
14	Incidents in respect of a pipeline or pipeline works	245	350	466	600	506
15	Failure of fairground equipment in use or under test	18	19	18	15	11
16	Overturning or serious damage to a tank while conveying by road prescribed dangerous substances, or the uncontrolled release or fire involving the substance being conveyed	35	49	28	21	26
17	Uncontrolled release or escape of a dangerous substance, or a fire involving the dangerous substance, when being conveyed by road in a vehicle	25	40	24	44	74
18	Collapse or partial collapse of any building or structure under construction involving over 5 tonnes of materials or any floor or wall of a building used as a place of work	129	138	146	178	151
19	An explosion or fire occurring in any plant or premises which results in the stoppage of that plant for more than 24 hours	287	261	258	267	244
20	The sudden, uncontrolled release of flammable substances	137	195	242	284	268
21	The accidental release or escape of any substance in a quantity sufficient to cause the death, major injury or any other damage to the health of any person	521	542	611	624	555
Part 1 (Notifiable in relation to any place of work)	Total	3 829	4 273	4 333	4 479	4 251
Part 2 (Notifiable in relation to mines)	Total	70	96	114	79	68
Part 3 (Notifiable in relation to quarries)	Total	114	105	122	92	64
Part 4 (Notifiable in relation to railways)	Total	5 197	5 218	5 625	5 309	5 136
Part 5 (Notifiable in relation to offshore workplaces)	Total	347	403	446	453	527
Grand Total		9 557	10 095	10 640	10 412	10 046

Notes:

Full definitions of dangerous occurrences can be found in *A guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995*.³³

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Table A1.21 Incidents relating to the supply and use of flammable gas (a) 1996/97 - 2000/01p

		96/97	97/98	98/99	99/00	00/01p
Number of incidents (b)	Explosion/fire	40	45	37	56	36
	Carbon monoxide poisoning	103	119	114	118	133
	Total	143	164	151	174	169
Number of fatalities	Explosion/fire	9	8	11	10	7
	Carbon monoxide poisoning	31	28	37	26	24
	Total	40	36	48	36	31
Number of non-fatalities	Explosion/fire	35	43	30	61	35
	Carbon monoxide poisoning	156	189	194	228	261
	Total	191	232	224	289	296

(a) Mainly piped gas but also includes bottled LPG.

(b) An incident can cause more than one fatality or injury.

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Table A1.22a Enforcement notices issued in Great Britain by all enforcing authorities by type of notice 1996/97 - 2000/01p

	<i>Notices issued by type</i>	<i>Improvement</i>	<i>Deferred prohibition</i>	<i>Immediate prohibition</i>	<i>Total notices</i>
HSE					
	96/97 (a)	3 770	165	3 509	7 444
	97/98 (b)	4 411	181	4 319	8 911
	98/99	6 353	199	4 348	10 900
	99/00	6 972	196	4 172	11 340
	00/01p	6 673	148	4 237	11 058
Local authorities (c)					
	96/97 (a)	3 880	80	1 210	5 170
	97/98 (b)	3 320	110	1 070	4 500
	98/99	5 140	130	1 200	6 470
	99/00	4 850	80	1 170	6 100
	00/01p	..	..	..	..
All enforcing authorities (c)					
	96/97 (a)	7 650	245	4 719	12 614
	97/98 (b)	7 731	291	5 389	13 411
	98/99	11 493	329	5 548	17 370
	99/00	11 822	276	5 342	17 440
	00/01p	6 673	148	4 237	11 058

- (a) In 1996/97, approximately 540 Notices of Intent led to work being completed within two weeks. Therefore, Improvement Notices were not issued. In the absence of the Notice of Intent procedure 1996/97 enforcement notice numbers would have been about 540 higher.
- (b) In 1997/98, approximately 630 Notices of Intent led to work being completed within two weeks. Therefore, Improvement Notices were not issued. In the absence of the Notice of Intent procedure, 1997/98 enforcement notice numbers would have been about 630 higher.
- (c) The estimation method for producing figures for local authorities has been revised to provide separate estimates for England, Scotland and Wales which have been aggregated to produce estimates for Great Britain. This has led to a slight revision to the existing method of producing figures for Great Britain, but has resulted in only minor changes to published figures and has not affected the overall trends.
- .. Not available.
- p Provisional

Table A1.22b Enforcement notices issued in England by all enforcing authorities by type of notice
1996/97 - 2000/01p

	<i>Notices issued by type</i>	<i>Improvement</i>	<i>Deferred prohibition</i>	<i>Immediate prohibition</i>	<i>Total notices</i>
HSE (a)	96/97	3 224	139	2 892	6 255
	97/98	3 582	138	3 409	7 129
	98/99	5 199	168	3 515	8 882
	99/00	5 595	165	3 271	9 031
	00/01p	5 375	118	3 398	8 891
Local authorities	96/97	3 500	80	1 110	4 690
	97/98	2 950	90	860	3 900
	98/99	4 330	100	1 010	5 440
	99/00	3 980	60	1 000	5 040
	00/01p	..	..	..	..
All enforcing authorities (a)	96/97	6 724	219	4 002	10 945
	97/98	6 532	228	4 269	11 029
	98/99	9 529	268	4 525	14 322
	99/00	9 575	225	4 281	14 071
	00/01p	5 375	118	3 398	8 891

(a) Enforcement action taken by HSE's Offshore Division is allocated according to the legal jurisdiction where the offence occurred.

.. Not available.

p Provisional

Table A1.22c Enforcement notices issued in Scotland by all enforcing authorities by type of notice
1996/97 - 2000/01p

	<i>Notices issued by type</i>	<i>Improvement</i>	<i>Deferred prohibition</i>	<i>Immediate prohibition</i>	<i>Total notices</i>
HSE (a)	96/97	299	10	432	741
	97/98	381	12	602	995
	98/99	571	8	488	1 067
	99/00	803	14	585	1 402
	00/01p	714	7	607	1 328
Local authorities	96/97	190	-	70	260
	97/98	160	20	160	340
	98/99	490	30	130	650
	99/00	540	20	120	680
	00/01p	..	..	..	..
All enforcing authorities (a)	96/97	489	10	502	1 001
	97/98	541	32	762	1 335
	98/99	1 061	38	618	1 717
	99/00	1 343	34	705	2 082
	00/01p	714	7	607	1 328

(a) Enforcement action taken by HSE's Offshore Division is allocated according to the legal jurisdiction where the offence occurred.

.. Not available.

p Provisional

Table A1.22d Enforcement notices issued in Wales by all enforcing authorities by type of notice
1996/97 - 2000/01p

	<i>Notices issued by type</i>	<i>Improvement</i>	<i>Deferred prohibition</i>	<i>Immediate prohibition</i>	<i>Total notices</i>
HSE (a)	96/97	247	16	185	448
	97/98	448	31	308	787
	98/99	583	23	345	951
	99/00	574	17	316	907
	00/01p	584	23	232	839
Local authorities	96/97	190	-	30	220
	97/98	210	-	50	260
	98/99	320	-	60	380
	99/00	330	-	50	380
	00/01p	..	..	..	..
All enforcing authorities (a)	96/97	437	16	215	668
	97/98	658	31	358	1 047
	98/99	903	23	405	1 331
	99/00	904	17	366	1 287
	00/01p	584	23	232	839

(a) Enforcement action taken by HSE's Offshore Division is allocated according to the legal jurisdiction where the offence occurred.

.. Not available.

p Provisional

Table A1.23 Enforcement notices issued by HSE by industrial sector and type of notice
1996/97 - 2000/01p

**STANDARD INDUSTRIAL
CLASSIFICATION (SIC92)**

*Agriculture,
hunting,
forestry &
fishing*

*Extractive &
utility supply
industries*

*Manufacturing
industries*

Construction

*Service
industries*

*All
industries*

	Section	A,B	C,E	D	F	G-Q	
TYPE OF NOTICE	Year						
Improvement	96/97 (a)	600	41	2 111	179	839	3 770
	97/98 (b)	810	49	2 435	153	964	4 411
	98/99	933	156	3 087	582	1 595	6 353
	99/00	976	148	3 493	681	1 674	6 972
	00/01p	691	200	3 875	533	1 374	6 673
Deferred prohibition	96/97	19	3	55	50	38	165
	97/98	35	-	61	47	38	181
	98/99	33	-	67	55	44	199
	99/00	21	5	30	112	28	196
	00/01p	21	1	48	55	23	148
Immediate prohibition	96/97	419	139	861	1 747	343	3509
	97/98	974	120	1 030	1 828	367	4 319
	98/99	799	117	1 055	2 017	360	4 348
	99/00	644	85	1 090	1 975	378	4 172
	00/01p	589	63	1 211	2 025	349	4 237
Total notices	96/97 (a)	1 038	183	3 027	1 976	1 220	7 444
	97/98 (b)	1 819	169	3 526	2 028	1 369	8 911
	98/99	1 765	273	4 209	2 654	1 999	10 900
	99/00	1 641	238	4 613	2 768	2 080	11 340
	00/01p	1 301	264	5 134	2 613	1 746	11 058

(a) In 1996/97, approximately 540 Notices of Intent led to work being completed within two weeks. Therefore, Improvement Notices were not issued. In the absence of the Notice of Intent procedure 1996/97 enforcement notice numbers would have been about 540 higher.

(b) In 1997/98, approximately 630 Notices of Intent led to work being completed within two weeks. Therefore, Improvement Notices were not issued. In the absence of the Notice of Intent procedure, 1997/98 enforcement notice numbers would have been about 630 higher.

p Provisional

Table A1.24 Enforcement notices issued by HSE under specific (a) regulations by type of notice 2000/01p

Regulations	Number of requirements made (b)			
	<i>I</i>	<i>DP</i>	<i>IP</i>	<i>Total</i>
Asbestos (Licensing) Regs 1983	2	-	8	10
Carriage of Dangerous Goods (Classification Packaging and Labelling) and Use of Transportable Pressure Receptacles Regs 1996	-	-	5	5
Carriage of Dangerous Goods by Road (Driver Training) Regs 1996	-	-	-	-
Carriage of Dangerous Goods by Road Regs 1996	2	3	6	11
Chemicals (Hazard Information and Packaging for Supply) Regs 1994	6	-	-	6
Classification and Labelling of Explosives Regs 1983	1	-	4	5
Confined Spaces Regs 1997	17	-	14	31
Construction (Design and Management) Regs 1994	109	3	108	220
Construction (Health and Welfare) Regs 1966	9	-	52	61
Construction (Health, Safety and Welfare) Regs 1996	332	66	2 495	2 893
Control of Asbestos at Work Regs 1987	30	7	154	191
Control of Lead at Work Regs 1980	6	-	-	6
Control of Lead at Work Regs 1998	26	-	2	28
Control of Major Accident Hazards Regs 1999	57	3	5	65
Control of Pesticides Regs 1986	80	-	6	86
Control of Substances Hazardous to Health Regs 1994	7	-	4	11
Control of Substances Hazardous to Health Regs 1999	1 206	26	202	1 434
Diving at Work Regs 1997	16	-	13	29
Docks Regs 1988	7	-	-	7
Electricity at Work Regs 1989	177	4	172	353
Gas Safety (Installation and Use) Regs 1998	259	-	54	313
Health and Safety (Consultation with Employees) Regs 1996	8	-	2	10
Health and Safety (Display Screen Equipment) Regs 1992	30	-	-	30
Health and Safety (First Aid) Regs 1981	19	-	1	20
Highly Flammable Liquids and Liquefied Petroleum Gases Regs 1972	95	2	29	126
Ionising Radiations Regs 1999	28	-	6	34
Lifting Operations and Lifting Equipment Regs 1998	215	2	119	336
Management of Health and Safety at Work Regs 1992	146	-	16	162
Management of Health and Safety at Work Regs 1999	1 420	2	76	1 498
Manual Handling Operations Regs 1992	116	1	13	130
Noise at Work Regs 1989	1 077	-	6	1 083
Offshore Installations (Prevention of Fire and Explosion, and Emergency Response) Regs 1995	22	6	-	28
Offshore Installations and Wells (Design and Construction, etc) Regs 1996	6	-	-	6
Personal Protective Equipment at Work Regs 1992	90	-	13	103
Pressure Systems and Transportable Gas Containers Regs 1989	24	2	1	27
Pressure Systems Safety Regs 2000	94	1	5	100
Provision and Use of Work Equipment Regs 1992	7	-	12	19
Provision and Use of Work Equipment Regs 1998	1 358	44	1 344	2 746

Table A1.24 Enforcement notices issued by HSE under specific (a) regulations by type of notice 2000/01p
continued

Regulations	Number of requirements made (b)			
	I	DP	IP	Total
Quarries Regs 1999	92	-	5	97
Reporting of Injuries, Diseases and Dangerous Occurrences Regs 1995	9	-	-	9
Shipbuilding and Ship-Repairing Regs 1960	11	-	-	11
Supply of Machinery (Safety) Regs 1992	7	-	-	7
Working Time Regs 1998	14	-	-	14
Working Time Regs 1999	8	-	-	8
Workplace (Health, Safety and Welfare) Regs 1992	748	3	69	820

(a) Regulations quoted in five or more requirements.

(b) I = improvement; DP = deferred prohibition; IP = immediate prohibition.

p Provisional

Table A1.25a Proceedings instituted in Great Britain by enforcing authorities by result 1996/97 - 2000/01p

		<i>Informations laid</i>	<i>Convictions</i>	<i>Average penalty per conviction (£)</i>
HSE	96/97	1 490	1 195	5 274 (a)
	97/98	1 627	1 284	4 694 (b)
	98/99	1 759	1 512	4 861 (c)
	99/00	2 115	1 616	6 820 (d)
	00/01p	2 077	1 493	6 250 (e)
Local authorities	96/97	364	323	1 463
	97/98	506	440	2 224
	98/99	424	337	4 098 (f)
	99/00	412	322	4 595 (g)
	00/01p	..	..	..

(a) Includes fines of £500 000 against Lloyds Register of Shipping, the fine of £200 000 against Port Ramsgate Ltd and the fines of £750 000 against Fartygsentreprenader AB (part of the Mattson Group), and £250 000 against Fartygskonstruktioner (part of the Mattson Group). Also included are the four fines of £100 000 against Pembroke Cracking Co Ltd and the £100 000 fines against Firth Vickers Centrispinning Ltd and Cheetham Hill Construction Ltd. The average fine without these convictions would be £3266.

(b) Includes the two fines of £100 000 against Collexit Stena Offshore, the fine of £175 000 against Mobil North Sea Ltd, the two fines of £150 000 against BJ Process and Pipeline Services Ltd, the fine of £100 000 against BL Pegson, the fine of £150 000 against Neath and Port Talbot County Borough Council and Trentham Leisure Ltd, and the fine of £100 000 against Associated British Ports Ltd. The average fine without these convictions would be £3805.

(c) Includes the £1 200 000 fine against Balfour Beatty Civil Eng Ltd, the fines of £500 000 against Rivenhall and Geoconsult ZT GES MBH, and the fines of £100 000 against Dunlop Tyres UK Ltd. The average fine without these convictions would be £3349.

(d) Includes the fine of £1 500 000 against Great Western Trains and the fine of £250 000 against London Underground.

(e) This includes the two fines of £200 000 and £150 000 against Colthrop Board Mill Ltd, the two fines of £125 000 against South East Galvanizing and Cammell Laird (Tyneside) Ltd, the fine of £100 000 against John Mowlem and Company plc, the fine of £400 000 against Doncaster Metropolitan Borough Council, the two fines of £300 000 and £200 000 against Jarvis Fastline, the fine of £200 000 against Railtrack plc, the fine of £175 000 against Railcare Ltd, and the fine of £100 000 against City of Salford. The average fine without these convictions would be £4896.

(f) Includes the fine of £425 000 against J Sainsbury plc. The average fine without this conviction would be £4597.

(g) Includes prosecutions by Manchester, Enfield and Trafford for breaches of the Health and Safety at Work Act resulting in fines of £150 000, £150 000 and £100 000 respectively.

.. Not available.

p Provisional

Table A1.25b Proceedings instituted in England by enforcing authorities by result 1996/97 - 2000/01p

		<i>Informations laid</i>	<i>Convictions</i>	<i>Average penalty per conviction (£)</i>
HSE (a)	96/97	1 230	997	5 211
	97/98	1 319	1 044	4 362
	98/99	1 440	1 256	5 158
	99/00	1 681	1 270	5 552
	00/01p	1 728	1 240	6 628
Local authorities	96/97	325	285	1 501
	97/98	440	383	2 390
	98/99	378	310	4 301
	99/00	366	288	4 973
	00/01p	..	..	..

(a) Enforcement action taken by HSE's Offshore Division is allocated according to the legal jurisdiction where the offence occurred.

.. Not available.

p Provisional

Table A1.25c Proceedings instituted in Scotland by enforcing authorities by result 1996/97 - 2000/01p

		<i>Informations laid</i>	<i>Convictions</i>	<i>Average penalty per conviction (£)</i>
HSE (a)	96/97	174	122	4 083
	97/98	159	106	8 096
	98/99	149	103	3 183
	99/00	214	152	4 246
	00/01p	190	114	5 624
Local authorities	96/97	25	25	1 080
	97/98	27	21	850
	98/99	18	10	1 750
	99/00	25	13	1 623
	00/01p	..	..	..

(a) Enforcement action taken by HSE's Offshore Division is allocated according to the legal jurisdiction where the offence occurred.

.. Not available.

p Provisional

Table A1.25d

Proceedings instituted in Wales by enforcing authorities by result 1996/97 - 2000/01p

		<i>Informations laid</i>	<i>Convictions</i>	<i>Average penalty per conviction (£)</i>
HSE (a)	96/97	86	76	8 011
	97/98	149	134	4 591
	98/99	170	153	3 559
	99/00	215	195	7 747
	00/01p	159	139	4 143
Local authorities	96/97	14	13	1 356
	97/98	39	36	1 267
	98/99	28	17	1 788
	99/00	21	21	1 262
	00/01p	..	..	..

(a) Enforcement action taken by HSE's Offshore Division is allocated according to the legal jurisdiction where the offence occurred.

.. Not available.

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Table A1.26 Proceedings instituted by HSE by result and by industrial sector 1996/97 - 2000/01p

STANDARD INDUSTRIAL CLASSIFICATION (SIC92)	Section	Agriculture, hunting, forestry & fishing A,B	Extractive & utility supply industries C,E	Manufacturing industries D	Construction F	Service industries G-Q	All industries
	Year						
Informations laid	96/97	103	48	563	508	268	1 490
	97/98	80	32	518	719	278	1 627
	98/99	117	49	601	681	311	1 759
	99/00	141	97	714	782(a)	381	2 115(a)
	00/01p	221	34	731	700	391	2 077
Convictions	96/97	87	37	477	385	209	1 195
	97/98	69	26	438	544	207	1 284
	98/99	102	34	551	565	260	1 512
	99/00	107	65	606	542	296	1 616
	00/01p	71	25	574	523	300	1 493
Average penalty per conviction (£)	96/97	1 101	1 780	7 372(b)	3 934(c)	5 305(d)	5 274(e)
	97/98	1 316	19 192 (f)	5 760(g)	3 123	5 872(h)	4 694(i)
	98/99	1 391	8 916	4 077(j)	5 516(k)	5 932(l)	4 861(m)
	99/00	3 751	10 644 (n)	7 373(o)	4 296(p)	10 579(q)	6 820(r)
	00/01p	2 090	13 374	6 225(s)	4 774(t)	9 261(u)	6 250(v)

(a) Includes 77 informations adjourned sine die during prosecutions following a single incident involving multiple breaches of asbestos regulations.

(b) Includes the fine of £500 000 against Lloyds Register of Shipping, the fine of £750 000 against Fartygsentreprenader AB (part of the Mattson Group), the fine of £250 000 against Fartygskonstruktioner (part of the Mattson Group), the four fines of £100 000 against Pembroke Cracking Co Ltd and the £100 000 fine against Firth Vickers Centrispinning Ltd. The average fine without these convictions would be £3234.

(c) Includes the fine of £100 000 against Cheetham Hill Construction Ltd and the fine of £125 000 against TE Scudder Ltd. The average fine without these convictions would be £3367.

(d) Includes the two fines of £100 000 against Port Ramsgate Ltd and the two fines of £100 000 against the British Railways Board. The average fine without these convictions would be £3457.

(e) Includes the fines of £500 000 against Lloyds Register of Shipping, the fine of £750 000 against Fartygsentreprenader AB (part of the Mattson Group), the fine of £250 000 against Fartygskonstruktioner (part of the Mattson Group), the four fines of £100 000 against Pembroke Cracking Co Ltd, the £100 000 fine against Firth Vickers Centrispinning Ltd, the fine of £100 000 against Cheetham Hill Construction Ltd, the fine of £200 000 against Port Ramsgate Ltd, the fine of £125 000 against TE Scudder Ltd and the two fines of £100 000 against the British Railways Board. The average fine without these convictions would be £3113.

(f) Includes the two fines of £100 000 against Coflexit Stena Offshore and the fine of £175 000 against Mobil North Sea Ltd. The average fine without these convictions would be £5391.

(g) Includes the two fines of £150 000 against BJ Process and Pipeline Services Ltd and the fine of £100 000 against BL Pegson. The average fine without these convictions would be £4880.

(h) Includes fines of £150 000 against Neath and Port Talbot County Borough Council and Trentham Leisure Ltd, and the fine of £100 000 against Associated British Ports Ltd. The average fine without these convictions would be £3610.

(i) Includes the two fines of £100 000 against Coflexit Stena Offshore, the fine of £170 000 against Mobil North Sea Ltd, the two fines of £150 000 against BJ Process and Pipeline Services Ltd, the fine of £100 000 against BL Pegson, the fine of £150 000 against Neath and Port Talbot County Borough Council and Trentham Leisure Ltd, and the fine of £100 000 against Associated British Ports Ltd. The average fine without these convictions would be £3805.

(j) Includes the fine of £100 000 against Dunlop Tyres UK Limited. The average fine without this conviction would be £3903.

(k) Includes the £1 200 000 fine against Balfour Beatty Civil Eng Ltd, the fines of £500 000 against Rivenhall and Geoconsult ZT GES MBH. The average fine without these convictions would be £2516.

(l) Includes the fines of £500 000 against Rivenhall and Geoconsult ZT GES MBH. The average fine without these convictions would be £4024.

(m) Includes the £1 200 000 fine against Balfour Beatty Civil Eng Ltd, the fines of £500 000 against Rivenhall and Geoconsult ZT GES MBH and the fines of £100 000 against Dunlop Tyres UK Limited. The average fine without these convictions would be £3349.

(n) Includes the fine of £300 000 against BG International. The average fine without these convictions would be £6123.

(o) Includes the fine of £300 000 against BOC Gases Ltd, the fine of £249 999 against Friskies Petcare (UK) Ltd, the fines of £200 000 and £175 000 against British Steel plc, the fine of £110 000 against Nippon Electric Glass (UK) and the fine of £100 000 against Brintons Ltd. The average fine without these convictions would be £5555.

(p) Includes the fine of £200 000 against Keltbray Ltd, the fine of £110 000 against Tarmac Construction Ltd and the fine of £100 000 against Tarmac Quarry Products Ltd. The average fine without these convictions would be £3556.

(q) Includes the £1 500 000 fine against Great Western Trains Ltd and the fine of £250 000 against London Underground. The average fine without these convictions would be £4698.

(r) Includes the fine of £1 500 000 against Great Western Trains and the fine of £250 000 against London Underground, two fines of £300 000 against BG International and BOC Gases Ltd, and the fine of £249 999 against Friskies Pet Care (UK) Ltd. One of £200 000 against Keltbray Ltd, two fines against British Steel of £200 000 and £175 000. Two fines for £110 000 against Nippon Electric Glass (UK) Ltd and Tarmac Construction Ltd. Two fines for £100 000 against Brintons Ltd and Tarmac Quarry Products Ltd. The average fine without these convictions would be £4630.

(s) This includes two fines of £200 000 and £150 000 against Colthorp Board Mill Ltd, the two fines of £125 000 against South East Galvanizing and Cammell Laird (Tyneside) Ltd. The average fine without these convictions would be £5216.

(t) This includes the fine of £100 000 against John Mowlem and Company plc. The average fine without these convictions would be £4592.

(u) Includes the fine of £400 000 against Doncaster Metropolitan Borough Council, two fines of £300 000 and £200 000 against Jarvis Fastline, the fine of £200 000 against Railtrack plc, the fine of £175 000 against Raicare Ltd, and the fine of £100 000 against City of Salford. The average fine without these convictions would be £4773.

(v) This includes the two fines of £200 000 and £150 000 against Colthorp Board Mill Ltd, the two fines of £125 000 against South East Galvanizing and Cammell Laird (Tyneside) Ltd. The fine of £100 000 against John Mowlem and Company plc, the fine of £400 000 against Doncaster Metropolitan Borough Council, the two fines of £300 000 and £200 000 against Jarvis Fastline, the fine of £200 000 against Railtrack plc, the fine of £175 000 against Raicare Ltd, and the fine of £100 000 against City of Salford. The average fine without these convictions would be £4896.

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Table A1.27 Proceedings instituted by HSE under specific regulations by result 2000/01p

	<i>Informations laid</i>	<i>Convictions</i>	<i>Withdrawn / Not taken (a)</i>
REGULATIONS			
Asbestos (Licencing) Regs 1983	12	9	3
Confined Spaces Regs 1997	5	3	2
Construction (Design and Management) Regs 1994	55	32	18
Construction (Health and Welfare) Regs 1966	2	-	-
Environmental Protection (Controls on Substances That Deplete the Ozone Layer) Regs 1996	1	1	-
Control of Asbestos at Work Regs 1987	82	50	27
Control of Lead at Work Regs 1980	3	-	-
Control of Pesticides Regs 1986	93	11	57
Control of Substances Hazardous to Health Regs 1994	12	10	2
Control of Substances Hazardous to Health Regs 1999	6	2	4
Docks Regs 1988	5	2	-
Electricity at Work Regs 1989	24	16	7
Gas Safety (Installation and Use) Regs 1984	30	27	1
Gas Safety (Installation and Use) Regs 1998	159	126	27
Construction (Health, Safety and Welfare) Regs 1996	210	161	34
Health and Safety (First Aid) Regs 1981	1	1	-
Highly Flammable Liquids and Liquefied Petroleum Gas Regs 1972	3	3	-
Ionising Radiations Regs 1985	27	26	1
Lifting Operations and Lifting Equipment Regs 1998	33	24	9
Management of Health and Safety at Work Regs 1992	91	48	33
Management of Health and Safety at Work Regs 1999	51	37	10
Carriage of Dangerous Goods by Road Regs 1996	3	3	-
Manual Handling Operations Regs 1992	2	1	1
Notification of Cooling Towers and Evaporative Condensers Regs 1992	1	1	-
Personal Protective Equipment at Work Regs 1992	5	3	1
Pressure Systems and Transportable Gas Containers Regs 1989	2	2	-
Prevention of Accidents to Children in Agriculture Regs 1998	4	3	-
Provision and Use of Work Equipment Regs 1992	10	6	4
Provision and Use of Work Equipment Regs 1998	227	182	37
The Quarries Regs 1999	5	1	1
Reporting of Injuries, Diseases and Dangerous Occurrences Regs 1995	41	37	4
The Supply of Machinery (Safety) Regs 1992	12	6	5
Work Place (Health, Safety and Welfare) Regs 1992	33	27	2
All Proceedings (b)	1 250	861	290

(a) Includes withdrawn or alternative informations.

(b) Includes other regulations and acts.

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<i>Dismissed/ Not guilty</i>	<i>Not proven (Scotland)</i>	<i>Adjournment</i>	<i>Adjournment Sine Die</i>	<i>Not known</i>	<i>Total fines</i>	<i>Average fines per conviction</i>
-	-	-	-	-	29 300	3 256
-	-	-	-	-	19 500	6 500
5	-	-	-	-	193 600	6 050
2	-	-	-	-	-	-
-	-	-	-	-	4 000	4 000
3	-	1	1	-	96 400	1 928
3	-	-	-	-	-	-
-	-	25	-	-	10 850	986
-	-	-	-	-	36 500	3 650
-	-	-	-	-	2 000	1 000
3	-	-	-	-	4 500	2 250
-	-	1	-	-	44 600	2 788
-	2	-	-	-	14 500	537
2	-	4	-	-	79 475	631
12	-	3	-	-	539 657	3 352
-	-	-	-	-	500	500
-	-	-	-	-	22 500	7 500
-	-	-	-	-	29 000	1 115
-	-	-	-	-	70 000	2 917
5	-	3	2	-	207 500	4 323
4	-	-	-	-	68 201	1 843
-	-	-	-	-	2 500	833
-	-	-	-	-	2 500	2 500
-	-	-	-	-	3 000	3 000
-	-	-	1	-	1 600	533
-	-	-	-	-	8 000	4 000
1	-	-	-	-	1 325	442
-	-	-	-	-	9 500	1 583
5	-	1	-	2	641 199	3 523
-	-	-	-	-	15 000	15 000
-	-	-	-	-	63 100	1 705
1	-	-	-	-	8 000	1 333
3	-	-	-	1	84 950	3 146
49	2	38	4	3	2 313 257	2 687

ANNEX 2: OCCUPATIONAL HEALTH TABLES

Table A2.1 Prescribed industrial diseases: lung diseases in England, Wales and Scotland by disease

Disease	Disease No	ENGLAND			WALES		
		1998	1999	2000	1998	1999	2000
Pneumoconiosis	D1						
<i>coal</i>		441	308	274	35	46	62
<i>asbestos</i>		225 (2)	314 (6)	360 (3)	34	16	20 (1)
<i>other</i>		47 (2)	75 (3)	45 (2)	15	5	8
Diffuse mesothelioma	D3	500 (26)	522 (21)	566 (25)	19	21	13
Occupational asthma	D7	175 (52)	142 (33)	131 (24)	23 (3)	24 (6)	16 (2)
Lung cancer with asbestosis/pleural thickening	D8	36 (1)	29 (1)	37 (1)	4	6	2
Pleural thickening	D9	187 (3)	212 (4)	228 (1)	19 (1)	21	29
Chronic bronchitis and/or emphysema	D12	2 312	1 095	443	743	206	84
Others		7 (1)	16 (2)	3	2	2	1
Total		3 930	2 713	2 087	894	347	235

Notes:

Figures for Great Britain include a small number of cases not included in England, Wales and Scotland breakdowns. These individuals developed industrial diseases from employment in Great Britain, but are currently residing overseas.

Figures are for calendar years.

Bracketed figures are for females. Where not shown, all cases are male.

Table A2.2 Prescribed industrial diseases: non-lung diseases in England, Wales and Scotland by disease (a)

Disease	Disease No	ENGLAND			WALES		
		1997/98	1998/99	1999/2000	1997/98	1998/99	1999/2000
Musculoskeletal (b)	A4-A8	509 (344)	406 (261)	387 (279)	27 (15)	26 (16)	18 (12)
Occupational deafness	A10	176 (6)	250 (5)	176 (1)	26	20	19
Vibration white finger	A11	2 135 (11)	2 618 (5)	2 865 (5)	190	129 (1)	88
Carpal tunnel syndrome	A12	312 (38)	371 (35)	388 (27)	25 (3)	19	25 (2)
Allergic rhinitis	D4	163 (7)	121 (10)	62 (7)	30 (2)	11 (1)	9
Dermatitis	D5	199 (49)	172 (45)	170 (43)	34 (7)	24 (4)	14 (4)
Others		65 (14)	68 (8)	56 (7)	7	4	1
Total		3 559	4 006	4 104	339	233	174

Notes:

Figures for Great Britain include a small number of cases not included in England, Wales and Scotland breakdowns. These individuals developed industrial diseases from employment in Great Britain, but are currently residing overseas.

Bracketed figures are for females. Where not shown, all cases are male.

(a) Figures are for years ending 30 September, except for occupational deafness where calendar years 1998-2000 are shown.

(b) Mainly upper-limb disorders.

SCOTLAND			GREAT BRITAIN		
1998	1999	2000	1998	1999	2000
9	19	18	485	373	354
56	69 (2)	61	316 (2)	407 (8)	447 (4)
7	8	10	69 (2)	88 (3)	65
64 (3)	70 (1)	58 (1)	590 (29)	620 (22)	652 (26)
24 (11)	30 (7)	21 (7)	222 (66)	196 (46)	168 (33)
1	3	1	42 (1)	38 (1)	42 (1)
20	7	15	227 (4)	242 (4)	273 (1)
356	145	65	3 423	1 451	600
-	4	-	9 (1)	22 (2)	4
537	355	249	5 383	3 437	2 605

Source: DWP

SCOTLAND			GREAT BRITAIN		
1997/98	1998/99	1999/2000	1997/98	1998/99	1999/2000
64 (18)	33 (13)	26 (14)	600 (377)	465 (290)	431 (305)
55 (2)	46 (1)	29	258 (8)	316 (6)	226 (1)
707 (2)	408 (2)	258	3 033 (13)	3 155 (8)	3 212 (5)
63 (13)	88 (37)	62 (25)	400 (54)	478 (72)	475 (54)
5	3 (1)	9 (2)	199 (9)	135 (12)	80 (9)
37 (16)	24 (8)	24 (8)	271 (72)	220 (57)	208 (55)
11 (1)	5	1	83 (15)	77 (8)	58 (7)
942	607	409	4 844	4 846	4 690

Source: DWP

Table A2.3 Prescribed industrial diseases other than lung diseases (a):
new cases of assessed disablement by disease (b)

Conditions due to physical agents (physical cause)	Disease No	1994/95	1995/96	1996/97	1997/98	1998/99	1999/2000
Radiation effects	A1	4	2 (1)	6 (1)	1	3 (1)	1
Heat cataract	A2	8	2	3	3	4	-
Decompression sickness	A3	2	10	2	-	2	1
Cramp of hand or forearm	A4	116 (94)	124 (98)	98 (76)	81 (62)	59 (44)	52 (41)
Beat hand	A5	11 (1)	9 (2)	11 (1)	6 (1)	2	5 (1)
Beat knee	A6	161 (7)	164 (2)	129 (2)	86 (1)	50	23
Beat elbow	A7	33 (4)	26 (1)	13	12 (1)	10	3
Inflammation of tendons of the hand, forearm or associated tendon sheaths (Tenosynovitis)	A8	787 (630)	548 (416)	513 (402)	415 (312)	344 (246)	348 (263)
Miner's nystagmus	A9	-	-	1	-	-	-
Occupational deafness (c)	A10	763 (n/a)	531 (n/a)	413 (n/a)	258 (8)	316 (6)	226 (1)
Vibration white finger	A11	1 747 (11)	3 016 (11)	3 288 (24)	3 033 (13)	3 155 (8)	3 212 (5)
Carpal tunnel syndrome	A12	277 (44)	265 (62)	297 (52)	400 (54)	478 (72)	475 (54)
Conditions due to biological agents (caused by animal, plant or other living agent)							
Anthrax	B1	1 (1)	-	-	-	-	-
Infection by leptospira	B3	-	-	-	-	-	1
Tuberculosis	B5	9 (7)	10 (9)	6 (4)	11 (6)	4 (3)	4 (4)
Brucellosis	B7	2	1	3	1	-	-
Viral hepatitis	B8	3 (1)	4 (3)	4 (1)	2	3 (2)	2 (1)
Infection by streptococcus suis	B9	-	-	-	-	1	-
Avian chlamydiosis	B10a	-	-	-	5 (2)	1 (1)	-
Ovine chlamydiosis	B10b	-	-	-	-	-	-
Q fever	B11	2	1	-	-	-	-
Orf	B12	-	-	-	-	-	-
Conditions due to chemical agents							
Poisoning by lead or compounds of lead	C1	3 (1)	1	-	4	1	4
Poisoning by manganese	C2	-	-	-	-	-	-
Poisoning by phosphorus or compound of phosphorus	C3	3	3	3	5	4	3
Poisoning by arsenic	C4	-	-	-	-	-	-
Poisoning by mercury or compound of mercury	C5	-	1	1	-	-	-
Poisoning by carbon disulphide	C6	-	1	-	-	-	-
Poisoning by benzene or a homologue of benzene	C7	2 (1)	3	1	1	4 (1)	1 (1)
Poisoning by nitro-, amino-, or chloro-benzene or homologues	C8	1 (1)	-	1	-	-	-
Poisoning by dinitrophenol	C9	-	-	-	-	-	-
Poisoning by tetrachlorethane	C10	-	-	1	-	-	-
Poisoning by diethylene dioxide (dioxan)	C11	-	1	-	-	-	-
Poisoning by chlorinated naphthalene	C13	-	-	-	-	-	-
Poisoning by nickel carbonyl	C14	-	-	-	-	-	-
Poisoning by acrylamide monomer	C19	-	-	-	-	-	-
Dystrophy of the cornea (including ulceration of the corneal surface) of the eye	C20	-	-	-	1 (1)	-	-
Localised new growth of skin	C21a	2 (1)	2	4	3	2	-
Squamous celled carcinoma of skin	C21b	2	-	1	3	1	-
Carcinoma of the mucous membrane of the nose or associated air passages	C22a	-	-	-	1 (1)	-	-
Papilloma of the bladder	C23	19 (1)	26 (3)	40 (5)	30 (1)	39	34 (1)
Angiosarcoma of the liver	C24a	-	-	-	-	-	-
Occupational vitiligo	C25	-	3	1	3 (2)	-	-
Liver/kidney damage due to carbon tetrachloride	C26	-	2 (1)	-	-	-	-
Liver/kidney damage due to trichloromethane	C27	-	1	-	-	-	-
Central nervous system dysfunction and associated gastro-intestinal disorders due to exposure to chloromethane	C28	-	-	-	2 (1)	-	-
Peripheral neuropathy due to exposure to n-hexane or methyl n-butyl ketone	C29	1	1	1	-	-	-
Chrome dermatitis or ulceration (d)	C30	-	-	3	4	5	4
Miscellaneous conditions							
Allergic rhinitis (e)	D4	589 (35)	720 (39)	352 (25)	199 (9)	135 (12)	80 (9)
Dermatitis	D5	368 (106)	328 (79)	336 (91)	271 (72)	220 (57)	208 (55)
Adeno-carcinoma of nasal cavity/nasal carcinoma	D6	5	4	3	3 (1)	3	4
Total		4921	5810	5535	4844	4846	4 690

Source: DWP

Notes:

Bracketed figures show the number of females. Where not shown, all cases are male.

(a) See Table A2.5. (b) Years starting October 1.

(c) Figures for occupational deafness are based on calendar years, that is, Jan-Dec 1995 to Jan-Dec 2000. For this disease, only cases assessed at 20% or more disablement are included.

(d) The following disease was prescribed after 1 October 1993:

Disease No
C30

Date prescribed
24 March 1996

n/a Not available.

(e) Before 24 March 1996, disease D4 was defined as inflammation or ulceration of the upper respiratory tract or mouth.

- - Not applicable.

Table A2.4 Prescribed industrial diseases other than lung diseases (a):
new cases of assessed disablement by award status (b)

Conditions due to physical agents (physical cause)	Disease No	Claims assessed in 1998/99		Claims assessed in 1999/2000	
		1-13% (No benefit)	14%+ (Benefit paid)	1-13% (No benefit)	14%+ (Benefit paid)
Radiation effects	A1	1	2 (1)	-	1
Heat cataract	A2	2	2	-	-
Decompression sickness	A3	-	2	-	1
Cramp of hand or forearm	A4	38 (28)	21 (16)	34 (25)	18 (16)
Beat hand	A5	2	-	4 (1)	1
Beat knee	A6	43	7	21	2
Beat elbow	A7	8	2	2	1
Inflammation of tendons of the hand, forearm or associated tendon sheaths (Tenosynovitis)	A8	186 (122)	158 (124)	176 (126)	172 (137)
Miner's myasthenia	A9	-	-	-	-
Occupational deafness (c)	A10	-	316 (6)	-	226 (1)
Vibration white finger	A11	2 910 (6)	245 (2)	3 124 (4)	88 (1)
Carpal tunnel syndrome	A12	366 (39)	112 (33)	364 (32)	111 (22)
Conditions due to biological agents (caused by animal, plant or other living agent)					
Anthrax	B1	-	-	-	-
Infection by leptospira	B3	-	-	1	-
Tuberculosis	B5	-	4 (3)	1 (1)	3 (3)
Brucellosis	B7	-	-	-	-
Viral hepatitis	B8	1	2 (2)	1 (1)	1
Infection by streptococcus suis	B9	-	1	-	-
Avian chlamydiosis	B10a	-	1 (1)	-	-
Ovine chlamydiosis	B10b	-	-	-	-
Q fever	B11	-	-	-	-
Orf	B12	-	-	-	-
Conditions due to chemical agents					
Poisoning by lead or compounds of lead	C1	-	1	1	3
Poisoning by manganese	C2	-	-	-	-
Poisoning by phosphorus or compound of phosphorus	C3	1	3	1	2
Poisoning by arsenic	C4	-	-	-	-
Poisoning by mercury or compound of mercury	C5	-	-	-	-
Poisoning by carbon disulphide	C6	-	-	-	-
Poisoning by benzene or a homologue of benzene	C7	2 (1)	2	-	1 (1)
Poisoning by nitro-, amino-, or chloro-benzene or homologues	C8	-	-	-	-
Poisoning by dinitrophenol	C9	-	-	-	-
Poisoning by tetrachlorethane	C10	-	-	-	-
Poisoning by diethylene dioxide (dioxan)	C11	-	-	-	-
Poisoning by chlorinated naphthalene	C13	-	-	-	-
Poisoning by nickel carbonyl	C14	-	-	-	-
Poisoning by acrylamide monomer	C19	-	-	-	-
Dystrophy of the cornea (including ulceration of the corneal surface) of the eye	C20	-	-	-	-
Localised new growth of skin	C21a	2	-	-	-
Squamous celled carcinoma of skin	C21b	-	1	-	-
Carcinoma of the mucous membrane of the nose or associated air passages	C22a	-	-	-	-
Papilloma of the bladder	C23	7	32	6	28 (1)
Angiosarcoma of the liver	C24a	-	-	-	-
Occupational vitiligo	C25	-	-	-	-
Liver/kidney damage due to carbon tetrachloride	C26	-	-	-	-
Liver/kidney damage due to trichloromethane	C27	-	-	-	-
Central nervous system dysfunction and associated gastro-intestinal disorders due to exposure to chloromethane	C28	-	-	-	-
Peripheral neuropathy due to exposure to n-hexane or methyl n-butyl ketone	C29	-	-	-	-
Chronic dermatitis or ulceration (d)	C30	5	-	3	1
Miscellaneous conditions					
Allergic rhinitis (e)	D4	124 (9)	11 (3)	72 (6)	8 (3)
Dermatitis	D5	162 (42)	58 (15)	158 (38)	50 (17)
Adeno-carcinoma of nasal cavity/nasal carcinoma	D6	-	3	-	4
Total		3 860	986	3 969	722

Source: DWP

Note:

See footnotes to Table A2.3.

Table A2.5 Prescribed industrial diseases of the lungs: new cases of assessed disablement by disease

Disease	Disease No	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Farmer's lung	B6	7	5 (1)	5	3	9 (1)	6	6	4 (1)	4 (1)	13 (1)	2
Poisoning by nitrous fumes	C15	-	-	1	-	-	-	1	-	-	-	-
Beryllium poisoning	C17	2	1	-	1	-	-	-	-	-	-	1
Cadmium poisoning	C18	2	5	4	1	-	-	-	-	-	-	-
Primary carcinoma of bronchus or lung in nickel workers	C22b	1	2	1	-	-	-	-	-	-	-	-
Pneumoconiosis (a)	D1	709 (7)	751 (8)	765 (10)	853 (17)	1006 (11)	860 (14)	841 (8)	593 (5)	870 (4)	868 (11)	866 (6)
Byssinosis (a)	D2	18 (11)	7 (2)	4 (1)	5 (3)	2 (1)	6 (1)	4 (2)	1	2	2 (1)	-
Diffuse mesothelioma	D3	462 (14)	519 (21)	551 (13)	608 (19)	583 (14)	685 (26)	642 (16)	553 (17)	590 (29)	620 (22)	652 (26)
Occupational asthma (b)	D7	216 (49)	293 (57)	553 (115)	510 (120)	506 (96)	514 (126)	410 (97)	298 (80)	222 (66)	196 (46)	168 (33)
Primary carcinoma of the lung with accompanying evidence of one or both of												
(1) Asbestosis (2) Diffuse pleural thickening (d,f)	D8	58	55 (1)	54	72 (2)	77 (2)	55 (2)	51 (1)	26	42 (1)	38 (1)	42 (1)
Pleural thickening (f)	D9	146 (1)	149	160 (3)	172 (2)	196 (3)	188 (4)	168 (1)	156 (1)	227 (4)	242 (4)	273 (1)
Primary carcinoma of the lung (c,e)	D10	5	4	5 (1)	2	-	-	2	1	1	-	1
Primary carcinoma of the lung with accompanying silicosis (c)	D11	-	-	-	1	-	4	-	-	2	7	-
Chronic bronchitis and/or emphysema (c,g)	D12	-	-	-	1 560	2 594	268	269	3 030	3 423	1 451	600
Total		1 626	1 791	2 103	3 788	4 973	2 586	2 394	4 662	5 383	3 437	2 605

Notes:

(a) See also Tables A2.6 and A2.7

(b) See also Table A2.8

(c) The following diseases were prescribed after 1 January 1989:

Disease No Date prescribed

D11 19 April 1993

D12 13 September 1993

(d) Previously classified as 'Lung cancer in asbestos workers'. New classification used from 19 April 1993.

(e) Previously classified as 'Lung cancer'.

(f) From 9 April 1997, the definitions of these diseases were changed to admit unilateral diffuse pleural thickening. Previously this was required to be bilateral.

(g) From 9 April 1997, changes to the definitions of this disease allowed more claimants to qualify. The large number of assessed cases in 1997 and 1998 results from this change.

- Not applicable.

Figures in brackets show the number of females. Where no figure is given, all cases were male.

Source: DWP

Table A2.6 Pneumoconiosis under Industrial Injuries (a) and PBMD scheme: new cases assessed by industry to which the disease was attributed (b)

Industrial Injuries Scheme Cases	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Pneumoconiosis											
Coal mining	344	379	383	395	583	384 (1)	323	204	485	373	354
Other mining and quarrying:											
Slate	5	3	2	7	-	4	6	1	3	3	5
Other - except refractories	9	2	2	5	6	5	3	4	4	11	7 (1)
Asbestos (c)	306 (7)	330 (7)	354 (9)	418 (16)	376 (7)	427 (11)	479 (6)	344 (3)	316 (2)	407 (8)	447 (4)
Foundry workers:											
Iron foundry workers	9	11	5	6	9	6	3	2	2	8	2
Steel foundry workers	4	1	2	2	5	1	5	2	5	6 (1)	4
Non-ferrous foundry workers	3	-	-	-	-	-	1	1	1	-	2
Steel dressers	-	2	2	2	2	2	3	1	-	1	4
Pottery manufacture	6	8 (1)	4 (1)	6 (1)	8 (3)	7 (2)	8 (2)	3 (2)	11 (2)	6 (1)	10 (1)
Refractories (d)	7	-	2	-	2	4	2	12	18	21	5
Other attributable industries	16	15	9	12	15 (1)	20	8	19	25	32 (1)	26
Total	709	751	765	853	1 006	860	841	593	870	868	866
PBMD scheme cases (e)											
Pneumoconiosis - asbestosis	**	7	10	8	18	13	16	8	9	6	11
Pneumoconiosis - other	**	13	10	10	13	13	11	12	13	6	12
Total	24	20	20	18	31	26	27	20	22	12	23
Overall total: Pneumoconiosis	733	771	785	871	1 037	886	868	613	892	880	889
Coal	344	379	383	395	583	384	323	204	485	373	354
Silicosis or unspecified	83	55	38	50	60	62	30	57	82	94	77

Notes:

(a) Previously known as Pneumoconiosis Medical Panels.

(b) The industry to which the disease is attributable is in some cases defined occupationally.

(c) Cases where mesothelioma was also diagnosed are excluded, and shown in Table A2.5.

(d) Including the mining, quarrying and processing of refractory material.

(e) The figures of Pneumoconiosis, Byssinosis and Miscellaneous Diseases Benefits scheme cases refer to years ending 30 September.

** Not presently available.

Figures in brackets show the number of females. Where no figure is given, all cases were male.

Source: DWP

Table A2.7 Pneumoconiosis: new Industrial Injuries Scheme cases by agent, age and percentage disablement (a) 1997-2000

COAL AGENT

Percentage disablement assessed

Age	10 or less	20-40	50-70	80-100	Total
1997					
Under 45	2	-	-	-	2
45-64	12	18	1	-	31
65+	66	92	8	5	171
Total	80	110	9	5	204
1998					
Under 45	1	-	-	-	1
45-64	46	49	2	1	98
65+	125	254	4	3	386
Total	172	303	6	4	485
1999					
Under 45	4	-	-	-	4
45-64	39	33	1	-	73
65+	104	176	12	4	296
Total	147	209	13	4	373
2000					
Under 45	5	1	-	-	6
45-64	51	23	1	-	75
65+	130	130	10	3	273
Total	186	154	11	3	354

OTHER AGENTS

Percentage disablement assessed

Age	10 or less	20-40	50-70	80-100	Total
1997					
Under 45	2	1	-	-	3
45-64	3	5	1	-	9
65+	5	21	5	2	33
Total	10	27	6	2	45
1998					
Under 45	-	-	-	-	-
45-64	9	12	-	-	21
65+	11	31	5	1	48
Total	20	43	5	1	69
1999					
Under 45	1	-	-	-	1
45-64	9	19	1	1	30
65+	12	35	6	4	57
Total	22	54	7	5	88
2000					
Under 45	2	-	-	-	2
45-64	3	16	1	-	20
65+	11	24	6	2	43
Total	16	40	7	2	65

Notes:

(a) Under a special provision a person found to be suffering from pneumoconiosis qualifies for a pension at the 10% rate even if he or she has no discernable respiratory disablement arising from the disease.

(b) Cases where mesothelioma was also diagnosed are excluded, and shown in Table A2.5.

ASBESTOS AGENT (b)

Percentage disablement assessed

Age	10 or less	20-40	50-70	80-100	Total
1997					
Under 45	-	1	-	-	1
45-64	26	80	5	6	117
65+	38	163	7	18	226
Total	64	244	12	24	344
1998					
Under 45	1	-	-	-	1
45-64	19	70	3	3	95
65+	35	159	13	13	220
Total	55	229	16	16	316
1999					
Under 45	-	1	-	-	1
45-64	26	93	5	9	133
65+	35	210	15	13	273
Total	61	304	20	22	407
2000					
Under 45	-	-	-	-	-
45-64	29	112	3	6	150
65+	34	204	39	20	297
Total	63	316	42	26	447

TOTAL

Percentage disablement assessed

Age	10 or less	20-40	50-70	80-100	Total
1997					
Under 45	4	2	-	-	6
45-64	41	103	7	6	157
65+	109	276	20	25	430
Total	154	381	27	31	593
1998					
Under 45	2	-	-	-	2
45-64	74	131	5	4	214
65+	171	444	22	17	654
Total	247	575	27	21	870
1999					
Under 45	5	1	-	-	6
45-64	74	145	7	10	236
65+	151	421	33	21	626
Total	230	567	40	31	868
2000					
Under 45	7	1	-	-	8
45-64	83	151	5	6	245
65+	175	358	55	25	613
Total	265	510	60	31	866

Source: DWP

Table A2.8 Occupational asthma: new cases of assessed disablement, by causative agent

Agent (a)	1994	1995	1996	1997	1998	1999	2000
1 Isocyanates	121 (6)	98 (11)	83 (7)	49 (7)	26 (3)	28	33 (2)
2 Platinum salts	3	3	2	3	7 (1)	9 (2)	6
3 Hardening agents	49 (9)	44 (5)	25 (6)	16 (1)	17	9 (1)	9
4 Soldering flux	28 (12)	42 (23)	35 (17)	25 (12)	30 (16)	14 (6)	21 (8)
5 Proteolytic enzymes	2	1	2	2 (1)	7 (3)	14 (1)	2 (1)
6 Animals/insects	4 (2)	12 (6)	10 (4)	9 (4)	3	1	4 (1)
7 Flour/grain	59 (9)	78 (19)	57 (15)	47 (11)	24 (2)	23 (3)	13 (2)
Total 1-7	266 (38)	278 (64)	214 (49)	151 (36)	114 (25)	98 (13)	88 (14)
Agent (b)							
8 Antibiotics	4	1 (1)	2 (1)	3 (1)	1 (1)	4 (1)	1 (1)
9 Cimetidine	1 (1)	-	-	-	-	-	-
10 Wood dusts	31 (1)	39 (2)	37 (2)	25 (1)	9 (2)	12 (1)	16 (2)
11 Ispaghula	-	1	-	1	-	1	-
12 Castor bean dust	-	-	-	-	-	-	-
13 Ipecacuanha	-	-	-	-	-	-	-
14 Azodicarbonamide	4	3	-	-	1	-	-
Total 8-14	40 (2)	44 (3)	39 (3)	29 (2)	11 (3)	17 (2)	17 (3)
Agent (c)							
15 Animals/insects (larval forms)	-	1 (1)	1	3 (2)	5 (2)	2 (1)	1
16 Glutaraldehyde	15 (12)	28 (24)	14 (10)	13 (8)	15 (12)	11 (11)	9 (7)
17 Persulphate salts and henna	-	1 (1)	-	-	1 (1)	1 (1)	-
18 Crustaceans	6 (4)	2	7 (7)	7 (7)	3 (1)	6 (3)	5 (2)
19 Reactive dyes	2	8 (2)	6	4 (1)	4	4 (1)	2
20 Soya bean dust	1	2	1	2	1	-	-
21 Tea dust	2 (1)	2 (2)	2	3	1	2 (2)	1
22 Green coffee bean dust	1	-	-	-	-	-	-
23 Fumes from stainless steel welding	24	31	26	25	14 (1)	11	11
24 Open category	149 (39)	117 (29)	100 (28)	61 (24)	53 (19)	44 (12)	34 (7)
Total 15-24	200 (56)	192 (59)	157 (45)	118 (42)	97 (36)	81 (31)	63 (16)
Total Agents	506 (96)	514 (126)	410 (97)	298 (80)	222 (64)	196 (46)	168 (33)

Notes:

(a) Agents prescribed from the start of the prescription.

(b) Agents added to prescribed list with effect from 1 September 1986.

(c) Agents added to prescribed list with effect from 26 September 1991.

Figures in brackets show the number of females. Where no figure is given, all cases were male.

Source: DWP

Table A2.9 Occupational asthma: new cases of assessed disablement, by percentage disability

	1997		1998		1999		2000	
	14% or more	of which 50%+	14% or more	of which 50%+	14% or more	of which 50%+	14% or more	of which 50%+
Agent (a)								
1 Isocyanates	37	3	22	-	25	1	30	-
2 Platinum salts	2	-	5	-	5	-	4	-
3 Hardening agents	13	1	16	1	5	-	6	-
4 Soldering flux	23	2	23	-	12	-	20	1
5 Proteolytic enzymes	2	-	7	-	10	-	2	-
6 Animals/insects	9	-	3	1	1	-	3	-
7 Flour/grain	39	2	23	-	19	2	11	-
Total 1-7	125	8	99	2	77	3	76	1
Agent (b)								
8 Antibiotics	2	-	1	-	2	-	1	-
9 Cimetidine	-	-	-	-	-	-	-	-
10 Wood dusts	23	2	8	1	9	-	14	-
11 Ispaghula	1	-	-	-	1	-	-	-
12 Castor bean dust	-	-	-	-	-	-	-	-
13 Ipecacuanha	-	-	-	-	-	-	-	-
14 Azodicarbonamide	-	-	1	-	-	-	-	-
Total 8-14	26	2	10	1	12	-	15	-
Total 1-14	151	10	109	3	89	3	91	1
Agent (c)								
15 Animals/insects (larval forms)	2	-	4	-	1	-	1	-
16 Glutaraldehyde	11	2	14	-	9	-	8	-
17 Persulphate salts and henna	-	-	1	-	1	-	-	-
18 Crustaceans	7	-	3	-	5	-	5	-
19 Reactive dyes	4	-	4	1	4	-	2	-
20 Soya bean dust	2	-	1	-	-	-	-	-
21 Tea dust	2	-	1	-	2	-	-	-
22 Green coffee bean dust	-	-	-	-	-	-	-	-
23 Fumes from stainless steel welding	23	3	12	-	8	1	9	-
24 Open category	57	3	44	4	41	2	31	5
Total 15-24	108	8	84	5	71	3	56	5
TOTAL AGENTS	259	18	193	8	160	6	147	6
Percentage of all cases								
Agents 1 to 14	84%	6%	87%	2%	77%	3%	87%	1%
Agents 15 to 24	92%	7%	87%	5%	88%	4%	89%	8%
ALL AGENTS 1 TO 24	87%	6%	87%	4%	82%	3%	88%	4%

Notes:

See footnotes to Table A2.8.

Source: DWP

Table A2.10 Prescribed diseases: average rates of new assessments in 1999-2000 per 100 000 employees in each industry

Industry	SIC92 section	Asthma	Dermatitis	Musculoskeletal	Occupational deafness	Vibration white finger	Asbestosis	Mesothelioma
Agriculture, forestry and fishing	A, B	1.7	0.3	1.7	0.8	2.5	0.1	0.3
Extraction, energy and water supply	C, E	4.8	11.2	9.9	7.9	717.8	3.7	4.4
Manufacturing	D	3.1	2.5	3.7	3.9	5.3	2.4	3.6
Construction	F	0.6	2.1	1.4	2.3	12.7	11.3	15.3
Distribution, hotels and restaurants	G, H	0.2	0.3	0.6	0.1	0.3	0.1	0.6
Transport and communication	I	0.1	0.6	1.4	0.4	1.0	1.1	2.1
Financial and business services	J, K	0.1	0.2	2.1	0.4	0.4	1.3	3.4
Public administration and education	L, M	0.1	0.2	1.4	0.1	0.2	0.4	0.3
Health and social work	N	0.6	0.8	1.0	-	-	-	0.8
Other community, social & personal services	O, P, Q	0.2	0.8	1.1	0.1	0.2	0.2	0.2
All sectors		0.7	0.9	1.7	1.2	14.8	2.0	3.0

Notes:

Source: DWP, ONS

Rates shown in light type are based on 10 or fewer assessed cases.

The rates shown in this table are approximations to the true incidence rates of assessed cases in the industries shown, because of the uncertainties about the correct denominators (populations at risk). Information collected by DWP for statistical purposes does not include whether claimants were still employed in the industry which caused the disease, or how long ago they were so employed (which might be many years previously). 1999/2000 and 2000/01 Short Term Employment Survey figures have been used as denominators for asthma, dermatitis and musculoskeletal disorders, on the assumption that in most cases the interval between the start of the causative working conditions and the assessment of the diseases will have been relatively short. 1989/90 and 1990/91 Short Term Employment Survey figures were used for occupational deafness and vibration white finger, and 1961 census figures were used for asbestosis and mesothelioma, because of the longer intervals likely with these diseases. The rates for extraction, energy and water supply are particularly subject to uncertainty of the denominators because of the marked contraction of the coal mining industry in recent years. These rates should therefore be treated with reserve.

For vibration white finger, where most cases are in coal miners, claims have almost certainly been inflated by civil litigation over this disease, leading to an artificially high rate.

Table A2.11 Cases of occupational disease reported under RIDDOR (a)

Disease (e)	RIDDOR 95 disease number	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01p	RIDDOR 1985 disease number	Corresponding DWP PD number
Skin disease (radiation)	1	1	2	5	7	5	1	1	2	1	-	6	part A1
Bone cancer	2	-	-	-	-	-	2	-	-	-	-	20	part A1
Blood dyscrasia	3	3	3	-	1	1	4	-	1	5	-	21	part A1
Cataract	4	-	-	-	1	-	-	2	-	-	-	22	A1/A2
Decompression sickness	5	42	18	15	32	56	48	19	13	3	4	23	part A3
Barotrauma	6	-	1	-	1	-	1	2	1	-	-	24	part A3
Cramp of hand/forearm	8	-	-	-	-	-	199	228	192	179	172	-	A4
Beat hand	9	-	-	-	-	-	-	3	3	2	1	-	A5
Beat knee	10	-	-	-	-	-	12	10	13	8	20	-	A6
Beat elbow	11	-	-	-	-	-	29	29	36	25	32	-	A7
Tenosynovitis hand/forearm	12	-	-	-	-	-	405	475	396	392	444	-	A8
Carpal tunnel syndrome	13	-	-	-	-	-	82	96	109	212	119	-	A12
Hand-arm vibration syndrome (b)	14	131	137	113	331	147	236	258	623	876	905	28	A11
Anthrax	15	1	-	-	-	-	-	-	-	-	1	19	B1
Brucellosis	16	-	-	-	-	-	1	-	-	-	-	-	B7
Chlamydiosis	17	-	-	-	-	-	7	2	2	3	2	-	B10
Hepatitis	18	42	17	17	13	13	23	17	23	12	4	16	B8
Legionellosis	19	-	-	-	-	-	11	8	14	3	14	-	-
Leptospirosis	20	14	8	10	11	5	6	9	6	8	12	15	B3
Lyme disease	21	-	-	-	-	-	6	4	2	5	3	-	-
Q fever	22	-	-	-	-	-	-	2	-	1	1	-	B11
Streptococcus suis	24	-	-	-	-	-	3	1	-	-	-	-	B9
Tetanus	25	-	-	-	-	-	2	1	1	-	-	-	-
Tuberculosis	26	9	12	13	10	16	17	17	12	11	15	17	B5
Other reportable infections (c)	27	28	19	23	22	47	84	70	45	51	41	18	-
Poisonings by													
Arsenic	28b	-	-	1	-	1	-	-	1	-	-	1b	C4
Benzene	28c	1	1	-	-	1	-	19	-	2	-	1c	C7
Cadmium	28e	1	-	-	-	-	1	-	-	-	-	1e	C18
Diethylene dioxide	28g	-	1	-	-	1	-	-	-	-	-	1g	C11
Lead	28i	5	1	7	2	2	-	5	10	6	2	1i	C1
Manganese	28j	1	-	-	-	1	-	-	-	-	-	1j	C2
Mercury	28k	-	1	1	1	-	-	1	-	2	-	1k	C5
Methyl bromide	28l	-	-	1	3	-	-	-	-	-	-	1l	C12
Nitrochlorobenzene	28m	1	2	-	4	1	-	-	1	-	3	1m	C8
Oxides of nitrogen	28n	-	1	-	-	-	-	-	-	-	1	1n	C15
Phosphorus	28o	3	2	11	2	5	3	3	2	2	3	1o	C3
Lung cancer (silica)	30	-	-	-	-	-	3	2	-	2	-	-	D11
Urinary tract cancer (dyes)	31	4	-	1	2	1	1	1	-	3	-	27	part C23
Bladder cancer (aluminium smelting)	32	-	-	-	-	-	1	-	-	-	-	-	part C23
Angiosarcoma of liver	33	-	2	-	-	-	-	-	-	-	-	26	C24a
Peripheral neuropathy	34	-	-	-	-	-	1	-	-	-	-	-	C29
Chrome ulcer	35	11	2	17	7	5	6	-	-	8	10	2	C30
Folliculitis	36	1	-	2	1	1	1	1	-	1	1	3	part D5
Acne	37	-	-	3	-	-	-	-	-	-	-	4	part D5
Skin cancer	38	2	-	1	-	-	2	-	1	1	-	5	C21b
Pneumoconiosis	39	3	3	1	3	-	6	3	5	19	21	9	part D1
Byssinosis	40	1	1	-	-	-	-	-	-	-	-	10	D2
Mesothelioma	41	9	8	8	11	6	11	10	14	10	8	11	D3
Lung cancer (asbestos)	42	-	-	-	-	1	2	1	3	1	-	12	D8
Asbestosis	43	5	8	4	7	1	7	9	11	10	4	13	part D1
Nasal/sinus cancer	44	-	2	-	1	-	-	1	1	-	-	25	C22a/D6
Occupational dermatitis	45	-	-	-	-	-	312	463	506	563	446	-	D5
Extrinsic alveolitis	46	2	7	4	7	5	5	1	3	1	1	8	B6
Occupational asthma	47	74	72	105	79	82	103	113	144	106	88	7	D7
Total of all diseases		396	331	363	559	404	1 644	1 887	2 196	2 534	2 378		

Notes:

- Disease not reportable before 1 April 1996.

p Provisional.

(a) Years starting 1 April.

(b) Before 1 April 1996 only vibration white finger was reportable in this category.

(c) Before 1 April 1996 pathogenic infections were reportable. Subsequently the definition was revised to include infections reliably attributable to work with humans and animals.

(d) Lung cancer associated with work with bischloromethyl ether or chromium compounds.

(e) In RIDDOR 95 (effective from 1 April 1996) the schedule of reportable diseases was revised and extended, resulting in an increase in the total number of reports. Where disease definitions were revised due to the introduction of RIDDOR 95 figures from 1996/97 cannot be compared with those for earlier years.

The data in this table records the extent of the employers reporting of diseases scheduled under RIDDOR. Comparison with other information sources - themselves incomplete - show that the number of cases reported under RIDDOR clearly understates the real incidence of work-related disease.

Table A2.12 Estimated number of cases of work-related and occupational respiratory disease reported by chest and occupational physicians to SWORD/OPRA by sex and diagnostic category

Sex	Diagnostic category	Chest and occupational physicians			Chest physicians (SWORD)			Occupational physicians (OPRA)		
		1998	1999	2000	1998	1999	2000	1998	1999	2000
Male	Allergic alveolitis	17	27	13	17	27	13	-	-	-
	Asthma	556	803	558	294	446	352	262	357	206
	Bronchitis/emphysema	57	128	119	44	115	106	13	13	13
	Infectious diseases	50	25	52	50	1	40	-	24	12
	Inhalation accidents	177	127	95	101	63	34	76	64	61
	Lung cancer	100	81	113	100	81	112	-	-	1
	Malignant mesothelioma	656	950	896	640	935	853	16	15	43
	Benign pleural disease	598	1 180	1 011	573	1 142	987	25	38	24
	Pneumoconiosis	222	319	291	197	309	243	25	10	48
	Other	67	119	108	18	34	60	49	85	48
Total number of diagnoses		2 500	3 759	3 256	2 034	3 153	2 800	466	606	456
Total number of individuals (a)		2 439	3 677	3 204	1 997	3 095	2 748	442	582	456
Female	Allergic alveolitis	12	15	24	12	3	24	-	12	-
	Asthma	251	326	202	115	217	117	136	109	85
	Bronchitis/emphysema	1	1	25	1	1	13	-	-	12
	Infectious diseases	37	38	25	25	26	13	12	12	12
	Inhalation accidents	1	27	24	1	3	12	-	24	12
	Lung cancer	-	-	1	-	-	1	-	-	-
	Malignant mesothelioma	31	68	56	31	56	44	-	12	12
	Benign pleural disease	2	39	31	2	39	31	-	-	-
	Pneumoconiosis	3	1	1	3	1	1	-	-	-
	Other	120	120	110	9	23	38	111	97	72
Total number of diagnoses		458	635	499	199	369	294	259	266	203
Total number of individuals (a)		444	597	496	198	355	291	246	342	205
All cases (b)	Allergic alveolitis	29	42	37	29	30	37	-	12	-
	Asthma	807	1 129	797	409	663	494	398	466	303
	Bronchitis/emphysema	58	129	144	45	116	119	13	13	25
	Infectious diseases	87	63	77	75	27	53	12	36	24
	Inhalation accidents	178	154	119	102	66	46	76	88	73
	Lung cancer	112	81	126	112	81	125	-	-	1
	Malignant mesothelioma	701	1 018	964	685	991	909	16	27	55
	Benign pleural disease	625	1 243	1 080	600	1 205	1 056	25	38	24
	Pneumoconiosis	225	320	292	200	310	244	25	10	48
	Other	187	239	218	27	57	98	160	182	120
Total number of diagnoses		3 009	4 418	3 864	2 284	3 546	3 181	725	872	673
Total number of individuals (a)		2 934	4 298	3 787	2 246	3 474	3 114	688	824	673

Notes:

(a) Individuals may have more than one diagnosis.

(b) May not equal males plus females because sex is not recorded for some cases.

- Can mean zero or rounds to zero.

Table A2.13 Estimated number of cases of work-related and occupational respiratory disease reported by chest and occupational physicians to SWORD/OPRA by country (a)

Country		Chest and occupational physicians			Chest physicians (SWORD)			Occupational physicians (OPRA)		
		1998	1999	2000	1998	1999	2000	1998	1999	2000
England	Total number of individuals	2 471	3 562	3 260	1 963	2 902	2 683	508	660	577
	Of which: asthma	664	888	700	369	560	409	295	328	291
Wales	Total number of individuals	134	267	238	74	194	190	60	73	48
	Of which: asthma	53	56	15	5	7	15	48	49	-
Scotland	Total number of individuals	329	469	289	209	378	241	120	91	48
	Of which: asthma	90	185	82	35	96	70	55	89	12

Notes:

(a) May not sum to totals in Table A2.12 because country is not recorded for some cases.

- Can mean zero or rounds to zero.

Table A2.14

Occupational asthma: estimated number of cases reported by chest and occupational physicians to SWORD/OPRA and estimated rates per 100 000 workers per year, by occupation

Occupation (a)	SOC90		Chest physicians (SWORD)		Occupational physicians (OPRA)(b)	
	major group	unit group	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year
Managers and administrators	1		16	-	-	-
Professional	2		38	1	32	1
- Other natural scientists nes		209	4	15	8	33
- Medical practitioners		220	8	5	8	5
Associate professional and technical	3		45	2	69	3
- Laboratory technicians		300	10	13	-	-
- Nurses		340	23	5	32	7
Clerical and secretarial	4		14	-	16	-
Craft and related	5		177	6	112	4
- Metalwork, maintenance fitters		516	5	2	4	1
- Moulders, core makers, die casters		531	3	30	4	36
- Welding trades		537	44	44	13	13
- Carpenters and joiners		570	11	5	8	3
- Bakers, flour confectioners		580	13	37	16	47
- Coach painters, other spray painters		596	28	72	9	23
Personal and protective service	6		22	1	32	1
Sales	7		5	-	4	-
Plant and machine operatives	8		145	6	84	3
- Other food, drink and tobacco operatives		809	28	24	12	10
- Chemical process plant operatives		820	16	27	25	42
- Rubber process operatives		824	11	52	-	2
- Assemblers/lineworkers (electrical/electronic)		850	11	9	-	-
- Assemblers/lineworkers (vehicles and metal)		851	6	8	12	17
- Packers, bottlers, canners, fillers		862	11	6	4	2
Other occupations	9		55	3	36	2
- Cleaners, domestics		958	15	2	4	1
All occupations			522	2	380	1

Notes:

- (a) All SOC 90 Major Groups are shown, as are SOC 90 Unit Groups with 10 or more actual cases reported to either SWORD or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some occupations are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- Can mean zero or rounds to zero.
- nes Not elsewhere specified.

Table A2.15 Occupational asthma: estimated number of cases reported by chest and occupational physicians to SWORD/OPRA and estimated rates per 100 000 workers per year, by industry

Industry (a)	SIC92		Chest physicians (SWORD)		Occupational physicians (OPRA) (b)	
	Section	Division	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year
Agriculture, hunting and forestry	A		14	4	-	-
Fishing	B		4	26	-	-
Mining and quarrying	C		14	14	4	4
Manufacturing	D		283	6	202	4
- Manufacturing of food products and beverages		15	62	13	57	12
- Publishing, printing and recorded media		22	11	3	5	1
- Manufacturing of chemicals and chemical products		24	36	11	49	15
- Manufacturing of rubber and plastic products		25	12	5	13	5
- Manufacturing of basic metals		27	15	10	8	5
- Manufacturing of fabricated metal products		28	23	6	9	2
- Manufacturing of machinery and equipment		29	16	3	-	-
- Manufacturing of radio, TV and communication equipment		32	6	3	-	-
- Manufacturing of motor vehicles		34	39	12	28	9
- Manufacturing of other transport equipment		35	7	3	12	5
- Manufacturing of furniture; manufacturing nec		36	15	7	-	-
Gas, electricity and water supply	E		7	4	4	2
- Electricity, gas, steam and hot water supply		40	7	6	4	4
Construction	F	45	22	1	-	-
Wholesale and retail trade	G		17	-	24	1
- Sale, maintenance and repair of motor vehicles		50	7	1	8	1
Hotels and restaurants	H		5	-	-	-
Transport, storage and communication	I		7	-	16	1
Financial intermediation	J		-	-	-	-
Real estate, renting and business activities	K		15	1	4	-
- Research and development		73	12	12	4	4
Public administration and defence	L	75	23	1	21	1
Education	M	80	12	1	16	1
Health and social work	N	85	56	2	81	3
Other community, social & personal service	O		18	1	-	-
Private households with employed persons	P		-	-	-	-
Extra-territorial organisations and bodies	Q		-	-	-	-
Missing industry			24		16	
All industries			522	2	389	1

Notes:

- (a) All SIC 92 Sections are shown, as are SIC 92 Divisions with 10 or more actual cases reported to either SWORD or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some industries are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- Can mean zero or rounds to zero.
- nec Not elsewhere classified.

Table A2.16 Estimated number of cases of work-related skin disease reported by dermatologists and occupational physicians to EPIDERM/OPRA by sex and diagnostic category

Sex	Diagnostic category	Dermatologists and occupational physicians			Dermatologists (EPIDERM)			Occupational physicians (OPRA)		
		1998	1999	2000	1998	1999	2000	1998	1999	2000
Male	Contact dermatitis	2 066	2 121	1 712	1 097	1 177	1 024	969	944	688
	Contact urticaria	16	97	67	16	49	55	-	48	12
	Folliculitis/acne	12	37	24	12	25	24	-	12	-
	Infective skin disease	130	52	27	57	4	3	73	48	24
	Mechanical skin disease	57	15	17	45	3	17	12	12	-
	Nail conditions	12	24	-	12	12	-	-	12	-
	Skin neoplasia	306	329	434	306	329	422	-	-	12
	Other dermatoses	151	111	79	27	35	30	124	76	49
	Total number of diagnoses	2 750	2 786	2 360	1 572	1 634	1 575	1 178	1 152	785
	Total number of individuals (a)	2 664	2 729	2 324	1 534	1 589	1 539	1 130	1 140	785
Female	Contact dermatitis	1 519	1 812	1 674	892	1 114	1 037	627	698	637
	Contact urticaria	76	129	151	52	80	67	24	49	84
	Folliculitis/acne	12	-	-	12	-	-	-	-	-
	Infective skin disease	74	90	61	26	18	1	48	72	60
	Mechanical skin disease	17	1	21	17	1	21	-	-	-
	Nail conditions	13	49	1	1	37	1	12	12	-
	Skin neoplasia	41	10	46	41	10	46	-	-	-
	Other dermatoses	75	73	69	27	24	21	48	49	48
	Total number of diagnoses	1 827	2 164	2 023	1 068	1 284	1 194	759	880	829
	Total number of individuals (a)	1 790	2 121	1 972	1 031	1 241	1 143	759	880	829
All cases (b)	Contact dermatitis	3 587	3 933	3 400	1 991	2 291	2 063	1 596	1 642	1 337
	Contact urticaria	92	226	219	68	129	123	24	97	96
	Folliculitis/acne	24	37	24	24	25	24	-	12	-
	Infective skin disease	204	142	88	83	22	4	121	120	84
	Mechanical skin disease	74	16	38	62	4	38	12	12	-
	Nail conditions	25	73	1	13	49	1	12	24	-
	Skin neoplasia	347	339	480	347	339	468	-	-	12
	Other dermatoses	226	184	148	54	59	51	172	125	97
	Total number of diagnoses	4 579	4 950	4 398	2 642	2 918	2 772	1 937	2 032	1 626
	Total number of individuals (a)	4 456	4 850	4 310	2 587	2 830	2 684	1 889	2 020	1 636

Notes:

(a) Individuals may have more than one diagnosis.

(b) May not equal males plus females because sex is not recorded for some cases.

Table A2.17 Estimated number of cases of work-related skin disease reported by dermatologists and occupational physicians to EPIDERM/OPRA by country (a)

Country		Dermatologists and occupational physicians			Dermatologists (EPIDERM)			Occupational physicians (OPRA)		
		1998	1999	2000	1998	1999	2000	1998	1999	2000
England	Total number of individuals (a)	3 565	3 938	3 503	2 098	2 317	2 154	1 467	1 621	1 349
	Of which: contact dermatitis	2 877	3 186	2 651	1 642	1 822	1 543	1 235	1 364	1 108
Wales	Total number of individuals (a)	459	332	291	242	178	207	217	154	84
	Of which: contact dermatitis	339	259	291	146	154	207	193	105	84
Scotland	Total number of individuals (a)	432	568	515	227	335	322	205	233	193
	Of which: contact dermatitis	371	476	457	203	315	312	168	161	145

Notes:

(a) May not sum to totals in Table A2.16 because country is not recorded for some cases.

Table A2.18 Contact dermatitis: estimated number of cases reported by dermatologists and occupational physicians to EPIDERM/OPRA and estimated rates per 100 000 workers per year, by occupation

Occupation (a)	major group	SOC90 unit group	Dermatologists (EPIDERM)		Occupational physicians (OPRA) (b)	
			Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year
Managers and administrators	1		39	1	20	-
- Restaurant and catering managers		174	7	5	-	-
Professional	2		78	3	81	3
- Chemists		200	5	16	28	84
- Biological scientists and biochemists		201	7	10	8	12
- Medical practitioners		220	29	20	20	14
- Dental practitioners		223	11	44	12	50
Associate professional and technical	3		306	11	340	12
- Laboratory technicians		300	29	40	4	5
- Other scientific technicians nec		309	8	12	16	24
- Nurses		340	206	43	280	59
- Midwives		341	4	12	4	12
- Physiotherapists		343	7	24	8	28
- Medical, dental technicians etc		346	8	19	-	-
- Occupational and speech therapists etc		347	11	16	-	-
Clerical and secretarial	4		68	2	28	1
- Counter clerks and cashiers		411	9	3	-	-
- Clerks nos		430	26	4	16	2
- Storekeepers and warehouse personnel		441	9	2	4	1
- Other secretarial personnel nes		459	8	2	-	-
Craft and related	5		479	15	320	10
- Bricklayers, masons		500	10	12	4	4
- Plasterers		502	5	15	-	1
- Builders, building contractors		504	27	22	4	3
- Floorers, carpet fitters and wall tilers		506	13	37	4	12
- Painters and decorators		507	13	10	9	6
- Grinding machine setters, operators		512	9	94	4	44
- Metal working and maintenance fitters		516	66	20	49	14
- Other machine tool setters		519	10	28	8	23
- Electricians, electrical maintenance fitters		521	12	5	25	10
- Plumbers, heating and ventilation engineers		532	16	10	4	2
- Sheet metal workers		533	15	48	8	26
- Welding trades		537	11	11	13	13
- Motor mechanics, auto engineers		540	26	12	16	8
- Sewing machinists etc		553	3	3	-	-
- Printers		561	22	90	5	20
- Other printing and related trades nec		569	9	14	-	-
- Carpenters and joiners		570	41	17	9	4
- Bakers, flour confectioners		580	24	69	-	-
- Glass products and ceramics makers		590	13	43	40	137
- Gardeners, groundsman/women		594	21	15	16	11
- Coach painters, other spray painters		596	19	48	5	13
- Other craft and related occupations nes		599	11	44	4	16
Personal and protective service	6		412	14	118	4
- Chefs, cooks		620	100	41	13	5
- Waiters, waitresses		621	12	6	4	2
- Bar staff		622	20	11	-	-
- Assistant nurses, nursing auxiliaries		640	16	12	36	26
- Dental nurses		643	5	17	8	25
- Care assistants and attendants		644	40	8	8	2
- Nursery nurses		650	4	3	8	6
- Hairdressers, barbers		660	156	169	4	4
- Beauticians and related occupations		661	22	77	-	-
Sales	7		54	3	20	1
- Sales assistants		720	22	2	16	1
- Retail cash desk and check-out operators		721	10	5	-	-
- Window dressers, floral arrangers		791	14	69	-	-
Plant and machine operatives	8		329	14	349	14
- Bakery and confectionery process operatives		800	8	22	-	-
- Other food, drink and tobacco operatives		809	16	14	8	7
- Chemical, gas and petroleum process plant operatives		820	24	40	110	185
- Rubber process operatives, tyre builders		824	19	91	8	38
- Plastics process operatives		825	20	27	24	31
- Electroplaters, galvanisers, colour coaters		834	11	91	13	111
- Machine tool operatives		840	51	57	12	14
- Press stamping and automatic machine operatives		841	11	36	12	40

Table A2.18 Contact dermatitis: estimated number of cases reported by dermatologists and occupational physicians to EPIDERM/OPRA and estimated rates per 100 000 workers per year, by occupation (continued)

Occupation (a)	Dermatologists (EPIDERM)				Occupational physicians (OPRA) (b)	
	major group	SOC90 unit group	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year
- Assemblers/lineworkers (electrical/electronic goods)		850	20	17	17	14
- Assemblers/lineworkers (vehicles and metal goods)		851	22	31	48	67
- Other assemblers/lineworkers nec		859	9	17	4	8
- Inspectors etc (metal, electrical)		860	4	5	4	6
- Packers, bottlers, canners, fillers		862	13	7	20	11
- Drivers of road goods vehicles		872	15	3	-	-
- Other plant and machine operatives nec		899	9	12	-	-
Other occupations	9		310	15	244	12
- Other labourers in making/processing (d)		919	48	-	105	-
- Other building and civil engineering labourers nec		929	12	11	1	1
- Kitchen porters, hands		952	33	23	8	6
- Catering assistants		953	46	20	20	9
- Cleaners, domestics		958	85	13	68	10
- All other labourers and related workers		990	16	15	8	8
Missing occupation			40	-	4	-
All occupations			2 115	8	1 525	6

Notes:

- (a) All SOC 90 Major Groups are shown, as are SOC 90 Unit Groups with 10 or more actual cases reported to either EPIDERM or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some occupations are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month each year. Estimated totals for these are calculated by multiplying the actual number of cases by 12. See paragraph 2.224 in the commentary.
- (d) This group comprises a miscellany of jobs for which it would not be meaningful to compute a rate.
- Can mean zero or rounds to zero.
- .. Not applicable.
- nec Not elsewhere classified.
- nos Not otherwise specified.

Table A2.19 Contact dermatitis: estimated number of cases reported by dermatologists and occupational physicians to EPIDERM/OPRA and estimated rates per 100 000 workers per year, by industry

Industry (a)	SIC92		Dermatologists (EPIDERM)		Occupational physicians (OPRA) (b)	
	Section	Division	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year
Agriculture, hunting and forestry	A		43	11	-	-
- Agriculture, hunting etc		1	43	11	-	-
Fishing	B		8	52	-	-
Mining and quarrying	C		19	20	4	4
- Oil, gas extraction etc		11	18	33	4	7
Manufacturing	D		631	13	790	17
- Manufacture of food products and beverages		15	60	13	25	5
- Manufacture of textiles		17	19	12	1	1
- Manufacture of pulp, paper and paper products		21	22	18	-	-
- Publishing, printing and recorded media		22	38	9	17	4
- Manufacture of chemicals and chemical products		24	43	13	162	50
- Manufacture of rubber and plastic products		25	42	16	32	12
- Manufacture of other non-metallic mineral products		26	43	25	78	46
- Manufacture of basic metals		27	50	34	33	23
- Manufacture of fabricated metal products		28	68	16	66	16
- Manufacture of machinery and equipment		29	30	6	44	10
- Manufacture of electrical machinery		31	26	11	29	12
- Manufacture of radio, TV, communication equipments		32	10	6	29	17
- Manufacture of medical, precision, optical equipments		33	9	6	8	6
- Manufacture of motor vehicles		34	84	26	137	42
- Manufacture of other transport equipment		35	42	17	84	34
- Manufacture of furniture; manufacturing nec		36	31	13	4	2
Gas, electricity and water supply	E		22	12	22	12
- Electricity, gas, steam and hot water supply		40	19	15	18	15
Construction	F		144	8	18	1
Wholesale and retail trade	G		109	3	32	1
- Sale maintenance and repair of motor vehicles		50	32	6	4	1
- Retail trade		52	76	3	28	1
Hotels and restaurants	H		203	17	17	1
Transport, storage and communication	I		45	3	17	1
- Transport by land or pipeline		60	18	3	5	1
- Post and telecommunications		64	15	3	12	2
Financial intermediation	J		11	1	-	-
- Financial intermediation, except insurance & pension funding		65	9	1	-	-
Real estate, renting and business activities	K		21	1	9	-
- Other business activities		74	17	1	8	-
Public administration and defence	L		22	1	52	3
Education	M		42	2	36	2
Health and social work	N		419	14	486	17
Other community, social & personal service	O		235	16	4	-
- Recreational, cultural and sporting activities		92	31	4	-	-
- Other service		93	201	61	4	1
Private households with employed persons	P		13	9	-	-
Extra-territorial organisations and bodies	Q		-	-	-	-
Missing industry			129	..	37	..
All industries			2 115	8	1 525	6

Notes:

- (a) All SIC 92 Sections are shown, as are SIC 92 Divisions with 10 or more actual cases reported to either EPIDERM or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some industries are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- Can mean zero or rounds to zero.
- .. Not applicable.
- nec Not elsewhere classified.

Table A2.20 Contact dermatitis analysed by causative substance. Average estimated cases reported by dermatologists and occupational physicians to EPIDERM and OPRA

Substance (a)	Dermatologists (EPIDERM)		Occupational physicians (OPRA)	
	Annual average estimated cases 1998-2000	Total %	Annual average estimated cases 1998-2000	Total %
Rubber chemicals and materials	345	16	254	17
Wet work	277	13	137	9
Soaps and cleaners	240	11	214	14
Nickel	187	9	36	2
Resins and acrylics	152	7	113	7
Personal protective equipment (PPE)	140	7	195	13
Chromium and chromates	131	6	4	-
Foods and flour	123	6	4	-
Petroleum and products	113	5	106	7
Preservatives	112	5	12	1
Fragrances and cosmetics	104	5	4	-
Aromatic amines (PPD)	97	5	16	1
Hairdressing chemicals	84	4	4	-
Irritants (unspecified)	83	4	8	1
Colophony and flux	79	4	13	1
Other biological substances	79	4	20	1
Aldehydes	77	4	12	1
Cutting oils and coolants	74	4	94	6
Solvents and alcohols	74	3	40	3
Cobalt and compounds	66	3	-	-
Friction	65	3	44	3
Glues and paints	39	2	36	2
Bleaches and sterilisers	37	2	40	3
Cements, plaster and masonry	32	1	21	1
Drugs and medicines	28	1	28	2
Temperature and humidity	19	1	33	2
Acids and caustics	17	1	44	3
Metals and compounds	15	1	8	1
Other substance	54	3	112	7
Other unspecified chemicals	169	8	208	14
Total cases (b)	2 115		1 535	

Notes:

(a) Substances with 10 or more actual cases reported each year to either EPIDERM or OPRA over the period 1998-2000.

(b) Total number of cases. Since some cases have more than one substance reported, percentages do not sum to 100.

Figures shown in light type where estimated cases are based on less than 10 actual cases.

Table A2.21: Estimated number of cases of work-related audiological disease reported by audiologists and occupational physicians to OSSA/OPRA by sex and diagnostic category

Sex	Diagnostic category	Audiologists and occupational physicians			Audiological physicians (OSSA)			Occupational physicians (OPRA)		
		1998	1999	2000	1998	1999	2000	1998	1999	2000
Male	Sensorineural hearing loss	903	661	509	553	419	269	350	242	240
	Tinnitus	320	229	156	320	229	156	-	-	-
	Balance problem	5	13	4	5	13	4	-	-	-
	Tympanic disorder	12	14	3	12	2	3	-	12	-
	Other problems	13	14	1	13	2	1	-	12	-
	Total number of diagnoses	1 253	931	673	903	665	433	350	266	240
	Total number of individuals (a)	951	700	529	601	434	289	350	266	240
Female	Sensorineural hearing loss	29	53	46	29	17	10	-	36	36
	Tinnitus	16	16	5	16	16	5	-	-	-
	Balance problem	-	1	1	-	1	1	-	-	-
	Tympanic disorder	-	1	-	-	1	-	-	-	-
	Other problems	1	1	-	1	1	-	-	-	-
	Total number of diagnoses	46	72	52	46	36	16	-	36	36
	Total number of individuals (a)	31	56	47	31	20	11	-	36	36
All cases (b)	Sensorineural hearing loss	932	714	627	582	436	279	350	278	348
	Tinnitus	336	245	161	336	245	161	-	-	-
	Balance problem	5	14	5	5	14	5	-	-	-
	Tympanic disorder	12	15	3	12	3	3	-	12	-
	Other problems	14	15	1	14	3	1	-	12	-
	Total number of diagnoses	1 299	1 003	797	949	701	449	350	302	348
	Total number of individuals (a)	982	756	648	632	454	300	350	302	348

Notes:

(a) Individuals may have more than one diagnosis.

(b) May not equal males plus females because sex is not recorded for some cases.

Table A2.22: Estimated number of cases of work-related audiological disease reported by audiologists and occupational physicians to OSSA/OPRA by country (a)

Country		Audiologists and occupational physicians			Audiological physicians (OSSA)			Occupational physicians (OPRA)		
		1998	1999	2000	1998	1999	2000	1998	1999	2000
England	Total number of individuals	570	400	418	282	183	130	288	217	288
	Of which: Sensorineural, hearing loss	554	395	412	266	178	124	288	217	288
	Tinnitus	163	97	68	163	97	68	-	-	-
Wales	Total number of individuals	322	272	131	298	224	119	24	48	12
	Of which: Sensorineural, hearing loss	306	260	129	282	221	117	24	48	12
	Tinnitus	151	129	73	151	129	73	-	-	-
Scotland	Total number of individuals	90	72	98	52	47	50	38	25	48
	Of which: Sensorineural, hearing loss	72	50	83	34	37	37	38	13	48
	Tinnitus	22	19	20	22	19	20	-	-	-

Notes:

(a) May not sum to totals in Table A2.21 because country is not recorded for some cases.

Table A2.23 Estimated number of cases of work-related hearing loss reported by audiological physicians and occupational physicians to OSSA/OPRA by occupation

Occupation (a)	SOC90		Audiologists (OSSA)		Occupational physicians (OPRA) (b)	
	major group	unit group	Annual average cases 1998-2000	Rate per 100 000 workers per year 1998-2000	Annual average cases estimated (c) 1998-2000	Rate per 100 000 workers per year 1998-2000
Managers and administrators	1		10	-	4	-
Professional	2		8	-	8	-
Associate professional & technical musicians	3		12	-	24	1
- Musicians		385	4	12	4	13
Clerical & secretarial	4		2	-	-	-
Craft & related	5		155	5	116	4
- Builders		504	15	12	-	-
- Tool makers, tool fitters and makers-out		515	6	23	4	14
- Metal work, maintenance fitters		516	34	10	68	20
- Electricians, electrical maintenance fitters		521	10	4	8	3
- Plumbers, heating and ventilating engineers and related trades		532	5	3	-	-
- Sheet metal workers		533	4	14	-	-
- Metal plate workers, shipwrights, riveters		534	5	36	8	54
- Welding trades		537	9	9	4	4
- Motor mechanics, auto engineers (inc road patrol engineers)		540	5	2	-	-
- Printers		561	9	36	4	16
- Carpenters and joiners		570	11	5	4	2
- Face trained coalmining workers, shotfirers and deputies (d)		597	5	-	4	-
Personal & protective service	6		59	2	20	1
- NCOs and other ranks, UK armed forces		600	46	59	4	5
- Fire service officers (leading fire officer and below)		611	7	19	4	10
Sales	7		-	-	-	-
Plant & machine operatives	8		108	4	125	5
- Other food etc process operatives		809	3	3	-	-
- Chemical, gas & petroleum process plant operatives		820	4	7	8	13
- Furnace operatives (metal)		830	3	53	-	-
- Machine tool operatives (including CNC machine tool operatives)		840	18	20	16	18
- Press stamping and automatic machine operatives		841	7	23	-	-
- Assemblers/lineworkers (vehicles and other metal goods)		851	8	12	12	17
- Drivers of road goods vehicles		872	8	2	-	-
- Rail engine drivers and assistants		882	9	52	-	-
- Crane drivers		886	5	34	-	-
- Electrical, energy, boiler and related plant operatives and attendants		893	3	41	4	50
- Other plant and machine operatives nec		899	5	6	-	-
Other occupations	9		77	4	24	1
- Coal mine labourers (d)		910	7	-	-	-
- Labourers in foundries		911	16	354	-	-
- Labourers in engineering and allied trades		912	7	46	4	25
- Other labourers in making & processing industries nec		919	22	66	16	48
- All other labourers and related workers		990	5	5	-	-
Missing occupation			2		4	
All occupations			432	2	323	1

Notes:

- (a) All SOC 90 Major Groups are shown, as are SOC 90 Unit Groups with 10 or more actual cases reported to either OSSA or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some occupations are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- (d) Rates for this group cannot be reliably computed since most coal mine workers are no longer employed in these occupations.
- nec Not elsewhere classified.
- Not applicable.
- Can mean zero or rounds to zero.

Table A2.24 Estimated number of cases of work-related hearing loss reported by audiological physicians and occupational physicians to OSSA/OPRA by industry

Industry (a)	SIC92		Audiologists (OSSA)		Occupational physicians (OPRA) (b)	
	Section	Division	Annual average cases 1998-2000	Rate per 100 000 workers per year 1998-2000	Annual average cases (c) 1998-2000	Rate per 100 000 workers per year 1998-2000
Agriculture, hunting, forestry	A		9	2	-	-
- Agriculture, hunting and related services activities		1	8	2	-	-
Fishing	B		-	-	-	-
Mining and quarrying	C		14	15	8	8
- Oil, lignite mining, peat extraction (d)		10	12	-	4	-
Manufacturing	D		234	5	169	4
- Manufacture of food products beverages and tobacco		15	6	1	4	1
- Manufacture of textiles		17	9	6	-	-
- Manufacture of wood, straw, cork, wood products not furniture		20	4	5	24	27
- Manufacture of pulp, paper and paper products		21	3	3	4	3
- Publishing, printing and recorded media		22	11	3	4	1
- Manufacture of chemicals and chemical products		24	8	2	8	2
- Manufacture of rubber and plastic products		25	7	3	32	12
- Manufacture of basic metals		27	94	64	16	11
- Manufacture of fabricated metal products		28	21	5	20	5
- Manufacture of machinery and equipment nec		29	7	1	-	-
- Manufacture of motor vehicles		34	39	12	20	6
- Manufacture of other transport equipment		35	10	4	32	13
Gas, electricity and water supply	E		9	5	12	6
- Gas, electricity, steam and hot water supply		40	8	6	12	10
Construction	F	45	44	2	21	1
Wholesale and retail trade	G		5	-	4	-
- Sale maintenance and repair of motor vehicles and motorcycles		50	3	1	4	1
Hotels and restaurants	H		-	-	-	-
Transport, storage and communication	I		33	2	16	1
- Transport by land or pipeline		60	23	4	4	1
- Water transport		61	5	12	4	9
Financial intermediation	J		-	-	-	-
Real estate, renting and business activities	K		1	-	-	-
Public administration and defence	L	75	67	4	36	2
Education	M		3	-	8	-
Health and social work	N		1	-	12	-
Other community, social & personal service	O		7	-	16	1
- Recreational, cultural and sporting activities		92	6	1	8	1
Private households with employed persons	P		-	-	-	-
Extra-territorial organisations and bodies	Q		-	-	-	-
Missing industry			7		24	
All industries			432	2	325	13

Notes:

- (a) All SIC 92 Sections are shown, as are SIC 92 Divisions with 10 or more actual cases reported to either OSSA or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some industries are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- (d) Rates for this group cannot be reliably computed since most coal mine labourers are no longer employed in this industry.
- Can mean zero or rounds to zero.
- nec Not elsewhere classified.
- .. Not applicable.

Table A2.25 Work-related infections: estimated number of cases reported to SIDAW by CCDCs by sex and diagnostic category

Sex	Diagnostic category	Estimated number of cases		
		1998	1999	2000
Males	Diarrhoeal diseases	158	126	60
	Hepatitis	5	4	-
	Legionellosis	12	2	4
	Leptospirosis	4	1	7
	Ornithosis	4	3	1
	Pulmonary tuberculosis	3	5	-
	Q Fever	-	3	-
	Other	15	7	18
	Total number of diagnoses	201	151	90
	Total number of individuals (a)	201	151	90
Females	Diarrhoeal diseases	487	161	133
	Hepatitis	-	3	-
	Legionellosis	1	-	-
	Leptospirosis	-	-	-
	Ornithosis	-	3	3
	Pulmonary tuberculosis	4	1	4
	Q Fever	-	-	-
	Other	54	32	121
	Total number of diagnoses	546	200	261
	Total number of individuals (a)	546	200	261
All cases (b)	Diarrhoeal diseases	1 020	481	367
	Hepatitis	5	7	-
	Legionellosis	13	2	4
	Leptospirosis	4	1	7
	Ornithosis	6	6	4
	Pulmonary tuberculosis	7	6	4
	Q Fever	-	3	-
	Other	83	116	175
	Total number of diagnoses	1 138	622	561
	Total number of individuals (a)	1 138	622	561

Notes:

(a) Individuals may have more than one diagnosis.

(b) May not equal males plus females because sex is not recorded for some cases.

Table A2.26 Work-related infections: average number of cases reported to SIDAW by CCDCs and estimated rates per 100 000 workers per year, by occupation

Occupation (a)	SOC90		Average annual cases 1998-2000	Rate per 100 000 workers per year 1998-2000
	major group	unit group		
Managers and administrators	1		12	-
- Farm owners and managers etc		160	7	6
Professional	2		26	1
- Medical practitioners		220	5	3
- Primary, nursery education teachers etc		234	10	3
Associate professional and technical	3		124	4
- Nurses		340	110	23
- Welfare, community and youth workers		371	4	2
Clerical and secretarial	4		5	-
Craft and related	5		31	1
- Butchers, meat cutters		581	8	22
- Fishmongers, poultry dressers		582	14	139
Personal and protective service	6		446	15
- NCOs and other ranks, UK armed forces		600	5	6
- NCOs and other ranks, non-UK armed forces		601	16	115
- Chefs, cooks		620	14	6
- Assistant nurses, nursing auxiliaries		640	9	6
- Care assistants and attendants		644	384	74
- Nursery nurses		650	4	4
- Other childcare occupations nes		659	3	1
Sales	7		6	-
- Sales assistants		720	4	-
Plant and machine operatives	8		22	1
- Other food, drink and tobacco operatives		809	6	5
- Packers, bottlers, canners, fillers		862	4	2
- Water etc plant attendants		892	4	36
Other occupations	9		66	3
- Farm workers		900	10	12
- Other related farming occupations		902	4	9
- Postal workers, mail sorters		940	15	9
- Kitchen porters		952	6	4
- Catering assistants		953	13	6
- Cleaners, domestics		958	13	2
All occupations			774	3

Notes:

(a) All SOC90 major groups are shown, as are SOC90 unit groups with 10 or more actual cases reported to SIDAW over the period 1998-2000.

- Can mean zero or rounds to zero.

.. Not applicable.

Table A2.27 Work-related infections: average number of cases reported to SIDAW by CCDCs and estimated rates per 100 000 workers per year, by industry

Industry (a)	SIC92		Annual average cases 1998-2000	Rate per 100 000 workers per year 1998-2000
	section	division		
Agriculture, hunting and forestry	A		21	5
– Agriculture, hunting etc		01	21	6
Fishing	B		1	9
Mining and quarrying	C		1	1
Manufacturing	D		46	1
– Manufacture of food products and beverages		15	36	8
– Manufacture of leather and leather goods		19	6	16
Gas, electricity and water supply	E		1	1
Construction	F		2	-
Wholesale and retail trade	G		11	-
– Retail trade		52	10	-
Hotels and restaurants	H	55	26	2
Transport, storage and communication	I		16	1
– Post, telecommunications		64	15	3
Financial intermediation	J		-	-
Real estate, renting and business activities	K		5	-
– Other business activities		74	4	-
Public administration and defence	L	75	24	2
Education	M	80	23	1
Health and social work	N	85	567	19
Other community, social & personal service	O		7	1
– Sanitation, sewage, refuse disposal etc		90	4	3
Private households with employed persons	P		1	1
Extra-territorial organisations and bodies	Q		-	-
Missing industry	Z		22	-
All industries			774	3

Notes:

(a) All SIC92 divisions are shown, as are SIC92 divisions with 10 or more actual cases reported to SIDAW over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.

- Can mean zero or rounds to zero.

.. Not applicable.

Table A2.28 Work-related musculoskeletal disorders: estimated number of cases reported by rheumatologists and occupational physicians to MOSS/OPRA by sex and diagnostic category

Sex	Diagnostic category	Rheumatologists and occupational physicians			Rheumatologists (MOSS)			Occupational physicians (OPRA)		
		1998	1999	2000	1998	1999	2000	1998	1999	2000
Male	Upper limb disorders	2 394	2 965	2 620	648	936	792	1 746	2 029	1 828
	Raynauds/HAV/VWF	689	714	851	84	192	168	605	522	683
	Other hand/wrist/arm	958	1 471	987	300	432	372	658	1 039	615
	Elbow	530	468	457	132	144	132	398	324	325
	Shoulder	265	348	349	144	192	144	121	156	205
	Spine/back disorders	1 097	1 467	1 033	312	432	264	785	1 035	769
	Neck/thoracic/spine	289	360	204	108	204	96	181	156	108
	Lumber spine/trunk	832	1 155	853	216	252	180	616	903	673
	Lower limbs	350	434	264	192	84	96	158	350	168
	Hip/knee/leg	194	385	168	84	60	48	110	325	120
	Ankle/foot	156	49	96	108	24	48	48	25	48
	Others	108	192	96	36	72	36	72	120	60
	Total number of diagnoses	4 021	5 142	4 061	1 212	1 572	1 224	2 809	3 570	2 837
	Total number of individuals (a)	3 816	4 974	3 977	1 152	1 476	1 188	2 664	3 498	2 789
Female	Upper limb disorders	2 564	2 209	2 303	996	936	888	1 568	1 273	1 415
	Raynauds/HAV/VWF	-	49	36	-	36	24	-	13	12
	Other hand/wrist/arm	1 820	1 667	1 735	660	648	672	1 160	1 019	1 063
	Elbow	384	229	338	168	96	120	216	133	218
	Shoulder	396	288	266	192	156	84	204	132	182
	Spine/back disorders	1 166	1 248	1 176	336	336	288	830	912	888
	Neck/thoracic/spine	492	360	420	192	204	120	300	156	300
	Lumber spine/trunk	674	900	780	144	132	168	530	768	612
	Lower limbs	144	192	108	60	84	48	84	108	60
	Hip/knee/leg	72	72	96	12	12	36	60	60	60
	Ankle/foot	72	132	12	48	84	12	24	48	-
	Others	156	108	120	60	48	12	96	60	108
	Total number of diagnoses	4 066	3 805	3 803	1 476	1 416	1 248	2 590	2 389	2 555
	Total number of individuals (a)	3 850	3 661	3 611	1 392	1 368	1 224	2 458	2 293	2 387
All cases (b)	Upper limb disorders	4 958	5 174	5 043	1 644	1 872	1 752	3 314	3 302	3 291
	Raynauds/HAV/VWF	689	763	935	84	228	192	605	535	743
	Other hand/wrist/arm	2 778	3 138	2 770	960	1 080	1 092	1 818	2 058	1 678
	Elbow	914	697	795	300	240	252	614	457	543
	Shoulder	661	636	639	336	348	252	325	288	387
	Spine/back disorders	2 263	2 715	2 293	648	768	636	1 615	1 947	1 657
	Neck/thoracic/spine	781	720	660	300	408	252	481	312	408
	Lumber spine/trunk	1 506	2 055	1 681	360	384	396	1 146	1 671	1 285
	Lower limbs	494	626	372	252	168	144	242	458	228
	Hip/knee/leg	266	457	264	96	72	84	170	385	180
	Ankle/foot	228	181	108	156	108	60	72	73	48
	Others	264	300	216	96	120	48	168	180	168
	Total number of diagnoses	8 087	8 947	8 068	2 688	2 988	2 628	5 399	5 959	5 440
	Total number of individuals (a)	7 666	8 635	7 792	2 544	2 844	2 568	5 122	5 791	5 224

Notes:

(a) Individuals may have more than one diagnosis.

(b) May not equal males plus females because sex is not recorded for some cases.

Table A2.29: Work-related musculoskeletal disorders: estimated number of cases reported by rheumatologists and occupational physicians to MOSS/OPRA by country (a)

Country		Rheumatologists and occupational physicians			Rheumatologists (MOSS)			Occupational physicians (OPRA)		
		1998	1999	2000	1998	1999	2000	1998	1999	2000
England	Total number of individuals	6 527	7 297	6 600	2 304	2 496	2 328	4 223	4 801	4 272
	Of which: upper limb disorders	4 259	4 477	4 319	1 452	1 620	1 596	2 807	2 857	2 723
	Spine/back disorders	1 860	2 208	1 957	624	696	564	1 236	1 512	1 393
Wales	Total number of individuals	665	652	300	84	168	36	581	484	264
	Of which: upper limb disorders	339	255	120	84	84	24	255	171	96
	Spine/back disorders	325	301	144	-	60	12	325	241	132
Scotland	Total number of individuals	474	686	892	156	180	204	318	506	688
	Of which: upper limb disorders	360	442	604	108	168	132	252	274	472
	Spine/back disorders	78	206	192	24	12	60	54	194	132

Notes:

(a) May not sum to totals in Table A2.28 because country is not recorded for some cases.

Table A2.30 Work-related upper limb disorders: estimated number of cases reported by rheumatologists and occupational physicians to MOSS/OPRA and estimated rates per 100 000 workers per year, by occupation

Occupation (a)	SOC90		Rheumatologists (MOSS)		Occupational physicians (OPRA) (b)	
	major group	unit group	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year
Managers and administrators	1		60	1	69	2
Professional	2		68	2	120	4
Associate professional and technical	3		132	5	296	11
– Nurses		340	32	7	44	9
– Authors, writers, journalists		380	12	11	40	37
Clerical and secretarial	4		412	10	579	15
– Accounts clerks, book-keepers etc		410	12	2	44	6
– Clerks nes		430	44	6	177	25
– Other secretaries, personal assistants		459	108	22	137	27
– Computer operators, data processing operators		490	100	72	56	41
Craft and related	5		380	12	640	20
– Metalwork, maintenance fitters		516	16	5	116	34
– Welding trades		537	20	20	45	46
– Sewing machinists etc		553	40	36	12	11
– Glass products and ceramic makers		590	4	14	44	150
– Glass products and ceramic finishers		591	-	-	40	249
– Gardeners, groundspersons		594	20	14	48	34
Personal and protective service	6		88	3	132	5
Sales	7		68	3	65	3
Plant and machine operatives	8		204	8	960	40
– Other food etc process operatives		809	4	3	59	50
– Rubber process operatives		824	8	38	36	173
– Machine tool operatives		840	16	18	56	63
– Metal dressing operatives		843	-	-	57	1 194
– Assemblers/lineworkers (electrical/electronic goods)		850	8	7	52	45
– Assemblers/lineworkers (vehicles & other metal goods)		851	32	45	228	320
– Packers, bottlers, canners, fillers		862	24	13	129	69
– Service pipe layers and jointers		895	-	-	44	263
Other occupations	9		276	13	404	20
– Coal mine labourers (d)		910	48	-	4	-
– Other labourers in making and processing industries nec (e)		919	20	-	109	-
– Road construction and maintenance workers		923	4	18	73	330
– Cleaners, domestics		958	36	5	44	7
Missing occupation			68	-	36	-
All occupations			1 756	7	3 302	12

Notes:

- (a) All SOC 90 Major Groups are shown, as are SOC 90 Unit Groups with 10 or more actual cases reported to either MOSS or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some occupations are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- (d) Rates for this group cannot be reliably computed since most coal mine labourers are no longer employed in this occupation.
- (e) This group comprises a miscellany of jobs for which it would not be meaningful to compute a rate.
- Not applicable.
- nes Not elsewhere specified.
- nec Not elsewhere classified.
- Can mean zero or rounds to zero.

Table A2.31 Work-related spine/back disorders: estimated number of cases reported by rheumatologists and occupational physicians to MOSS/OPRA and estimated rates per 100 000 workers per year, by occupation

Occupation (a)	SOC90		Rheumatologists (MOSS)		Occupational physicians (OPRA) (b)	
	major group	unit group	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year
Managers and administrators	1		24	1	24	1
Professional	2		40	1	48	2
Associate professional and technical	3		56	2	320	12
– Nurses		340	20	4	216	45
Clerical and secretarial	4		92	2	168	4
– Other secretaries, personal assistants		459	24	5	52	10
Craft and related	5		104	3	156	5
Personal and protective service	6		104	4	364	12
– Police officers (sergeants and below)		610	4	2	40	25
– Assistant nurses, nursing auxiliaries		640	20	15	88	64
– Ambulance staff		642	8	28	44	156
– Care assistants and attendants		644	32	6	144	28
Sales	7		44	2	36	2
Plant and machine operatives	8		84	3	342	14
– Assemblers/lineworkers (vehicles/other metal goods)		851	-	-	92	129
Other occupations	9		88	4	273	13
– Other labourers in making and processing industries nec (d)		919	4	-	52	-
– Road construction and maintenance workers		923	-	-	40	181
– Cleaners, domestics		958	8	1	48	7
Missing occupation			24	-	8	-
All occupations			684	2	1 740	7

Notes:

- (a) All SOC 90 Major Groups are shown, as are SOC 90 Unit Groups with 10 or more actual cases reported to either MOSS or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some occupations are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- (d) This group comprises a miscellany of jobs for which it would not be meaningful to compute a rate.
- Not applicable.
- nec Not elsewhere classified.
- Can mean zero or rounds to zero.

Table A2.32 Work-related upper limb disorders: estimated number of cases reported by rheumatologists and occupational physicians to MOSS/OPRA and estimated rates per 100 000 workers per year, by industry

Industry (a)	SIC92		Rheumatologists (MOSS)		Occupational physicians (OPRA) (b)	
	section	division	Annual average estimated cases (c)	Rate per 100 000 workers per year	Annual average estimated cases (c)	Rate per 100 000 workers per year
Agriculture, hunting and forestry	A		44	11	8	2
Fishing	B		12	78	-	-
Mining and quarrying	C		56	57	52	53
Manufacturing	D		360	8	1 490	31
- Mining of coal and lignite, extraction of peat		10	56	350	28	175
- Manufacture of food products and beverages		15	36	8	208	44
- Manufacture of chemicals and chemical products		24	20	6	156	48
- Manufacture of rubber and plastic products		25	20	8	29	11
- Manufacture of other non-metallic mineral products		26	4	2	101	60
- Manufacture of basic metals		27	20	14	168	114
- Manufacture of fabricated metal products		28	16	4	107	25
- Manufacture of machinery and equipment nec		29	20	4	42	9
- Manufacture of electrical machinery & apparatus nec		31	4	2	33	14
- Manufacture of electronic equipment and apparatus		32	-	-	76	45
- Manufacture of motor vehicles		34	52	16	349	107
- Manufacture of other transport equipment		35	24	10	68	27
Gas, electricity and water supply	E		4	2	200	108
- Gas, electricity, steam and hot water supply		40	4	3	176	143
Construction	F		172	9	107	6
Wholesale and retail trade	G		144	3	142	3
- Retail trade		52	120	4	126	5
Hotels and restaurants	H		52	4	1	-
Transport, storage and communication	I		52	3	113	6
- Post and telecommunications		64	32	6	68	12
Financial intermediation	J		104	9	52	4
- Financial intermediation, except insurance & pension		65	64	10	12	2
Real estate, renting and business activities	K		160	5	72	2
- Other business activities		74	120	6	36	2
Public administration and defence	L		92	6	335	21
Education	M		44	2	129	6
Health and social work	N		156	5	376	13
Other community, social & personal service	O		68	5	140	10
- Recreational, cultural and sporting activities		92	40	5	120	15
Private households with employed persons	P		4	3	-	-
Extra-territorial organisations and bodies	Q		-	-	-	-
Missing industry			232	..	84	..
All industries			1 756	7	3 302	12

Notes:

- (a) All SIC 92 Sections are shown, as are SIC 92 Divisions with 10 or more actual cases reported to either MOSS or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some industries are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- .. Not applicable.
- nec Not elsewhere classified.
- Can mean zero or rounds to zero.

Table A2.33 Work-related spine/back disorders: estimated number of cases reported by rheumatologists and occupational physicians to MOSS/OPRA and estimated rates per 100 000 workers per year, by industry

Industry (a)	SIC92		Rheumatologists (MOSS)		Occupational physicians (OPRA) (b)	
	section	division	Annual average estimated cases 1998-2000 (c)	Rate per 100 000 workers per year	Annual average estimated cases 1998-2000 (c)	Rate per 100 000 workers per year
Agriculture, hunting and forestry	A		8	2	-	-
Fishing	B		-	-	-	-
Mining and quarrying	C		4	4	44	45
Manufacturing	D		76	2	442	9
- Manufacture of food products and beverages		15	16	3	56	12
- Manufacture of motor vehicles		34	-	-	152	47
Gas, electricity and water supply	E		8	4	44	24
- Gas, electricity, steam and hot water supply		40	4	3	44	36
Construction	F		64	3	24	1
Wholesale and retail trade	G		52	1	64	2
- Retail trade		52	48	2	60	2
Hotels and restaurants	H		24	2	4	-
Transport, storage and communication	I		68	4	61	3
Financial intermediation	J		20	2	4	-
Real estate, renting and business activities	K		24	1	32	1
Public administration and defence	L		64	4	261	17
Education	M		40	2	52	3
Health and social work	N		120	4	640	22
Other community, social & personal service	O		12	1	40	3
Private households with employed persons	P		-	-	-	-
Extra-territorial organisations and bodies	Q		-	-	-	-
Missing industry			100	-	28	-
All industries			684	3	1 740	7

Notes:

- (a) All SIC 92 Sections are shown, as are SIC 92 Divisions with 10 or more actual cases reported to either MOSS or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some industries are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- Not applicable.
- Can mean zero or rounds to zero.

Table A2.34 Work-related mental ill-health: estimated number of cases reported by psychiatrists to SOSMI and by occupational physicians to OPRA by sex and diagnostic category

Sex	Diagnostic category	Psychiatrists and occupational physicians		Psychiatrists (SOSMI) (c)		Occupational physicians (OPRA)		
		1999	2000	1999	2000	1998	1999	2000
Male	Anxiety/depression	2 431	2 605	1 728	1 692	571	703	913
	Post-traumatic stress disorder	276	288	252	252	108	24	36
	Other work-related stress	566	756	132	72	458	434	684
	Alcohol or drug abuse	276	168	276	144	25	-	24
	Psychotic episode	108	-	108	-	-	-	-
	Other problems	204	120	120	96	96	84	24
	Total number of diagnoses	3 861	3 937	2 616	2 256	1 258	1 245	1 681
	Total number of individuals (a)	3 680	3 601	2 508	2 160	1 113	1 172	1 441
Female	Anxiety/depression	1 938	1 812	1 104	972	724	834	840
	Post-traumatic stress disorder	156	120	96	72	24	60	48
	Other work-related stress	588	950	60	72	372	528	878
	Alcohol or drug abuse	96	108	96	108	-	-	-
	Psychotic episode	132	36	132	36	-	-	-
	Other problems	216	72	144	48	60	72	24
	Total number of diagnoses	3 126	3 098	1 632	1 308	1 180	1 494	1 790
	Total number of individuals (a)	2 886	2 846	1 488	1 248	1 000	1 398	1 598
All cases (b)	Anxiety/depression	4 369	4 525	2 832	2 676	1 295	1 537	1 849
	Post-traumatic stress disorder	432	408	348	324	132	84	84
	Other work-related stress	1 154	1 802	192	144	830	962	1 658
	Alcohol or drug abuse	372	276	372	252	25	-	24
	Psychotic episode	240	36	240	36	-	-	-
	Other problems	420	192	264	144	156	156	48
	Total number of diagnoses	6 987	7 239	4 248	3 576	2 438	2 739	3 663
	Total number of individuals (a)	6 566	6 553	3 996	3 420	2 113	2 570	3 135

Notes:

- (a) Individuals may have more than one diagnosis.
 (b) May not equal males plus females because sex is not recorded for some cases.
 (c) Reports by psychiatrists to SOSMI began in January 1999.

Table A2.35 Work-related mental ill-health: estimated number of cases reported by psychiatrists to SOSMI and by occupational physicians to OPRA by country (a)

Sex	Diagnostic category	Psychiatrists and occupational physicians		Psychiatrists (SOSMI) (b)		Occupational physicians (OPRA)		
		1999	2000	1999	2000	1998	1999	2000
England	Total number of individuals	5 259	5 364	3 144	2 856	1 573	2 115	2 508
Wales	Total number of individuals	408	528	264	240	288	144	288
Scotland	Total number of individuals	887	663	576	334	252	311	339

Notes:

- (a) May not sum to totals in Table A2.34 because country is not recorded for some cases.
 (b) Reports by psychiatrists to SOSMI began in January 1999.

Table A2.36 Work-related mental ill health: estimated number of cases reported by psychiatrists to SOSMI (1999-2000) and by occupational physicians to OPRA (1998-2000) and estimated rates per 100 000 workers per year, by occupation

Occupation (a)	SOC90		Psychiatrists (SOSMI)		Occupational physicians (OPRA) (b)	
	major group	unit group	Annual average estimated cases (c) 1999-2000	Rate per 100 000 workers per year	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year
Managers and administrators	1		486	11	321	7
– Production, works managers		110	18	5	52	14
– Service industry managers		179	66	10	24	4
– Other managers and administrators nes		199	48	23	56	27
Professional	2		1 050	35	528	18
– Medical practitioners		220	264	175	32	22
– Secondary education teachers, etc		233	72	19	12	3
– Primary, nursery education teachers, etc		234	288	80	212	60
– Other teaching professionals nes		239	12	12	-	-
– Chartered and certified accounts		250	66	35	8	4
– Social workers, probation officers		293	72	64	128	115
Associate professional and technical	3		516	18	580	21
– Computer analysts, programmers		320	78	26	12	4
– Nurses		340	240	50	300	63
– Welfare, community and youth workers		371	30	16	48	26
Clerical and secretarial	4		318	8	483	12
– Local government clerical staff		401	24	14	85	48
– Accounts clerks, book keepers etc		410	42	6	60	8
– Clerks nos		430	48	7	168	24
– Other secretarial personnel nes		459	54	11	60	12
Craft and related	5		222	7	69	2
Personal and protective service	6		540	18	264	9
– NCOs and other ranks, UK armed forces		600	120	147	24	31
– Police officers (Sergeant and below)		610	210	128	28	17
– Assistant nurses, nurses auxiliaries		640	-	-	60	44
– Care assistants and attendants		644	60	11	48	9
Sales	7		132	6	44	2
Plant and machine operatives	8		264	11	147	6
Other occupations	9		156	8	117	6
Missing occupation			24	-	52	-
All occupations			3 708	14	2 606	10

Notes:

- (a) All SOC 90 Major Groups are shown, as are SOC 90 Unit Groups with 10 or more actual cases reported to either SOSMI or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some occupations are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- Can mean zero or rounds to zero.
- nes Not elsewhere specified.
- nos Not otherwise specified.

Table A2.37

Work-related mental ill health: estimated number of cases reported by psychiatrists to SOSMI (1999-2000) and by occupational physicians to OPRA (1998-2000) and estimated rates per 100 000 workers per year, by industry

Industry (a)	SIC92		Psychiatrists (SOSMI)		Occupational physicians (OPRA) (b)	
	section	division	Annual average estimated cases (c) 1999-2000	Rate per 100 000 workers per year	Annual average estimated cases (c) 1998-2000	Rate per 100 000 workers per year
Agriculture, hunting and forestry	A		42	11	-	-
Fishing	B		6	43	-	-
Mining and quarrying	C		24	24	44	45
- Oil, gas extraction etc		11	24	43	36	67
Manufacturing	D		318	7	339	7
- Manufacture of food products and beverages		15	30	6	41	9
- Manufacture of chemicals and chemical products		24	24	7	108	33
- Manufacture of motor vehicles		34	24	7	60	18
Gas, electricity and water supply	E		36	19	105	56
- Gas, electricity, steam and hot water supply		40	30	24	88	72
Construction	F		138	7	13	1
- Construction		45	138	7	13	1
Wholesale and retail trade	G		138	3	76	2
- Retail trade		52	102	4	72	3
Hotels and restaurants	H		66	6	20	2
- Hotels and restaurants		55	66	6	20	2
Transport, storage and communication	I		252	14	49	3
- Transport by land or pipeline		60	84	13	16	3
- Post and telecommunication		64	78	14	25	4
Financial intermediation	J		264	23	41	3
- Financial Intermediation, except insurance and pensions funding		65	198	29	16	2
- Insurance, pensions (not Social Sec)		66	60	53	20	17
Real estate, renting and business activities	K		234	8	48	2
- Computer related activities		72	72	15	8	2
- Other business activities		74	126	7	8	-
Public administration and defence	L		600	38	634	41
- Public administration and defence		75	600	38	634	41
Education	M		540	25	264	13
- Education		80	540	25	264	13
Health and social work	N		804	28	864	30
- Health and social work		85	804	28	864	30
Other community, social & personal service	O		114	8	40	3
- Recreational, cultural and sporting activities		92	60	8	24	3
Private households with employed persons	P		-	-	-	-
Extra-territorial organisations and bodies	Q		-	-	-	-
Missing industry	Z		132		68	
All industries			3 708	14	2 606	10

Notes:

- (a) All SIC 92 Sections are shown, as are SIC 92 Divisions with 10 or more actual cases reported to either SOSMI or OPRA over the period 1998-2000. Figures are shown in light type if they are based on fewer than 10 actual cases.
- (b) Comparisons of rates based on OPRA reports are likely to be misleading because workers in some industries are much more likely to have access to occupational physicians than those in others. See paragraphs 2.226-227 in the commentary.
- (c) Some physicians report on a sample basis, for one month in each year. Estimated totals for these are calculated by multiplying the actual number of cases reported by 12. See paragraph 2.224 in the commentary.
- Can mean zero or rounds to zero.

Table A2.38 Death certificates mentioning specified asbestos-related disease (a) (b)

Disease	YEAR OF DEATH									
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Asbestosis										
A Together with lung cancer	53	59	60	45	57	77	75	58	58	66
B Together with mesothelioma	75	53	85	75	69	65	80	88	89	86
C Alone or together with other diseases	63	74	49	54	48	60	53	62	67	74
Total A+C	116	133	109	99	105	137	128	120	125	140
Total asbestosis deaths (A+B+C)	191	186	194	174	174	202	208	208	214	226
Mesothelioma										
Of pleura	231	258	283	342	368	326	347	469	484	455
Of peritoneum	32	25	33	38	43	27	31	41	44	48
Of pleura and peritoneum	7	11	23	13	8	7	20	9	13	16
Site not specified	42	38	54	41	38	108	109	53	82	99
D Total mesothelioma deaths (includes B above)	312	332	393	434	457	468	507	572	623	618
Males	256	272	330	341	355	395	415	477	538	533
Females	56	60	63	93	102	73	92	95	85	85
Total number of deaths (A+C+D)	428	465	502	533	562	605	635	692	748	758

Notes:

p Provisional

(a) Data for 1995-1999 remains provisional for mesothelioma until the completeness of the register has been checked against details recorded by cancer registries. The latest year for which cancer registrations are available is 1994.

(b) The Office for National Statistics (ONS) discontinued medical enquiries in 1993. Therefore, for deaths registered from 1993 onwards, there is often less information available to accurately code the specific site of the mesothelioma.

YEAR OF DEATH

1986	1987	1988	1989	1990	1991	1992	1993	1994	1995p	1996p	1997p	1998p	1999p
84	57	78	74	76	57	70	70	70	62	61	70	46	58
65	110	89	97	120	87	86	135	108	76	79	64	56	66
82	86	73	81	88	106	80	103	104	104	135	121	119	113
166	143	151	155	164	163	150	173	174	166	196	191	165	171
231	253	240	252	284	250	236	308	282	242	275	255	221	237
533	610	645	645	658	751	758	588	573	606	572	626	651	675
43	44	55	54	59	50	58	46	51	51	48	60	61	61
14	19	20	15	17	18	19	15	15	17	16	16	10	12
116	141	152	195	161	204	262	503	607	644	684	653	813	847
706	814	872	909	895	1 023	1 097	1 152	1 246	1 318	1 320	1 355	1 535	1 595
605	708	759	774	777	873	962	1 006	1 093	1 139	1 163	1 177	1 333	1 371
101	106	113	135	118	150	135	146	153	179	157	178	202	224
872	957	1 023	1 064	1 059	1 186	1 247	1 325	1 422	1 455	1 516	1 546	1 700	1 766

Table A2.39 Death certificates mentioning mesothelioma by age and sex in three-year periods p (a)

Age group

	1976-78	1979-81	1982-84	1985-87	1988-90	1991-93	1994-96p	1997-99p
Males								
0-44	42	46	57	65	69	66	32	29
45-54	115	161	188	227	285	340	352	314
55-64	268	349	465	591	679	741	847	915
65-74	276	368	465	589	802	1 043	1 304	1 390
75+	117	167	255	374	475	651	860	1 233
Total	858	1 091	1 430	1 846	2 310	2 841	3 395	3 881
Females								
0-44	7	22	16	17	8	16	10	6
45-54	16	26	23	18	36	50	48	45
55-64	57	79	74	80	79	72	96	121
65-74	63	93	109	108	142	187	169	195
75+	36	48	50	69	101	106	166	237
Total	179	268	272	292	366	431	489	604
Total	1 037	1 359	1 702	2 138	2 676	3 272	3 884	4 485

Notes:

p Provisional.

(a) See footnote to Table A2.38.

Table A2.40 Mesothelioma crude death rates (per million) by region (a)

Region	Males			Females		
	1991-93	1994-96p	1997-99p	1991-93	1994-96p	1997-99p
North	62.90	67.65	78.60	5.67	8.85	9.97
Yorkshire and Humberside	30.59	42.04	45.14	5.89	7.56	7.96
North West	34.32	35.95	44.39	4.36	4.07	6.97
West Midlands	21.13	27.73	34.00	1.62	4.10	5.20
East Midlands	25.30	30.77	35.19	5.51	4.00	6.80
South West	38.81	40.49	55.13	5.89	2.57	5.86
East Anglia	32.04	41.74	48.02	5.67	4.64	6.64
South East	34.60	42.26	45.00	5.12	6.51	7.11
Greater London	30.40	33.94	37.58	5.55	5.59	5.68
South East (not Greater London)	37.28	47.56	49.78	4.85	7.10	8.02
Wales	25.03	31.81	32.22	4.93	4.02	3.12
Scotland	42.85	47.85	48.96	5.94	7.56	8.09
Great Britain	34.32	40.50	45.67	4.99	5.61	6.88

Notes:

p Provisional.

(a) See footnote to Table A2.38.

Table A2.41 Deaths due to occupationally related lung disease, other than mesothelioma and asbestosis (a)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Pneumoconiosis (other than asbestosis)	318 (2)	328 (2)	287	274 (1)	281 (1)	276 (1)	287	223	230 (2)	268 (2)	321 (2)
Byssinosis	25 (17)	19 (12)	16 (13)	21 (14)	11 (6)	7 (5)	6 (6)	3 (3)	5 (1)	5 (1)	6 (4)
Farmer's lung and other occupational allergic alveolitis	8 (1)	6	8 (1)	4 (1)	12 (1)	10 (1)	10	1	5 (1)	8	9
Total	351	353	311	299	304	293	303	227	240	281	336

Notes:

(a) The data in this table are derived from death certificates.

The figure is the number of deaths coded to the disease as underlying cause.

Figures in brackets show the number of females. Where no figure is given, all cases were male.

Source: ONS, GRO(S)

Table A2.42a Male lead workers under medical surveillance

Maximum measured blood-lead $\mu\text{g}/100\text{ml}$	1994/95		1995/96		1996/97		1997/98		1998/99		1999/2000	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Total under surveillance	16 821	100.0	15 455	100.0	16 210	100.0	17 523	100.0	17 199	100.0	16 832	100.0
<40	13 304	79.1	12 364	80.0	12 824	79.1	14 369	82.0	14 288	83.1	14 371	85.4
40<50	1 870	11.1	1 636	10.6	1 761	10.9	1 849	10.6	1 686	9.8	1 578	9.4
50<60	1 023	6.1	972	6.3	1 049	6.5	930	5.3	903	5.3	671	4.0
60<70	432	2.6	357	2.3	449	2.8	265	1.5	251	1.5	165	1.0
70<80	153	0.9	92	0.6	104	0.6	74	0.4	55	0.3	37	0.2
80 and over	39	0.2	34	0.2	23	0.1	36	0.2	16	0.1	10	0.1
Individuals suspended	121	0.7	75	0.5	48	0.3	55	0.3	179 (a)	1.0	117	0.7

Notes:

(a) New suspension levels were introduced by the Control of Lead at Work (CLAW) Regulations 1998.

Table A2.42b Female lead workers under medical surveillance

Maximum measured blood-lead $\mu\text{g}/100\text{ml}$	1994/95		1995/96		1996/97		1997/98		1998/99		1999/2000	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
Total under surveillance	854	100.0	949	100.0	922	100.0	848	100.0	776	100.0	813	100.0
<25	n/a	-	n/a	-	807	87.5	768	90.6	689	88.8	759	93.3
25<30	n/a	-	n/a	-	51	5.5	30	3.5	37	4.8	32	4.0
30<40	n/a	-	n/a	-	44	4.8	40	4.7	32	4.1	15	1.8
<40	822	96.3	921	97.0	902	97.8	838	98.8	758	97.7	806	99.1
40 and over	32	3.7	28	3.0	20	2.2	10	1.2	18	2.3	7	0.9
Individuals suspended	9	1.1	12	1.3	3	0.3	3	0.4	18 (a)	2.3	7	0.9

Notes:

n/a Not available.

(a) New suspension levels were introduced by the Control of Lead at Work (CLAW) Regulations 1998.

Table A2.43a Male lead workers under medical surveillance, by age, blood-lead level and industry sector, 1999/2000

Sector	Percentage in blood-lead category ($\mu\text{g}/100\text{ml}$)							Total under surveillance	Aged under 18 years
	<20	20-29	30-39	40-49	50-59	60-69	70+		
Smelting, refining, alloying, casting	43.3	21.8	20.1	10.6	3.5	0.5	0.2	3 788	8
Lead battery industry	27.4	22.3	21.9	17.9	8.1	2.0	0.4	3 673	5
Badge and jewellery enamelling and other vitreous enamelling	81.8	9.1	0.0	0.0	9.1 (a)	0.0	0.0	11	1
Glass making	45.3	29.1	16.0	5.9	2.7	0.6	0.3	779	15
Manufacture of pigments and colours	79.4	11.6	6.4	1.9	0.5	0.2	0.0	423	1
Potteries, glazes and transfers	66.7	19.6	7.4	3.9	2.5	0.0	0.0	204	2
Manufacture of inorganic and organic lead compounds	59.3	20.6	12.5	6.1	1.5	0.1	0.0	1 434	0
Shipbuilding, repairing and breaking	81.8	10.0	3.0	3.9	0.9	0.4	0.0	231	0
Demolition industry	60.4	17.0	9.8	6.1	3.8	2.3	0.6	523	0
Painting buildings and vehicles	54.5	19.8	11.7	6.9	4.9	1.4	0.7	837	0
Work with metallic lead and lead containing alloys	60.9	17.6	11.5	6.2	3.1	0.6	0.1	1 848	7
Other processes	65.9	16.4	10.0	4.5	1.9	0.9	0.4	2 701	7
Scrap industry	40.8	25.8	17.1	8.9	6.1	1.1	0.3	380	0
All sectors	49.6	20.2	15.5	9.4	4.0	1.0	0.3	16 832	46

Notes:

(a) This proportion appears high but represents only one worker.

Table A2.43b Female lead workers under medical surveillance, by age, blood-lead level and industry sector, 1999/2000

Sector	Number in category					Total under surveillance	Aged under 18 years
	<20	20-24	25-29	30-39	40+		
Smelting, refining, alloying, casting	101	7	2	2	-	112	1
Lead battery industry	61	14	16	5	3	99	-
Badge and jewellery enamelling and other vitreous enamelling	2	-	-	-	-	2	-
Glass making	115	8	2	1	-	126	6
Manufacture of pigments and colours	31	3	-	-	-	34	-
Potteries, glazes and transfers	156	14	3	4	-	177	-
Manufacture of inorganic and organic lead compounds	25	-	-	-	1	26	-
Shipbuilding, repairing and breaking	-	-	-	-	-	-	-
Demolition industry	4	-	-	-	-	4	-
Painting buildings and vehicles	-	-	-	-	-	-	-
Work with metallic lead and lead containing alloys	116	4	3	2	1	126	-
Other processes	82	7	5	1	2	97	1
Scrap industry	8	1	1	-	-	10	-
All sectors	701	58	32	15	7	813	8

Sl. No.	Name	Age	Gender	Religion	Marital Status	Occupation	Address	Phone No.	Signature
1	Mr. A. K. Singh	45	Male	Hindu	Married	Teacher	123, Main Road, Lucknow	9876543210	[Signature]
2	Mr. B. S. Sharma	52	Male	Hindu	Married	Business	456, Park Road, Lucknow	8765432109	[Signature]
3	Mr. C. D. Singh	38	Male	Muslim	Married	Engineer	789, Market Road, Lucknow	7654321098	[Signature]
4	Mr. D. E. Singh	41	Male	Hindu	Married	Doctor	101, Hospital Road, Lucknow	6543210987	[Signature]
5	Mr. F. G. Singh	35	Male	Hindu	Married	Officer	202, Government Road, Lucknow	5432109876	[Signature]
6	Mr. H. I. Singh	48	Male	Hindu	Married	Retired	303, Old Market, Lucknow	4321098765	[Signature]
7	Mr. J. K. Singh	55	Male	Hindu	Married	Farmer	404, Village Road, Lucknow	3210987654	[Signature]
8	Mr. L. M. Singh	42	Male	Hindu	Married	Teacher	505, School Road, Lucknow	2109876543	[Signature]
9	Mr. N. O. Singh	39	Male	Hindu	Married	Business	606, Commercial Road, Lucknow	1098765432	[Signature]
10	Mr. P. Q. Singh	46	Male	Hindu	Married	Engineer	707, Industrial Road, Lucknow	0987654321	[Signature]
11	Mr. R. S. Singh	51	Male	Hindu	Married	Doctor	808, Medical Road, Lucknow	9876543210	[Signature]
12	Mr. T. U. Singh	37	Male	Hindu	Married	Officer	909, Government Road, Lucknow	8765432109	[Signature]
13	Mr. V. W. Singh	44	Male	Hindu	Married	Retired	1010, Old Market, Lucknow	7654321098	[Signature]
14	Mr. X. Y. Singh	49	Male	Hindu	Married	Farmer	1111, Village Road, Lucknow	6543210987	[Signature]
15	Mr. Z. A. Singh	36	Male	Hindu	Married	Teacher	1212, School Road, Lucknow	5432109876	[Signature]
16	Mr. B. C. Singh	53	Male	Hindu	Married	Business	1313, Commercial Road, Lucknow	4321098765	[Signature]
17	Mr. D. E. Singh	40	Male	Hindu	Married	Engineer	1414, Industrial Road, Lucknow	3210987654	[Signature]
18	Mr. F. G. Singh	47	Male	Hindu	Married	Doctor	1515, Medical Road, Lucknow	2109876543	[Signature]
19	Mr. H. I. Singh	34	Male	Hindu	Married	Officer	1616, Government Road, Lucknow	1098765432	[Signature]
20	Mr. J. K. Singh	50	Male	Hindu	Married	Retired	1717, Old Market, Lucknow	0987654321	[Signature]
21	Mr. L. M. Singh	43	Male	Hindu	Married	Farmer	1818, Village Road, Lucknow	9876543210	[Signature]
22	Mr. N. O. Singh	32	Male	Hindu	Married	Teacher	1919, School Road, Lucknow	8765432109	[Signature]
23	Mr. P. Q. Singh	54	Male	Hindu	Married	Business	2020, Commercial Road, Lucknow	7654321098	[Signature]
24	Mr. R. S. Singh	41	Male	Hindu	Married	Engineer	2121, Industrial Road, Lucknow	6543210987	[Signature]
25	Mr. T. U. Singh	48	Male	Hindu	Married	Doctor	2222, Medical Road, Lucknow	5432109876	[Signature]
26	Mr. V. W. Singh	35	Male	Hindu	Married	Officer	2323, Government Road, Lucknow	4321098765	[Signature]
27	Mr. X. Y. Singh	52	Male	Hindu	Married	Retired	2424, Old Market, Lucknow	3210987654	[Signature]
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29	Mr. B. C. Singh	45	Male	Hindu	Married	Teacher	2626, School Road, Lucknow	1098765432	[Signature]
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31	Mr. F. G. Singh	42	Male	Hindu	Married	Engineer	2828, Industrial Road, Lucknow	9876543210	[Signature]
32	Mr. H. I. Singh	49	Male	Hindu	Married	Doctor	2929, Medical Road, Lucknow	8765432109	[Signature]
33	Mr. J. K. Singh	36	Male	Hindu	Married	Officer	3030, Government Road, Lucknow	7654321098	[Signature]
34	Mr. L. M. Singh	53	Male	Hindu	Married	Retired	3131, Old Market, Lucknow	6543210987	[Signature]
35	Mr. N. O. Singh	40	Male	Hindu	Married	Farmer	3232, Village Road, Lucknow	5432109876	[Signature]
36	Mr. P. Q. Singh	47	Male	Hindu	Married	Teacher	3333, School Road, Lucknow	4321098765	[Signature]
37	Mr. R. S. Singh	34	Male	Hindu	Married	Business	3434, Commercial Road, Lucknow	3210987654	[Signature]
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42	Mr. B. C. Singh	41	Male	Hindu	Married	Farmer	3939, Village Road, Lucknow	8765432109	[Signature]
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50	Mr. R. S. Singh	47	Male	Hindu	Married	Teacher	4747, School Road, Lucknow	0987654321	[Signature]
51	Mr. T. U. Singh	33	Male	Hindu	Married	Business	4848, Commercial Road, Lucknow	9876543210	[Signature]
52	Mr. V. W. Singh	50	Male	Hindu	Married	Engineer	4949, Industrial Road, Lucknow	8765432109	[Signature]
53	Mr. X. Y. Singh	42	Male	Hindu	Married	Doctor	5050, Medical Road, Lucknow	7654321098	[Signature]
54	Mr. Z. A. Singh	38	Male	Hindu	Married	Officer	5151, Government Road, Lucknow	6543210987	[Signature]
55	Mr. B. C. Singh	55	Male	Hindu	Married	Retired	5252, Old Market, Lucknow	5432109876	[Signature]
56	Mr. D. E. Singh	41	Male	Hindu	Married	Farmer	5353, Village Road, Lucknow	4321098765	[Signature]
57	Mr. F. G. Singh	48	Male	Hindu	Married	Teacher	5454, School Road, Lucknow	3210987654	[Signature]
58	Mr. H. I. Singh	35	Male	Hindu	Married	Business	5555, Commercial Road, Lucknow	2109876543	[Signature]
59	Mr. J. K. Singh	52	Male	Hindu	Married	Engineer	5656, Industrial Road, Lucknow	1098765432	[Signature]
60	Mr. L. M. Singh	44	Male	Hindu	Married	Doctor	5757, Medical Road, Lucknow	0987654321	[Signature]
61	Mr. N. O. Singh	37	Male	Hindu	Married	Officer	5858, Government Road, Lucknow	9876543210	[Signature]
62	Mr. P. Q. Singh	54	Male	Hindu	Married	Retired	5959, Old Market, Lucknow	8765432109	[Signature]
63	Mr. R. S. Singh	40	Male	Hindu	Married	Farmer	6060, Village Road, Lucknow	7654321098	[Signature]
64	Mr. T. U. Singh	47	Male	Hindu	Married	Teacher	6161, School Road, Lucknow	6543210987	[Signature]
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66	Mr. X. Y. Singh	50	Male	Hindu	Married	Engineer	6363, Industrial Road, Lucknow	4321098765	[Signature]
67	Mr. Z. A. Singh	42	Male	Hindu	Married	Doctor	6464, Medical Road, Lucknow	3210987654	[Signature]
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69	Mr. D. E. Singh	55	Male	Hindu	Married	Retired	6666, Old Market, Lucknow	1098765432	[Signature]
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81	Mr. B. C. Singh	42	Male	Hindu	Married	Doctor	7878, Medical Road, Lucknow	9876543210	[Signature]
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84	Mr. H. I. Singh	41	Male	Hindu	Married	Farmer	8181, Village Road, Lucknow	6543210987	[Signature]
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87	Mr. N. O. Singh	52	Male	Hindu	Married	Engineer	8484, Industrial Road, Lucknow	3210987654	[Signature]
88	Mr. P. Q. Singh	44	Male	Hindu	Married	Doctor	8585, Medical Road, Lucknow	2109876543	[Signature]
89	Mr. R. S. Singh	37	Male	Hindu	Married	Officer	8686, Government Road, Lucknow	1098765432	[Signature]
90	Mr. T. U. Singh	54	Male	Hindu	Married	Retired	8787, Old Market, Lucknow	0987654321	[Signature]
91	Mr. V. W. Singh	40	Male	Hindu	Married	Farmer	8888, Village Road, Lucknow	9876543210	[Signature]
92	Mr. X. Y. Singh	47	Male	Hindu	Married	Teacher	8989, School Road, Lucknow	8765432109	[Signature]
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94	Mr. B. C. Singh	50	Male	Hindu	Married	Engineer	9191, Industrial Road, Lucknow	6543210987	[Signature]
95	Mr. D. E. Singh	42	Male	Hindu	Married	Doctor	9292, Medical Road, Lucknow	5432109876	[Signature]
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98	Mr. J. K. Singh	41	Male	Hindu	Married	Farmer	9595, Village Road, Lucknow	2109876543	[Signature]
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Room 518, Daniel House, Trinity Road,
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Tel: 0151 951 3864
Website: www.hse.gov.uk

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Health and Safety Executive
Room 244, Magdalen House, Trinity Road,
Bootle, Merseyside L20 3QZ
Tel: 0151 951 4539/3051/3479
Website: www.hse.gov.uk

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Room B2711, Central Office, Benton Park Road,
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Website: www.dwp.gov.uk

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Room 434-436, 1 Victoria Street,
London SW1H 0ET
Tel: 020 7215 5745
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1st Floor, Zone 2/18, Great Minster House,
76 Marsham Street
London SW1P 4DR
Tel: 020 7890 3078
Website: www.dtlr.gov.uk

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Room DG/18, 1 Drummond Gate,
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Tel: 020 7533 5888
Website: www.statistics.gov.uk

ANNEX 4: REFERENCES

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