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## Health and Safety Statistics 1988-89

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**HSE**  
Health & Safety  
Executive



# Health and Safety Statistics 1988-89

## Introduction

The Health and Safety Executive publishes statistics relating to health and safety at work in the *Health and Safety Commission Annual Report* and in supplements to *Employment Gazette*. The *Health and Safety Commission Annual Report* contains a limited number of tables giving provisional figures for the previous financial year and is usually published in December. The report is the first occasion on which the latest year's provisional statistics are published and is the focus of media attention through its identification of the latest trends in injury and ill-health statistics.

The final figures for the year are published as supplements to *Employment Gazette* and replace the series of Health and Safety Statistics publications which ended with the statistics for 1985-86.

The tables in this supplement are more extensive and detailed than those in the *Annual Report*. In addition, some commentary is provided on the statistics but the main purpose of this supplement is to provide a reference document covering in detail all major aspects of the health and safety statistics available to the Health and Safety Executive (HSE).

## Contents

	Page		Page
Introduction	3	Section 4: Kinds of accident	24
Section 1: The overall picture	4	Section 5: Nature and site of injuries	28
Injury statistics		Section 6: Injuries by age and sex	40
Occupational health statistics		Section 7: Injuries by occupation	42
Section 2: Background to the statistics	6	Section 8: Dangerous occurrences	43
Tables and general notes		Section 9: Gas safety statistics	44
List of tables		Section 10: Occupational ill-health	45
Section 3: Injuries by severity, industry and employment status	8	Section 11: Definitions	63
		Inquiry contact points	66



## Section 1: The overall picture

The previous health and safety statistics supplement to *Employment Gazette* was published in February 1989 and contained statistics up to 1986-87. This was the first year of reports under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1985 (RIDDOR). These regulations came into effect on April 1, 1986 and replaced the preceding Notification of Accidents and Dangerous Occurrences Regulations 1980 (NADOR).

Changes in definitions—particularly the definition of a major injury—meant that many of the statistics derived from reports made under RIDDOR were not comparable with those previously reported under NADOR. The analysis of the 1986-87 injury statistics was able to draw on the more extensive information recorded under RIDDOR but limited comment only could be made on trends. This second supplement, based on three years' data reported under RIDDOR, is able to provide the detailed analysis of injury data given in the first supplement and draw attention to trends in the statistics.

As part of an initiative to improve the quality of the statistical intelligence available to HSE, a review of the injury databases revealed an inconsistency affecting the 'other persons' category on the injury report form for reports received since 1986. This had previously been interpreted as relating exclusively to non-employed people. Examination of the way in which a sample of forms had been completed showed it included some employees—usually those of employers other than the employer reporting the accident. This problem was highlighted in the 1988-89 *Annual Report* and the 1988-89 provisional statistics on injuries in it were not revised to take account of this error.

Since then, reports where there was a potential coding inaccuracy of this nature have been checked and corrected. As the problem affected reports since 1986, statistics for all three RIDDOR years have been amended as a result. The delay while the correction exercise was carried out led to a decision not to prepare a separate supplement for the 1987-88 data but to extend the 1988-89 supplement to contain tables which correct the previously published 1986-87 statistics and include both the 1987-88 and 1988-89 final statistics.

Injury statistics are given in detail in sections 3 to 7 of this supplement. These statistics along with those on dangerous occurrences (section 8) and gas safety (section 9) are taken from a single source and commentary is made on a table-by-table basis. Occupational ill-health statistics (section 10) presented in this report are based on a wider range of sources than previously and the commentary is arranged on a disease-by-disease basis, rather than table-by-table.

The 1986-87 supplement also contained several tables summarising statistics relating to enforcement action by the HSE. The database from which these statistics are extracted is currently undergoing a quality audit and is subject to modification. Accordingly these statistics are not included in this supplement although many of them are available on request. The next supplement will include extended tables on enforcement activity.

### Injury statistics

In 1988-89, 730 fatal injuries were reported to the HSC/E enforcing authorities, 529 of these were to employees, 80 to

self-employed people and 121 to the non-employed.

The fatal injuries to employees were higher than in any year since 1980. They include the 167 fatalities in the Piper Alpha incident. The fatal injury rate per 100,000 employees in 1988-89 was 2.4 compared to 1.7, in 1987-88. Without the effect of the Piper Alpha tragedy, the fatal injury rate would have been 1.7; that is, relatively stable over the last three years after a long period of decline.

The shift in employment from sectors such as energy and manufacturing to the safer working environments in the service sector has undoubtedly contributed to the longer-term decline in the overall fatal injury rate. In the manufacturing sector there has been a steady decline in the fatal injury rate over the last five years and in agriculture the rates are lower over the last two years. In construction the fatal injury rates have fluctuated but there has been little improvement in recent years. This services sector has low fatal injury incidence rates. These have remained steady over the last four years, marginally below the rates for the previous four years.

In the early 1980s there was an increasing trend in the number of major injuries. The 19,944 major injuries reported in 1988-89 was slightly lower than in 1987-88 at a time when overall employment increased. They provide further evidence that the earlier increasing trend has been reversed in the first three years of injury reports under RIDDOR. The major injury rate in 1988-89 was 91.4 per 100,000 employees.

The number of over 3-day injuries increased in 1988-89, more so than the increase seen for 1987-88. The increase is similar in proportion to the increase in employment—meaning that the overall over 3-day injury rate remained virtually constant in 1988-89 at 747.7. There is strong evidence of under-reporting of over 3-day injuries, estimated at as much as 50 per cent in some employment sectors. The HSE is sponsoring a trailer to the 1990 Labour Force Survey in order to gain a more accurate estimation of the level of under-reporting. The survey will also provide information that will assist the economic costs to industry of injuries at work to be calculated. The results of this survey should be available in the summer of 1991.

The correction exercise referred to above has resulted in figures for major injuries to the non-employed quite different to those previously published. In construction the 1988-89 figure has been revised down from 630 to 132 and in manufacturing down from 515 to 57. The bulk of the major injuries to the non-employed are in the service sector, many to pupils at school when they are engaged in organised sports activities.

In 1988-89 roughly one-third of employees were employed in activities where the fatal and major injury rate was higher than in 1987-88. For all reported injuries this figure rises to two-thirds. In certain extractive industries, the railways and metal manufacturing, there were substantial increases in the fatal and major injury rates for employees over the last year.

Falls from a height or being struck by a moving vehicle continue to be common causes of fatal injuries. Slips, trips and falls on the same level and falls from a height are the most common causes of major injuries. Handling injuries are the most common cause of over three-day injuries.

The majority of fatal and major injuries are fractures (about 70 per cent) and the most common over three-day injuries are sprains/strains (about 37 per cent).

## Occupational health statistics

The statistical base of the HSE's knowledge of work-related illness is not yet as wide, nor as solid as it would like. Several new sources of statistical information are being developed to improve the situation, but the main source remains the Industrial Injuries (II) Scheme awards of disablement benefit for prescribed industrial diseases. A major new source will be the Labour Force Survey (LFS) trailer, mentioned above, which will record individuals' opinions on whether they have been affected by work-related illness.

The potential damage to health from work-related illness is demonstrated by the continuing legacy of harm from past exposure to silica, coal dust and asbestos. These substances are now strictly controlled, and there is reason to hope that the risks from current exposure levels are acceptably low. But even now, over 1,000 new cases of disease due to these substances are identified by the award of disablement benefit each year. An estimate of the numbers of premature deaths due to asbestos-related cancer based on the national numbers of mesotheliomas suggests a total of over 2,000 deaths annually (about 500 of these cases receive II benefit).

In 1988-89 the effects of past levels of noise in the workplace are reflected in the diagnosis of over 1,500 new

cases of occupational deafness; and the past use of vibrating hand-held tools led to the diagnosis of over 1,000 cases of Vibration White Finger.

Over 500 cases of occupational asthma are seen each year by chest specialists or occupational physicians, and around 200 new cases of this disease are diagnosed each year under the II scheme.

Numbers of cases of occupational dermatitis are probably substantially greater than those recorded as receiving benefit from the II scheme. Data from the 1980-81 *Morbidity Statistics in General Practice* study implies a national total of nearly 100,000 cases annually. In the corresponding period there were 3,960 II injury and/or disablement benefit awards for dermatitis. The results of a pilot survey by the HSE, also based on GP consultations suggest that the number of occupational dermatitis cases in 1989 was about 60,000.

Musculo-skeletal conditions affect a very large number of people, and work activities will often contribute to the problem. It is often very difficult to assess the extent of the occupational contribution, both at the individual level and overall. The affected individual is in many ways the best placed to make this judgement, and the responses to the LFS trailer will give valuable information on this question. In the last full year for which injury benefit could be awarded (1981-82) there were 2,828 compensated cases.



## Section 2: Background to the statistics

This supplement presents statistics of occupational health and safety in the form of data on occupational injuries, occupational ill-health, dangerous occurrences, and gas safety statistics.

The majority of the data for injuries, dangerous occurrences and gas safety is collected under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1985 (RIDDOR) which came into effect on April 1, 1986. The statistics quoted in this report for 1988-89 represent the third year of data collected under RIDDOR and certain trends are now detectable.

Prior to RIDDOR the statistics on injuries and dangerous occurrences were collected under the Notification of Accidents and Dangerous Occurrences Regulations 1980 (NADOR). Comparison of statistics from NADOR with those from RIDDOR is difficult because of definitional changes such as the widening of the definition of a major injury and changing the definition of dangerous occurrences.

Some statistical series are however unaltered by RIDDOR. In particular, the series of fatal injuries is undisturbed, as are many of the ill-health statistics which are derived from other sources. In other instances trends detectable under NADOR which, although broken by the definitional changes under RIDDOR, can now be re-examined to see if they are still continuing. Examples of this include major injury trends and figures for gas safety statistics previously collected under the Gas Act.

The requirement to report injuries causing absence from work for over three days was re-introduced under RIDDOR after a break of three years in which the data had not been available due to the ending of Industrial Injury Benefit. Comparison of numbers of over 3-day injuries reported under RIDDOR with those reported under the Industrial Injury Benefit scheme suggest there is widespread under-reporting of as much as 50 per cent of these injuries. There is also particular concern over the level of reporting of major and over 3-day injuries to self-employed people.

The coding inaccuracy detected in the treatment of reports for the non-employed affected some 1,500 reports in each year since 1986-87. The errors have now been corrected and this supplement contains extended tables to provide full analysis of the 1988-89 statistics and selected corrected statistics for 1986-87 and 1987-88.

Future supplements will revert to the form of the 1986-87 supplement, with the detailed tables for the previous years omitted.

### Tables and general notes

#### General notes on the tables

All the tables in this supplement refer to Great Britain. Except where indicated otherwise, the figures are based either on calendar years or on 12-month periods beginning April 1.

Incidence rates for injuries are based on quarterly employment estimates from the Department of Employment, averaged over the year, and are quoted per 100,000 workers.

The following abbreviations and symbols are used in the tables:

..	not available	nes	not elsewhere specified
—	nil	p	provisional
HMAI	Her Majesty's Agricultural Inspectorate		
HMFI	Her Majesty's Factory Inspectorate		
SIC 80	Standard Industrial Classification 1980		

#### List of tables

##### Injuries by industry

- 1 Injuries reported to enforcement authorities, analysed by industry and by severity of injury, 1986-87.
- 2 Injuries reported to enforcement authorities, analysed by industry and by severity of injury, 1987-88.
- 3 Injuries reported to enforcement authorities, analysed by industry and by severity of injury, 1988-89.
- 4 Fatal injuries reported to enforcement authorities, analysed by industry, 1981 to 1988-89.
- 5 Non-fatal major injuries reported to enforcement authorities, analysed by industry, 1981 to 1988-89.
- 6 Over 3-day injuries reported to enforcement authorities, analysed by industry 1986-87 to 1988-89.

##### Kinds of accident

- 7 Injuries to employees reported to enforcement authorities, analysed by kind of accident and severity of injury, 1986-87 to 1988-89.
- 8 Injuries to employees in the agriculture, forestry and fishing sector (SIC 80 Division 0) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by kind of accident and severity of injury, 1988-89.
- 9 Injuries to employees in manufacturing industries (SIC 80 Divisions 2-4) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by kind of accident and severity of injury, 1988-89.
- 10 Injuries to employees in the construction industry (SIC 80 Division 5) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by kind of accident and severity of injury, 1988-89.
- 11 Injuries to employees in the services sector (SIC 80 Divisions 6-9) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by kind of accident and severity of injury, 1988-89.
- 12 Injuries to the self-employed reported to enforcement authorities, analysed by kind of accident and severity of injury, 1988-89.

##### Nature and site of injuries

- 13 Injuries to employees reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and severity of injury, 1987-88 and 1988-89.
- 14 Injuries to employees reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by site and severity of injury, 1987-88 and 1988-89.
- 15 Non-fatal major injuries to employees in the agriculture, forestry and fishing sector (SIC 80 Division 0) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89.
- 16 Non-fatal major injuries to employers in manufacturing industries (SIC 80 Divisions 2-4) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89.
- 17 Non-fatal major injuries to employees in the construction industry (SIC 80 Division 5) reported to HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89.
- 18 Non-fatal major injuries to employees in the services sector (SIC 80 Divisions 6-9) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89.

19 Non-fatal major injuries to the self-employed reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89.

20 Over 3-day injuries to employees in the agriculture, forestry and fishing sector (SIC 80 Division 0) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89.

21 Over 3-day injuries to employees in manufacturing industries (SIC 80 Divisions 2-4) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89.

22 Over 3-day injuries to employees in the construction industry (SIC 80 Division 5) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89.

23 Over 3-day injuries to employees in the services sector (SIC 80 Divisions 6-9) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89.

24 Over 3-day injuries to the self-employed reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89.

##### Age and sex

25 Injuries reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by age and sex of injured person and severity of injury, 1988-89:

- i) employees
- ii) self-employed people
- iii) non-employed people.

26 Incidence rates per 100,000 employees: by sex.

##### Occupation

27 Injuries to employees reported to the HSE's Factory and Agricultural Inspectorates, analysed by occupation of injured person and severity of injury, 1988-89.

##### Dangerous occurrences

28 Dangerous occurrences reported to all enforcement authorities, 1981 to 1988-89.

##### Gassing incidents

29 Incidents relating to supply and use of flammable gas, 1981-82 to 1988-89.

30 Dangerous gas fitting notifications, 1988-89: by type of appliance, section of installation at fault, reason for fault and type of hazard.

##### Occupational ill-health

31 Prescribed industrial diseases other than those assessed by Special Medical Boards: new cases qualifying for disablement benefit by disease, 1983-84 to 1985-86; new cases of assessed disablement by disease, 1986-87 to 1988-89.

32 Prescribed industrial diseases other than those assessed by Special Medical Boards: new cases of assessed disablement by award status, 1986-87 to 1988-89.

33 Prescribed industrial diseases assessed by Special Medical Boards: new cases of assessed disablement, by disease, 1981-89.

34 Pneumoconiosis and byssinosis: new cases diagnosed by Medical Boarding Centres (Respiratory Diseases) by industry to which the disease was attributed, 1981-89.

35 Pneumoconiosis: new Industrial Injuries Scheme cases diagnosed by Medical Boarding Centres (Respiratory Diseases) in coal mining, asbestos and other industries, by age and percentage disablement, 1987-89.

36 Occupational asthma: new cases qualifying for Disablement Benefit by causative agent and percentage disability, 1982-89.

37 Death resulting in award of Industrial Death Benefit, etc, by scheme and main disease, 1978-87.

38 Cases of occupational disease reported under RIDDOR, 1986-87 to 1988-89.

39 Death certificates mentioning specified asbestos related disease, 1970-88.

40 Death certificates mentioning mesothelioma, by age and sex, 1968-88.

41 Mesothelioma crude death rates (per million), by region, 1980-88.

42 Lead workers under medical surveillance, 1983 to 1988-89.

43 Lead workers under medical surveillance, by sex, blood lead level and industry sector, 1988-89.



### Section 3: Injuries by severity, industry and employment status

The 1988-89 figures show that 529 fatal injuries to employees were reported to the HSC/E enforcing authorities including local authorities. This figure, which includes the 167 fatalities in the Piper Alpha incident, compares with a figure of 361 for 1987-88. The fatal injury rate per 100,000 employees in 1988-89 was 2.4, as compared to 1.7 in 1987-88. Without the Piper Alpha incident, the 1988-89 fatal injury rate would have been similar to the rate in the previous two years, following a long period of decline.

For major injuries to employees the 1988-89 figure, at 19,944, is slightly lower than in 1987-88 and provides further confirmation that the increasing trend in major injuries seen in the early to mid-1980s has been reversed. The increases in employment over the last year mean that the major injury incidence rate has declined by more in percentage terms than the number of injuries and in 1988-89 stood at 91.4 per 100,000 employees.

Over 3-day injuries have increased again in 1988-89, to 163,119, following the small increase seen in 1987-88. The increases in employment mean that the over 3-day injury incidence rate declined slightly despite injury numbers remaining constant. The rate was 747.7 in 1988-89.

The 80 fatalities to self-employed people, although lower than the number in 1987-88 were still higher than in any other year since 1981 when they first became reportable. Over three-quarters were in agriculture and construction sectors, which account for some 30 per cent of self-employment. Major injuries to the self-employed, at 1,152, were nearly 300 higher than in 1987-88. Some 65 per cent of these injuries were in construction which has seen significant increases in numbers each year since 1986-87. A similar pattern can be seen for over 3-day injuries with numbers up by 344 to 1,503 in 1988-89 with again some 65 per cent in the construction sector.

There is considerable concern over the level of reporting of injuries to the self-employed—particularly over 3-day injuries. For employees, approximately eight over 3-day injuries are reported for every major injury; whereas for

self-employed people, the ratio is only just over one to one.

Major and over 3-day injury incidence rates are presented for the first time for the self-employed in this supplement and substantiate the concern about under-reporting. While the major injury incidence rate for the self-employed has increased over the last three years, it remains less than half the rate for employees. For over 3-day injuries the rates for the self-employed have been increasing but, at 51.4 per 100,000, are about one-fifteenth of the rates for employees. These rates may reflect safer working practices by the self-employed but are also likely to reflect poorer reporting of injuries.

Fatal injuries to the non-employed were, at 121 in 1988-89, slightly higher than in the previous year. As with major injuries, the bulk of the fatalities were in the services sector and included fatalities to people involved in supervised leisure activities and accidents in residential/nursing homes.

Due to the revisions that have been made to correct the coding inaccuracy referred to in Section 2, the figures on injuries to the non-employed are different from those previously published. Overall the numbers of major injuries to the non-employed has been reduced from 14,074 to 12,614 in 1988-89, with similar adjustments in the two other RIDDOR years. Most injuries to the non-employed occur in the service sector and this accounts for much of the reduction.

Proportionately, however, the most significant reductions are in construction, down in 1988-89 from 630 to 132, and in manufacturing, down in 1988-89 from 515 to 57.

Overall the number of major injuries to the non-employed has declined since 1986-87, a pattern that has been followed in most industry sectors. An exception is agriculture where the number in 1988-89 was much higher than in previous years.

#### Particular industries

Figure 1 shows the 15 industrial activities with the highest fatal and major injury rates and figure 2 similar analysis for

all reported injuries. These figures illustrate the very high risks run by workers in construction, railways and a number of manufacturing and extractive industries: in most cases at least double the average for workers in all industries. The 15 activities shown in figure 1 accounted for 43 per cent of reported fatal and major injuries, as against only 15 per cent of all reported injuries and 13 per cent of employment.

In terms of numbers, construction was the biggest source of injury followed by food, drink and tobacco manufacturing. Both construction and the food, drink and tobacco industry are examples of industrial activities where there are both high numbers of injuries and high overall injury rates.

In 1988-89 33.5 per cent of employees were employed in activities (defined by SIC 80 classes) where the combined fatal and major injury incidence rate was higher than in 1987-88. (8 per cent of employees were in activities where the rates had also increased in 1987-88). In many instances the increase was small and in others, despite the increase, the rate remained low. However, in a number of activities there were substantial increases, particularly in some of the extractive industries, metal manufacturing (up 25 per cent) and railways (up 39.7 per cent). Conversely in other activities, for example coke ovens, nuclear fuel production, water supply and leather, fatal and major injury rates declined markedly.

A similar analysis for all reported injuries shows that 65.8 per cent of employees were employed in activities where the injury incidence rate were higher than in 1987-88. (36.4 per cent of employees were in activities where the rates had also increased in 1987-88). Certain extractive industries and the railways had notable increases, as did man-made mineral fibres and, to a lesser extent, the timber and wooden furniture industry.

#### Agriculture

In this sector, which includes forestry and fish farming, there were 61 fatal injuries in 1988-89 compared to 62 in 1987-88. There were 21 fatal injuries to employees in 1988-89, a rate per 100,000 employees of 7.0. Fatalities to self-employed people (who comprised some 45 per cent of the workforce in agriculture) declined from 31 to 25 in 1988-89 but there was an increase from 10 to 15 in fatal injuries to 'non-employed persons', including ten children.

After an increase in 1987-88, major injuries to employees declined in 1988-89 but were still above their 1986-87 level. The 451 major injuries to employees in 1988-89 represent a rate per 100,000 employees of 151.3 compared with 162.0 for the previous year.

Major injuries to self-employed people working in the agricultural sector increased by over a quarter in each of the last two years.

#### Energy and water supply industries

There were 203 fatal injuries in this sector in 1988-89, of which 167 arose from the Piper Alpha incident. As a result of Piper Alpha, the fatal injury rate in this sector, at 42.7 per 100,000 employees was far higher than in any other sector. Excluding the deaths at Piper Alpha, fatalities would have been at virtually the same level as in 1987-88 and the fatal injury rate would have increased slightly to 7.6 because of the fall in employment in this sector.

There was a decrease for the second successive year in the number of major injuries to employees, although the extent of the decrease over the last year was less marked. The 1988-89 figure of 1,262 is over 25 per cent lower than that for 1986-87. Despite this, however, this sector still has one of the highest major injury rates per 100,000 employees at 265.6.

Over 3-day injuries to employees dropped by over 30 per cent since 1986-87 but the sector still had the highest over 3-day injury rate per 100,000 employees at 2,889.5.

The major injury and over 3-day injury trends were not significantly affected by the Piper Alpha incident.

#### Manufacturing industry

The number of fatal injuries to employees in manufacturing continued to decline, with 94 fatalities in 1988-89 compared to 99 in 1987-88. This was at a time when the number employed in the sector had started to increase. The fatal injury rate per 100,000 employees fell slightly to 1.8 in 1988-89 from 1.9 in 1987-88.

After the decline in major injuries in 1987-88 the number increased in 1988-89. The major injury rate increased to 143.7 from 142.0 in 1987-88. This was when overtime working and labour turnover increased sharply, factors which are often associated with increases in accident rates. Major injuries to self-employed people increased to 134 from 100 in 1987-88.

Figure 1 Activities with high combined fatal and major rates, 1988-89, for employees by SIC class

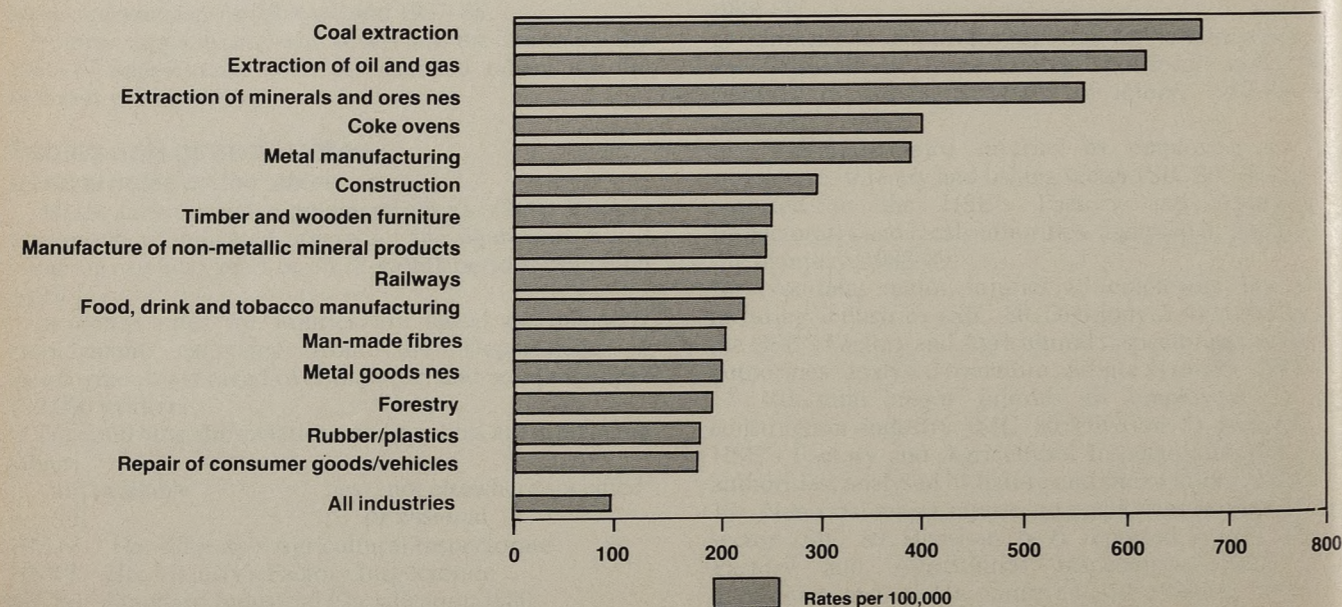
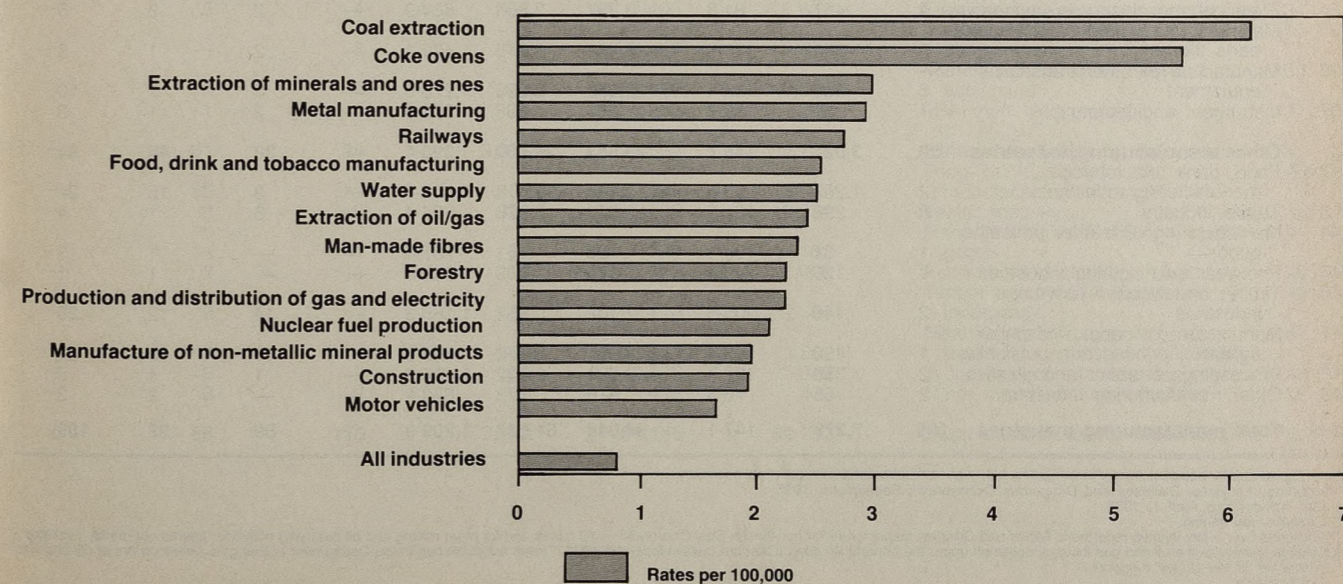


Figure 2 Activities with high rates for all reported injuries, 1988-89, for employees by SIC class





The 1988-89 figure of 56,141 over 3-day injuries to employees was 6.5 per cent higher than the figure for 1987-88, with the rate per 100,000 employees also increasing from 1,035.5 to 1,093.1. It is not possible to say with certainty why the trend in fatal and major injuries should differ from that for over 3-day injuries. However, the HSE had made considerable efforts during the year to improve the level of awareness of the requirements of the reporting regulations among employers and the increase in

over 3-day injuries may be due in some degree to better reporting.

### Construction

Fatal injuries to employees and self-employed people both declined, although the number of fatalities to the self-employed in 1988-89 was still higher than in any other year shown except 1987-88.

The fatal injury rate per 100,000 employees was 9.9 in

1988-89, this was lower than the rate of 10.3 in 1987-88.

The construction sector normally has the highest fatal injury rate and in 1988-89 this was exceeded only by the energy sector (owing to the Piper Alpha incident). As noted earlier, the risk of fatal or major injury in construction is over twice the average for all industries; and construction, along with manufacturing, is one of the two sectors where the injury rate did not fall between 1987-88 and 1988-89. This may reflect the very substantial increase

in construction output, labour turnover and overtime working.

Construction accounts for nearly 65 per cent of injuries to self-employed people and has followed the same pattern of increase over the last two years. The number of self-employed people in the sector continues to increase but the increase over the last year of 34.2 per cent in reported major injuries compared with an estimated 10 per cent rise in self-employment levels suggests a significant

Table 1 Injuries reported to enforcement authorities, analysed by industry and by severity of injury\*, 1986-87†

SIC 80 Class	Employees (including trainees)						Self-employed			
	Fatal injuries	Non-fatal major injuries	Fatal and major injuries (rate per 100,000)	Over 3-day injuries	All reported injuries		Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries
					Number	Rate per 100,000				
<b>0 Agriculture, forestry and fishing**</b>	<b>27</b>	<b>429</b>	<b>145.0</b>	<b>1,043</b>	<b>1,499</b>	<b>476.8</b>	<b>17</b>	<b>72</b>	<b>108</b>	<b>197</b>
01 Agriculture and horticulture	24	401	143.0	912	1,337	450.0	15	56	80	151
02 Forestry	3	27	263.2	127	157	1,377.2	2	16	28	46
03 Fishing**	—	1	—	4	5	—	—	—	—	—
<b>1 Energy and water supply industries††‡</b>	<b>30</b>	<b>1,718</b>	<b>336.0</b>	<b>19,621</b>	<b>21,369</b>	<b>4,107.8</b>	<b>—</b>	<b>5</b>	<b>8</b>	<b>13</b>
11 Coal extraction and manufacture of solid fuels††	19	1,052	654.6	11,660	12,731	7,781.8	—	—	—	—
of which:										
1113 Coal mines	18	994	652.5	11,571	12,583	8,112.8	—	—	—	—
1114 Open cast coal workings	1	49	704.2	—	50	704.2	—	—	—	—
12 Coke ovens	—	11	407.4	161	172	6,370.4	—	—	—	—
13 Extraction of mineral oil and natural gas‡	4	92	291.8	584	680	2,066.9	—	—	1	1
14 Mineral oil processing	1	45	224.4	153	199	970.7	—	—	2	2
15 Nuclear fuel production	1	19	124.2	363	383	2,378.9	—	—	1	1
16 Production and distribution of electricity, gas and other forms of energy	4	384	168.9	5,150	5,538	2,411.0	—	3	3	6
17 Water supply industry	1	115	212.1	1,550	1,666	3,045.7	—	2	1	3
<b>2 Extraction of minerals and ores other than fuels, manufacture of metals, mineral products and chemicals††</b>	<b>42</b>	<b>1,694</b>	<b>245.6</b>	<b>11,100</b>	<b>12,836</b>	<b>1,815.8</b>	<b>—</b>	<b>15</b>	<b>21</b>	<b>36</b>
21/23 Extraction and preparation of metalliferous ores and extraction of minerals nes††	13	146	498.4	23	182	570.5	—	—	—	—
22 Metal manufacturing	10	533	353.1	3,833	4,376	2,845.3	—	5	3	8
24 Manufacture of non-metallic mineral products	11	412	215.7	3,167	3,590	1,830.7	—	6	12	18
25 Chemical industry	8	585	186.0	3,906	4,499	1,410.8	—	4	6	10
26 Production of man-made fibres	—	18	295.1	171	189	3,098.4	—	—	—	—
<b>3 Metal goods, engineering and vehicles industries</b>	<b>38</b>	<b>2,657</b>	<b>116.1</b>	<b>19,393</b>	<b>22,088</b>	<b>951.9</b>	<b>1</b>	<b>36</b>	<b>32</b>	<b>69</b>
31 Manufacture of metal goods nes	5	615	193.8	3,895	4,515	1,411.4	—	10	5	15
32 Mechanical engineering	18	831	115.4	5,308	6,157	836.8	1	15	15	31
33 Manufacture of office machinery and data processing equipment	1	26	32.8	134	161	195.4	—	2	—	2
34 Electrical and electronic engineering	4	457	81.8	3,397	3,858	684.9	—	2	3	5
35 Manufacture of motor vehicles and parts thereof	3	354	138.5	3,456	3,813	1,479.1	—	2	1	3
36 Manufacture of other transport equipment	6	338	133.4	2,952	3,296	1,278.0	—	3	7	10
37 Instrument engineering	1	36	35.7	251	288	278.3	—	2	1	3
<b>4 Other manufacturing industries</b>	<b>29</b>	<b>3,027</b>	<b>148.2</b>	<b>23,553</b>	<b>26,609</b>	<b>1,290.4</b>	<b>—</b>	<b>38</b>	<b>46</b>	<b>84</b>
41/42 Food, drink and tobacco manufacturing industries	12	1,262	230.5	12,344	13,618	2,464.4	—	9	15	24
43 Textile industry	8	299	131.1	2,021	2,328	994.4	—	3	1	4
44 Manufacturing of leather or leather goods	1	31	156.1	129	161	785.4	—	—	1	1
45 Footwear and clothing industries	1	126	43.4	876	1,003	342.8	—	—	1	1
46 Timber and wooden furniture industries	2	448	205.5	2,102	2,552	1,165.3	—	14	12	26
47 Manufacture of paper and paper products, printing and publishing	1	450	95.4	3,091	3,542	749.5	—	11	10	21
48 Processing of rubber and plastics	2	356	182.7	2,574	2,932	1,495.9	—	1	4	5
49 Other manufacturing industries	2	55	76.3	416	473	633.2	—	—	2	2
<b>2-4 Total manufacturing industries</b>	<b>109</b>	<b>7,378</b>	<b>147.1</b>	<b>54,046</b>	<b>61,533</b>	<b>1,209.0</b>	<b>1</b>	<b>89</b>	<b>99</b>	<b>189</b>

Note: Figures are for accidents rather than injuries, but, in general, one accident represents one injury.

\* Reporting of Injuries, Diseases and Dangerous Occurrences Regulations, 1985.

† Year commencing April 1, 1986.

\*\* Excludes sea fishing.

†† Excludes over 3-day injuries reported to Mines and Quarries Inspectorate for non-British Coal Corporation coal mines and for other mining and all quarrying activities; figures not readily available.

‡ Includes figures for the oil and gas industry collected under the Mineral Working (Offshore Installations) Act 1971. These are published in the Department of Energy's *Development of Oil and Gas Resources of the United Kingdom*.

§ Not available.

Non-employed		Total				SIC 80 Class
Fatal injuries	Non-fatal major injuries	Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries	
<b>16</b>	<b>58</b>	<b>60</b>	<b>559</b>	<b>1,151</b>	<b>1,770</b>	<b>Agriculture, forestry and fishing* 0</b>
15	56	54	513	992	1,559	Agriculture and horticulture 01
1	2	6	45	155	206	Forestry 02
—	—	—	1	4	5	Fishing** 03
<b>7</b>	<b>30</b>	<b>37</b>	<b>1,753</b>	<b>19,629</b>	<b>21,419</b>	<b>Energy and water supply industries††‡ 1</b>
—	2	19	1,054	11,660	12,733	Coal extraction and manufacture of solid fuels†† 11
—	—	—	—	—	—	of which:
—	2	18	996	11,571	12,585	Coal mines 1113
—	—	1	49	—	50	Open cast coal workings 1114
—	—	—	11	161	172	Coke ovens 12
—	—	4	92	585	681	Extraction of mineral oil and natural gas‡ 13
—	—	1	45	155	201	Mineral oil processing 14
—	—	1	19	364	384	Nuclear fuel production 15
5	23	9	410	5,153	5,572	Production and distribution of electricity, gas and other forms of energy 16
2	5	3	122	1,551	1,676	Water supply industry 17
<b>3</b>	<b>17</b>	<b>45</b>	<b>1,726</b>	<b>11,121</b>	<b>12,892</b>	<b>Extraction of minerals and ores other than fuels, manufacture of metals, mineral products and chemicals†† 2</b>
2	4	15	150	23	188	Extraction and preparation of metalliferous ores and extraction of minerals nes†† 21/23
—	1	10	539	3,836	4,385	Metal manufacturing 22
1	3	12	421	3,179	3,612	Manufacture of non-metallic mineral products 24
—	9	8	598	3,912	4,518	Chemical industry 25
—	—	—	18	171	189	Production of man-made fibres 26
<b>2</b>	<b>17</b>	<b>41</b>	<b>2,710</b>	<b>19,425</b>	<b>22,176</b>	<b>Metal goods, engineering and vehicles industries 3</b>
1	3	6	628	3,900	4,534	Manufacture of metal goods nes 31
—	6	19	852	5,323	6,194	Mechanical engineering 32
—	1	1	29	134	164	Manufacture of office machinery and data processing equipment 33
—	5	4	464	3,400	3,868	Electrical and electronic engineering 34
—	—	3	356	3,457	3,816	Manufacture of motor vehicles and parts thereof 35
1	1	7	342	2,959	3,308	Manufacture of other transport equipment 36
—	1	1	39	252	292	Instrument engineering 37
—	<b>31</b>	<b>29</b>	<b>3,096</b>	<b>23,599</b>	<b>26,724</b>	<b>Other manufacturing industries 4</b>
—	15	12	1,286	12,359	13,657	Food, drink and tobacco manufacturing industries 41/42
—	2	8	304	2,022	2,334	Textile industry 43
—	—	1	31	130	162	Manufacturing of leather or leather goods 44
—	2	1	128	877	1,006	Footwear and clothing industries 45
—	2	2	464	2,114	2,580	Timber and wooden furniture industries 46
—	4	1	465	3,101	3,567	Manufacture of paper and paper products, printing and publishing 47
—	3	2	360	2,578	2,940	Processing of rubber and plastics 48
—	3	2	58	418	478	Other manufacturing industries 49
<b>5</b>	<b>65</b>	<b>115</b>	<b>7,532</b>	<b>54,145</b>	<b>61,792</b>	<b>Total manufacturing industries 2-4</b>



increase in reporting levels or in major rates. Over 3-day injuries to employees declined by 0.2 per cent in 1988-89, to 16,597, but for the self-employed there was an increase of 27 per cent, to 969.

### Services

The service sector has the lowest overall rate for fatal, major and over 3-day injuries. This sector is, however, very diverse and includes activities such as repair of consumer goods and vehicles, railways and transport support services, which have fatal and major injury rates comparable with the manufacturing sector. For railways, the fatal and major injury rate of 243.5 approaches that for construction (295.8). Other activities such as those

connected with retail and financial services have low injury rates in all categories.

The service sector has grown in employment since the early 1980s. Because of the large numbers employed (around 15 million) there are more fatalities, major and over 3-day injuries in the service sector than in manufacturing. Fatalities to the self-employed remain constant at between eight and ten a year. Over the last two years there has been an increase in the number of fatalities to employees from 96 in 1987-88 to 109 in 1988-89. Major injuries to employees again declined from 7,936 to 7,810 in 1988-89. They increased slightly for the self-employed from 105 to 124. The number of over 3-day injuries to employees in 1988-89 was slightly higher than in 1987-88.

Table 1 continued

SIC 80 Class	Employees (including trainees)					Self-employed				
	Fatal injuries	Non-fatal major injuries	Fatal and major injuries (rate per 100,000)	Over 3-day injuries	All reported injuries		Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries
					Number	Rate per 100,000				
5 Construction	99	2,736	293.0	16,468	19,303	1,994.7	26	443	704	1,173
6 Distribution, hotels and catering; repairs	22	1,872	45.0	10,585	12,479	296.7	3	13	24	40
61/62 Wholesale distribution (including dealing in scrap and waste materials)	11	432	49.6	2,090	2,533	283.8	—	3	6	9
63 Commission agents	—	1	3.3	4	5	16.5	—	—	1	1
64/65 Retail distribution	4	852	41.2	5,295	6,151	296.3	1	2	6	9
66 Hotels and catering	1	225	22.7	953	1,179	118.3	1	1	3	5
67 Repair of consumer goods and vehicles	6	362	174.7	2,243	2,611	1,239.2	1	7	8	16
7 Transport and communication	34	1,135	92.1	11,493	12,662	998.1	1	15	10	26
71 Railways	10	188	140.0	2,599	2,797	1,978.1	—	—	—	—
72 Other inland transport	11	228	62.7	1,608	1,847	484.6	1	4	3	8
74 Sea transport	—	10	29.6	28	38	112.4	—	—	1	1
75 Air transport	—	62	121.8	461	523	1,027.5	—	3	2	5
76 Supporting services to transport	7	127	146.3	711	845	922.5	—	2	—	2
77 Miscellaneous transport services and storage nes	2	107	68.4	581	690	432.9	—	4	1	5
79 Postal services and telecommunications	4	413	101.6	5,505	5,922	1,442.6	—	2	3	5
8 Banking, finance, insurance, business services and leasing	8	198	9.5	1,058	1,264	58.1	—	5	4	9
81 Banking and finance	—	59	10.9	341	400	74.2	—	—	1	1
82 Insurance, except for compulsory social security	—	18	7.9	110	128	55.8	—	—	—	—
83 Business services	5	84	7.5	353	442	37.3	—	3	2	5
84 Renting of moveables	3	27	28.6	57	87	83.0	—	2	1	3
85 Owning and dealing in real estate	—	10	8.5	197	207	176.8	—	—	—	—
9 Other services	16	4,852	76.6	42,822	47,690	750.8	4	47	66	117
91/92 Public administration, national defence, compulsory social security and sanitary services	12	2,394	127.9	29,950	32,356	1,720.4	2	22	43	67
93 Education	—	1,311	81.9	4,537	5,848	365.2	—	4	7	11
94 Research and development	—	88	79.4	366	454	409.4	—	3	3	6
95 Medical and other health services, veterinary services	—	588	44.7	5,652	6,240	474.1	—	2	2	4
96 Other services provided to general public	—	240	30.2	1,417	1,657	208.4	—	4	3	7
97 Recreational services and other cultural services	4	190	41.8	693	887	191.2	2	12	8	22
98 Personal services	—	38	20.6	203	241	130.6	—	—	—	—
99 Domestic services	—	3	..	4	7	..	—	—	—	—
6-9 Total service industries	80	8,057	58.1	65,958	74,095	529.2	8	80	104	192
Unclassified	10	377	..	1,875	2,262	..	—	1	6	7
All industries	355	20,695	100.8	159,011	180,061	861.9	52	690	1,029	1,771

Non-employed		Total				SIC 80 Class	
Fatal injuries	Non-fatal major injuries	Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries		
14	162	139	3,341	17,172	20,652	Construction	5
10	745	35	2,630	10,609	13,274	Distribution, hotels and catering; repairs	6
1	6	12	441	2,096	2,549	Wholesale distribution (including dealing in scrap and waste materials)	61/62
7	499	12	1,353	5,301	6,666	Commission agents	63
2	229	4	455	956	1,415	Retail distribution	64/65
—	11	7	380	2,251	2,638	Hotels and catering	66
2	35	37	1,185	11,503	12,725	Repair of consumer goods and vehicles	67
—	1	10	189	2,599	2,798	Transport and communication	7
—	4	12	236	1,611	1,859	Railways	71
—	—	—	10	29	39	Other inland transport	72
—	10	—	75	463	538	Sea transport	74
2	14	9	143	711	863	Air transport	75
—	2	2	113	582	697	Supporting services to transport	76
—	4	4	419	5,508	5,931	Miscellaneous transport services and storage nes	77
1	26	9	229	1,062	1,300	Postal services and telecommunications	79
—	12	—	71	342	413	Banking, finance, insurance, business services and leasing	8
—	3	—	21	110	131	Banking and finance	81
—	7	5	94	355	454	Insurance, except for compulsory social security	82
—	1	3	30	58	91	Business services	83
1	3	1	13	197	211	Renting of moveables	84
30	13,408	50	18,307	42,888	61,245	Owning and dealing in real estate	85
8	2,620	22	5,036	29,993	35,051	Other services	9
4	9,527	4	10,842	4,544	15,390	Public administration, national defence, compulsory social security and sanitary services	91/92
—	—	—	91	369	460	Education	93
5	602	5	1,192	5,654	6,851	Research and development	94
6	410	6	654	1,420	2,080	Medical and other health services, veterinary services	95
7	243	13	445	701	1,159	Other services provided to general public	96
—	6	—	44	203	247	Recreational services and other cultural services	97
—	—	—	3	4	7	Personal services	98
43	14,214	131	22,351	66,062	88,544	Domestic services	99
7	46	17	424	1,881	2,322	Total service industries	6-9
92	14,575	499	35,960	160,040	196,499	Unclassified	
						All industries	



Table 2 Injuries reported to enforcement authorities, analysed by industry and by severity of injury\*, 1987-88†

SIC 80 Class	Employees (including trainees)						Self-employed			
	Fatal injuries	Non-fatal major injuries	Fatal and major injuries (rate per 100,000)	Over 3-day injuries	All reported injuries		Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries
					Number	Rate per 100,000				
<b>0 Agriculture, forestry and fishing**</b>	<b>21</b>	<b>498</b>	<b>168.8</b>	<b>1,349</b>	<b>1,868</b>	<b>607.5</b>	<b>31</b>	<b>91</b>	<b>117</b>	<b>239</b>
01 Agriculture and horticulture	20	464	166.8	1,118	1,602	552.0	29	75	79	183
02 Forestry	1	30	271.9	225	256	2,245.6	2	16	37	55
03 Fishing**	—	4	..	6	10	..	—	—	1	1
<b>1 Energy and water supply industries††</b>	<b>33</b>	<b>1,397</b>	<b>288.6</b>	<b>15,798</b>	<b>17,228</b>	<b>3,476.9</b>	<b>—</b>	<b>6</b>	<b>10</b>	<b>16</b>
11 Coal extraction and manufacture of solid fuels	15	818	598.8	8,019	8,852	6,363.8	—	3	3	6
of which:										
1113 Coal mines	13	767	600.0	7,822	8,602	6,616.9	—	1	3	4
1114 Open cast coal workings	1	46	618.4	158	205	2,697.4	—	2	—	2
12 Coke ovens	—	26	1,130.4	115	141	6,130.4	—	—	—	—
13 Extraction of mineral oil and natural gas††	9	75	239.3	584	668	1,903.1	—	—	3	3
14 Mineral oil processing	1	27	129.6	136	164	759.3	—	—	1	1
15 Nuclear fuel production	—	20	125.0	375	395	2,468.8	—	—	—	—
16 Production and distribution of electricity, gas and other forms of energy	8	335	151.7	5,200	5,543	2,451.6	—	2	2	4
17 Water supply industry	—	96	173.6	1,369	1,465	2,649.2	—	1	1	2
<b>2 Extraction of minerals and ores other than fuels, manufacture of metals, mineral products and chemicals</b>	<b>42</b>	<b>1,544</b>	<b>231.5</b>	<b>11,054</b>	<b>12,640</b>	<b>1,845.0</b>	<b>1</b>	<b>19</b>	<b>29</b>	<b>49</b>
21/23 Extraction and preparation of metalliferous ores and extraction of minerals nes	12	133	460.3	949	1,094	3,473.0	1	6	4	11
22 Metal manufacturing	16	431	312.4	3,478	3,925	2,742.8	—	3	5	8
24 Manufacture of non-metallic mineral products	8	411	220.1	2,959	3,378	1,774.2	—	8	16	24
25 Chemical industry	6	558	179.3	3,542	4,106	1,305.1	—	2	4	6
26 Production of man-made fibres	—	11	186.4	126	137	2,322.0	—	—	—	—
<b>3 Metal goods, engineering and vehicles industries</b>	<b>35</b>	<b>2,647</b>	<b>115.5</b>	<b>18,568</b>	<b>21,250</b>	<b>915.4</b>	<b>2</b>	<b>30</b>	<b>35</b>	<b>67</b>
31 Manufacture of metal goods nes	9	661	204.6	3,877	4,547	1,388.8	—	11	9	20
32 Mechanical engineering	15	796	109.0	4,825	5,636	757.3	1	8	14	23
33 Manufacture of office machinery and data processing equipment	—	34	40.8	153	187	224.2	—	—	—	—
34 Electrical and electronic engineering	4	393	70.9	3,061	3,458	617.7	1	5	4	10
35 Manufacture of motor vehicles and parts thereof	3	332	128.0	3,452	3,787	1,447.1	—	5	4	9
36 Manufacture of other transport equipment	4	379	158.0	2,958	3,341	1,378.3	—	1	4	5
37 Instrument engineering	—	52	50.7	242	294	286.8	—	—	—	—
<b>4 Other manufacturing industries</b>	<b>22</b>	<b>3,042</b>	<b>146.9</b>	<b>23,112</b>	<b>26,176</b>	<b>1,254.7</b>	<b>2</b>	<b>51</b>	<b>48</b>	<b>101</b>
41/42 Food, drink and tobacco manufacturing industries	7	1,205	219.1	12,161	13,373	2,417.8	2	23	16	41
43 Textile industry	1	243	105.9	1,840	2,084	904.1	—	2	3	5
44 Manufacturing of leather or leather goods	—	28	133.3	149	177	842.9	—	—	2	2
45 Footwear and clothing industries	—	136	45.9	810	946	319.2	—	1	2	3
46 Timber and wooden furniture industries	4	608	266.0	2,120	2,732	1,187.3	—	14	15	29
47 Manufacture of paper and paper products, printing and publishing	5	417	88.7	3,086	3,508	737.3	—	9	7	16
48 Processing of rubber and plastics	5	345	171.4	2,533	2,883	1,411.9	—	2	2	4
49 Other manufacturing industries	—	60	79.8	413	473	629.0	—	—	1	1
<b>2-4 Total manufacturing industries</b>	<b>99</b>	<b>7,233</b>	<b>144.0</b>	<b>52,734</b>	<b>60,066</b>	<b>1,179.5</b>	<b>5</b>	<b>100</b>	<b>112</b>	<b>217</b>

\* Reporting of Injuries, Diseases and Dangerous Occurrences Regulations, 1985.

† Year commencing April 1, 1987.

\*\* Excludes sea fishing.

†† Includes the number of accidents in the oil and gas industry collected under the Mineral Working (Offshore Installations) Act 1971 and reported to the Petroleum Engineering Division of the Department of Energy.

.. Not available.

SIC 80 Class	Non-employed		Total			
	Fatal injuries	Non-fatal major injuries	Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries
<b>Agriculture, forestry and fishing**</b>	<b>10</b>	<b>59</b>	<b>62</b>	<b>648</b>	<b>1,466</b>	<b>2,176</b>
Agriculture and horticulture	9	58	58	597	1,197	1,852
Forestry	1	1	4	47	262	313
Fishing**	—	—	—	4	7	11
<b>Energy and water supply industries††</b>	<b>2</b>	<b>17</b>	<b>35</b>	<b>1,420</b>	<b>15,808</b>	<b>17,263</b>
Coal extraction and manufacture of solid fuels	—	2	15	823	8,022	8,860
of which:						
Coal mines	—	1	13	769	7,825	8,607
Open cast coal workings	—	1	1	49	158	208
Coke ovens	—	—	—	26	115	141
Extraction of mineral oil and natural gas††	—	—	9	75	587	671
Mineral oil processing	—	—	1	28	137	166
Nuclear fuel production	—	—	—	20	375	395
Production and distribution of electricity, gas and other forms of energy	1	11	9	348	5,202	5,559
Water supply industry	1	3	1	100	1,370	1,471
<b>Extraction of minerals and ores other than fuels, manufacture of metals, mineral products and chemicals††</b>	<b>—</b>	<b>9</b>	<b>43</b>	<b>1,572</b>	<b>11,083</b>	<b>12,698</b>
Extraction and preparation of metalliferous ores and extraction of minerals nes	—	4	13	143	953	1,109
Metal manufacturing	—	—	16	434	3,483	3,933
Manufacture of non-metallic mineral products	—	2	8	421	2,975	3,404
Chemical industry	—	3	6	563	3,546	4,115
Production of man-made fibres	—	—	—	11	126	137
<b>Metal goods, engineering and vehicles industries</b>	<b>—</b>	<b>23</b>	<b>37</b>	<b>2,700</b>	<b>18,603</b>	<b>21,340</b>
Manufacture of metal goods nes	—	4	9	676	3,886	4,571
Mechanical engineering	—	9	16	813	4,839	5,668
Manufacture of office machinery and data processing equipment	—	—	—	34	153	187
Electrical and electronic engineering	—	4	5	402	3,065	3,472
Manufacture of motor vehicles and parts thereof	—	4	3	341	3,456	3,800
Manufacture of other transport equipment	—	2	4	382	2,962	3,348
Instrument engineering	—	—	—	52	242	294
<b>Other manufacturing industries</b>	<b>—</b>	<b>25</b>	<b>24</b>	<b>3,118</b>	<b>23,160</b>	<b>26,302</b>
Food, drink and tobacco manufacturing industries	—	13	9	1,241	12,177	13,427
Textile industry	—	1	1	246	1,843	2,090
Manufacturing of leather or leather goods	—	—	—	28	151	179
Footwear and clothing industries	—	—	—	137	812	949
Timber and wooden furniture industries	—	8	4	630	2,135	2,769
Manufacture of paper and paper products, printing and publishing	—	1	5	427	3,093	3,525
Processing of rubber and plastics	—	1	5	348	2,535	2,888
Other manufacturing industries	—	1	—	61	414	475
<b>Total manufacturing industries</b>	<b>—</b>	<b>57</b>	<b>104</b>	<b>7,390</b>	<b>52,846</b>	<b>60,340</b>



Table 2 continued

SIC 80 Class	Employees (including trainees)						Self-employed				SIC 80 Class	
	Fatal injuries	Non-fatal major injuries	Fatal and major injuries (rate per 100,000)	Over 3-day injuries	All reported injuries		Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries		
					Number	Rate per 100,000						
5 Construction	103	2,767	286.8	16,622	19,492	1,947.6	40	561	763	1,364		
6 Distribution, hotels and catering; repairs	20	2,071	48.9	11,870	13,961	326.8	5	28	30	63		
61/62 Wholesale distribution (including dealing in scrap and waste materials)	9	420	47.5	2,222	2,651	293.4	4	8	11	23		
63 Commission agents	—	1	3.2	—	1	3.2	—	—	—	—		
64/65 Retail distribution	4	1,002	47.8	6,328	7,334	348.4	1	6	11	18		
66 Hotels and catering	2	300	29.5	1,282	1,584	155.0	—	1	2	3		
67 Repair of consumer goods and vehicles	5	348	167.6	2,038	2,391	1,135.3	—	13	6	19		
7 Transport and communication	48	1,184	96.3	11,969	13,201	1,031.5	3	10	14	27		
71 Railways	17	226	174.3	2,473	2,716	1,948.4	—	—	—	—		
72 Other inland transport	16	217	61.3	1,570	1,803	474.2	3	1	2	6		
74 Sea transport	2	12	42.2	20	34	102.4	—	1	1	2		
75 Air transport	—	70	132.1	479	549	1,035.8	—	2	1	3		
76 Supporting services to transport	11	119	144.1	713	843	934.6	—	5	6	11		
77 Miscellaneous transport services and storage nes	2	103	63.7	520	625	379.2	—	—	2	2		
79 Postal services and telecommunications	—	437	104.3	6,194	6,631	1,583.0	—	1	2	3		
8 Banking, finance, insurance, business services and leasing	6	215	9.5	1,082	1,303	56.1	—	5	6	11		
81 Banking and finance	—	67	11.6	339	406	70.4	—	—	3	3		
82 Insurance, except for compulsory social security	—	17	7.0	92	109	45.1	—	1	—	1		
83 Business services	3	80	6.5	359	442	34.5	—	1	3	4		
84 Renting of moveables	2	33	32.8	77	112	105.0	—	3	—	3		
85 Owning and dealing in real estate	1	18	16.3	215	234	200.7	—	—	—	—		
9 Other services	22	4,466	68.3	44,164	48,652	739.9	—	62	106	168		
91/92 Public administration, national defence, compulsory social security and sanitary services	18	1,962	102.4	28,900	30,880	1,596.4	—	28	76	104		
93 Education	—	1,272	76.9	4,810	6,082	367.8	—	3	5	8		
94 Research and development	—	73	66.1	407	480	434.4	—	3	2	5		
95 Medical and other health services, veterinary services	2	679	50.1	7,454	8,135	598.1	—	7	5	12		
96 Other services provided to general public	1	229	27.0	1,411	1,641	192.8	—	4	4	8		
97 Recreational services and other cultural services	1	185	38.8	772	958	199.9	—	16	14	30		
98 Personal services	—	66	35.5	404	470	252.6	—	1	—	1		
99 Domestic services	—	—	—	6	6	—	—	—	—	—		
6-9 Total service industries	96	7,936	55.6	69,085	77,117	533.7	8	105	156	269		
Unclassified	9	226	..	4,264	4,499	..	—	4	1	5		
All industries	361	20,057	95.7	159,852	180,270	844.5	84	867	1,159	2,110		

Non-employed		Total				SIC 80 Class		
Fatal injuries	Non-fatal major injuries	Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries			
								15
17	824	42	2,923	11,900	14,865	Distribution, hotels and catering; repairs		6
—	17	13	445	2,233	2,691	Wholesale distribution (including dealing in scrap and waste materials)	61/62	
3	503	8	1,511	6,339	7,858	Commission agents	63	
14	286	16	587	1,284	1,887	Retail distribution	64/65	
—	18	5	379	2,044	2,428	Hotels and catering	66	
—	—	—	—	—	—	Repair of consumer goods and vehicles	67	
3	35	54	1,229	11,983	13,266	Transport and communication	7	
—	—	17	226	2,473	2,716	Railways	71	
2	4	21	222	1,572	1,815	Other inland transport	72	
—	—	2	13	21	36	Sea transport	74	
—	12	—	84	480	564	Air transport	75	
1	10	12	134	719	865	Supporting services to transport	76	
—	2	2	105	522	629	Miscellaneous transport services and storage nes	77	
—	7	—	445	6,196	6,641	Postal services and telecommunications	79	
—	31	6	251	1,088	1,345	Banking, finance, insurance, business services and leasing	8	
—	13	—	80	342	422	Banking and finance	81	
—	1	—	19	92	111	Insurance, except for compulsory social security	82	
—	13	3	94	362	459	Business services	83	
—	2	2	38	77	117	Renting of moveables	84	
—	2	1	20	215	236	Owning and dealing in real estate	85	
62	11,500	84	16,028	44,270	60,382	Other services	9	
4	1,297	22	3,287	28,976	32,285	Public administration, national defence, compulsory social security and sanitary services	91/92	
7	8,756	7	10,031	4,815	14,853	Education	93	
—	2	—	78	409	487	Research and development	94	
18	636	20	1,322	7,459	8,801	Medical and other health services, veterinary services	95	
14	387	15	620	1,415	2,050	Other services provided to general public	96	
18	412	19	613	786	1,418	Recreational services and other cultural services	97	
1	10	1	77	404	482	Personal services	98	
—	—	—	—	6	6	Domestic services	99	
82	12,390	186	20,431	69,241	89,858	Total service industries	6-9	
4	204	13	434	4,265	4,712	Unclassified		
113	12,880	558	33,804	161,011	195,373	All industries		



Table 3 Injuries reported to enforcement authorities, analysed by industry and by severity of injury\*, 1988-89†

SIC 80 Class	Employees (including trainees)					Self-employed				
	Fatal injuries	Non-fatal major injuries	Fatal and major injuries (rate per 100,000)	Over 3-day injuries	All reported injuries		Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries
					Number	Rate per 100,000				
<b>0 Agriculture, forestry and fishing**</b>	<b>21</b>	<b>451</b>	<b>158.3</b>	<b>1,473</b>	<b>1,945</b>	<b>652.5</b>	<b>25</b>	<b>132</b>	<b>142</b>	<b>299</b>
01 Agriculture and horticulture	18	428	158.8	1,213	1,659	590.8	22	99	85	206
02 Forestry	2	20	193.0	235	257	2,254.4	3	33	56	92
03 Fishing**	1	3	..	25	29	..	—	—	1	1
<b>1 Energy and water supply industries†† ‡</b>	<b>203</b>	<b>1,262</b>	<b>308.4</b>	<b>13,728</b>	<b>15,193</b>	<b>3,197.9</b>	<b>2</b>	<b>5</b>	<b>10</b>	<b>17</b>
11 Coal extraction and manufacture of solid fuels	19	767	673.5	6,419	7,205	6,174.0	2	2	8	12
of which:										
1113 Coal mines	19	718	679.3	6,266	7,003	6,454.4	1	2	4	7
1114 Open cast coal workings	—	46	676.5	120	166	2,441.2	1	—	4	5
12 Coke ovens	—	8	400.0	104	112	5,600.0	—	—	—	—
13 Extraction of mineral oil and natural gas†† ‡	172	64	621.1	692	928	2,442.1	—	—	—	—
14 Mineral oil processing	2	33	152.2	154	189	821.7	—	—	—	—
15 Nuclear fuel production	—	12	77.9	313	325	2,110.4	—	—	—	—
16 Production and distribution of electricity, gas and other forms of energy	8	322	146.7	4,720	5,050	2,244.4	—	2	1	3
17 Water supply industry	2	56	105.5	1,326	1,384	2,516.4	—	1	1	2
<b>2 Extraction of minerals and ores other than fuels, manufacture of metals, mineral products and chemicals</b>	<b>34</b>	<b>1,647</b>	<b>248.0</b>	<b>11,122</b>	<b>12,803</b>	<b>1,889.2</b>	<b>1</b>	<b>34</b>	<b>28</b>	<b>63</b>
21/23 Extraction and preparation of metalliferous ores and extraction of minerals nes	8	170	556.3	781	959	2,996.9	—	10	7	17
22 Metal manufacturing	8	516	390.5	3,426	3,950	2,943.4	—	1	4	5
24 Manufacture of non-metallic mineral products	10	459	246.5	3,238	3,707	1,948.0	1	15	13	29
25 Chemical industry	8	490	157.8	3,553	4,051	1,284.0	—	8	4	12
26 Production of man-made fibres	—	12	206.9	124	136	2,344.8	—	—	—	—
<b>3 Metal goods, engineering and vehicles industries</b>	<b>29</b>	<b>2,595</b>	<b>111.8</b>	<b>20,029</b>	<b>22,653</b>	<b>965.3</b>	<b>4</b>	<b>50</b>	<b>47</b>	<b>101</b>
31 Manufacture of metal goods nes	11	668	202.4	4,449	5,128	1,528.9	—	14	10	24
32 Mechanical engineering	8	817	106.6	5,022	5,847	755.8	3	11	21	35
33 Manufacture of office machinery and data processing equipment	—	26	30.6	205	231	271.4	—	3	—	3
34 Electrical and electronic engineering	2	358	64.9	3,185	3,545	639.0	—	8	7	15
35 Manufacture of motor vehicles and parts thereof	4	392	147.8	4,017	4,413	1,647.3	1	8	2	11
36 Manufacture of other transport equipment	4	297	132.4	2,904	3,205	1,409.4	—	6	7	13
37 Instrument engineering	—	37	36.1	247	284	277.3	—	—	—	—
<b>4 Other manufacturing industries</b>	<b>31</b>	<b>3,138</b>	<b>150.1</b>	<b>24,990</b>	<b>28,159</b>	<b>1,333.5</b>	<b>2</b>	<b>50</b>	<b>53</b>	<b>105</b>
41/42 Food, drink and tobacco manufacturing industries	7	1,237	224.0	12,913	14,157	2,549.0	—	18	19	37
43 Textile industry	4	268	120.2	1,890	2,162	955.8	1	1	1	3
44 Manufacture of leather or leather goods	—	19	91.3	119	138	663.5	—	—	—	—
45 Footwear and clothing industries	—	106	36.0	885	991	336.8	—	—	—	—
46 Timber and wooden furniture industries	4	611	255.0	2,561	3,176	1,316.7	1	20	18	39
47 Manufacture of paper and paper products, printing and publishing	10	438	93.0	3,284	3,732	774.8	—	8	5	13
48 Processing of rubber and plastics	5	386	180.3	2,960	3,351	1,545.0	—	1	10	11
49 Other manufacturing industries	1	73	98.0	378	452	598.7	—	2	—	2
<b>2-4 Total manufacturing industries</b>	<b>94</b>	<b>7,380</b>	<b>145.5</b>	<b>56,141</b>	<b>63,615</b>	<b>1,238.6</b>	<b>7</b>	<b>134</b>	<b>128</b>	<b>269</b>

\* Reporting of Injuries, Diseases and Dangerous Occurrences Regulations, 1985.

† Year commencing April 1, 1988.

\*\* Excludes sea fishing.

†† Includes the number of injuries in the oil and gas industry collected under the Mineral Working (Offshore Installations) Act 1971 and reported to the Petroleum Engineering Division of the Department of Energy.

‡ Includes the 167 fatalities, 11 major injuries and 50 over 3-day injuries of the Piper Alpha disaster, July 6, 1988.

.. Not available.

SIC 80 Class	Non-employed		Total			
	Fatal injuries	Non-fatal major injuries	Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries
<b>Agriculture, forestry and fishing**</b>	<b>15</b>	<b>89</b>	<b>61</b>	<b>672</b>	<b>1,615</b>	<b>2,348</b>
Agriculture and horticulture	15	88	55	615	1,298	1,968
Forestry	—	1	5	54	291	350
Fishing**	—	—	1	3	26	30
<b>Energy and water supply industries†† ‡</b>	<b>2</b>	<b>29</b>	<b>207</b>	<b>1,296</b>	<b>13,738</b>	<b>15,241</b>
Coal extraction and manufacture of solid fuels	—	2	21	771	6,427	7,219
of which:						
Coal mines	—	2	20	722	6,270	7,012
Open cast coal workings	—	—	1	46	124	171
Coke ovens	—	—	—	8	104	112
Extraction of mineral oil and natural gas†† ‡	—	—	172	64	692	928
Mineral oil processing	—	—	2	33	154	189
Nuclear fuel production	—	—	—	12	313	325
Production and distribution of electricity, gas and other forms of energy	—	24	8	348	4,721	5,077
Water supply industry	2	3	4	60	1,327	1,391
<b>Extraction of minerals and ores other than fuels, manufacture of metals, mineral products and chemicals</b>	<b>—</b>	<b>11</b>	<b>35</b>	<b>1,692</b>	<b>11,150</b>	<b>12,877</b>
Extraction and preparation of metalliferous ores and extraction of minerals nes	—	4	8	184	788	980
Metal manufacturing	—	1	8	518	3,430	3,956
Manufacture of non-metallic mineral products	—	5	11	479	3,251	3,741
Chemical industry	—	1	8	499	3,557	4,064
Production of man-made fibres	—	—	—	12	124	136
<b>Metal goods, engineering and vehicles industries</b>	<b>1</b>	<b>19</b>	<b>34</b>	<b>2,664</b>	<b>20,076</b>	<b>22,774</b>
Manufacture of metal goods nes	1	13	12	695	4,459	5,166
Mechanical engineering	—	2	11	830	5,043	5,884
Manufacture of office machinery and data processing equipment	—	1	—	30	205	235
Electrical and electronic engineering	—	1	2	367	3,192	3,561
Manufacture of motor vehicles and parts thereof	—	—	5	400	4,019	4,424
Manufacture of other transport equipment	—	1	4	304	2,911	3,219
Instrument engineering	—	1	—	38	247	285
<b>Other manufacturing industries</b>	<b>3</b>	<b>27</b>	<b>36</b>	<b>3,215</b>	<b>25,043</b>	<b>28,294</b>
Food, drink and tobacco manufacturing industries	1	9	8	1,264	12,932	14,204
Textile industry	1	2	6	271	1,891	2,168
Manufacture of leather or leather goods	—	—	—	19	119	138
Footwear and clothing industries	1	—	1	106	885	992
Timber and wooden furniture industries	—	7	5	638	2,579	3,222
Manufacture of paper and paper products, printing and publishing	—	4	10	450	3,289	3,749
Processing of rubber and plastics	—	1	5	388	2,970	3,363
Other manufacturing industries	—	4	1	79	378	458
<b>Total manufacturing industries</b>	<b>4</b>	<b>57</b>	<b>105</b>	<b>7,571</b>	<b>56,269</b>	<b>63,945</b>



Table 3 continued

SIC 80 Class	Employees (including trainees)						Self-employed			
	Fatal injuries	Non-fatal major injuries	Fatal and major injuries (rate per 100,000)	Over 3-day injuries	All reported injuries		Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries
					Number	Rate per 100,000				
5 Construction	101	2,907	295.8	16,597	19,605	1,928.1	36	753	969	1,758
6 Distribution, hotels and catering; repairs	33	2,061	47.8	12,489	14,583	332.6	6	30	27	63
61/62 Wholesale distribution (including dealing in scrap and waste materials)	18	408	45.4	2,056	2,482	264.7	2	9	10	21
63 Commission agents	—	3	9.0	4	7	21.0	—	—	—	—
64/65 Retail distribution	3	963	44.9	6,882	7,848	364.7	—	7	3	10
66 Hotels and catering	1	315	30.1	1,545	1,861	177.3	1	4	3	8
67 Repair of consumer goods and vehicles	11	372	180.2	2,002	2,385	1,121.8	3	10	11	24
7 Transport and communication	45	1,258	99.1	13,224	14,527	1,104.5	—	13	16	29
71 Railways	16	310	243.5	3,349	3,675	2,744.6	—	—	—	—
72 Other inland transport	14	244	67.2	1,873	2,131	554.8	—	3	1	4
74 Sea transport	1	9	29.2	51	61	178.4	—	3	1	4
75 Air transport	—	39	60.3	468	507	783.6	—	—	1	1
76 Supporting services to transport	9	129	149.4	722	860	930.7	—	2	4	6
77 Miscellaneous transport services and storage nes	4	91	54.8	515	610	352.0	—	1	5	6
79 Postal services and telecommunications	1	436	100.9	6,246	6,683	1,543.8	—	4	4	8
8 Banking, finance, insurance, business services and leasing	9	211	8.8	1,174	1,394	55.7	1	2	9	12
81 Banking and finance	—	58	9.4	372	430	69.9	—	—	2	2
82 Insurance, except for compulsory social security	—	20	7.8	105	125	48.6	—	—	—	—
83 Business services	5	77	5.9	428	510	36.6	—	2	4	6
84 Renting of moveables	3	41	38.7	108	152	133.8	1	—	3	4
85 Owning and dealing in real estate	1	15	13.3	161	177	147.0	—	—	—	—
9 Other services	22	4,280	64.3	44,381	48,683	728.0	3	79	193	275
91/92 Public administration, national defence, compulsory social security and sanitary services	15	1,792	93.4	27,008	28,815	1,488.6	3	30	150	183
93 Education	2	1,218	72.3	5,056	6,276	371.9	—	12	8	20
94 Research and development	—	77	68.8	373	450	402.1	—	2	3	5
95 Medical and other health services, veterinary services	—	624	44.5	8,132	8,756	624.1	—	2	4	6
96 Other services provided to general public	1	259	29.9	2,234	2,494	287.1	—	6	9	15
97 Recreational services and other cultural services	4	237	49.1	1,149	1,390	282.9	—	26	19	45
98 Personal services	—	73	38.4	426	499	262.8	—	1	—	1
99 Domestic services	—	—	—	3	3	—	—	—	—	—
6-9 Total service industries	109	7,810	53.2	71,268	79,187	531.8	10	124	245	379
Unclassified	1	134	—	3,912	4,047	—	—	4	9	13
All industries‡	529	19,944	93.8	163,119	183,592	841.6	80	1,152	1,503	2,735

Table 3 continued

SIC 80 Class	Non-employed		Total			
	Fatal injuries	Non-fatal major injuries	Fatal injuries	Non-fatal major injuries	Over 3-day injuries	All reported injuries
Construction	14	132	151	3,792	17,566	21,509
Distribution, hotels and catering; repairs	10	879	49	2,970	12,516	15,535
Wholesale distribution (including dealing in scrap and waste materials)	1	17	21	434	2,066	2,521
Commission agents	—	—	—	3	4	7
Retail distribution	3	584	6	1,554	6,885	8,445
Hotels and catering	5	265	7	584	1,548	2,139
Repair of consumer goods and vehicles	1	13	15	395	2,013	2,423
Transport and communication	5	24	50	1,295	13,240	14,585
Railways	—	1	16	311	3,349	3,676
Other inland transport	4	5	18	252	1,874	2,144
Sea transport	—	—	1	12	52	65
Air transport	—	8	—	47	469	516
Supporting services to transport	1	7	10	138	726	874
Miscellaneous transport services and storage nes	—	1	4	93	520	617
Postal services and telecommunications	—	2	1	442	6,250	6,693
Banking, finance, insurance, business services and leasing	7	32	17	245	1,183	1,445
Banking and finance	—	8	—	66	374	440
Insurance, except for compulsory social security	1	1	1	21	105	127
Business services	4	16	9	95	432	536
Renting of moveables	—	—	4	41	111	156
Owning and dealing in real estate	2	7	3	22	161	186
Other services	62	11,188	87	15,547	44,574	60,208
Public administration, national defence, compulsory social security and sanitary services	5	1,198	23	3,020	27,158	30,201
Education	6	8,002	8	9,232	5,064	14,304
Research and development	—	2	—	81	376	457
Medical and other health services, industry services	20	676	20	1,302	8,136	9,458
Other services provided to general public	18	668	19	933	2,243	3,195
Recreational services and other cultural services	12	635	16	898	1,168	2,082
Personal services	1	7	1	81	426	508
Domestic services	—	—	—	—	3	3
Total service industries	84	12,123	203	20,057	71,513	91,773
Unclassified	2	184	3	322	3,921	4,246
All industries	121	12,614	730	33,710	164,622	199,062



**Table 4 Fatal injuries reported to enforcement authorities, analysed by industry, 1981 to 1988-89**

SIC 80 Division	Year*	Agriculture, forestry and fishing‡	Energy and water supply industries††	Total manufacturing industries††	Construction	Service industries	Un-classified	All industries	
Employment status		0	1	2-4	5	6-9			
Employees	1981	31	54	123	105	102	26	441	
	1982	27	77	137	100	117	14	472	
	1983	29	48	118	118	111	24	448	
	1984	29	48	142	100	105	14	438	
	1985	20	46	124	104	99	7	400	
	1986-87	27	30	109	99	80	10	355	
	1987-88	21	33	99	103	96	9	361	
	1988-89	21	203**	94	101	109	1	529**	
	Self-employed	1981	26	—	6	11	10	1	54
		1982	22	—	2	18	6	—	48
1983		26	1	9	22	7	—	65	
1984		25	—	5	17	13	—	60	
1985		44	—	—	22	5	—	71	
1986-87		17	—	1	26	8	—	52	
1987-88		31	—	5	40	8	—	84	
1988-89		25	2	7	36	10	—	80	
Non-employed		1981	13	3	5	12	38	—	71
		1982	17	1	5	13	47	—	83
	1983	9	6	7	11	52	—	85	
	1984	7	23	3	7	61	4	105	
	1985	11	17	5	13	110	3	159	
	1986-87	16	7	5	14	43	7	92	
	1987-88	10	2	—	15	82	4	113	
	1988-89	15	2	4	14	84	2	121	
	<b>Incidence rates (per 100,000)</b>								
	Employees	1981	8.8	7.8	2.0	9.7	0.8	..	2.1
1982		7.8	11.5	2.4	9.7	0.9	..	2.3	
1983		8.6	7.5	2.2	11.6	0.8	..	2.2	
1984		8.8	7.9	2.7	9.8	0.8	..	2.1	
1985		6.1	8.0	2.4	10.5	0.7	..	1.9	
1986-87		8.6	5.8	2.1	10.2	0.6	..	1.7	
1987-88		6.8	6.7	1.9	10.3	0.7	..	1.7	
1988-89		7.0	42.7**	1.8	9.9	0.7	..	2.4**	
Self-employed		1981	8.8	7.8	2.0	9.7	0.8	..	2.1
		1982	7.8	11.5	2.4	9.7	0.9	..	2.3
	1983	8.6	7.5	2.2	11.6	0.8	..	2.2	
	1984	8.8	7.9	2.7	9.8	0.8	..	2.1	
	1985	6.1	8.0	2.4	10.5	0.7	..	1.9	
	1986-87	8.6	5.8	2.1	10.2	0.6	..	1.7	
	1987-88	6.8	6.7	1.9	10.3	0.7	..	1.7	
	1988-89	7.0	42.7**	1.8	9.9	0.7	..	2.4**	

Note: Fatal injuries to the self-employed reported to local authorities for the years 1981-85 are included with injuries reported to employees.  
 \* 1981-85 calendar years—reported under the Notification of Accidents and Dangerous Occurrences Regulations (NADOR) 1980. 1986-87 onwards years commencing April 1—reported under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1985.  
 † Includes the number of injuries in the oil and gas industry collected under the Mineral Working (Offshore Installations) Act 1971 and reported to the Petroleum Engineering Division of the Department of Energy.  
 \*\* Data include the 167 fatalities of the Piper Alpha disaster, July 6, 1988.  
 †† Fatal injuries to the self-employed and the non-employed reported to the Mines and Quarries Inspectorate for the years 1981 to 1984 are included with injuries reported to employees.  
 ‡ Excludes sea fishing.  
 .. Not available.

**Table 5 Non-fatal major injuries reported to enforcement authorities, analysed by industry, 1981 to 1988-89**

SIC 80 Division	Year*	Agriculture, forestry and fishing**	Energy and water supply industries†, ††	Total manufacturing industries	Construction	Service industries	Un-classified	All industries**	
Employment status		0	1	2-4	5	6-9			
Employees	1981	165	1,129	4,184	1,690	4,687	461	12,316	
	1982	147	1,157	4,133	1,950	4,488	411	12,286	
	1983	200	1,102	4,308	2,178	4,275	390	12,453	
	1984	272	562	4,758	2,288	4,185	429	12,494	
	1985	233	997	4,866	2,239	4,458	382	13,175	
	1986-87	429	1,718	7,378	2,736	8,057	377	20,695	
	1987-88	498	1,397	7,233	2,767	7,936	226	20,057	
	1988-89	451	1,262	7,380	2,907	7,810	134	19,944	
	Self-employed	1981	21	—	8	40	22	—	91
		1982	30	—	21	51	25	—	127
1983		25	1	18	57	13	—	114	
1984		30	1	31	70	12	—	144	
1985		43	—	17	113	33	—	206	
1986-87		72	5	89	443	80	1	690	
1987-88		91	6	100	561	105	4	867	
1988-89		132	5	134	753	124	4	1,152	
Non-employed		1981	25	6	22	36	5,446	74	5,609
		1982	13	11	40	33	5,425	96	5,618
	1983	31	8	59	66	6,055	112	6,331	
	1984	25	33	56	75	6,380	110	6,679	
	1985	44	26	49	78	6,640	102	6,939	
	1986-87	58	30	65	162	14,214	46	14,575	
	1987-88	59	17	57	153	12,390	204	12,880	
	1988-89	89	29	57	132	12,123	184	12,614	
	<b>Incidence rates (per 100,000)</b>								
	Employees	1981	46.9	162.2	68.8	155.6	35.8	..	57.8
1982		42.3	173.1	72.3	188.5	34.4	..	59.0	
1983		59.1	173.1	79.6	213.2	32.4	..	60.5	
1984		82.2	92.7	89.6	225.2	31.0	..	60.1	
1985		71.2	173.7	92.3	225.8	32.2	..	62.7	
1986-87		136.5	330.3	145.0	282.7	57.5	..	99.1	
1987-88		162.0	281.9	142.0	276.5	54.9	..	94.0	
1988-89		151.3	265.6	143.7	285.9	52.5	..	91.4	
Self-employed		1981	8.4	..	5.5	10.3	1.7	..	4.4
		1982	12.1	..	14.2	12.8	1.9	..	6.0
	1983	10.2	..	12.0	13.9	1.0	..	5.3	
	1984	12.0	..	17.1	15.1	0.8	..	5.9	
	1985	17.3	..	8.3	24.1	2.0	..	8.1	
	1986-87	29.0	..	42.6	91.0	4.9	..	26.9	
	1987-88	37.1	..	40.7	103.5	5.9	..	31.0	
	1988-89	54.3	..	52.1	127.0	6.8	..	39.4	

\* 1981-85 calendar years—reported under the Notification of Accidents and Dangerous Occurrences Regulations (NADOR) 1980.  
 \* 1986-87 onwards years commencing April 1—reported under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1985.  
 † Includes the number of injuries in the oil and gas industry collected under the Mineral Working (Offshore Installations) Act 1971 and reported to the Petroleum Engineering Division of the Department of Energy.  
 \*\* Excludes sea fishing.  
 †† Due to the small number of self-employed workers in this sector, the calculation of injury incidence rates would not be reliable.  
 .. Not available.

**Table 6 Over 3-day injuries\* reported to enforcement authorities, analysed by industry, 1986-87 to 1988-89**

SIC 80 Division	Year†	Agriculture, forestry and fishing††	Energy and water supply industries** ‡	Total manufacturing industries	Construction	Services industries	Unclassified	All industries
Employment status		0	1	2-4	5	6-9		
Employees	1986-87	1,043	19,621	54,046	16,468	65,958	1,875	159,011
	1987-88	1,349	15,798	52,734	16,622	69,085	4,264	159,852
	1988-89	1,473	13,728	56,141	16,597	71,268	3,912	163,119
Self-employed	1986-87	108	8	99	704	104	6	1,029
	1987-88	117	10	112	763	156	1	1,159
	1988-89	142	10	128	969	245	9	1,503
<b>Incidence rates (per 100,000)</b>								
Employees	1986-87	331.7	3,771.8	1,061.9	1,701.8	471.1	..	761.1
	1987-88	438.7	3,188.3	1,035.5	1,660.9	478.1	..	748.9
	1988-89	494.1	2,889.5	1,093.1	1,632.3	478.6	..	747.7
Self-employed	1986-87	43.5	..	47.4	144.6	6.4	..	40.1
	1987-88	47.8	..	45.5	140.8	8.8	..	41.4
	1988-89	58.4	..	49.8	163.4	13.4	..	51.4

\* This category of injury became reportable for injuries to employees and the self-employed, under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1985.  
 † Years commencing April 1.  
 \*\* Includes the number of injuries in the oil and gas industry collected under the Mineral Working (Offshore Installations) Act 1971 and reported to the Petroleum Engineering Division of the Department of Energy.  
 †† Excludes sea fishing.  
 ‡ Excludes over 3-day injuries reported to the Mines and Quarries Inspectorate for non-British Coal Corporation coal mines and for other mining and all quarrying activities: figures not readily available.  
 .. Due to the small number of self-employed workers in this sector the calculation of injury incidence rates would not be reliable.  
 .. Not available.



## Section 4: Kinds of accident

The 1988-89 figures on kind of accident in *table 7* are for employees for all enforcing authorities. They show a slightly different pattern for fatalities to the earlier years in that the 167 fatalities sustained during the Piper Alpha tragedy have been included as 'not classified by kind', making this the largest single category of kind of accident. The majority of these are likely to be deaths due to exposure to an explosion but some would possibly be due to other causes such as exposure to fire or drowning. Falls from a height or being struck by a moving vehicle continue to be common causes of fatal injuries, accounting for over 35 per cent of fatalities in 1987-88, a more typical year for overall patterns of kind of accident for fatal injuries.

Slips, trips and falls on the same level (27.9 per cent) and falls from a height (21.7 per cent) are by far the most common causes of major injuries, followed next by being struck by a moving object (12.8 per cent).

Injuries sustained while handling, lifting or carrying account for over 32 per cent of reported over 3-day injuries with slips, trips and falls (19.0 per cent) and being struck by a moving object (15.4 per cent) being the next two most common causes.

Trends over time in kind of accident can only be looked at for the last two years, as in 1986-87 the injuries for the Mines and Quarries Inspectorate were not classified by kind.

For major injuries, while the overall numbers have remained steady over the last two years, there has been a notable increase in the number of injuries caused by contact with machinery. On the other hand, major injuries due to being struck by a moving object, exposure to or contact with a harmful substance and contact with electricity have declined by around 10 per cent.

Against the background of an overall increase of 2 per

cent in over 3-day injuries there has been a 4.6 per cent decrease in injuries due to falls from a height. Being struck by a moving vehicle caused 21 per cent more over 3-day injuries in 1988-89 than in 1987-88, and contact with electricity caused 13 per cent more. The number of over 3-day injuries due to handling accidents or slips, trips and falls on the same level both increased by about a thousand but because of the larger numbers of injuries in these categories, the percentage increase was less than 3 per cent.

*Tables 8 to 11* show details of kind of accident to employees for 1988-89 for injuries reported to the Factory and Agricultural Inspectorates and local authorities for the agriculture, manufacturing, construction and service sectors respectively. *Figure 3* takes three common kinds of accident causing fatal or major injuries and compares their distribution between the four sectors. Not surprisingly, given the differing natures of the sectors, there are very significant differences in this distribution. Machinery accidents cause over 20 per cent of injuries in manufacturing but less than 5 per cent in both construction and services. Falls from a height cause over 40 per cent of fatal or major injuries in construction and around 20 per cent or less in the three other sectors. Slips, trips and falls on the same level cause over 40 per cent of fatal and major injuries in the service sector.

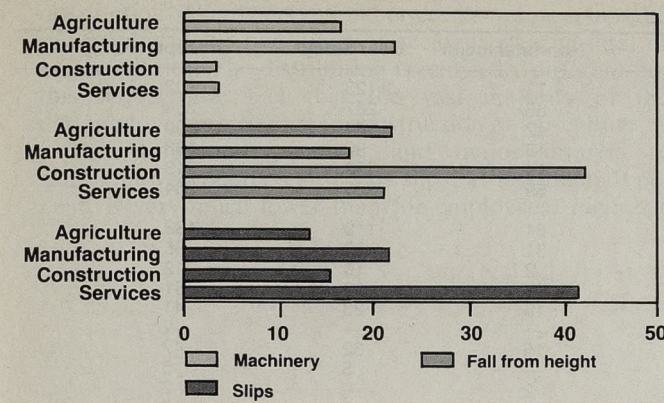
*Figure 4* shows a similar analysis for over 3-day injuries where there is still variability between the sectors, but less so than for fatal and major injuries. Handling accidents account for more than 35 per cent of over 3-day injuries in both construction and services but around 20 per cent in agriculture. The proportion of injuries caused by being struck by a moving object is very similar in agriculture, manufacturing and construction, with agriculture having marginally the highest level.

**Table 7 Injuries to employees reported to enforcement authorities\*, analysed by kind of accident and severity of injury, 1986-87 to 1988-89**

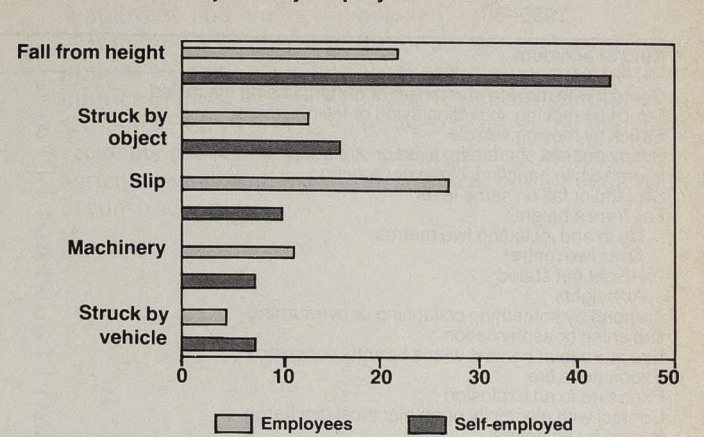
Kind of accident	Fatal			Non-fatal major		
	1986-87	1987-88	1988-89	1986-87	1987-88	1988-89
Contact with moving machinery or material being machined	34	18	30	1,948	1,990	2,118
Struck by moving, including flying or falling, object	31	53	46	2,444	2,800	2,541
Struck by moving vehicle	49	55	70	635	763	747
Struck against something fixed or stationary	—	1	3	867	787	808
Injured while handling, lifting or carrying	—	2	—	1,308	1,374	1,408
Slip, trip or fall on same level	5	5	8	5,480	5,452	5,563
Fall from a height						
Up to and including two metres	9	5	11	1,883	1,920	1,958
Over two metres	69	67	77	1,395	1,338	1,447
Height not stated	6	6	6	780	976	935
All heights	84	78	93	4,058	4,234	4,340
Trapped by something collapsing or overturning	38	34	28	212	246	247
Drowning or asphyxiation	19	15	16	32	29	28
Exposure to or contact with a harmful substance	6	11	8	979	771	702
Exposure to fire	3	12	2	127	120	106
Exposure to an explosion	8	7	7	100	80	80
Contact with electricity or an electrical discharge	23	20	18	353	331	276
Injured by an animal	—	—	3	70	80	75
Other kind of accident	9	33	24	499	821	812
Injuries not classified by kind†	46	17	173†	1,583	179	93
<b>Total</b>	<b>355</b>	<b>361</b>	<b>529†</b>	<b>20,695</b>	<b>20,057</b>	<b>19,944</b>

\* Includes the number of injuries in the oil and gas industry collected under the Mineral Working (Offshore Installations Act) 1971 and reported to Petroleum Engineering Division of the Department of Energy.  
† Data include the 167 fatalities of the Piper Alpha disaster, July 6, 1988.

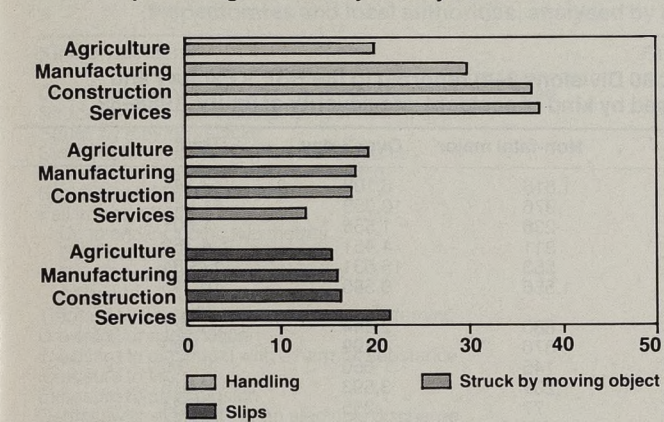
**Figure 3 Fatal and major injuries to employees, 1988-89, percentage of total injuries by sector**



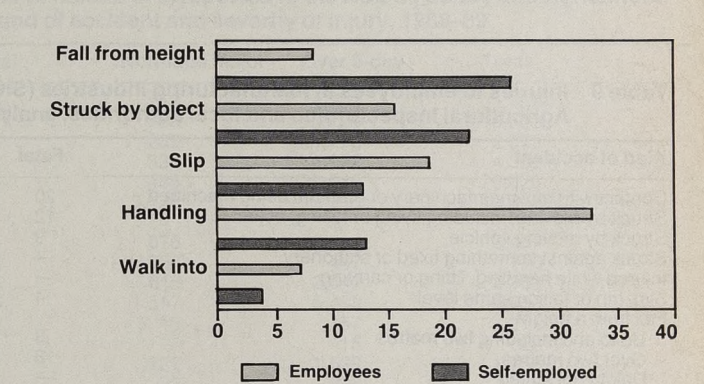
**Figure 5 Fatal and major injuries, 1988-89, percentage of total injuries by employment status**



**Figure 4 Over 3-day injuries to employees, 1988-89, percentage of total injuries by sector**



**Figure 6 Over 3-day injuries to employees, 1988-89, percentage of total injuries by sector**



Over 3-day	All reported injuries			Kind of accident		
	1986-87	1987-88	1988-89		1986-87	1987-88
7,066	7,470	7,968	9,048	9,478	10,116	Contact with moving machinery or material being machined
22,594	24,608	25,076	25,069	27,461	27,663	Struck by moving, including flying or falling, object
3,182	3,519	4,254	3,866	4,337	5,071	Struck by moving vehicle
10,797	10,522	10,811	11,664	11,310	11,622	Struck against something fixed or stationary
48,609	52,320	53,373	49,917	53,696	54,781	Injured while handling, lifting or carrying
27,836	29,336	30,311	33,321	34,793	35,882	Slip, trip or fall on same level
						Fall from a height
7,346	7,680	7,272	9,238	9,605	9,240	Up to and including two metres
2,081	1,805	1,786	3,545	3,210	3,310	Over two metres
3,039	3,637	3,458	3,825	4,619	4,399	Height not stated
12,466	13,122	12,516	16,608	17,434	16,949	All heights
591	615	608	841	895	883	Trapped by something collapsing or overturning
34	38	39	85	82	83	Drowning or asphyxiation
3,724	4,015	4,123	4,709	4,797	4,833	Exposure to or contact with a harmful substance
564	552	536	694	684	644	Exposure to fire
221	267	231	329	354	318	Exposure to an explosion
551	562	635	927	913	929	Contact with electricity or an electrical discharge
598	723	758	668	803	836	Injured by an animal
6,516	8,080	7,880	7,024	8,934	8,716	Other kind of accident
13,662	4,103	4,000	15,291	4,299	4,266	Injuries not classified by kind†
<b>159,011</b>	<b>159,852</b>	<b>163,119</b>	<b>180,061</b>	<b>180,270</b>	<b>183,592</b>	<b>Total</b>



**Table 8 Injuries to employees in the agriculture, forestry and fishing sector\* (SIC 80 Division 0) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by kind of accident and severity of injury, 1988-89**

Kind of accident	Fatal	Non-fatal major	Over 3-day	All reported injuries
Contact with moving machinery or material being machined	2	77	123	202
Struck by moving, including flying or falling, object	1	66	287	354
Struck by moving vehicle	3	42	64	109
Struck against something fixed or stationary	—	13	90	103
Injured while handling, lifting or carrying	—	14	299	313
Slip, trip or fall on same level	—	59	225	284
Fall from a height				
Up to and including two metres	3	61	119	183
Over two metres	2	31	33	66
Height not stated	—	2	10	12
All heights	5	94	162	261
Trapped by something collapsing or overturning	3	15	23	41
Drowning or asphyxiation	2	—	—	2
Exposure to or contact with a harmful substance	—	15	32	47
Exposure to fire	—	—	5	5
Exposure to an explosion	—	2	—	2
Contact with electricity or an electrical discharge	3	7	6	16
Injured by an animal	2	36	92	130
Other kind of accident	—	11	65	76
Injuries not classified by kind	—	—	—	—
<b>Total</b>	<b>21</b>	<b>451</b>	<b>1,473</b>	<b>1,945</b>

\* Excluding sea fishing.

**Table 9 Injuries to employees in manufacturing industries (SIC 80 Divisions 2-4) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by kind of accident and severity of injury, 1988-89**

Kind of accident	Fatal	Non-fatal major	Over 3-day	Total
Contact with moving machinery or material being machined	20	1,616	6,108	7,744
Struck by moving, including flying or falling, object	12	976	10,059	11,047
Struck by moving vehicle	9	236	1,556	1,801
Struck against something fixed or stationary	—	311	4,451	4,762
Injured while handling, lifting or carrying	—	553	16,531	17,084
Slip, trip or fall on same level	4	1,556	8,585	10,145
Fall from a height				
Up to and including two metres	3	680	2,444	3,127
Over two metres	18	376	499	893
Height not stated	—	145	650	795
All heights	21	1,201	3,593	4,815
Trapped by something collapsing or overturning	2	77	255	334
Drowning or asphyxiation	3	12	19	34
Exposure to or contact with a harmful substance	4	393	2,101	2,498
Exposure to fire	2	38	168	208
Exposure to an explosion	1	22	85	108
Contact with electricity or an electrical discharge	4	78	177	259
Injured by an animal	—	5	20	25
Other kind of accident	—	121	1,508	1,629
Injuries not classified by kind	—	1	11	12
<b>Total</b>	<b>82</b>	<b>7,196</b>	<b>55,227</b>	<b>62,505</b>

**Table 10 Injuries to employees in the construction industry (SIC 80 Division 5) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by kind of accident and severity of injury, 1988-89**

Kind of accident	Fatal	Non-fatal major	Over 3-day	Total
Contact with moving machinery or material being machined	3	97	257	357
Struck by moving, including flying or falling, object	10	388	2,989	3,387
Struck by moving vehicle	21	142	224	387
Struck against something fixed or stationary	1	88	1,092	1,181
Injured while handling, lifting or carrying	—	231	6,088	6,319
Slip, trip or fall on same level	—	434	2,616	3,050
Fall from a height				
Up to and including two metres	3	418	1,153	1,574
Over two metres	46	683	691	1,420
Height not stated	—	126	314	440
All heights	49	1,227	2,158	3,434
Trapped by something collapsing or overturning	11	85	104	200
Drowning or asphyxiation	2	6	2	10
Exposure to or contact with a harmful substance	1	41	275	317
Exposure to fire	—	21	68	89
Exposure to an explosion	—	19	21	40
Contact with electricity or an electrical discharge	3	77	137	217
Injured by an animal	—	2	27	29
Other kind of accident	—	48	538	586
Injuries not classified by kind	—	1	1	2
<b>Total</b>	<b>101</b>	<b>2,907</b>	<b>16,597</b>	<b>19,605</b>

Table 12 shows details of kind of accident for self-employed workers for 1988-89. Figure 5 compares the distribution of kind of accident between employees and the self-employed for five kinds of accident causing fatal or major injuries. The distribution is markedly different but this reflects the fact that the vast majority of the self-employed injuries are in construction or agriculture.

The proportion of fatal and major injuries to self-employed people caused by slips, at less than 10 per cent, is very much lower than for employees. Figures 6

presents a similar analysis for over 3-day injuries, with again the distribution being markedly different for employees and the self-employed.

Handling accidents account for a third of all over 3-day injuries to employees but account for only an eighth of injuries to the self-employed. The 13 per cent of injuries to self-employed workers that were caused by handling accidents is below the 20 per cent for employees in agriculture and well below the 36.7 per cent for employees in construction.

**Table 11 Injuries to employees in the services sector (SIC 80 Divisions 6-9) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by kind of accident and severity of injury, 1988-89**

Kind of accident	Fatal	Non-fatal major	Over 3-day	Total
Contact with moving machinery or material being machined	3	253	1,203	1,459
Struck by moving, including flying or falling, object	11	783	8,729	9,523
Struck by moving vehicle	34	267	1,778	2,079
Struck against something fixed or stationary	2	335	4,022	4,359
Injured while handling, lifting or carrying	—	486	25,540	26,026
Slip, trip or fall on same level	4	3,178	15,210	18,392
Fall from a height				
Up to and including two metres	—	676	2,811	3,487
Over two metres	7	256	447	710
Height not stated	6	615	2,441	2,862
All heights	13	1,547	5,499	7,059
Trapped by something collapsing or overturning	9	45	157	211
Drowning or asphyxiation	6	7	15	28
Exposure to or contact with a harmful substance	2	227	1,529	1,758
Exposure to fire	—	37	208	245
Exposure to an explosion	3	27	108	138
Contact with electricity or an electrical discharge	5	53	182	240
Injured by an animal	1	31	560	592
Other kind of accident	—	222	3,146	3,368
Injuries not classified by kind	—	2	37	39
<b>Total</b>	<b>93</b>	<b>7,500</b>	<b>67,923</b>	<b>75,516</b>

**Table 12 Injuries to the self-employed reported to enforcement authorities, analysed by kind of accident and severity of injury, 1988-89**

Kind of accident	Fatal	Non-fatal major	Over 3-day	Total
Contact with moving machinery or material being machined	4	76	62	142
Struck by moving, including flying or falling, object	7	187	331	525
Struck by moving vehicle	14	66	54	134
Struck against something fixed or stationary	—	21	55	76
Injured while handling, lifting or carrying	1	36	195	232
Slip, trip or fall on same level	—	121	192	313
Fall from a height				
Up to and including two metres	2	156	160	318
Over two metres	31	310	199	540
Height not stated	—	39	32	71
All heights	33	505	391	929
Trapped by something collapsing or overturning	7	37	46	90
Drowning or asphyxiation	4	4	—	8
Exposure to or contact with a harmful substance	1	18	29	48
Exposure to fire	—	12	14	27
Exposure to an explosion	1	7	9	17
Contact with electricity or an electrical discharge	5	32	33	70
Injured by an animal	2	14	14	30
Other kind of accident	—	16	78	94
Injuries not classified by kind	—	—	—	—
<b>Total</b>	<b>80</b>	<b>1,152</b>	<b>1,503</b>	<b>2,735</b>



## Section 5: Nature and site of injuries

Table 13 shows the nature of injuries to employees for 1987-88 and 1988-89 for injuries reported to the Factory and Agricultural Inspectorates and local authorities. Fractures were by far the most common nature of fatal or major injury, accounting for over 70 per cent of all fatal and major injuries in 1988-89. For fatal injuries there appears to be a change in the distribution in 1988-89, with the number of fatal injuries due to fractures and contusions dropping markedly with increases in the fatal injuries due to multiple natures and where the nature of injury is not coded. After fractures, amputations, mainly of the

finger(s), were the most common nature of major injury (9.7 per cent in 1988-89). The number of fatal and major injuries due to burns and due to superficial injuries both declined substantially over the last year.

For over 3-day injuries to employees, sprains and strains accounted for well over a third of all injuries, followed by contusions (18 per cent), superficial injuries (11.8 per cent) and fractures (8.3 per cent). Given the increase in overall numbers of over 3-day injuries, the distribution of nature of injury was very similar in the two years.

Table 14 provides a similar analysis for site of injury for

**Table 13 Injuries to employees reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and severity of injury, 1987-88 and 1988-89**

Nature of injury	1987-88				1988-89			
	Fatal	Non-fatal major	Over 3-day	Total	Fatal	Non-fatal major	Over 3-day	Total
Amputation	2	1,840	7	1,849	3	1,812	—	1,815
Loss of sight of eye	—	16	11	27	—	13	5	18
Fracture	74	13,225	12,020	25,319	47	13,382	12,628	26,057
Dislocation	—	41	925	966	—	42	1,051	1,093
Concussion and internal injuries	19	141	1,196	1,356	22	142	1,210	1,374
Lacerations and open wounds	6	687	13,266	13,959	10	632	13,126	13,768
Contusions	56	371	25,726	26,153	38	373	27,229	27,640
Burns	22	911	4,718	5,651	10	814	4,890	5,714
Poisonings and gassings	21	215	412	648	24	189	424	637
Sprains and strains	1	186	54,571	54,758	1	169	55,942	56,112
Superficial injuries	4	357	17,679	18,040	—	288	17,807	18,095
Natural causes	—	7	16	23	1	3	8	12
Other injuries caused by contact with electricity	15	92	191	298	12	69	176	257
Injuries of more than one of the other natures	30	242	1,985	2,257	64	257	2,129	2,450
Injuries nes	12	64	857	933	11	77	878	966
Injury not known	38	340	10,507	10,885	67	357	14,010	14,434
<b>Total</b>	<b>300</b>	<b>18,735</b>	<b>144,087</b>	<b>163,122</b>	<b>310</b>	<b>18,619</b>	<b>151,513</b>	<b>170,442</b>

**Table 14 Injuries to employees reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by site and severity of injury, 1987-88 and 1988-89**

Site	1987-88				1988-89			
	Fatal	Non-fatal major	Over 3-day	Total	Fatal	Non-fatal major	Over 3-day	Total
Eye	—	739	3,687	4,426	—	650	3,415	4,065
Ear	—	8	148	156	—	12	162	174
Other parts of face	—	209	1,475	1,684	—	196	1,566	1,762
Head (excluding face)	78	491	3,621	4,190	72	496	3,897	4,465
Several locations of head	5	66	386	457	9	62	414	485
<b>Total: Head locations</b>	<b>83</b>	<b>1,513</b>	<b>9,317</b>	<b>10,913</b>	<b>81</b>	<b>1,416</b>	<b>9,454</b>	<b>10,951</b>
Neck	6	67	2,019	2,092	8	61	2,055	2,124
Back	6	444	32,585	33,035	2	448	33,268	33,718
Trunk	28	748	6,879	7,655	28	672	6,571	7,271
Several locations of torso	3	23	449	475	4	25	449	478
<b>Total: Torso locations</b>	<b>43</b>	<b>1,282</b>	<b>41,932</b>	<b>43,257</b>	<b>42</b>	<b>1,206</b>	<b>42,343</b>	<b>43,591</b>
One or more finger/thumb(s)	1	2,219	21,104	23,324	—	2,153	22,520	24,673
Hand	1	378	9,666	10,045	—	355	10,197	10,552
Wrist	1	4,054	4,008	8,063	—	4,223	3,953	8,176
Rest of upper limb	1	3,109	11,317	14,427	—	3,152	11,451	14,603
Several locations of upper limb	—	145	899	1,044	—	127	941	1,068
<b>Total: Upper limb locations</b>	<b>4</b>	<b>9,905</b>	<b>46,994</b>	<b>56,993</b>	<b>—</b>	<b>10,010</b>	<b>49,062</b>	<b>59,072</b>
One or more toes	1	125	3,824	3,950	—	102	4,016	4,118
Foot	1	280	9,152	9,433	1	302	9,438	9,741
Ankle	2	2,281	9,197	11,480	2	2,349	9,607	11,958
Rest of lower limb	1	1,969	13,874	15,844	3	1,951	14,058	16,012
Several locations of lower limb	2	86	855	943	—	114	984	1,098
<b>Total: Lower limb locations</b>	<b>7</b>	<b>4,741</b>	<b>36,902</b>	<b>41,650</b>	<b>6</b>	<b>4,818</b>	<b>38,103</b>	<b>42,927</b>
Several locations	75	926	7,844	8,845	86	843	8,249	9,178
General locations	46	270	621	937	43	235	590	868
Unspecified locations	42	98	477	617	52	91	3,712	3,855
<b>Total: All locations</b>	<b>300</b>	<b>18,735</b>	<b>144,087</b>	<b>163,122</b>	<b>310</b>	<b>18,619</b>	<b>151,513</b>	<b>170,442</b>

employees for the two years. For fatal injuries the head was the most common specific site of injury (26 per cent) but 41.5 per cent of fatalities were caused by injuries to several or general locations and a further 16.7 per cent had unspecified locations. For major injuries the most common site was the upper limb (53.8 per cent), with 42.2 per cent of these being wrist fractures and 31.5 per cent fractures above the wrist. The distribution was similar in both years but there may be some suggestion that the number of major injuries to the head and torso had reduced in 1988-89.

For over 3-day injuries the most common sites were the torso, primarily the back (22 per cent of all over 3-day injuries) and the upper limb, primarily the finger(s) (14.9 per cent of all injuries). Injuries to the back were mainly sprains and strains while the finger injuries were a mix of fractures, sprains and strains and lacerations.

Tables 15 to 18 give details of the nature and site of major injuries to employees in the agriculture, manufacturing, construction and the services sector respectively. Figure 7 shows for major injuries the different distributions by sector for amputations and fractures. Manufacturing had the highest proportion of reported major injuries that were amputations with, not surprisingly, services having the lowest proportion. For fractures the services sector had the

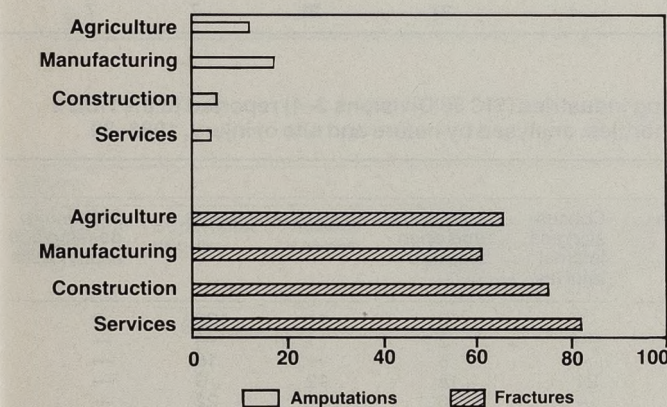
highest proportion, with manufacturing the lowest.

Table 19 shows details of the nature and site of major injuries to the self-employed. Just under 70 per cent of these were fractures, a similar proportion to that for employees. The 16 per cent of major injuries to the self-employed that were amputations was much higher than the 10 per cent for employees.

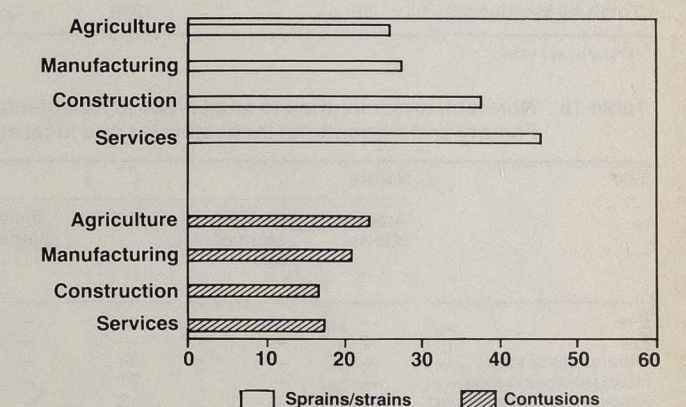
Tables 20 to 24 provide a similar analysis to that in tables 15 to 19 but for over 3-day rather than major injuries. Figure 8 shows the different distributions of sprains/strains and contusions in the four employment sectors. Agriculture and manufacturing had lower proportions of sprains/strains than in construction and services. For contusions the proportion was highest in the agriculture sector, marginally higher than in manufacturing.

For the self-employed, the most common nature of an over 3-day injury was a fracture, accounting for 20 per cent of injuries as opposed to 8 per cent for employees. Lacerations (15 per cent), contusions (19 per cent) and sprains (17 per cent) accounted for similar numbers of over 3-day injuries to the self-employed. The corresponding percentages for employees were similar for contusions (18 per cent) but quite different for lacerations (9 per cent) and sprains/strains (37 per cent).

**Figure 7 Major injuries to employees, 1988-89, percentage of total injuries by sector**



**Figure 8 Over 3-day injuries to employees, 1988-89, percentage of total injuries by sector**





**Table 15 Non-fatal major injuries to employees in the agriculture, forestry and fishing sector\* (SIC Division 0) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89**

Site	Nature								
	Amputations	Loss of sight of eye	Fractures	Dislocations	Concussion and internal injuries	Laceration and open wounds	Contusions	Burns	Poisoning, gassing and asphyxiation
Eye	—	—	—	—	—	4	5	3	—
Ear	—	—	—	—	—	—	—	1	—
Other parts of face	—	—	7	—	—	—	—	—	—
Head (excluding face)	—	—	7	—	4	3	1	—	—
Several locations of head	—	—	—	—	—	—	—	—	—
<b>Total: Head locations</b>	—	—	14	—	4	7	6	4	—
Neck	—	—	1	—	—	—	—	—	—
Back	—	—	7	—	—	—	3	—	—
Trunk	—	—	20	—	—	1	2	—	1
Several locations of torso	—	—	—	—	—	—	—	—	—
<b>Total: Torso locations</b>	—	—	28	—	—	1	5	—	1
One or more									
finger/thumb(s)	44	—	4	—	—	4	3	—	—
Hand	1	—	2	—	—	1	1	—	—
Wrist	—	—	57	—	—	—	—	—	—
Rest of upper limb	2	—	77	1	—	1	2	—	1
Several locations of upper limb	—	—	2	—	—	—	—	—	—
<b>Total: Upper limb locations</b>	47	—	142	1	—	6	6	—	1
One or more toes	6	—	—	—	—	—	—	—	—
Foot	1	—	7	1	—	2	1	1	—
Ankle	—	—	34	—	—	—	—	—	—
Rest of lower limb	2	—	64	1	—	3	3	—	—
Several locations of lower limb	—	—	2	—	—	—	—	—	—
<b>Total: Lower limb locations</b>	9	—	107	2	—	5	4	1	—
Several locations	—	—	5	—	—	2	—	2	—
General locations	—	—	—	—	—	—	—	—	5
Unspecified locations	—	—	—	—	—	—	—	—	—
<b>Total: All locations</b>	56	—	296	3	4	21	21	7	7

\* Excluding sea fishing.

**Table 16 Non-fatal major injuries to employees in manufacturing industries (SIC 80 Divisions 2-4) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89**

Site	Nature								
	Amputations	Loss of sight of eye	Fractures	Dislocations	Concussion and internal injuries	Laceration and open wounds	Contusions	Burns	Poisoning, gassing and asphyxiation
Eye	—	4	—	—	1	50	14	126	2
Ear	2	—	—	—	—	2	1	—	—
Other parts of face	—	—	44	—	—	5	—	16	—
Head (excluding face)	—	—	71	—	24	18	12	3	—
Several locations of head	—	—	3	—	—	3	—	22	—
<b>Total: Head locations</b>	2	4	118	—	25	78	27	167	2
Neck	—	—	11	1	—	3	2	4	4
Back	—	—	87	—	3	3	9	1	—
Trunk	—	—	156	—	14	5	10	6	2
Several locations of torso	—	—	—	—	—	—	3	2	—
<b>Total: Torso locations</b>	—	—	254	1	17	11	24	13	6
One or more									
finger/thumb(s)	1,204	—	64	—	—	130	44	14	—
Hand	17	—	49	—	—	43	27	20	—
Wrist	—	—	1,363	—	—	16	—	3	—
Rest of upper limb	6	—	955	6	—	29	15	11	—
Several locations of upper limb	—	—	37	—	—	1	2	5	—
<b>Total: Upper limb locations</b>	1,227	—	2,468	6	—	219	88	53	—
One or more toes	28	—	12	—	—	3	3	—	—
Foot	6	—	103	—	—	3	12	14	—
Ankle	—	—	724	1	—	3	—	3	—
Rest of lower limb	8	—	590	5	—	10	11	13	—
Several locations of lower limb	—	—	25	—	—	—	3	4	—
<b>Total: Lower limb locations</b>	42	—	1,454	6	—	19	29	34	—
Several locations	3	—	107	—	1	9	10	98	6
General locations	—	—	—	—	2	—	—	4	88
Unspecified locations	—	—	1	—	1	—	—	—	4
<b>Total: All locations</b>	1,274	4	4,402	13	46	336	178	369	106

Nature	Site						
	Sprains and strains	Superficial injuries	Natural causes	Other injuries caused by contact with electricity	More than one of the other natures listed	Other known	Other unknown
—	—	6	—	—	—	—	1
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	7
—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	16
—	—	—	—	—	—	—	—
—	6	—	—	—	—	—	2
—	—	—	—	—	—	—	43
—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	13
2	—	—	—	1	—	—	26
1	—	—	—	—	—	—	—
—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	—
3	—	—	—	1	—	—	40
—	—	—	—	—	—	—	—
—	3	—	—	—	—	—	2
—	—	—	—	—	—	—	60
—	—	—	—	—	—	—	7
—	—	—	—	—	—	—	57
1	—	—	—	—	—	—	86
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	1
—	—	—	—	—	—	—	3
1	3	—	—	—	—	—	213
—	—	—	—	—	—	—	6
11	—	—	—	—	—	—	14
1	—	—	—	—	—	—	35
—	—	—	—	—	—	—	73
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	2
2	—	—	—	—	—	—	130
—	—	—	—	—	—	—	—
—	—	—	—	5	—	—	15
—	—	—	—	3	—	—	8
—	—	—	—	—	—	—	2
6	9	—	5	5	2	9	451

Nature	Site						
	Sprains and strains	Superficial injuries	Natural causes	Other injuries caused by contact with electricity	More than one of the other natures listed	Other known	Other unknown
—	—	60	—	—	1	4	22
—	—	1	—	—	—	—	—
—	—	3	—	—	—	—	2
—	—	3	—	1	—	2	6
—	—	3	—	—	—	—	1
—	70	—	—	—	—	—	31
1	—	—	—	—	—	—	1
17	2	—	—	—	—	—	9
5	5	—	—	—	—	—	7
1	—	—	—	—	—	—	—
24	7	—	—	—	—	—	17
—	—	—	—	—	—	—	—
1	27	—	—	—	—	—	16
1	13	—	—	—	—	—	11
7	2	—	—	—	—	—	4
1	7	—	—	—	—	—	5
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	4
10	49	—	—	—	—	—	40
—	—	—	—	—	—	—	1
2	1	—	—	—	—	—	7
5	1	—	—	—	—	—	2
3	6	—	—	—	—	—	8
—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	2
10	8	—	—	—	—	—	20
—	—	—	—	—	—	—	—
1	2	2	—	—	—	—	16
—	—	1	—	—	—	—	5
—	—	—	—	—	—	—	12
45	136	3	32	90	22	140	7,196



Table 17 Non-fatal major injuries to employees in the construction industry (SIC 80 Division 5) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89

Site	Nature								
	Amputations	Loss of sight of eye	Fractures	Dislocations	Concussion and internal injuries	Laceration and open wounds	Contusions	Burns	Poisoning, gassing and asphyxiation
Eye	—	2	—	—	—	21	9	14	—
Ear	—	—	—	—	1	—	—	—	—
Other parts of face	—	—	23	—	—	1	1	12	—
Head (excluding face)	—	—	76	—	8	16	6	1	—
Several locations of head	—	—	2	—	—	—	2	—	—
<b>Total: Head locations</b>	<b>—</b>	<b>2</b>	<b>101</b>	<b>—</b>	<b>9</b>	<b>38</b>	<b>18</b>	<b>27</b>	<b>—</b>
Neck	—	—	7	—	—	1	—	1	—
Back	—	—	70	—	3	1	9	—	—
Trunk	—	—	129	—	8	3	9	3	1
Several locations of torso	—	—	1	—	1	—	2	1	—
<b>Total: Torso locations</b>	<b>—</b>	<b>—</b>	<b>207</b>	<b>—</b>	<b>12</b>	<b>5</b>	<b>20</b>	<b>5</b>	<b>1</b>
One or more finger/thumb(s)	134	—	11	—	—	16	3	2	—
Hand	4	—	19	—	—	14	3	17	—
Wrist	—	—	510	1	—	4	—	—	—
Rest of upper limb	1	—	425	3	—	7	2	5	—
Several locations of upper limb	—	—	10	—	—	—	—	8	—
<b>Total: Upper limb locations</b>	<b>139</b>	<b>—</b>	<b>975</b>	<b>4</b>	<b>—</b>	<b>41</b>	<b>8</b>	<b>32</b>	<b>—</b>
One or more toes	9	—	6	—	—	4	—	—	—
Foot	1	—	47	—	—	1	4	—	—
Ankle	—	—	411	—	—	1	—	—	—
Rest of lower limb	3	—	316	2	—	8	4	4	—
Several locations of lower limb	—	—	25	—	—	1	—	2	—
<b>Total: Lower limb locations</b>	<b>13</b>	<b>—</b>	<b>805</b>	<b>2</b>	<b>—</b>	<b>15</b>	<b>8</b>	<b>6</b>	<b>—</b>
Several locations	1	—	101	—	2	3	6	60	—
General locations	—	—	—	—	—	—	—	—	14
Unspecified locations	—	—	1	—	—	1	1	5	—
<b>Total: All locations</b>	<b>153</b>	<b>2</b>	<b>2,190</b>	<b>6</b>	<b>23</b>	<b>103</b>	<b>61</b>	<b>135</b>	<b>15</b>

Table 18 Non-fatal major injuries to employees in the services sector (SIC 80 Divisions 6-9) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89

Site	Nature								
	Amputations	Loss of sight of eye	Fractures	Dislocations	Concussion and internal injuries	Laceration and open wounds	Contusions	Burns	Poisoning, gassing and asphyxiation
Eye	—	7	—	—	—	39	13	114	—
Ear	—	—	—	—	—	1	—	—	1
Other parts of face	—	—	49	—	—	3	2	9	2
Head (excluding face)	—	—	91	—	50	18	19	4	—
Several locations of head	1	—	5	—	1	2	1	9	—
<b>Total: Head locations</b>	<b>1</b>	<b>7</b>	<b>145</b>	<b>—</b>	<b>51</b>	<b>63</b>	<b>35</b>	<b>136</b>	<b>3</b>
Neck	—	—	12	—	—	—	1	2	—
Back	—	—	122	1	2	—	10	—	—
Trunk	—	—	193	—	11	3	12	3	4
Several locations of torso	—	—	2	—	—	—	—	—	—
<b>Total: Torso locations</b>	<b>—</b>	<b>—</b>	<b>329</b>	<b>1</b>	<b>13</b>	<b>3</b>	<b>23</b>	<b>5</b>	<b>4</b>
One or more finger/thumb(s)	265	—	31	4	—	40	8	8	1
Hand	2	—	28	—	—	17	7	20	—
Wrist	—	—	2,099	1	—	5	1	1	—
Rest of upper limb	3	—	1,441	5	—	4	8	8	—
Several locations of upper limb	—	—	38	—	—	—	—	6	—
<b>Total: Upper limb locations</b>	<b>270</b>	<b>—</b>	<b>3,637</b>	<b>10</b>	<b>—</b>	<b>66</b>	<b>24</b>	<b>43</b>	<b>1</b>
One or more toes	13	—	10	—	—	1	2	—	—
Foot	4	—	52	2	—	6	3	3	—
Ankle	—	—	1,053	—	—	1	1	—	—
Rest of lower limb	5	—	750	7	—	12	12	6	—
Several locations of lower limb	—	—	33	—	—	1	2	3	—
<b>Total: Lower limb locations</b>	<b>22</b>	<b>—</b>	<b>1,898</b>	<b>9</b>	<b>—</b>	<b>21</b>	<b>20</b>	<b>12</b>	<b>—</b>
Several locations	—	—	98	—	2	9	6	38	1
General locations	—	—	—	—	1	—	—	—	45
Unspecified locations	—	—	1	—	1	—	—	3	2
<b>Total: All locations</b>	<b>293</b>	<b>7</b>	<b>6,108</b>	<b>20</b>	<b>68</b>	<b>162</b>	<b>108</b>	<b>238</b>	<b>56</b>

Nature	Site							
	Sprains and strains	Superficial injuries	Natural causes	Other injuries caused by contact with electricity	More than one of the other natures listed	Other known	Other unknown	Total
1	22	—	—	—	1	1	4	75
—	—	—	—	—	—	1	—	2
—	2	—	—	—	—	2	1	42
—	—	—	—	—	—	4	11	122
—	—	—	—	—	—	—	—	5
<b>1</b>	<b>24</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>2</b>	<b>8</b>	<b>16</b>	<b>246</b>
2	—	—	—	—	—	1	1	13
7	—	—	—	—	1	2	10	103
4	—	—	—	2	3	2	2	166
—	—	—	—	—	3	—	1	9
<b>13</b>	<b>—</b>	<b>—</b>	<b>2</b>	<b>7</b>	<b>5</b>	<b>14</b>	<b>291</b>	<b>291</b>
—	3	—	—	—	1	—	1	171
1	1	—	—	—	—	—	2	61
—	—	—	—	—	1	—	3	519
1	2	—	—	—	—	—	5	452
—	—	—	—	—	—	—	1	19
<b>2</b>	<b>6</b>	<b>—</b>	<b>—</b>	<b>2</b>	<b>1</b>	<b>12</b>	<b>1,222</b>	<b>1,222</b>
1	1	—	—	—	—	—	—	19
3	—	—	—	—	—	—	2	57
4	1	—	—	—	1	—	—	416
—	—	—	—	—	1	—	7	350
—	—	—	—	—	1	—	—	29
<b>8</b>	<b>2</b>	<b>—</b>	<b>—</b>	<b>3</b>	<b>—</b>	<b>9</b>	<b>871</b>	<b>871</b>
—	4	—	—	—	44	2	13	236
—	—	—	3	—	—	3	—	20
—	—	—	—	1	—	—	12	21
<b>24</b>	<b>36</b>	<b>—</b>	<b>5</b>	<b>59</b>	<b>19</b>	<b>76</b>	<b>2,907</b>	<b>2,907</b>

Nature	Site							
	Sprains and strains	Superficial injuries	Natural causes	Other injuries caused by contact with electricity	More than one of the other natures listed	Other known	Other unknown	Total
—	64	—	—	—	—	3	10	250
—	—	—	—	—	—	1	—	3
—	1	—	—	—	—	—	3	69
1	7	2	2	—	—	3	13	210
—	1	—	—	—	—	—	2	22
<b>1</b>	<b>73</b>	<b>2</b>	<b>2</b>	<b>—</b>	<b>7</b>	<b>28</b>	<b>554</b>	<b>554</b>
4	—	—	—	—	—	1	—	20
40	—	1	—	—	—	—	13	189
7	—	1	—	—	—	—	5	244
—	—	—	—	—	1	1	1	5
<b>51</b>	<b>—</b>	<b>2</b>	<b>—</b>	<b>3</b>	<b>5</b>	<b>19</b>	<b>458</b>	<b>458</b>
—	6	1	1	2	—	—	4	371
—	10	—	2	—	1	—	3	90
3	3	—	—	3	—	—	4	2,120
6	2	—	2	—	2	—	4	1,487
—	—	—	—	—	3	2	1	50
<b>9</b>	<b>21</b>	<b>1</b>	<b>5</b>	<b>10</b>	<b>5</b>	<b>16</b>	<b>4,118</b>	<b>4,118</b>
—	1	—	—	—	—	—	—	27
1	1	—	—	—	—	—	2	74
12	—	—	—	—	1	—	3	1,071
11	4	1	—	—	4	2	10	824
—	—	—	—	—	6	—	—	45
<b>24</b>	<b>6</b>	<b>1</b>	<b>—</b>	<b>11</b>	<b>2</b>	<b>15</b>	<b>2,041</b>	<b>2,041</b>
2	3	—	1	73	2	8	—	243
—	—	—	16	—	6	2	—	71
—	—	1	1	—	2	4	—	15
<b>87</b>	<b>103</b>	<b>7</b>	<b>25</b>	<b>97</b>	<b>29</b>	<b>92</b>	<b>7,500</b>	<b>7,500</b>



Table 19 Non-fatal major injuries to the self-employed reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89

Site	Nature								
	Amputations	Loss of sight of eye	Fractures	Dislocations	Concussion and internal injuries	Laceration and open wounds	Contusions	Burns	Poisoning, gassing and asphyxiation
Eye	—	3	—	—	—	4	—	5	—
Ear	1	—	—	—	—	—	—	—	—
Other parts of face	—	—	8	—	—	2	1	3	—
Head (excluding face)	—	—	43	—	12	11	2	1	—
Several locations of head	—	—	1	—	—	—	—	1	—
<b>Total: Head locations</b>	<b>1</b>	<b>3</b>	<b>52</b>	<b>—</b>	<b>12</b>	<b>17</b>	<b>3</b>	<b>10</b>	<b>—</b>
Neck	—	—	5	—	—	—	—	1	—
Back	—	—	20	—	2	—	9	—	—
Trunk	—	—	54	—	6	1	4	—	—
Several locations of torso	—	—	—	—	—	—	1	—	—
<b>Total: Torso locations</b>	<b>—</b>	<b>—</b>	<b>79</b>	<b>—</b>	<b>8</b>	<b>1</b>	<b>14</b>	<b>1</b>	<b>—</b>
One or more finger/thumb(s)	65	—	2	—	—	6	3	2	—
Hand	4	—	2	—	—	6	4	6	—
Wrist	—	—	126	—	—	1	—	—	—
Rest of upper limb	3	—	157	2	—	4	—	5	—
Several locations of upper limb	—	—	5	—	—	—	—	2	—
<b>Total: Upper limb locations</b>	<b>72</b>	<b>—</b>	<b>292</b>	<b>2</b>	<b>—</b>	<b>17</b>	<b>7</b>	<b>15</b>	<b>—</b>
One or more toes	3	—	2	—	—	—	1	—	—
Foot	2	—	15	—	—	3	4	1	—
Ankle	—	—	121	—	—	—	1	—	—
Rest of lower limb	2	—	149	—	—	2	7	1	—
Several locations of lower limb	—	—	10	—	—	—	—	—	—
<b>Total: Lower limb locations</b>	<b>7</b>	<b>—</b>	<b>297</b>	<b>—</b>	<b>—</b>	<b>5</b>	<b>13</b>	<b>2</b>	<b>—</b>
Several locations	1	—	60	—	1	4	6	27	1
General locations	—	—	—	—	1	—	—	—	7
Unspecified locations	—	—	—	—	—	—	1	—	—
<b>Total: All locations</b>	<b>181</b>	<b>3</b>	<b>780</b>	<b>2</b>	<b>22</b>	<b>44</b>	<b>44</b>	<b>55</b>	<b>8</b>

Table 20 Over 3-day injuries to employees in the agriculture, forestry and fishing sector\* (SIC 80 Division 0) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89

Site	Nature								
	Amputations	Loss of sight of eye	Fractures	Dislocations	Concussion and internal injuries	Laceration and open wounds	Contusions	Burns	Poisoning, gassing and asphyxiation
Eye	—	—	—	—	—	4	14	11	—
Ear	—	—	—	—	—	1	—	—	—
Other parts of face	—	—	5	1	—	12	5	3	—
Head (excluding face)	—	—	—	—	13	15	8	—	—
Several locations of head	—	—	1	—	—	—	—	—	—
<b>Total: Head locations</b>	<b>—</b>	<b>—</b>	<b>6</b>	<b>1</b>	<b>13</b>	<b>32</b>	<b>27</b>	<b>14</b>	<b>—</b>
Neck	—	—	1	1	1	—	2	—	1
Back	—	—	5	2	1	3	31	—	—
Trunk	—	—	26	—	4	5	27	—	1
Several locations of torso	—	—	—	—	1	—	1	—	—
<b>Total: Torso locations</b>	<b>—</b>	<b>—</b>	<b>32</b>	<b>3</b>	<b>7</b>	<b>8</b>	<b>61</b>	<b>—</b>	<b>2</b>
One or more finger/thumb(s)	—	—	56	5	—	104	41	1	—
Hand	—	—	27	—	—	36	25	2	1
Wrist	—	—	—	—	—	2	8	—	—
Rest of upper limb	—	—	—	8	—	14	32	1	2
Several locations of upper limb	—	—	2	—	—	2	—	1	—
<b>Total: Upper limb locations</b>	<b>—</b>	<b>—</b>	<b>85</b>	<b>13</b>	<b>—</b>	<b>158</b>	<b>106</b>	<b>5</b>	<b>3</b>
One or more toes	—	—	28	—	—	3	12	—	—
Foot	—	—	42	—	—	8	34	4	—
Ankle	—	—	—	—	—	3	11	—	—
Rest of lower limb	—	—	—	6	—	25	64	—	1
Several locations of lower limb	—	—	—	—	—	—	6	2	—
<b>Total: Lower limb locations</b>	<b>—</b>	<b>—</b>	<b>70</b>	<b>6</b>	<b>—</b>	<b>39</b>	<b>127</b>	<b>6</b>	<b>1</b>
Several locations	—	—	5	—	—	—	15	5	1
General locations	—	—	—	—	—	—	—	—	7
Unspecified locations	—	—	—	—	1	—	2	—	—
<b>Total: All locations</b>	<b>—</b>	<b>—</b>	<b>198</b>	<b>23</b>	<b>21</b>	<b>237</b>	<b>338</b>	<b>30</b>	<b>14</b>

\* Excluding sea fishing.

Nature	Site							
	Sprains and strains	Superficial injuries	Natural causes	Other injuries caused by contact with electricity	More than one of the other natures listed	Other known	Other unknown	Total
—	—	8	—	—	—	2	5	27
—	—	—	—	—	—	—	—	1
—	—	—	—	1	—	—	—	15
—	—	4	—	—	—	—	3	76
—	—	—	—	—	—	—	1	3
—	—	12	—	—	—	—	9	122
1	—	—	—	—	—	—	—	7
4	—	—	—	—	1	—	2	38
—	—	—	—	3	—	—	4	72
1	—	—	—	1	—	—	—	3
<b>6</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>4</b>	<b>1</b>	<b>—</b>	<b>6</b>	<b>120</b>
—	—	2	—	—	—	—	4	84
—	—	—	—	—	—	—	—	22
—	—	1	—	—	—	—	1	128
—	—	—	—	1	—	—	1	174
—	—	—	—	—	—	—	—	8
—	—	3	—	2	—	—	6	416
—	—	—	—	—	—	—	—	6
2	—	1	—	—	—	—	1	29
—	—	1	—	—	—	—	2	125
1	—	2	—	—	—	—	3	167
—	—	—	—	—	—	—	—	10
<b>3</b>	<b>4</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>6</b>	<b>337</b>
—	—	2	—	1	21	—	9	133
—	—	—	—	1	—	—	—	9
—	—	—	—	—	—	1	1	3
<b>9</b>	<b>21</b>	<b>—</b>	<b>2</b>	<b>28</b>	<b>4</b>	<b>37</b>	<b>1,140</b>	<b>Total: All locations</b>

Nature	Site							
	Sprains and strains	Superficial injuries	Natural causes	Other injuries caused by contact with electricity	More than one of the other natures listed	Other known	Other unknown	Total
—	—	16	—	—	—	2	7	54
—	—	1	—	—	—	—	—	2
—	—	2	—	—	—	—	1	29
—	—	9	—	—	—	—	—	45
—	—	1	—	1	—	—	—	3
—	—	29	—	1	—	2	8	133
12	—	1	—	—	—	—	1	20
168	—	—	—	—	—	—	11	221
19	—	—	—	1	—	—	4	87
2	—	—	—	—	1	—	—	5
<b>201</b>	<b>1</b>	<b>—</b>	<b>—</b>	<b>1</b>	<b>1</b>	<b>—</b>	<b>16</b>	<b>333</b>
5	37	—	—	2	—	—	8	259
5	25	—	—	1	—	—	3	125
12	1	—	—	—	—	—	1	24
40	11	—	—	—	—	1	8	117
—	1	—	—	—	—	—	2	8
<b>62</b>	<b>75</b>	<b>—</b>	<b>—</b>	<b>3</b>	<b>1</b>	<b>22</b>	<b>533</b>	<b>Total: Upper limb locations</b>
—	—	—	—	—	—	—	—	43
7	15	—	—	—	—	—	4	114
55	1	—	—	—	—	1	1	72
52	12	—	—	—	—	1	8	169
—	—	—	—	—	—	—	—	14
2	2	—	—	1	1	—	—	—
<b>116</b>	<b>30</b>	<b>—</b>	<b>—</b>	<b>1</b>	<b>3</b>	<b>13</b>	<b>412</b>	<b>Total: Lower limb locations</b>
3	4	—	—	9	—	—	3	45
—	—	1	2	—	—	—	—	10
1	—	—	—	—	2	—	1	7
<b>383</b>	<b>139</b>	<b>1</b>	<b>3</b>	<b>14</b>	<b>9</b>	<b>63</b>	<b>1,473</b>	<b>Total: All locations</b>



Table 21 Over 3-day injuries to employees in manufacturing industries (SIC 80 Divisions 2-4) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89

Site	Nature								
	Amputations	Loss of sight of eye	Fractures	Dislocations	Concussion and internal injuries	Laceration and open wounds	Contusions	Burns	Poisoning, gassing and asphyxiation
Eye	—	2	—	—	2	107	135	208	1
Ear	—	—	—	—	3	13	7	9	—
Other parts of face	—	—	69	1	1	106	73	115	2
Head (excluding face)	—	—	—	—	139	447	360	25	1
Several locations of head	—	—	2	—	4	22	27	59	2
<b>Total: Head locations</b>	<b>—</b>	<b>2</b>	<b>71</b>	<b>1</b>	<b>149</b>	<b>695</b>	<b>602</b>	<b>416</b>	<b>6</b>
Neck	—	—	5	3	4	4	32	24	—
Back	—	—	31	17	91	17	690	19	2
Trunk	—	—	317	—	86	38	682	57	19
Several locations of torso	—	—	2	—	—	2	40	13	3
<b>Total: Torso locations</b>	<b>—</b>	<b>—</b>	<b>355</b>	<b>20</b>	<b>181</b>	<b>61</b>	<b>1,444</b>	<b>113</b>	<b>24</b>
One or more finger/thumb(s)	—	—	2,615	88	—	3,708	2,013	186	—
Hand	—	—	649	7	—	1,182	986	343	1
Wrist	—	—	2	11	—	262	235	49	—
Rest of upper limb	—	—	1	144	—	410	1,039	252	1
Several locations of upper limb	—	—	—	—	—	—	—	—	—
<b>Total: Upper limb locations</b>	<b>—</b>	<b>—</b>	<b>3,276</b>	<b>251</b>	<b>—</b>	<b>5,608</b>	<b>4,392</b>	<b>899</b>	<b>2</b>
One or more toes	—	—	993	8	—	60	494	14	—
Foot	—	—	1,041	4	—	153	1,429	298	1
Ankle	—	—	2	4	—	69	476	61	1
Rest of lower limb	—	—	—	40	—	387	1,519	150	—
Several locations of lower limb	—	—	6	—	—	12	158	39	1
<b>Total: Lower limb locations</b>	<b>—</b>	<b>—</b>	<b>2,042</b>	<b>56</b>	<b>—</b>	<b>681</b>	<b>4,076</b>	<b>562</b>	<b>3</b>
Several locations	—	—	31	3	10	61	821	350	12
General locations	—	—	—	—	12	—	—	2	144
Unspecified locations	—	—	4	—	4	1	23	5	10
<b>Total: All locations</b>	<b>—</b>	<b>2</b>	<b>5,779</b>	<b>331</b>	<b>356</b>	<b>7,107</b>	<b>11,358</b>	<b>2,347</b>	<b>201</b>

Table 22 Over 3-day injuries to employees in the construction industry (SIC 80 Division 5) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89

Site	Nature								
	Amputations	Loss of sight of eye	Fractures	Dislocations	Concussion and internal injuries	Laceration and open wounds	Contusions	Burns	Poisoning, gassing and asphyxiation
Eye	—	—	—	—	—	37	63	35	—
Ear	—	—	—	—	1	4	3	1	—
Other parts of face	—	—	41	—	1	45	17	26	1
Head (excluding face)	—	—	—	—	33	162	80	5	—
Several locations of head	—	—	—	—	1	8	5	7	—
<b>Total: Head locations</b>	<b>—</b>	<b>—</b>	<b>41</b>	<b>—</b>	<b>36</b>	<b>256</b>	<b>168</b>	<b>74</b>	<b>1</b>
Neck	—	—	2	3	3	8	5	3	1
Back	—	—	27	12	37	6	240	1	—
Trunk	—	—	193	—	25	12	237	10	12
Several locations of torso	—	—	1	—	—	—	15	2	—
<b>Total: Torso locations</b>	<b>—</b>	<b>—</b>	<b>223</b>	<b>15</b>	<b>65</b>	<b>26</b>	<b>497</b>	<b>16</b>	<b>13</b>
One or more finger/thumb(s)	—	—	571	28	—	514	352	23	—
Hand	—	—	211	1	—	265	194	91	—
Wrist	—	—	—	—	—	47	41	12	—
Rest of upper limb	—	—	—	68	—	84	240	57	—
Several locations of upper limb	—	—	5	—	—	6	16	18	—
<b>Total: Upper limb locations</b>	<b>—</b>	<b>—</b>	<b>787</b>	<b>97</b>	<b>—</b>	<b>916</b>	<b>843</b>	<b>201</b>	<b>—</b>
One or more toes	—	—	261	1	—	11	75	—	—
Foot	—	—	387	—	—	47	301	21	—
Ankle	—	—	1	5	—	9	110	8	—
Rest of lower limb	—	—	—	19	—	145	440	23	—
Several locations of lower limb	—	—	3	1	—	1	28	3	—
<b>Total: Lower limb locations</b>	<b>—</b>	<b>—</b>	<b>652</b>	<b>25</b>	<b>—</b>	<b>213</b>	<b>954</b>	<b>55</b>	<b>—</b>
Several locations	—	—	15	—	—	29	203	91	1
General locations	—	—	—	—	3	—	—	1	16
Unspecified locations	—	—	—	—	3	1	17	2	2
<b>Total: All locations</b>	<b>—</b>	<b>—</b>	<b>1,718</b>	<b>137</b>	<b>107</b>	<b>1,441</b>	<b>2,682</b>	<b>440</b>	<b>33</b>

Nature	Nature						Total	Site
	Sprains and strains	Superficial injuries	Natural causes	Other injuries caused by contact with electricity	More than one of the other natures listed	Other known		
1	831	—	—	—	4	23	1,414	Eye
—	14	—	—	—	—	9	60	Ear
2	140	—	—	—	6	1	537	Other parts of face
10	335	1	3	9	21	141	1,492	Head (excluding face)
5	37	—	—	13	3	13	187	Several locations of head
<b>18</b>	<b>1,357</b>	<b>1</b>	<b>3</b>	<b>32</b>	<b>57</b>	<b>280</b>	<b>3,690</b>	<b>Total: Head locations</b>
361	29	1	—	—	6	66	535	Neck
7,153	91	—	1	5	14	605	8,736	Back
725	81	3	1	4	10	162	2,185	Trunk
52	3	—	1	5	1	12	134	Several locations of torso
<b>8,291</b>	<b>204</b>	<b>4</b>	<b>3</b>	<b>14</b>	<b>31</b>	<b>845</b>	<b>11,590</b>	<b>Total: Torso locations</b>
270	3,108	1	3	89	37	513	12,631	One or more finger/thumb(s)
212	1,021	—	4	33	27	223	4,688	Hand
754	152	—	1	5	26	165	1,662	Wrist
1,522	369	1	8	23	33	373	4,176	Rest of upper limb
75	40	—	3	36	3	26	427	Several locations of upper limb
<b>2,833</b>	<b>4,690</b>	<b>2</b>	<b>19</b>	<b>186</b>	<b>126</b>	<b>1,300</b>	<b>23,584</b>	<b>Total: Upper limb locations</b>
15	106	—	—	9	1	70	1,770	One or more toes
344	355	1	1	21	4	256	3,908	Foot
2,013	109	1	—	12	5	171	2,924	Ankle
1,310	497	—	1	35	25	416	4,380	Rest of lower limb
61	35	—	—	34	1	40	387	Several locations of lower limb
<b>3,743</b>	<b>1,102</b>	<b>2</b>	<b>2</b>	<b>111</b>	<b>36</b>	<b>953</b>	<b>13,369</b>	<b>Total: Lower limb locations</b>
341	277	1	5	402	15	285	2,614	Several locations
—	—	—	33	4	31	20	246	General locations
27	8	—	7	2	12	31	134	Unspecified locations
<b>15,253</b>	<b>7,638</b>	<b>10</b>	<b>72</b>	<b>751</b>	<b>308</b>	<b>3,714</b>	<b>55,227</b>	<b>Total: All locations</b>

Nature	Nature						Total	Site
	Sprains and strains	Superficial injuries	Natural causes	Other injuries caused by contact with electricity	More than one of the other natures listed	Other known		
—	300	—	—	1	13	48	497	Eye
—	7	—	—	—	1	5	22	Ear
1	50	—	—	4	2	11	199	Other parts of face
5	101	—	1	5	10	61	463	Head (excluding face)
1	10	—	—	1	—	2	35	Several locations of head
<b>7</b>	<b>468</b>	<b>—</b>	<b>1</b>	<b>11</b>	<b>26</b>	<b>127</b>	<b>1,216</b>	<b>Total: Head locations</b>
171	3	—	—	—	3	26	228	Neck
3,142	23	—	—	8	24	340	3,860	Back
291	14	—	—	—	8	77	879	Trunk
21	1	—	—	2	—	5	47	Several locations of torso
<b>3,625</b>	<b>41</b>	<b>—</b>	<b>—</b>	<b>10</b>	<b>35</b>	<b>448</b>	<b>5,014</b>	<b>Total: Torso locations</b>
45	513	—	—	19	6	125	2,196	One or more finger/thumb(s)
55	269	—	—	11	7	92	1,196	Hand
227	44	—	—	3	2	37	413	Wrist
595	90	—	3	4	4	146	1,291	Rest of upper limb
15	6	—	2	2	—	7	77	Several locations of upper limb
<b>937</b>	<b>922</b>	<b>—</b>	<b>5</b>	<b>39</b>	<b>19</b>	<b>407</b>	<b>5,173</b>	<b>Total: Upper limb locations</b>
3	12	—	—	5	1	23	392	One or more toes
86	163	—	—	6	4	79	1,094	Foot
823	19	—	—	3	2	56	1,036	Ankle
601	196	—	—	7	15	198	1,644	Rest of lower limb
25	5	—	—	6	—	10	81	Several locations of lower limb
<b>1,538</b>	<b>395</b>	<b>—</b>	<b>—</b>	<b>27</b>	<b>22</b>	<b>366</b>	<b>4,247</b>	<b>Total: Lower limb locations</b>
123	76	—	2	172	11	113	836	Several locations
—	—	—	11	1	10	—	42	General locations
7	6	1	1	3	2	24	69	Unspecified locations
<b>6,237</b>	<b>1,908</b>	<b>1</b>	<b>20</b>	<b>263</b>	<b>125</b>	<b>1,485</b>	<b>16,597</b>	<b>Total: All locations</b>



Table 23 Over 3-day injuries to employees in the services sector (SIC 80 Divisions 6-9) reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by nature and site of injury, 1988-89

Site	Nature								
	Amputations	Loss of sight of eye	Fractures	Dislocations	Concussion and internal injuries	Laceration and open wounds	Contusions	Burns	Poisoning, gassing and asphyxiation
Eye	—	3	—	—	2	74	147	110	3
Ear	—	—	—	—	4	12	8	7	—
Other parts of face	—	—	155	1	3	97	132	72	2
Head (excluding face)	—	—	—	—	280	340	529	8	1
Several locations of head	—	—	4	—	5	9	42	26	—
<b>Total: Head locations</b>	<b>—</b>	<b>3</b>	<b>159</b>	<b>1</b>	<b>294</b>	<b>532</b>	<b>858</b>	<b>223</b>	<b>6</b>
Neck	—	—	6	4	17	5	60	10	1
Back	—	—	36	35	248	13	1,101	10	—
Trunk	—	—	464	1	116	21	825	29	18
Several locations of torso	—	—	2	1	—	2	51	3	—
<b>Total: Torso locations</b>	<b>—</b>	<b>—</b>	<b>508</b>	<b>41</b>	<b>381</b>	<b>41</b>	<b>2,037</b>	<b>52</b>	<b>19</b>
One or more	—	—	—	—	—	—	—	—	—
finger/thumb(s)	—	—	1,292	108	—	1,566	885	138	1
Hand	—	—	515	4	—	704	685	467	1
Wrist	—	—	9	10	—	114	219	54	—
Rest of upper limb	—	—	16	212	—	216	1,093	256	2
Several locations of upper limb	—	—	—	—	—	—	—	—	—
<b>Total: Upper limb locations</b>	<b>—</b>	<b>—</b>	<b>1,847</b>	<b>334</b>	<b>—</b>	<b>2,617</b>	<b>2,971</b>	<b>979</b>	<b>4</b>
One or more toes	—	—	902	13	—	37	482	3	—
Foot	—	—	1,010	—	—	153	1,291	141	—
Ankle	—	—	3	18	—	51	548	16	—
Rest of lower limb	—	—	4	104	—	411	1,941	105	—
Several locations of lower limb	—	—	—	—	—	—	—	—	—
<b>Total: Lower limb locations</b>	<b>—</b>	<b>—</b>	<b>1,930</b>	<b>136</b>	<b>—</b>	<b>664</b>	<b>4,404</b>	<b>298</b>	<b>—</b>
Several locations	—	—	26	—	15	58	1,405	258	11
General locations	—	—	—	—	10	—	—	—	108
Unspecified locations	—	—	2	1	4	5	42	3	8
<b>Total: All locations</b>	<b>—</b>	<b>3</b>	<b>4,472</b>	<b>513</b>	<b>704</b>	<b>3,917</b>	<b>11,717</b>	<b>1,813</b>	<b>156</b>

Table 24 Over 3-day injuries to the self-employed reported to the HSE's Factory and Agricultural Inspectorate and local authorities, analysed by nature and site of injury, 1988-89

Site	Nature								
	Amputations	Loss of sight of eye	Fractures	Dislocations	Concussion and internal injuries	Laceration and open wounds	Contusions	Burns	Poisoning, gassing and asphyxiation
Eye	—	1	—	—	—	4	4	1	—
Ear	—	—	—	—	—	1	1	—	—
Other parts of face	—	—	10	—	—	4	2	8	1
Head (excluding face)	—	—	—	—	20	29	9	—	—
Several locations of head	—	—	—	—	—	1	—	1	—
<b>Total: Head locations</b>	<b>—</b>	<b>1</b>	<b>10</b>	<b>—</b>	<b>20</b>	<b>39</b>	<b>16</b>	<b>10</b>	<b>1</b>
Neck	—	—	3	—	—	1	4	1	—
Back	—	—	10	1	2	3	38	3	—
Trunk	—	—	50	—	—	4	32	1	1
Several locations of torso	—	—	1	—	—	—	4	—	—
<b>Total: Torso locations</b>	<b>—</b>	<b>—</b>	<b>64</b>	<b>1</b>	<b>2</b>	<b>8</b>	<b>78</b>	<b>5</b>	<b>1</b>
One or more	—	—	—	—	—	—	—	—	—
finger/thumb(s)	—	—	71	2	—	50	29	—	—
Hand	—	—	24	1	—	29	10	13	—
Wrist	—	—	—	—	—	16	1	1	—
Rest of upper limb	—	—	—	9	—	18	17	5	—
Several locations of upper limb	—	—	—	—	—	—	—	—	—
<b>Total: Upper limb locations</b>	<b>—</b>	<b>—</b>	<b>96</b>	<b>12</b>	<b>—</b>	<b>113</b>	<b>58</b>	<b>23</b>	<b>—</b>
One or more toes	—	—	40	—	—	—	6	—	—
Foot	—	—	81	—	—	17	23	3	—
Ankle	—	—	—	—	—	2	4	—	—
Rest of lower limb	—	—	—	5	—	39	41	5	—
Several locations of lower limb	—	—	—	—	—	—	—	—	—
<b>Total: Lower limb locations</b>	<b>—</b>	<b>—</b>	<b>123</b>	<b>5</b>	<b>—</b>	<b>60</b>	<b>79</b>	<b>10</b>	<b>—</b>
Several locations	—	—	8	—	1	10	39	19	—
General locations	—	—	—	—	2	—	—	—	5
Unspecified locations	—	—	2	—	2	—	9	—	—
<b>Total: All locations</b>	<b>—</b>	<b>1</b>	<b>303</b>	<b>18</b>	<b>27</b>	<b>230</b>	<b>279</b>	<b>67</b>	<b>7</b>

Nature	Site							
	Sprains and strains	Superficial injuries	Natural causes	Other injuries caused by contact with electricity	More than one of the other natures listed	Other known	Other unknown	Total
2	779	1	1	2	34	111	1,269	Eye
1	21	—	—	1	9	13	76	Ear
2	196	—	—	14	5	50	729	Other parts of face
10	386	2	3	12	25	162	1,758	Head (excluding face)
17	29	—	—	19	2	15	168	Several locations of head
<b>32</b>	<b>1,411</b>	<b>3</b>	<b>4</b>	<b>48</b>	<b>75</b>	<b>351</b>	<b>4,000</b>	<b>Total: Head locations</b>
915	39	—	—	1	24	98	1,180	Neck
15,759	140	11	1	16	23	1,145	18,538	Back
1,269	81	2	—	10	20	239	3,095	Trunk
144	6	—	1	5	1	29	245	Several locations of torso
<b>18,087</b>	<b>266</b>	<b>13</b>	<b>2</b>	<b>32</b>	<b>68</b>	<b>1,511</b>	<b>23,058</b>	<b>Total: Torso locations</b>
249	2,005	3	1	50	14	278	6,590	One or more
226	889	3	14	20	17	204	3,749	finger/thumb(s)
941	146	3	—	9	14	154	1,673	Hand
2,619	380	3	15	20	27	460	5,319	Wrist
104	39	—	3	18	4	38	391	Rest of upper limb
<b>4,139</b>	<b>3,459</b>	<b>12</b>	<b>33</b>	<b>117</b>	<b>76</b>	<b>1,134</b>	<b>17,722</b>	<b>Total: Upper limb locations</b>
28	131	—	—	7	—	77	1,680	One or more toes
646	442	4	—	23	8	242	3,960	Foot
4,011	138	5	—	30	11	213	5,044	Ankle
2,848	939	14	—	75	45	669	7,155	Rest of lower limb
109	49	—	1	49	1	39	447	Several locations of lower limb
<b>7,642</b>	<b>1,699</b>	<b>23</b>	<b>1</b>	<b>184</b>	<b>65</b>	<b>1,240</b>	<b>18,286</b>	<b>Total: Lower limb locations</b>
889	536	10	7	625	36	499	4,375	Several locations
—	—	1	26	11	71	36	263	General locations
42	12	13	2	2	14	69	219	Unspecified locations
<b>30,831</b>	<b>7,383</b>	<b>75</b>	<b>75</b>	<b>1,019</b>	<b>405</b>	<b>4,840</b>	<b>67,923</b>	<b>Total: All locations</b>

Nature	Site							
	Sprains and strains	Superficial injuries	Natural causes	Other injuries caused by contact with electricity	More than one of the other natures listed	Other known	Other unknown	Total
—	27	—	—	—	—	4	41	Eye
—	—	—	—	—	—	—	2	Ear
—	5	—	—	—	—	—	30	Other parts of face
—	15	—	—	3	1	5	82	Head (excluding face)
—	2	—	—	—	—	—	5	Several locations of head
<b>7</b>	<b>49</b>	<b>—</b>	<b>—</b>	<b>3</b>	<b>1</b>	<b>10</b>	<b>160</b>	<b>Total: Head locations</b>
—	3	—	—	—	—	—	19	Neck
66	4	—	—	—	1	13	141	Back
9	1	—	—	2	2	6	108	Trunk
2	—	—	—	—	—	—	7	Several locations of torso
<b>84</b>	<b>8</b>	<b>—</b>	<b>—</b>	<b>2</b>	<b>3</b>	<b>19</b>	<b>275</b>	<b>Total: Torso locations</b>
—	26	—	—	2	—	7	187	One or more
—	10	—	—	—	—	6	93	finger/thumb(s)
8	2	—	—	—	—	2	30	Hand
21	8	—	—	1	—	7	86	Wrist
—	1	—	—	—	—	—	8	Rest of upper limb
<b>29</b>	<b>47</b>	<b>—</b>	<b>—</b>	<b>4</b>	<b>—</b>	<b>22</b>	<b>404</b>	<b>Total: Upper limb locations</b>
—	2	1	—	—	—	1	50	One or more toes
4	8	—	—	—	1	11	148	Foot
74	2	—	—	1	—	5	88	Ankle
56	16	—	—	2	2	19	185	Rest of lower limb
5	2	—	—	—	—	2	20	Several locations of lower limb
<b>139</b>	<b>30</b>	<b>1</b>	<b>—</b>	<b>3</b>	<b>3</b>	<b>38</b>	<b>491</b>	<b>Total: Lower limb locations</b>
5	10	—	—	20	3	7	122	Several locations
—	—	—	7	—	—	1	15	General locations
1	1	—	1	—	1	5	22	Unspecified locations
<b>258</b>	<b>145</b>	<b>1</b>	<b>8</b>	<b>32</b>	<b>11</b>	<b>102</b>	<b>1,489</b>	<b>Total: All locations</b>



## Section 6: Injuries by age and sex

Table 25 shows the age and sex distribution of injuries reported to the Factory and Agricultural Inspectorates and local authorities for employees, self-employed and the non-employed. For employees, 98 per cent of fatal injuries and 78 per cent of major and over 3-day injuries were to males in 1988-89. Figure 9 shows the distribution of major injuries by age of employees for males and females. The diagram needs to be interpreted with some caution as the age bands are not all of equal size but there is a noticeable difference between the male and female patterns, with the female injuries peaking later than for males. Although not illustrated, a similar pattern can be seen for over 3-day injuries. These differences will be accounted for to some extent by the differing numbers in employment in each of the age groups. The analysis of the incidence rates rather than the numbers is the subject of a separate study which is currently under way.

For the self-employed, approximately 97 per cent of fatal, major and over 3-day injuries were to males. The

pattern of injuries by age for self-employed males was similar to that for employees although the number aged 16-19 was proportionately lower for the self-employed, presumably reflecting the lower numbers in self-employment in this age group.

For the non-employed there was a more even distribution of injuries between the two sexes overall. The bulk of the injuries occurred to children, with many of the major injuries as a result of pupils taking part in organised sports activities. The elderly, particularly females, also had high numbers and these reflected injuries to people in residential and nursing homes.

Table 26 shows that there were great differences between the injury rates for male and female employees. The all industry fatal injury rate for men in 1988-89 was 4.3 and less than 0.1 for women. Major and over 3-day injury rates for women were almost invariably half the rates for men, who were more likely to be found in the higher risk occupations.

Table 25 Injuries reported to the HSE's Factory and Agricultural Inspectorates and local authorities, analysed by age and sex of injured person and severity of injury, 1988-89

Age	Male			Female			All*		
	Fatal	Major	Over 3-day	Fatal	Major	Over 3-day	Fatal	Major	Over 3-day
<b>Injuries to employees</b>									
Under 16	—	18	33	—	1	6	—	19	39
16-19	24	1,401	7,078	1	319	2,079	25	1,720	9,157
20-24	37	1,893	15,061	—	352	3,728	37	2,246	18,789
25-34	49	3,143	31,297	1	549	5,297	50	3,692	36,596
35-44	61	2,739	25,410	1	625	6,166	62	3,365	31,578
45-54	58	2,421	20,087	1	968	6,629	59	3,389	26,716
55-59	29	959	7,753	—	616	2,534	29	1,575	10,287
60-64	28	599	4,696	1	236	663	29	835	5,359
65+	4	61	114	—	43	62	4	104	176
Unknown	14	1,266	7,218	—	379	2,328	15	1,674	12,816
<b>Total</b>	<b>304</b>	<b>14,500</b>	<b>118,747</b>	<b>5</b>	<b>4,088</b>	<b>29,492</b>	<b>310</b>	<b>18,619</b>	<b>151,513</b>
<b>Injuries to the self-employed</b>									
Under 16	—	1	—	—	—	—	—	1	—
16-19	1	39	73	—	5	5	1	40	78
20-24	11	146	195	—	11	13	11	151	208
25-34	13	245	356	1	2	12	14	247	368
35-44	15	206	257	—	2	9	15	208	266
45-54	12	144	160	—	9	1	12	153	161
55-59	8	48	42	—	3	3	8	51	45
60-64	6	30	25	—	—	1	6	30	26
65+	5	9	10	1	1	—	6	10	10
Unknown	5	243	321	—	6	5	5	249	327
<b>Total</b>	<b>76</b>	<b>1,111</b>	<b>1,439</b>	<b>2</b>	<b>29</b>	<b>49</b>	<b>78</b>	<b>1,140</b>	<b>1,489</b>
<b>Injuries to the non-employed</b>									
Under 16	33	5,017	..	6	3,193	..	39	8,212	..
16-19	3	472	..	1	212	..	4	684	..
20-24	4	118	..	2	81	..	6	199	..
25-34	5	110	..	2	65	..	7	175	..
35-44	5	78	..	1	88	..	6	166	..
45-54	8	44	..	—	77	..	8	121	..
55-59	1	18	..	1	68	..	2	86	..
60-64	2	28	..	1	134	..	3	162	..
65+	13	278	..	25	1,434	..	38	1,712	..
Unknown	3	382	..	3	559	..	8	1,091	..
<b>Total</b>	<b>77</b>	<b>6,545</b>	<b>..</b>	<b>42</b>	<b>5,911</b>	<b>..</b>	<b>121</b>	<b>12,608</b>	<b>..</b>

\* Includes injuries where gender was not recorded: a) employees—fatal 1, major 31, over 3-day 3,274; b) self-employed—over 3-day 1; c) non-employed—fatal 2, major 152.  
.. Not available.

Figure 9 Age distribution – major injuries, 1988-89

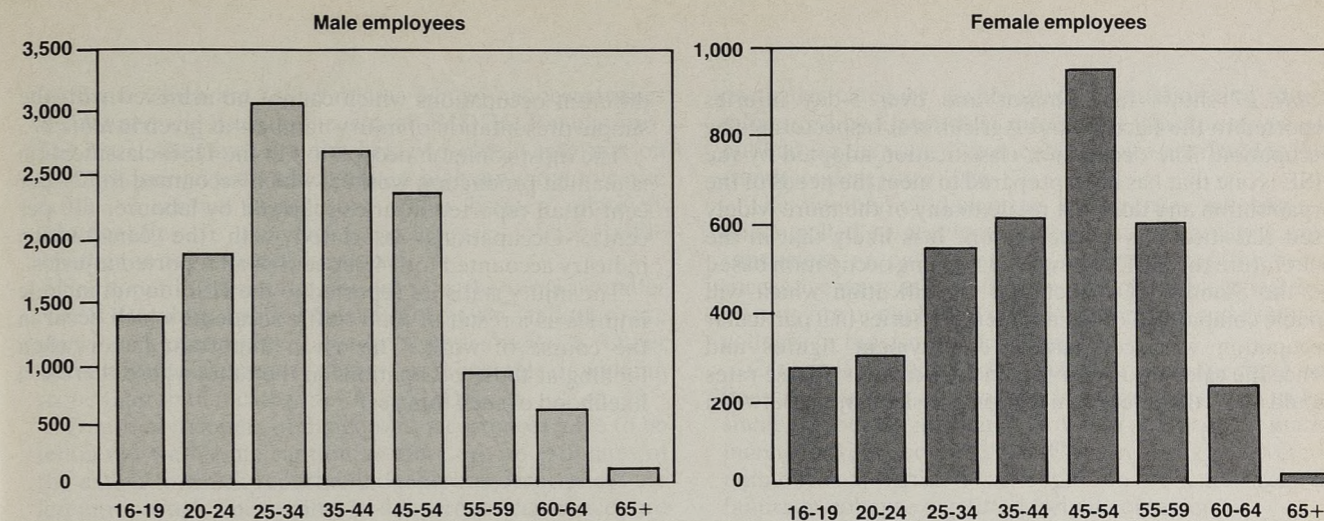


Table 26 Incidence rates per 100,000 employees\*: by sex

Industry	Severity of injury†					
	Fatal		Major		Over 3-day	
	Male	Female	Male	Female	Male	Female
Agriculture	8.7	2.5	176.7	81.6	582.4	252.2
Energy	51.3	—	310.8	40.4	3,400.7	338.0
Manufacturing	2.6	0.1	177.6	64.6	1,317.6	568.1
Construction	11.3	—	321.7	23.0	1,842.3	88.7
Services	1.4	**	68.7	35.6	723.5	242.4
<b>Total</b>	<b>4.3</b>	<b>**</b>	<b>132.4</b>	<b>40.5</b>	<b>1,083.3</b>	<b>293.1</b>

\* Includes injuries reported to all enforcing authorities except the Railway Inspectorate for which analysis by sex of injured person is not readily available.

† Excludes a further one fatal, 31 major and 3,274 over 3-day injuries where sex of injured person not available.

\*\* Less than 0.05.



## Section 7: Injuries by occupation

Table 27 shows fatal, major and over 3-day injuries reported to the Factory and Agricultural Inspectorates by occupation. The occupation classification adopted by the HSE is one that has been prepared to meet the needs of the organisation and does not relate to any of the more widely used classifications of occupation. It is likely that in the near future the HSE will switch to coding occupation based on the Standard Occupational Classification which will enable comparison of the number of injuries in a particular occupation with comparable employment figures and hence the calculation of injury incidence rates. These rates would allow the direct comparison of risk of injury between

different occupations which cannot be achieved with the simple presentation of injury numbers as given in table 27.

The most common occupation in the HSE classification is manual production worker, which accounted for 27 per cent of all reported injuries followed by labourer (10 per cent). Occupations associated with the construction industry accounted for 14 per cent of all reported injuries.

The injury statistics reported to the HSE do not include injuries as a result of road traffic accidents which occur in the course of work. This is an important factor when looking at those occupations in the table where there is a likelihood of such injuries.

Table 27 Injuries to employees reported to the HSE's Factory and Agricultural Inspectorates, analysed by occupation of injured person and severity of injury, 1988-89

Occupation	Fatal	Non-fatal major	Over 3-day	Total	Occupation	Fatal	Non-fatal major	Over 3-day	Total
Forestry worker	1	31	271	303	Managerial, administrative, supervisory, clerical	37	1,261	5,835	7,133
Horticultural worker	1	186	3,206	3,393	Manual production	41	4,144	36,013	40,198
Pigman	—	10	36	46	Driver	29	916	7,770	8,715
Poultryman	—	17	72	89	Delivery (eg: milk, post)	—	131	2,043	2,174
Seasonal worker	1	19	22	42	Driving instructor	—	2	28	30
Shepherd	—	4	8	12	Refuse collector	2	104	4,314	4,420
Stockman	3	31	94	128	Sales staff, mobile	—	21	101	122
Tractor driver	3	67	199	269	Fireman	—	174	2,417	2,591
Other agriculture	9	180	524	713	Other emergency services	1	84	1,244	1,329
Bricklayer	1	159	1,697	1,857	Meter reader	—	15	223	238
Carpenter/joiner	6	377	4,203	4,586	Other peripatetic worker	2	48	762	812
Demolition worker	9	43	115	167	Academic staff	1	417	1,016	1,434
Electrician	8	336	1,977	2,321	Technician	1	33	263	297
Glazier	—	38	390	428	Other education	1	68	263	332
Ground worker	7	50	309	366	Doctor	—	12	41	53
Painter, decorator	4	209	1,236	1,449	Nurse	—	220	3,597	3,817
Paviour, roadman	6	81	1,993	2,080	Other health service	—	57	565	622
Piling hand	—	19	50	69	Welfare, social worker	1	218	2,156	2,375
Plasterer	—	47	486	533	Window cleaner	1	12	21	34
Plumber, pipe-fitter	3	190	2,569	2,762	Caretaker	—	106	659	765
Scaffolder	3	101	439	543	Cleaner	—	409	2,857	3,266
Slater, roof worker	13	118	452	583	Catering staff	1	322	2,326	2,649
Steel erector	5	70	122	197	Leisure services	—	46	149	195
Steel fixer	—	6	63	69	Porter	—	46	639	685
Steeplejack	—	8	7	15	Prison warder	—	11	68	79
Welder	3	157	1,176	1,336	Sales staff, in stores	—	17	96	113
Other construction trades	2	289	1,183	1,474	Other personal service	—	95	818	913
Electrical linesman	2	24	241	267	Other, including not known	3	1,598	11,267	12,868
Electrical fitter	2	132	998	1,132	<b>All occupations</b>	<b>289</b>	<b>16,445</b>	<b>133,087</b>	<b>149,821</b>
Electrical joiner	1	9	106	116					
Communications engineer	—	97	987	1,084					
Diver	—	10	34	44					
Labourer	44	1,789	12,642	14,475					
Maintenance personnel	31	954	7,629	8,614					

## Section 8: Dangerous occurrences

Incidents which are reportable as dangerous occurrences are defined and listed in the current RIDDOR Regulations. The list is selective, the aim being to obtain information about those incidents which have a high potential to cause death or serious injury, but which happen relatively infrequently. A dangerous occurrence is reportable whether or not someone is injured.

For some incidents the definition is the same as under NADOR, which applied from 1981 to 1985, and these are shown as a continuous statistical series in table 28. Other incidents are either newly defined as reportable or wider in scope than similar categories in NADOR.

Trends in numbers of dangerous occurrences have to be tempered with some caution as there are no estimates of the extent to which reportable dangerous occurrences are left unreported. The number of dangerous occurrences in a

particular category is subject to fluctuation and may be influenced by a particular incident(s) which receives wide publicity in the year. Comments here are restricted to those trends evident since 1986-87.

The number of dangerous occurrences involving the uncontrolled or accidental release of potentially harmful substances or pathogens has decreased for the second successive year, as have incidents involving electrical faults causing fire or explosion and plant stoppage and explosion, collapse or bursting of closed vessels.

Categories of dangerous occurrences where there have been increases in each of the last two years tend to have small numbers of incidents. However, particularly marked increases were seen in 1988-89 in incidents involving the unintentional ignition or explosion of explosives and failure or collapse of a lifted freight container.

Table 28 Dangerous occurrences reported to all enforcement authorities, 1981 to 1988-89

Code	Type of dangerous occurrence (RIDDOR)	1981	1982	1983	1984	1985	1986-87	1987-88	1988-89
<b>Part 1</b>									
01	Failure, collapse or overturning of lifting machinery, excavator, pile driving frame or mobile powered access platform	(a)	(a)	(a)	(a)	(a)	886	831	888
02	Failure or collapse of passenger carrying amusement device or safety arrangement at a fair	(a)	(a)	(a)	(a)	(a)	16	16	23
03	Explosion, collapse or bursting of any closed vessel including boiler, above or below atmospheric pressure	341	277	246	252	235	247	209	178
04	Electrical fault causing fire or explosion and plant stoppage for over 24 hours	184	153	169	186	128	202	191	119
05	Explosion or fire due to ignition of process materials, waste or finished products and stoppage for over 24 hours	378	340	279	298	275	343	358	365
06	Uncontrolled release or escape of one tonne or more of highly flammable liquids or flammable gas	91	106	64	71	64	80	91	104
07	Collapse or part collapse of scaffold over five metres high	(a)	(a)	(a)	(a)	(a)	76	97	104
08	Collapse or partial collapse of (a) any building or structure under construction involving over five tonnes of materials or (b) any floor or wall of a building used as a place of work	(a)	(a)	(a)	(a)	(a)	85	93	79
09	Uncontrolled or accidental release of potentially harmful substance or pathogen from certain equipment or sites	(a)	(a)	(a)	(a)	(a)	820	753	631
10	Unintentional ignition or explosion of explosives	51	86	63	64	83	76	82	137
11	Failure or collapse of a lifted freight container or part thereof	30	10	16	27	27	16	13	38
12	Bursting, explosion or collapse of a pipe-line or any part thereof or the ignition of anything in a pipe-line (excluding water pipe-lines)	137	97	78	85	69	114	96	74
13	Overturning or serious damage to the tank while conveying by road prescribed dangerous substances or the uncontrolled release or fire involving the substance being conveyed	(a)	(a)	(a)	(a)	(a)	69	49	71
14	Uncontrolled release or escape of a dangerous substance, or a fire involving the dangerous substance, when being conveyed by road in a vehicle	(a)	(a)	(a)	(a)	(a)	32	21	35
15	Failure of breathing apparatus in service	(a)	(a)	(a)	(a)	(a)	31	33	36
16	Plant or equipment coming into contact unintentionally with overhead electric cables or causing an electrical discharge	(a)	(a)	(a)	(a)	(a)	252	235	250
17	Accidental collision between locomotive or train and other vehicle liable to have caused a reportable injury	(a)	(a)	(a)	(a)	(a)	23	17	15
<b>Part 1</b>	<b>(Notifiable in relation to any place of work) Total</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>3,368</b>	<b>3,185</b>	<b>3,147</b>
<b>Part 2</b>	<b>(Notifiable in relation to mines) Total</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>349</b>	<b>367</b>	<b>268</b>
<b>Part 3</b>	<b>(Notifiable in relation to quarries) Total</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>27</b>	<b>30</b>	<b>25</b>
<b>Part 4</b>	<b>(Notifiable in relation to railways) Total</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>(a)</b>	<b>—</b>	<b>—</b>	<b>—</b>
	Other not elsewhere classified	2,900	2,384	2,138	1,965	2,223	439	518	710
	<b>All dangerous occurrences</b>	<b>4,112</b>	<b>3,453</b>	<b>3,053</b>	<b>2,948</b>	<b>3,104</b>	<b>4,183</b>	<b>4,100</b>	<b>4,150</b>

(a) No direct NADOR equivalent; therefore, dangerous occurrences are included in the "other not elsewhere classified" category.  
 Notes: 1. The table excludes occurrences in the oil and gas industry reported to the Petroleum Engineering Division of the Department of Energy, under the Mineral Working (Offshore Installations) Act, 1971.  
 2. The table excludes occurrences notified to the Railway Inspectorate under the Railway (Notice of Accidents) Orders. Full details of occurrences notified under this order can be found in the Department of Transport annual report on the safety record of the railways in Great Britain.



## Section 9: Gas safety statistics

The statistics in *table 29* for the years from 1981–82 to 1985–86 were compiled from notifications under the Gas Act 1972. Those from 1986–87 were compiled under RIDDOR. In the earlier years, the number of incidents some which did not cause death or injury but only property damage and under RIDDOR there is no requirement to report these.

Under the Gas Act the figures were revised to take account of people whose injuries were originally classified as non-fatal but later proved fatal. It is possible that some of these late deaths may not be notified to the reporting authority or the HSE under RIDDOR. Stronger evidence of carbon monoxide poisoning is required for it to be classified as such under RIDDOR compared to the requirement under the Gas Act. Finally, an injured person must be admitted to hospital for more than 24 hours for an incident to qualify for notification under RIDDOR, where as an overnight stay was sufficient for notification under the Gas Act.

*Table 29* gives details of incidents and injuries relating to the supply and use of piped gas (including bottled LPG). The number of incidents involving explosion or fire has more than halved in the last three years compared to the early 1980s. Incidents involving carbon monoxide poisoning are also lower since 1986 but not to the same extent as for explosion or fire. Fatalities and non-fatal injuries as a result of these incidents have followed the

same pattern, with those due to explosion or fire sharply down and those due to carbon monoxide poisoning slightly lower.

Apart from the change in regulations, the publicity given to the dangers of carbon monoxide and open flued water heaters in bathrooms, by both British Gas and the HSE, may have contributed to the lower figures since 1986–87. The sequence of mild winters over recent years leading to less use of appliances and, with the lack of severe frosts, less damage to underground pipes, may also have had an effect.

*Table 30* shows, for the first time, analysis of the 1,829 returns concerning dangerous gas fittings for 1988–89. The most common hazard identified was a gas leak (27.8 per cent) followed by inadequate removal of products of combustion (22.9 per cent).

An open flued appliance (including ventilation but excluding the flue) was the most common section of appliance at fault (31.4 per cent) followed by an installation pipe (22.5 per cent) and a flue (serving open flued appliance) (16.9 per cent).

The main reason for the fault was the manner of the installation (59.3 per cent) followed by modification or alteration to the appliance (18.8 per cent). The most common type of appliance involved was a boiler (28.5 per cent) followed by a gas fire (other than decorative/fuel effect) (16.2 per cent).

**Table 29 Incidents relating to supply and use of flammable gas\*, 1981–82 to 1988–89**

Year	Number of incidents			Number of fatalities†			Number of non-fatalities†		
	Explosion/ fire	Carbon monoxide poisoning	Total	Explosion/ fire	Carbon monoxide poisoning	Total	Explosion/ fire	Carbon monoxide poisoning	Total
1981–82	164	112	276	37	98	135	168	94	262
1982–83	152	67	219	28	42	70	116	70	186
1983–84	141	92	233	27	57	84	124	117	241
1984–85	173	90	263	41	60	101	181	118	299
1985–86	148	97	245	27	65	92	166	107	273
1986–87	60	71	131	12	35	47	58	85	143
1987–88	71	77	148	12	48	60	72	76	148
1988–89	45	81	126	6	41	47	42	94	136

\* Mainly piped gas but also includes bottled LPG.

† Some of the injuries shown are included elsewhere in tables embracing injuries reported to HMFI.

**Table 30 Dangerous gas fitting notifications, 1988–89**

Type of appliance	Number	Percentage of total	Reason for fault	Number	Percentage of total
Instantaneous water heater	67	3.7	Construction	59	3.2
Combined fire/boiler unit	138	7.5	Manner of installation	1,085	59.3
Warm air unit	34	1.9	Modification/alteration	343	18.8
Gas fire (other than decorative/fuel effect)	296	16.2	Servicing/maintenance	73	4.0
Convector	13	0.7	Age/lack of servicing	18	1.0
Decorative gas log/other fuel effect appliance	78	4.3	Interference (outside agency)	34	1.9
Cooking appliances	150	8.2	Consumer misuse	11	0.6
Other	41	2.2	Other	67	3.7
Not known	42	2.3	Not known	72	3.9
Not applicable	449	24.5	Not applicable	40	2.2
<b>Total</b>	<b>1,829</b>	<b>100</b>	<b>Total</b>	<b>1,829</b>	<b>100</b>
<b>Section of installation at fault</b>			<b>Type of hazard</b>		
Service pipe	80	4.4	Gas leak	508	27.8
Gas meter	131	7.2	Gas leak plus ignition (ie: resultant fire/explosion)	31	1.7
Installation pipe	412	22.5	Open flued or flueless appliances installed in a bathroom	102	5.6
Open flued appliance (including ventilation but excluding flue)	574	31.4	Inadequate removal of products of combustion	419	22.9
Room sealed appliance	116	6.3	Inadequate ventilation	317	17.3
Flueless appliance (including ventilation)	47	2.6	Other	361	19.7
Flue (serving open-flued appliance)	309	16.9	Not known	35	1.9
Other	86	4.7	Not known	56	3.1
Not known	47	2.6	Not applicable		
Not applicable	27	1.5	<b>Total</b>	<b>1,829</b>	<b>100</b>
<b>Total</b>	<b>1,829</b>	<b>100</b>			

## Section 10: Occupational ill-health

### Introduction

The term occupational ill-health includes a wide range of conditions, from those which are unequivocally work-related (eg: lead poisoning, asbestosis, etc) to conditions with multiple causes, some of which are occupational in origin. In this second category the link with occupational factors can be recognised only by statistical means, by demonstrating that the prevalence of the condition is consistently higher among groups of workers exposed to the occupational factor in question. Conditions in the second category range from the well established (eg: lung cancer in asbestos workers) to the more speculative (eg: 'sick building syndrome').

The potential elasticity of the term, combined with the difficulty of estimating numbers for the less exclusively occupational categories, allows a wide range of estimates of the total number of cases of occupational disease. The resulting variability can be illustrated by comparing crude annual rates of occupational disease recorded in different countries' statistics. Data for 1987 drawn together by the OECD<sup>1</sup> show rates of reported disease varying from one case per 100 employees in Sweden to one per 1,000 in France; and rates of compensated disease ranging from one case per 400 in Switzerland to one case per 4,500 for Great Britain. These figures do not mean that, in reality, France and Great Britain have the best, and Sweden and Switzerland the worst, occupational disease records: they demonstrate the variety of possible interpretations of the term 'occupational disease' and the difficulty of recording its extent.

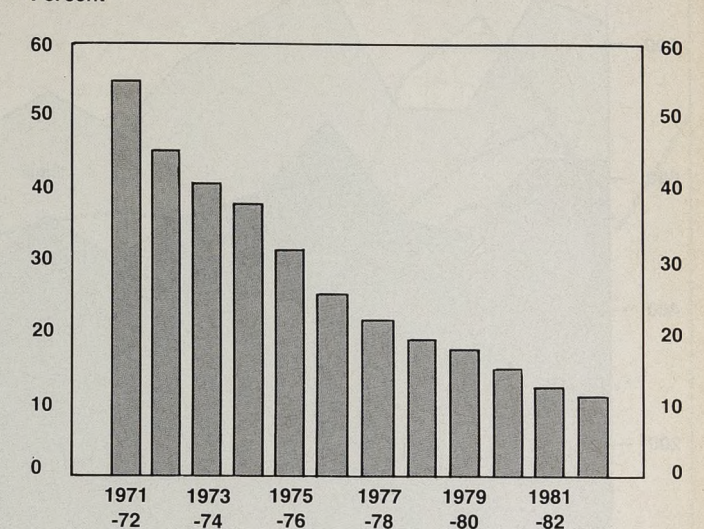
The only comprehensive and consistent data for occupational disease in the UK are provided by the records of awards for 'prescribed disease' under the Industrial Injuries Scheme administered by the Department of Social Security (DSS). Although the figures are affected from time to time by changes in the rules defining benefit entitlement, the system has the advantage that all cases are individually examined and validated. The figures represent an absolute lower limit to the numbers of cases occurring. Trends can, with some caution, be taken to reflect real changes in incidence although they can also be affected by changes in propensity to claim benefit.

There are, however, two important discontinuities in the Industrial Injuries Scheme data. The first is between 1982–83 and 1983–84, when Injury Benefit was—for the generality of claimants—replaced by Statutory Sick Pay. The second follows the introduction, for claims lodged after October 1, 1986, of a new general rule under which only those with disability assessed at 14 per cent or more qualify for benefit (pneumoconiosis, mesothelioma and byssinosis are excepted from this rule). Cases with lesser disability are still recorded, and qualify for Reduced Earnings Allowance (REA) if earning potential is impaired (REA has been withdrawn—for new cases—from October 1990). This change has substantially reduced the numbers qualifying for disablement benefit, and seems also to have reduced the numbers making claims, probably because in many cases it will be clear that they will not qualify for any benefit.

A further factor to be borne in mind when interpreting data drawn from the compensation system is the value of the compensation available (*figure 10*).

Between 1971 and 1983 there was a substantial fall in the relative value of Injury Benefit (payable for sickness

**Figure 10 The difference between injury and sickness benefit, as a percentage of sickness benefit**



absence due to prescribed disease), as compared to Sickness Benefit (payable for any sickness absence). In money terms the difference between these two benefits was £2.75 per week throughout this period. In 1971 this represented a 55 per cent bonus on top of Sickness Benefit; in 1983 the Injury Benefit bonus was only 11 per cent. The impact of these changes on individuals' propensity to claim benefit will not be straightforward, and will depend on other factors as well, but it seems likely that the erosion in value of the differential between Injury and Sickness Benefits will have led some claimants to decide that the extra money was not worth the additional complication of claiming it. The value of disablement benefit—for which there is no corresponding 'alternative' benefit—has not changed so drastically, and, indeed, has increased in real terms from £56/week in 1971<sup>2</sup> to £71/week in 1989.

In what follows, each disease—or related groups of diseases—will be discussed in turn, with a summary of the appropriate data from the Industrial Injuries Scheme presented in a series of diagrams, together with data from other sources when this is available. The general commentary is followed by tables for each of the main data sources, displaying the detailed underlying figures. Additional information on the sources and the detailed figures is given in Section 11.

### General commentary

#### Pneumoconiosis (other than asbestosis)

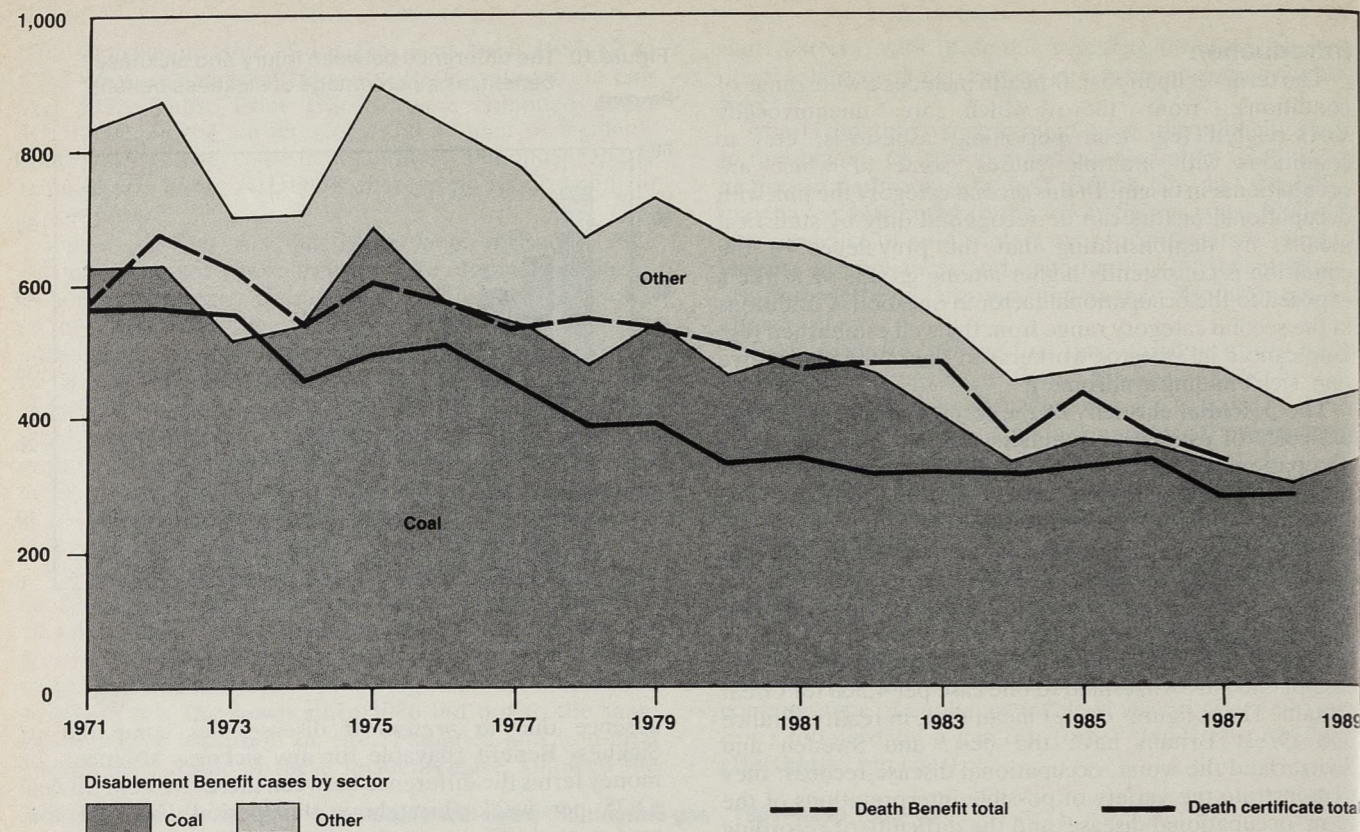
The rules governing the award of Disablement Benefit for pneumoconiosis have not been affected either by the abolition of Injury Benefit or by the restriction of benefit to cases with higher levels of disability. Knowledge of the disease and of the arrangements for compensation are widespread within the main affected industries: mining, quarrying, foundries and potteries. The figures for compensated cases can therefore be expected to give a reasonably accurate reflection of the incidence of disease. This is borne out by the similar trends shown by the three available series: Disablement Benefit, Death Benefit and deaths with pneumoconiosis as their registered underlying cause (*figure 11*).

<sup>1</sup> OECD *Employment Outlook 1990*—Chapter 4.

<sup>2</sup> Revised to 1989 prices.



Figure 11 Pneumoconiosis (other than asbestosis)



Pneumoconiosis is a disease that takes a long time to develop. Only in exceptional cases will the disease be produced in less than ten years, and most cases appear between 15 and 30 years from first exposure. This means that the cases now coming forward largely reflect the working conditions of ten and more years ago.

Due to the long and variable delay from first exposure to the onset of detectable disability, the broad trend of the figures is more informative than any detailed fluctuations from year to year in drawing conclusions about changes in the incidence of these diseases; and, by implication, changes in the conditions that produced them. In these broad terms, the figures show a steady decline in pneumoconiosis other than asbestosis.

#### Asbestos-related disease

Three diseases have been unequivocally linked to asbestos exposure: asbestosis, mesothelioma, and lung cancer. By definition, every case of asbestosis is due to asbestos; the association with mesothelioma is also very strong, though there is a "natural" background incidence of about two cases/million/year (about 100 cases per year nationally). For lung cancer the situation is different, since the predominant cause of this cancer is smoking, and asbestos exposure increases the risk of disease both in smokers and non-smokers (though, in absolute terms, much more so for smokers than non-smokers). Lung cancer is a prescribed disease in connection with asbestos provided the individual shows some other clinical sign of asbestos exposure (asbestosis, or pleural thickening), as well as evidence of occupational asbestos exposure. All three of these diseases display long delays from first exposure to diagnosis: typically 15 to 25 years for asbestosis and up to 40 years for lung cancer and mesothelioma.

For asbestosis (figure 12), Disablement Benefit awards

show a continuing, but erratic upward trend. They fluctuated between 100 and 200 per year through the 1970s and early 1980s, rose to a maximum of 329 in 1986, then fell back to 225 in 1988, rising again to 280 in 1989. Throughout this period, awards of Death Benefit have grown from around 70 in the early 1970s to just over 100 in 1987. Death certificates mentioning asbestosis (excluding those also mentioning mesothelioma) show a somewhat stronger increase from similar levels in the mid-1970s to around 150 in 1988.

From 1974 to 1986 the proportion of Disablement Benefit awards for asbestosis falling into the different percentage disablement categories (table 35) remained very stable. In 1987 the percentage of awards assessed at 10 per cent or less fell from about a third to about a fifth of all awards. In a similar way the median age of first diagnosis had been constant at just under 60 up to the beginning of the 1980s; it then began to rise slowly and is now around 64. These two fairly recent trends might indicate a tendency for individuals to claim benefit later in the course of the disease than previously.

The figures for mesothelioma (figure 13 and table 39) show a strong and continuing increase over the past 20 years, with 860 deaths in 1988. Part of the increase up to the early 1970s may have been due to increasing awareness of mesothelioma and its significance. The typically long delay between first exposure to asbestos and death from mesothelioma means that the deaths now occurring are in the main due to exposures in the 1940s and 1950s. The major reductions in exposure levels and in the use of crocidolite which took place in the early 1970s and the more recent contraction in the exposed workforce are not expected to show up in the mesothelioma mortality figures for some years to come.

The numbers of awards for mesothelioma have risen

Figure 12 Asbestosis

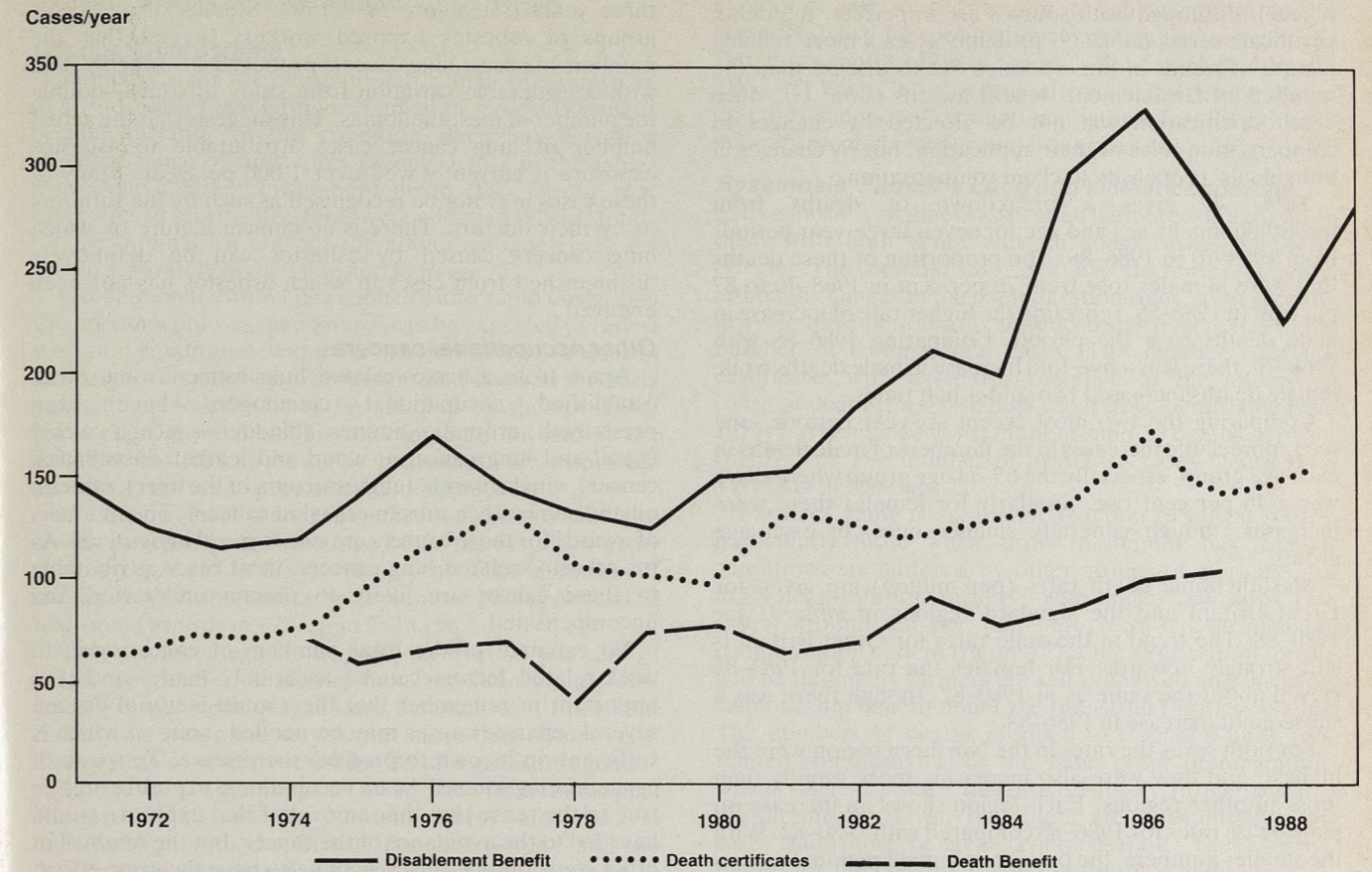
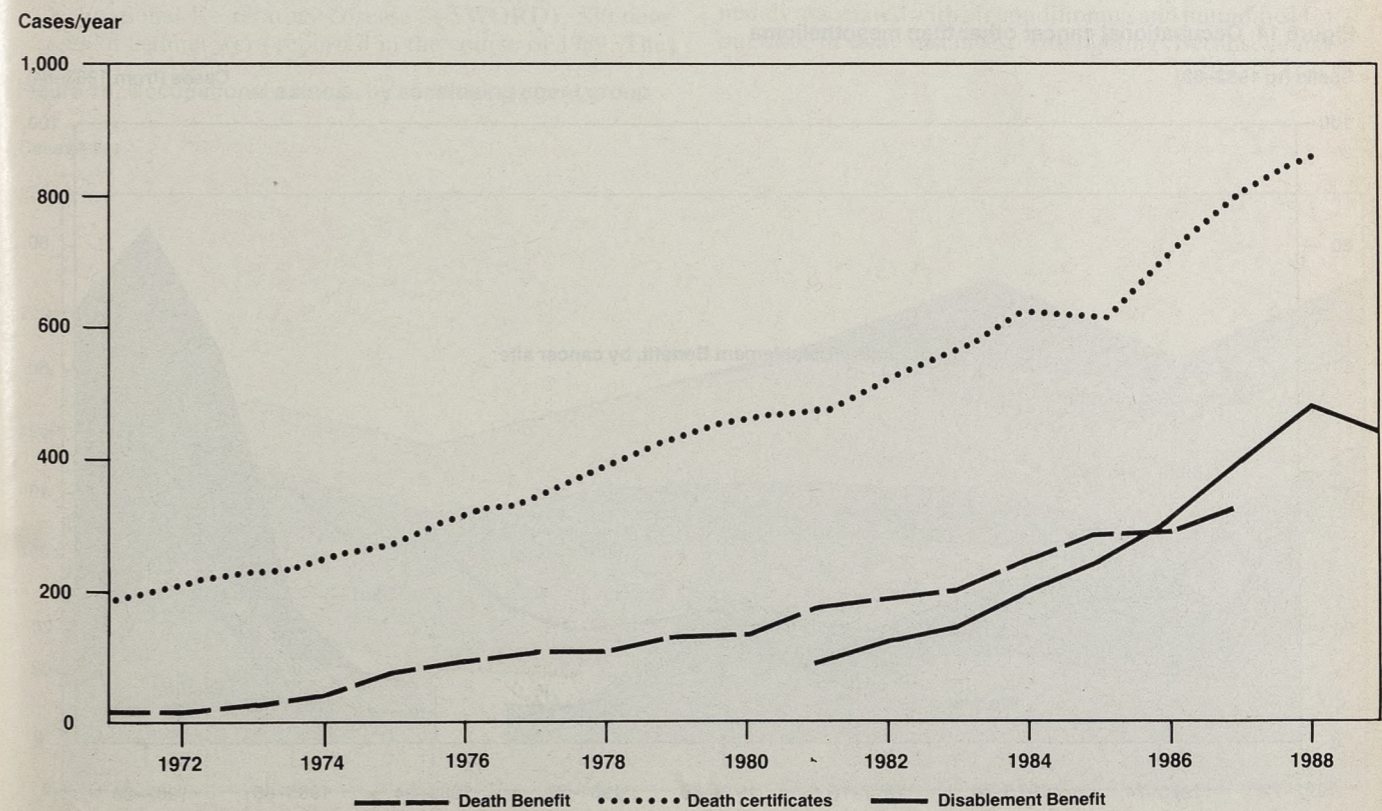


Figure 13 Mesothelioma



1987 is the last full year for Death Benefit. Disablement Benefit figures are not available for years to 1980.



steeply in recent years, though they fall well short of the numbers recorded on death certificates (currently over 800 a year). Although both sources are imperfect, the death certificate series (table 39) probably gives a more reliable picture of trends in the incidence of this disease than the numbers of Disablement Benefit awards (table 33), since death certification will not be affected by changes in compensation rules or their application, nor by changes in individuals' propensity to claim compensation.

Table 40 gives a breakdown of deaths from mesothelioma by sex and age for seven three-year periods from 1968-70 to 1986-88. The proportion of these deaths that were in males rose from 76 per cent in 1968-70 to 87 per cent in 1986-88, reflecting the higher rate of increase in male deaths over the period. Comparing 1986-88 with 1968-70, there was a five-fold increase in male deaths while female deaths increased two-and-a-half times.

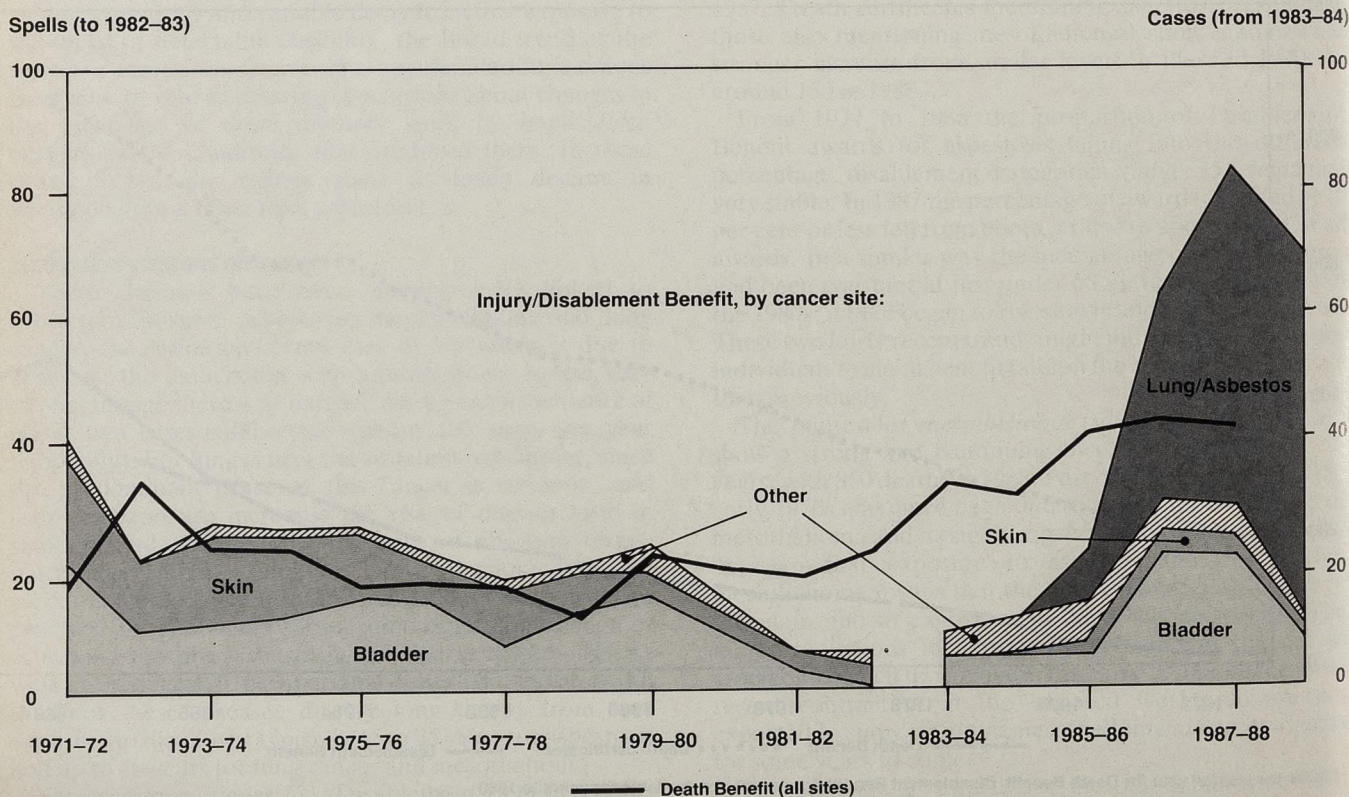
Comparing the two most recent six-year periods, one sees appreciable increases in the numbers of male deaths in each age group, especially the 65-74 age group where there was a 46 per cent rise. Similarly for females there were increases, though generally smaller ones, in each age group.

Mesothelioma death rates (per million) are given for Great Britain and the standard regions in table 41 for 1980-88. The trend in the male rates for Great Britain is still strongly upwards. For females the rate for 1983-85 stayed about the same as in 1980-82, though there was a subsequent increase in 1986-88.

For both sexes the rates in the Northern region were the highest, and they were also increasing more rapidly than those in other regions. Each region shows an increase on male death rates for 1986-88 compared with 1980-82. With the smaller numbers, the pattern of female regional rates is more variable, but most regions appear to have had stable or declining rates apart from the Northern region, Greater London, and the North West.

<sup>3</sup> The Causes of Cancer, R Doll and R Peto, OUP, 1982.

Figure 14 Occupational cancer other than mesothelioma



Asbestos-related lung cancer as a prescribed disease has given rise to an average of 56 awards/year over the last three years (see figure 14 below). Studies of particular groups of asbestos exposed workers suggest that the numbers of excess lung cancers produced is—roughly, and with considerable variation from study to study—double the number of mesotheliomas. This suggests that the actual number of lung cancer cases attributable to asbestos exposure is currently well over 1,000 per year. Many of these cases may not be recognised as such by the sufferers or by their doctors. There is no clinical feature by which lung cancers caused by asbestos can be definitively distinguished from cases in which asbestos has not been involved.

#### Other occupational cancers

Apart from asbestos-related lung cancer, some other established occupational carcinogens have been prescribed: aromatic amines (bladder cancer), nickel (nasal and lung cancers), wood and leather dusts (nasal cancer), vinyl chloride (angiosarcoma of the liver), mineral oil and some other substances (skin cancer). The numbers of awards for these cancers are summarised in figure 14. As for asbestos-related lung cancers, most cases attributable to these causes are likely to remain undetected and uncompensated.

No estimate of the total numbers of cancers due to work-related factors can be accurately made, and it is important to remember that for a multi-factorial disease several separate causes may be needed, none of which is sufficient on its own to produce the disease. To speak of cancers being 'caused' by an occupational exposure may be true in the sense that the removal of that exposure would have led to the avoidance of the cancer, but the removal of other contributing causes would also have the same effect. In a review of the numbers of 'avoidable' cancers Doll and Peto<sup>3</sup> estimated that around 4 per cent of cancers (with a range of acceptable estimates from 2 per cent to 8 per cent) could be avoided by the elimination of all workplace

carcinogenic risks (including asbestos exposure). This would imply an annual total of about 5,000 premature deaths from work-related cancer in Great Britain.

#### Occupational asthma

Summary data for occupational asthma are shown in figure 15, with detailed figures given in table 36. Benefit became payable for this condition when linked with a specified range of substances (agents 1 to 7 in the table) from March 1982. From September 1986, seven new categories of sensitising agents were added to the list; totals for the original list and for the additional categories are shown separately in the table and in figure 15.

Occupational asthma has a much more rapid onset than the pneumoconioses, and awards can be expected to reflect working conditions within a much shorter timescale. However, the numbers of compensated cases in the early years of prescription may be affected by the spread of knowledge of the possibility of compensation and by the fact that awards can be made retrospectively within ten years of exposure to prescribed conditions.

For the original list of agents, the total shows a small but steady increase from an average 140 in the first three years to an average 165 in the last three years. The extension of the list of prescribed agents in September 1986 produced 52 additional awards in 1987, and 28 in 1988.

Three main categories account for over 75 per cent of cases: isocyanates, soldering flux, and flour/grain. Most cases (70 per cent overall) are assessed at 10 per cent disability or less, and very few at more than 50 per cent. The pattern of severity is similar for all sensitising agents.

Since the beginning of 1989, the Epidemiological Research Unit at the London Chest Hospital, in collaboration with the British Thoracic Society and the Society of Occupational Medicine, has operated a reporting scheme for cases of occupationally-related respiratory disease seen for the first time by occupational and chest physicians throughout the United Kingdom. In this scheme ("Surveillance of Work-related and Occupational Respiratory Disease"—SWORD), 530 new cases of asthma were reported in the course of 1989. The

pattern of sensitising agents was similar among these cases to that among the compensated cases, though a substantial number of cases of sensitisation to substances not on the prescribed list for occupational asthma were included. Detailed analysis of these reports will be published by the SWORD team, but the general conclusion can be drawn that the incidence of occupational asthma is at least double that represented by the compensated cases.

#### Byssinosis, Farmer's Lung and similar conditions

Byssinosis is an illness associated with exposure to cotton dust, with both acute and—in some cases—long-term effects. The number of cases has decreased steadily, although changes in the compensation rules, most recently in 1979, have periodically produced sharp increases in the number of compensated cases. The number of death certificates with byssinosis recorded as the underlying cause of death (these are only separately identifiable from 1979) has remained constant at around 25 deaths per year (figure 16). The number of byssinosis cases recorded by SWORD in 1989 was 22.

Farmer's Lung is an allergic reaction to fungal spores, particularly those which grow in mouldy hay. Similar conditions are suffered by other groups of workers—for example, mushroom pickers—with similar exposures. Few cases—around ten per year—are recorded through the compensation system (figure 17). One explanation for this will be that many farmers are self-employed and therefore cannot claim benefit under the Industrial Injuries Scheme. The numbers of deaths ascribed to Farmer's Lung (and related conditions) is of the same order or magnitude, which suggests, since the disease rarely progresses to a life-threatening level, that there are substantially more cases than those receiving compensation. The SWORD figures for 1989 record 57 cases of this type of disease.

#### Building-related sickness

This heading covers a range of mostly ill-defined illness which can be due to features of the indoor environment, mainly associated with air conditioning and humidification, but also, in some instances, with lighting. Because in most

Figure 15 Occupational asthma, by sensitising agent group

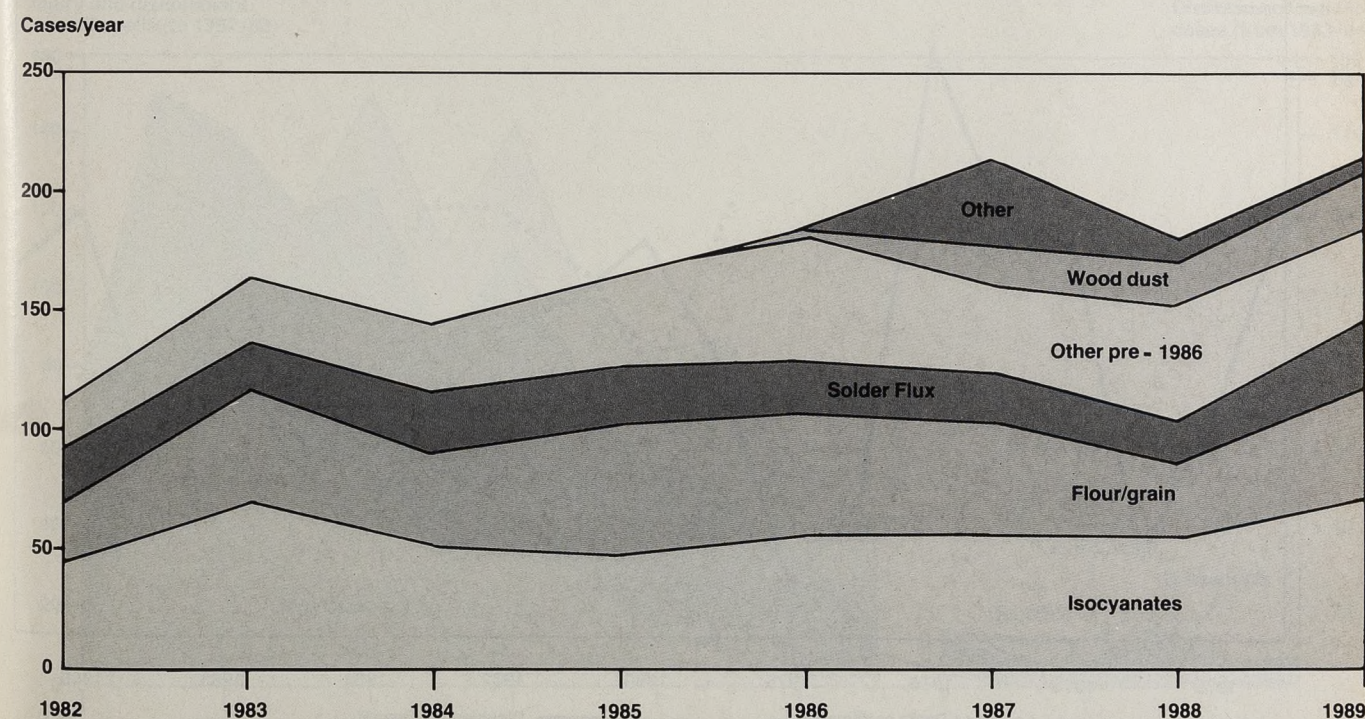




Figure 16 Byssinosis

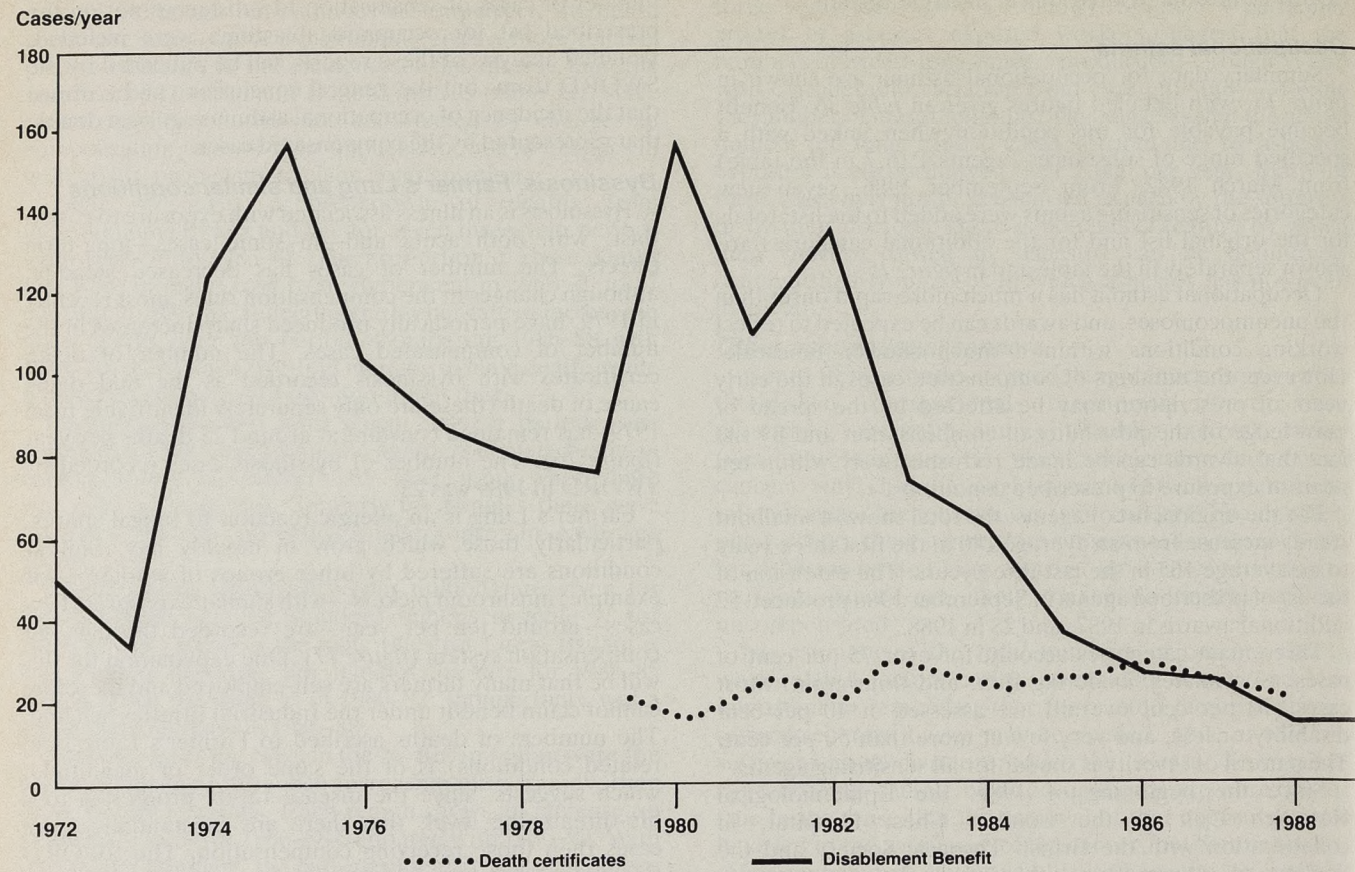
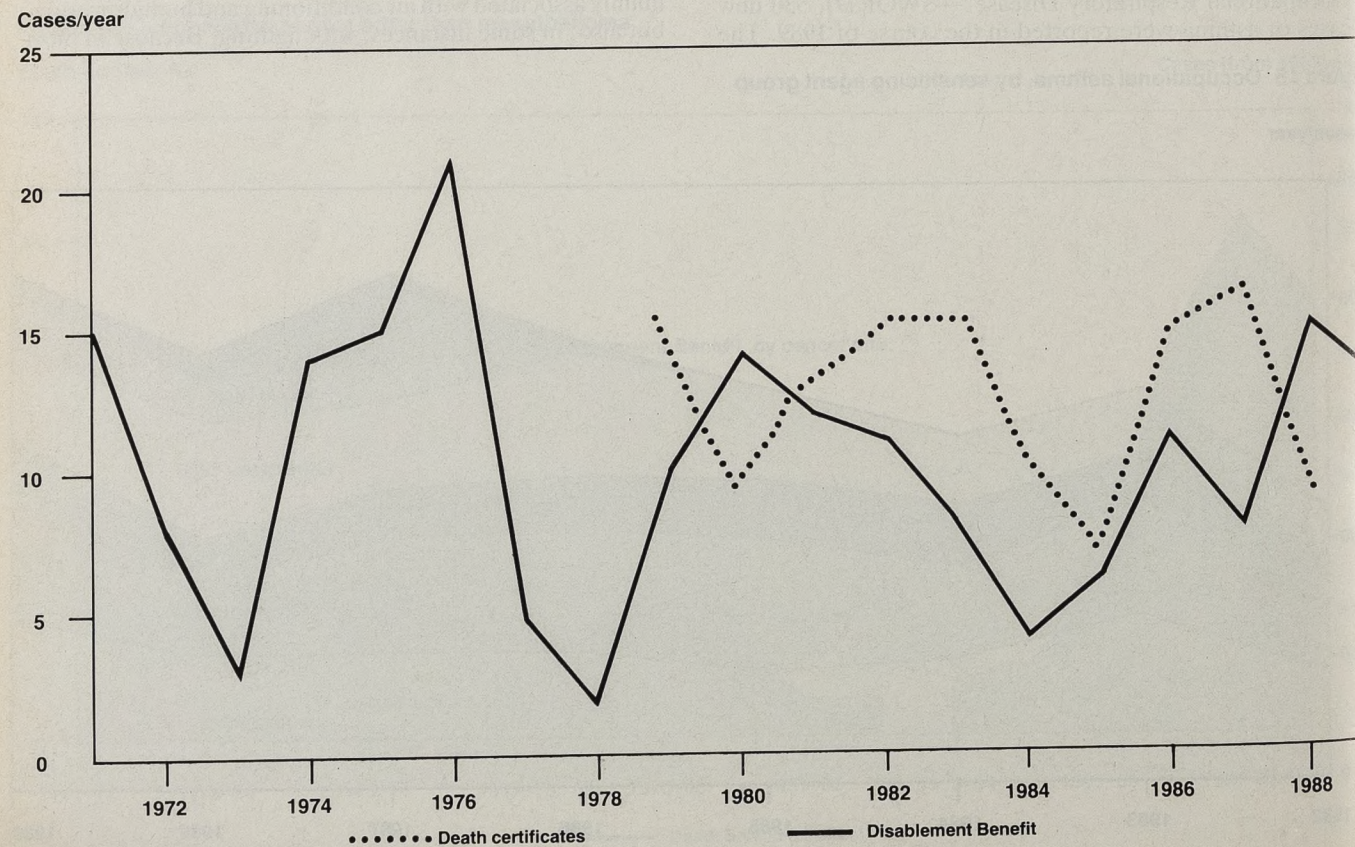


Figure 17 Farmer's lung



cases the symptoms are non-specific—headache, runny nose, loss of concentration—the presence of building-related sickness can be difficult to detect, and it can never be diagnosed with certainty at the individual level. This creates obvious difficulties in estimating the scale of any problem. Surveys commonly show doublings in the prevalence of a range of relatively minor respiratory symptoms. But although the symptoms are seldom serious the efficiency loss to an organisation in which, perhaps, 20 per cent of their workforce are unnecessarily below par can be considerable. The World Health Organisation has estimated that 30 per cent of new or re-fitted buildings are subject to this problem. Unless care is taken over the design of new buildings and the correct operation of air quality control systems, the problem will grow.

The SWORD register records 22 sporadic cases of building-related illness in 1989, plus a further 190 cases identified in outbreaks, but, of course, in the nature of this disease, the vast majority of cases are unlikely to be seen by either occupational or chest physicians.

**Infections**

There are two broad categories of job in which some infections are an occupational risk:

- workers in contact with animals—live or dead (farmers, vets, slaughtermen);
- workers in contact with human sources of infection (medical staff, sewage workers).

For all these risks, only rough estimates can be made.

About 40 cases of *leptospirosis* are recorded annually by the Communicable Disease Surveillance Centre (CDSC) where occupation is the most plausible cause. Serological surveys of dairy farmers have demonstrated high prevalences of antibody to *leptospira hardjo*, which implies there may be a considerable burden of sub-clinical—and overt but non-serious—disease which is due to this organism but not recognised as such.

Around ten cases of *brucellosis* and 50 of *orf* are recorded annually by CDSC. Most of these are occupational (or para-occupational, eg: farmers' families). CDSC recorded 16 cases of *psittacosis* (ornithosis) in 1988 among people with occupational exposure to birds.

An average of 12 cases/year of *coxiella burnetii* infection are recorded among farm and abattoir workers. The true figure may be substantially higher. The total of such cases is about 130/year, and for most of these no indication of the infection source is given.

The number of cases of *hepatitis B* infection among health care workers is falling, presumably as a result of vaccination. Annual totals recorded from 1985 to 1988 were 47, 39, 29 and 24 (31 of these cases were acquired abroad). Contact history is recorded in only about 60 per cent of cases, so these figures will be under-estimates. In 1988, 34 cases of *hepatitis A* were associated with health care and sewage workers in CDSC returns.

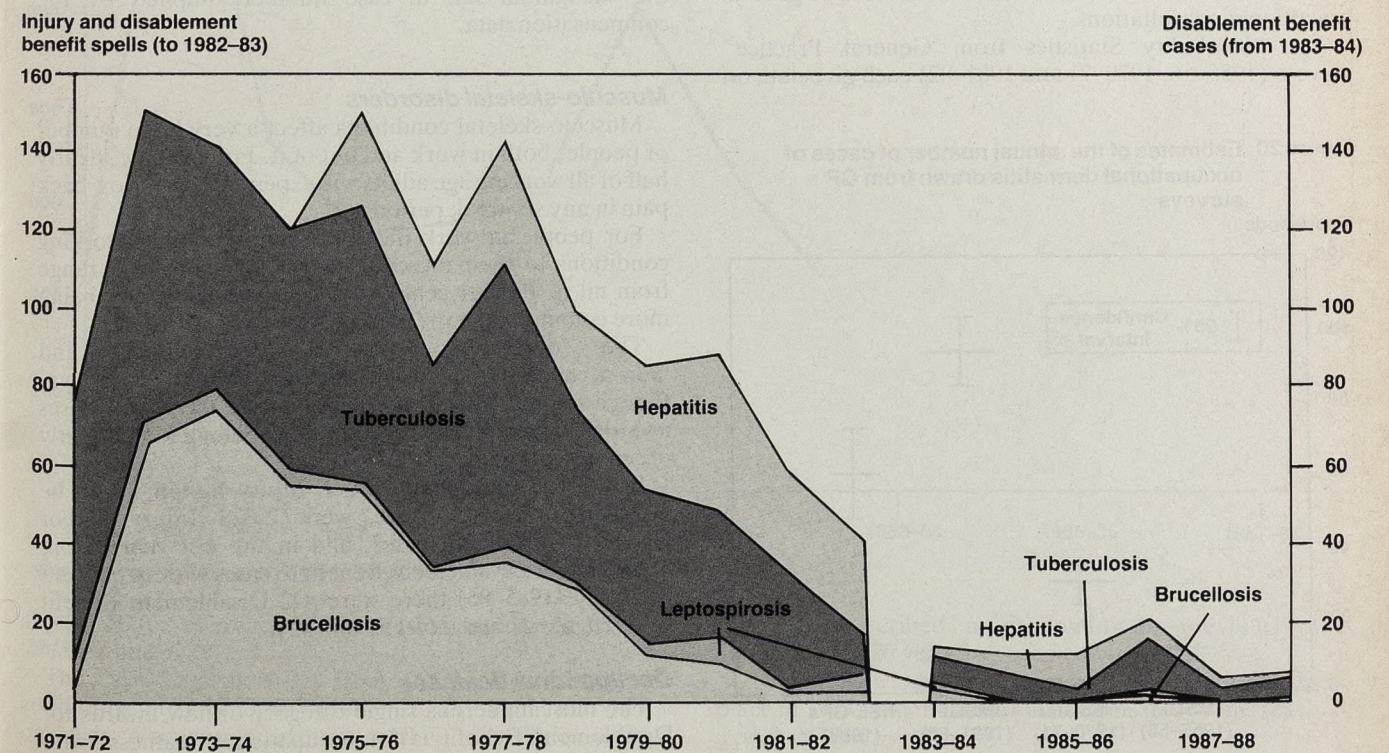
Between 1981 and 1984 CDSC recorded 129 cases of *tuberculosis* among health care workers—an average of 32 cases/year. This is about double the number awarded benefit for TB as a prescribed disease.

Hepatitis, TB, brucellosis and leptospirosis are all prescribed diseases. However, since cases will only very rarely be disabling in the long term, the current incidence of these infections will not be reflected in payments of Disablement Benefit. This is borne out by a comparison of the likely number of cases as recorded in CDSC records—over 100 per year—with the figures shown in figure 18 for compensated cases—fewer than 20 per year since the removal of Injury Benefit (see also tables 31 and 32).

**Dermatitis**

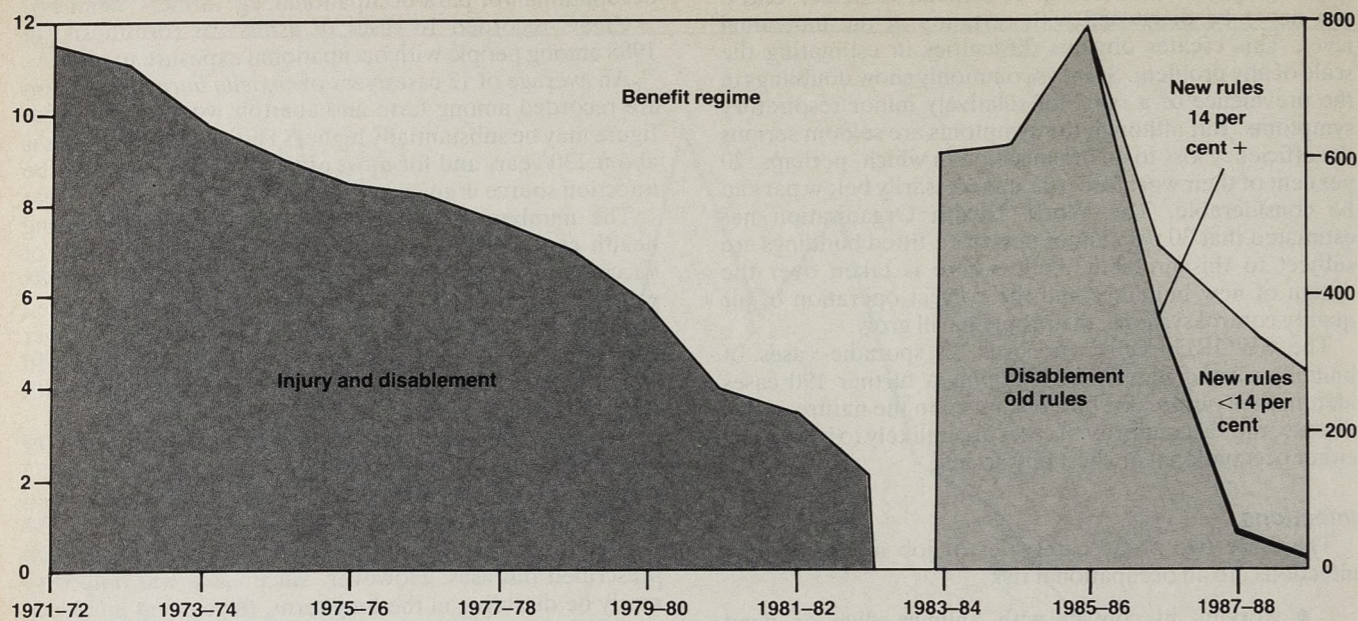
Dermatitis caused by allergic or irritant reaction to substances used or handled at work is common though, in the workforce as a whole, the prevalence has fallen as conditions have improved and as the number of 'dirty' jobs

Figure 18 Occupational infections





**Figure 19 Occupational dermatitis**  
Spells (thousands) to 1982-83



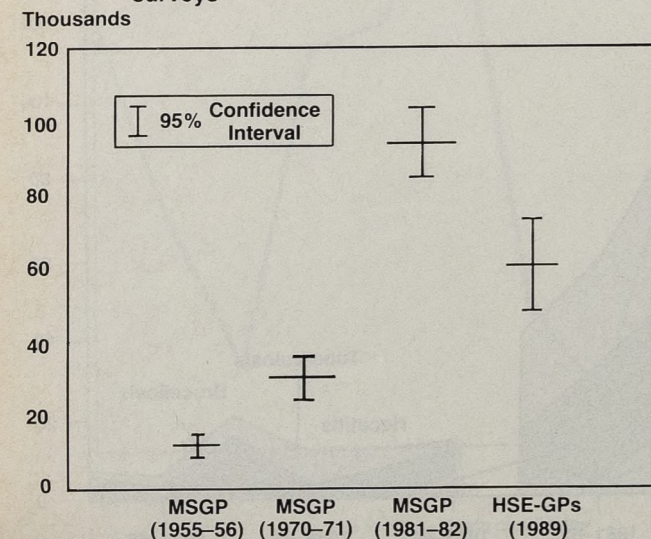
has contracted. *Figure 19* shows that the annual number of cases of compensated occupational dermatitis (strictly, the number of spells of sickness absence due to dermatitis for which Industrial Injury Benefit was paid) fell from over 10,000 in 1971-72 to about 2,000 in 1982-83 (the ten months to March 1983, the final period for which Injury Benefit was normally payable).

Over the next three years the numbers of Disablement Benefit cases rose from about 600 to nearly 800. The introduction of the 14 per cent rule had an immediate effect on the numbers of cases diagnosed, and the numbers recorded dropped from 464 to 285. In the last three years only 18 of the 695 cases positively assessed under the new rules qualified for any benefit.

There are two alternative sources for data on occupational dermatitis, both based on records of general practitioner consultations.

The "Morbidity Statistics from General Practice" surveys (1955-56, 1970-71 and 1981-82) each give data on

**Figure 20 Estimates of the annual number of cases of occupational dermatitis drawn from GP surveys**



consultations for occupational dermatitis, though the definitions used have not been exactly the same in the three surveys.

In the first six months of 1989, the HSE commissioned a survey based on 73 GPs from all parts of the country, who recorded the number of cases of occupational dermatitis which they saw in the survey period.

Estimates of the annual number of cases nationally implied by these four GP-based surveys are shown in *figure 20*: 11,000 in 1955-56; 35,000 in 1970-71; nearly 100,000 in 1981-82 and 60,000 in 1989.

These changes cannot be directly interpreted as trends since the underlying definitions—and their interpretation by the participating doctors—will not be exactly comparable but they do not appear to be consistent with the substantial fall in case numbers implied by the compensation data.

**Musculo-skeletal disorders**

Musculo-skeletal conditions affect a very large number of people, both in work and out of it. For example, nearly half of all working age adults will experience some low back pain in any six-week period.

For people in work the contribution of their working conditions to their musculo-skeletal problems will range from nil to 100 per cent—with intermediate values being more common than the extremes.

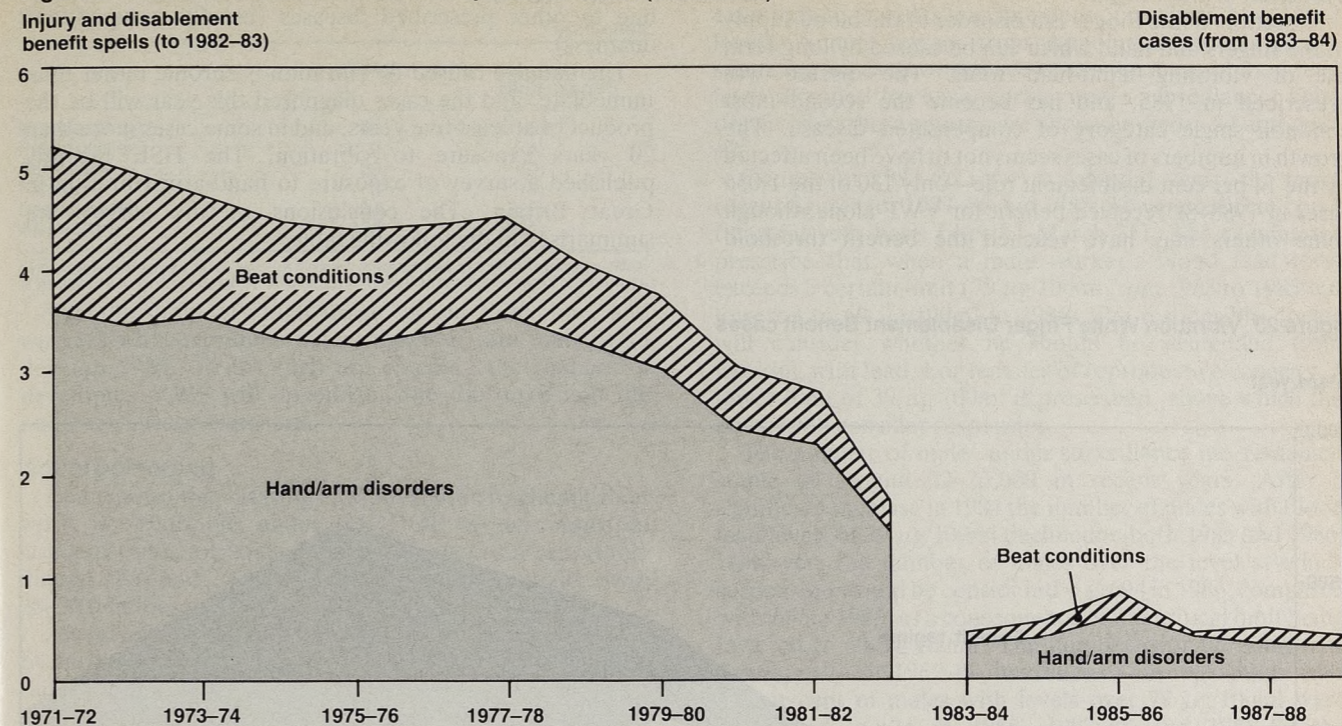
The distinction between 'occupational' and 'non-occupational' cases cannot be definitively drawn, though some cases will be clearly one or the other. Cases awarded II Benefit can be assumed to belong to the clearly occupational category.

In the last full year in which Injury Benefit could be awarded (1981-82) there were 2,828 Injury and/or Disablement Benefit cases, and in the last year before restriction of Disablement Benefit to cases with 14 per cent disability (1985-86) there were 842 Disablement Benefit cases (*figure 21* and *tables 31* and *32*).

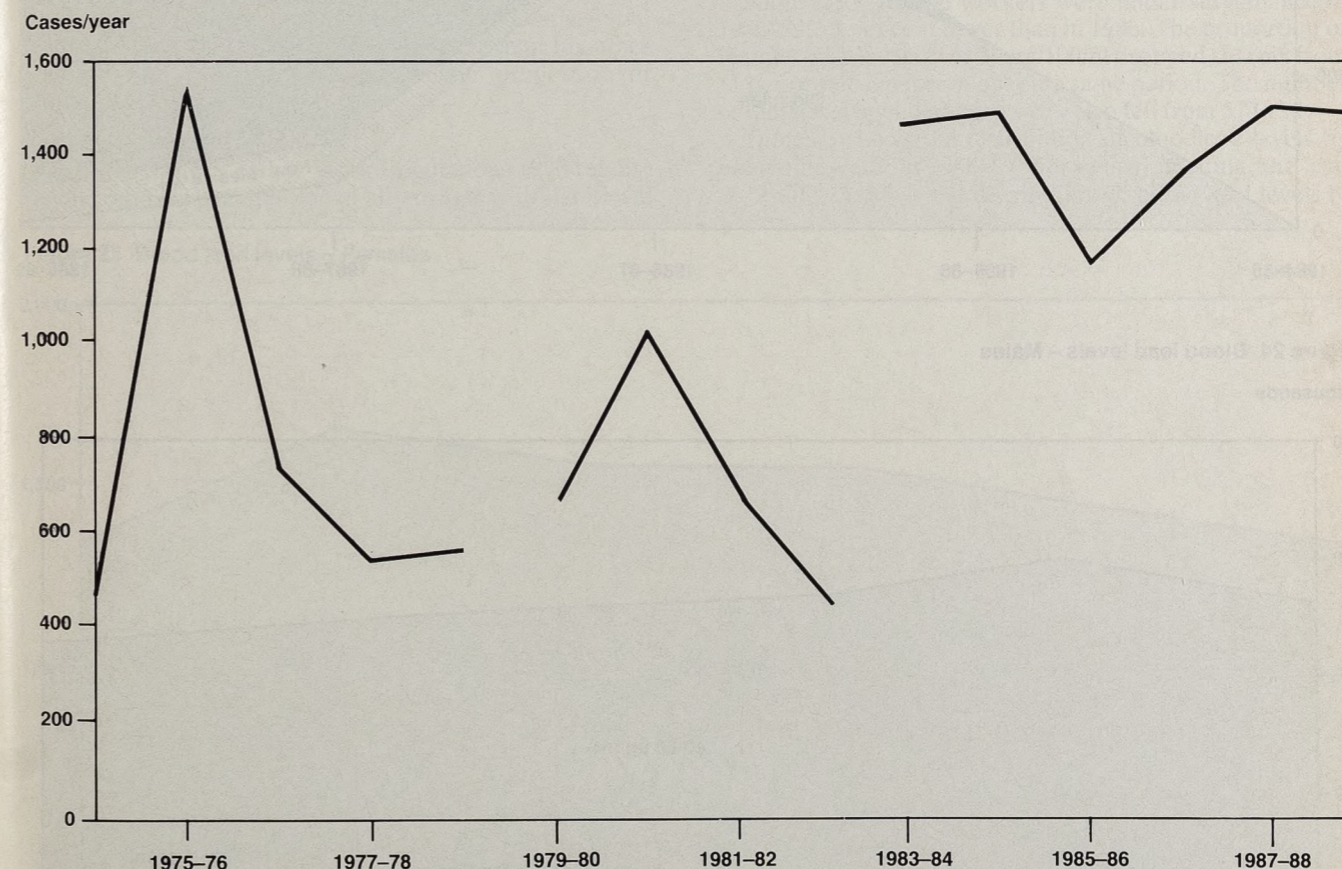
**Occupational deafness**

The most numerous single category of new awards for Disablement Benefit is for occupational deafness, with

**Figure 21 Musculo-skeletal disorders compensated cases (thousands)**



**Figure 22 Occupational deafness - Disablement Benefit**



Note: The breaks in the graph indicate changes in prescription rules.

about 1,500 cases in each of the last two years (*figure 22* and *tables 31* and *32*).

The 1984-85 peak arises from a change in qualifying conditions introduced on October 1, 1983. From that date onwards, claimants need have worked only ten or more

years in prescribed noisy conditions—previously the minimum was 20 years.

A previous widening of the terms of prescription took place in 1979, and the additional claims due to this reached a peak in 1981.



### Vibration White Finger

Vibration White Finger is a disorder of the blood supply to the fingers and hand which can be caused by long-term use of vibrating hand-held tools. The disease was prescribed in 1985, and has become the second most common single category of compensated disease. The growth in numbers of cases seems not to have been affected by the 14 per cent disablement rule—only 130 of the 1,056 cases in 1988–89 received benefit for VWF alone, though some others may have reached the benefit threshold

through aggregation of their VWF disability with disability due to other prescribed diseases (usually occupational deafness).

The damage caused by vibration is chronic rather than immediate, and the cases diagnosed this year will be the product of at least five years, and in some cases more than 20 years exposure to vibration. The HSE recently published a survey of exposure to hand-arm vibration in Great Britain. The conclusions of the survey are summarised in the following table:

Estimated numbers of workers using vibrating tools, by sector

	Thousands	
	Total	(of which: High usage*)
Manufacturing	289	(115)
Public utilities	9	(4)
Agriculture	29	(9)
Forestry	5	(4)
Construction	94	(22)
<b>All sectors</b>	<b>426</b>	<b>(154)</b>

\* High usage was defined as "all day" use for construction workers, and more than four hours/day at least once a week or more than 30 minutes/day on more than two days/week for other sectors.

The threshold of "high usage" is set fairly low, and workers with exposures below this level are unlikely to develop VWF. In the high use category the chances of developing VWF will depend on the tool used and the number of years' exposure.

### Acute poisoning

Acute poisoning, gassing or asphyxiation by chemicals at work is reportable under RIDDOR as an industrial accident (and, for some substances, also as a reportable illness). Around 2,000 cases are reported annually, with 20–30 fatalities.

A study commissioned by the HSE of cases of poisoning by industrial chemicals in 1985, based on a 10 per cent sample of attendances at NHS accident and emergency departments, showed that 6 per cent of attendances for poisoning arose from workplace exposures. This implies an annual national total of about 14,000 cases. The commonest categories of substance were acids, alkalis, irritant vapours and solvents. There were no deaths in the sample, and the discharge rate was higher than for other types of poisoning, suggesting a higher proportion of precautionary attendances.

### Exposure to lead

The Control of Lead at Work Regulations 1980 require regular medical examination of all workers with significant

exposure to lead by an Appointed Doctor. The examination includes measurement of workers' blood lead levels. Annual returns from Appointed Doctors give a summary for each workplace of the maximum blood lead level recorded for each worker under surveillance. Data drawn from these returns are shown in figure 24 and table 42.

Figures for 1983–86 refer to calendar years; the more recent figures for 1987–88 and 1988–89 were collected on a financial year basis (April 1–March 31). The regulations prescribe that when a male worker's blood lead level exceeds a certain limit (79  $\mu\text{g}/100\text{ml}$  from 1983 to 1985 but lowered to 69  $\mu\text{g}/100\text{ml}$  in 1986), the responsible doctor will consider whether he should be suspended from working with lead. For females of reproductive capacity, a lower limit of 39  $\mu\text{g}/100\text{ml}$  is prescribed, above which the doctor will consider suspension.

The number of males under surveillance has remained stable at around 22–23,000 in recent years. After a significant increase in 1984 the number of males with blood lead levels of 79  $\mu\text{g}/100\text{ml}$  declined in both 1985 and 1986. However, the number of males over the level at which suspension would be considered was 694 in 1986, compared with 247 in 1985, as a consequence of this critical limit being lowered to 69  $\mu\text{g}/100\text{ml}$ . The number over the limit rose further to 762 in 1987–88, but fell to 637 in 1988–89. In 1985 74 per cent of males with levels over 79  $\mu\text{g}/100\text{ml}$  were suspended, while in 1986, 1987–88 and 1988–89 the proportions of those over 69  $\mu\text{g}/100\text{ml}$  who were suspended were 53, 51 and 51 per cent respectively.

Some 1,300 female workers were under surveillance in 1988–89, 15 per cent fewer than in 1986. The proportion of females with levels over 39  $\mu\text{g}/100\text{ml}$  dropped sharply from 11 per cent to 6 per cent over the same period. The number of females suspended from work also fell from 57 to 12.

Table 43 shows the distribution of bloodlead levels by industrial sector in 1988–89. For males, smelting, the lead

Figure 23 Vibration White Finger Disablement Benefit cases

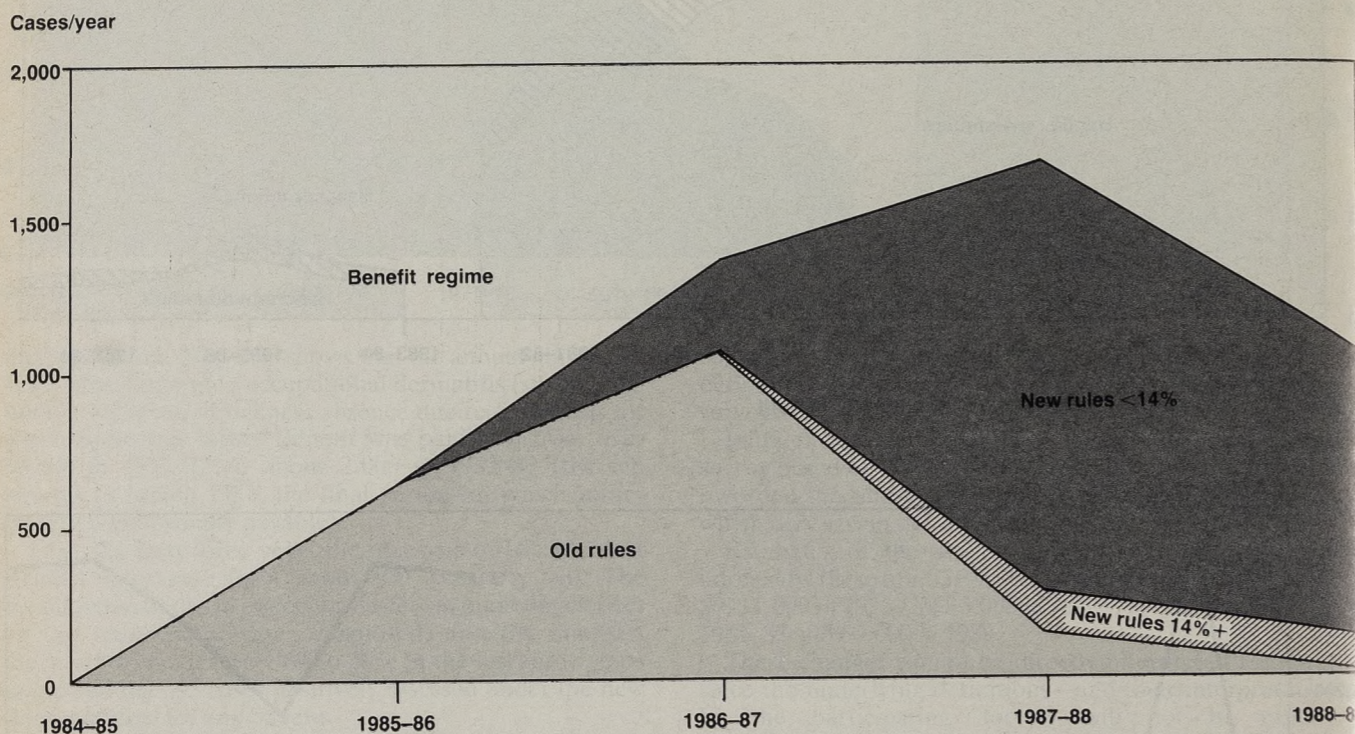


Figure 24 Blood lead levels – Males

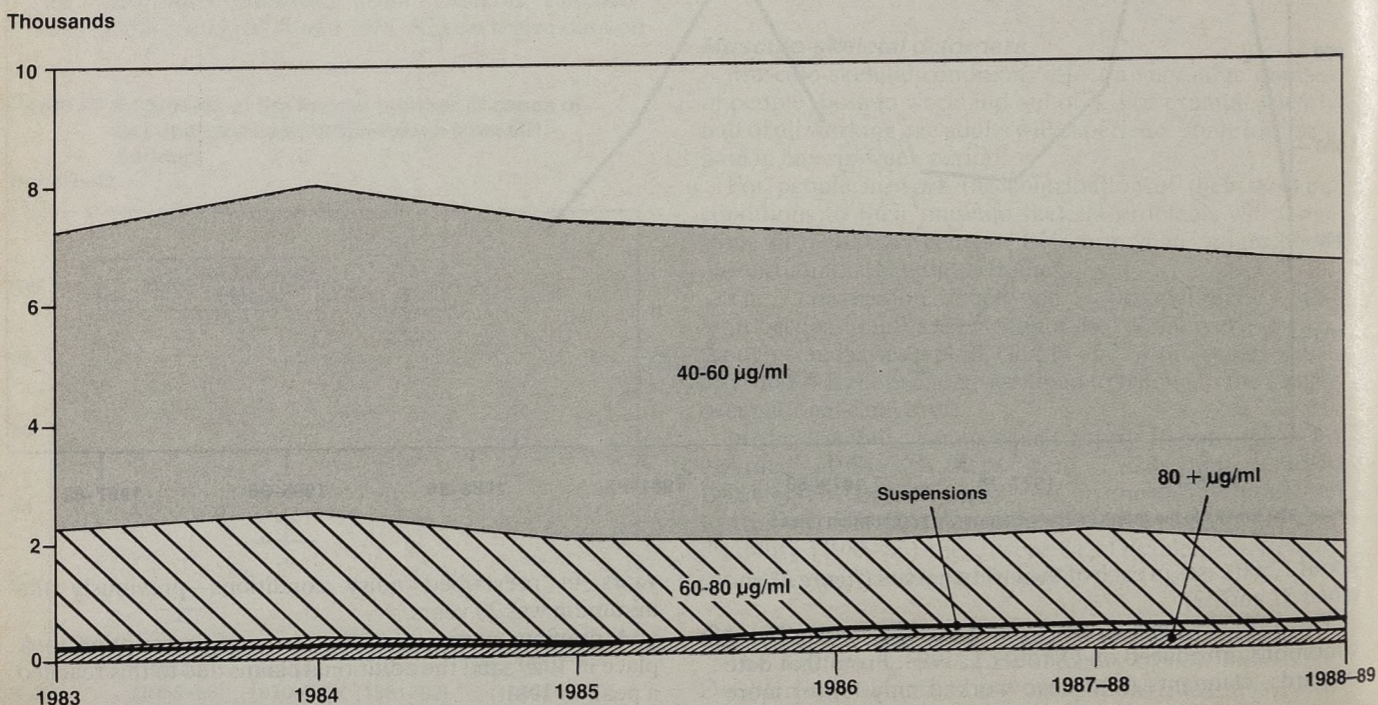
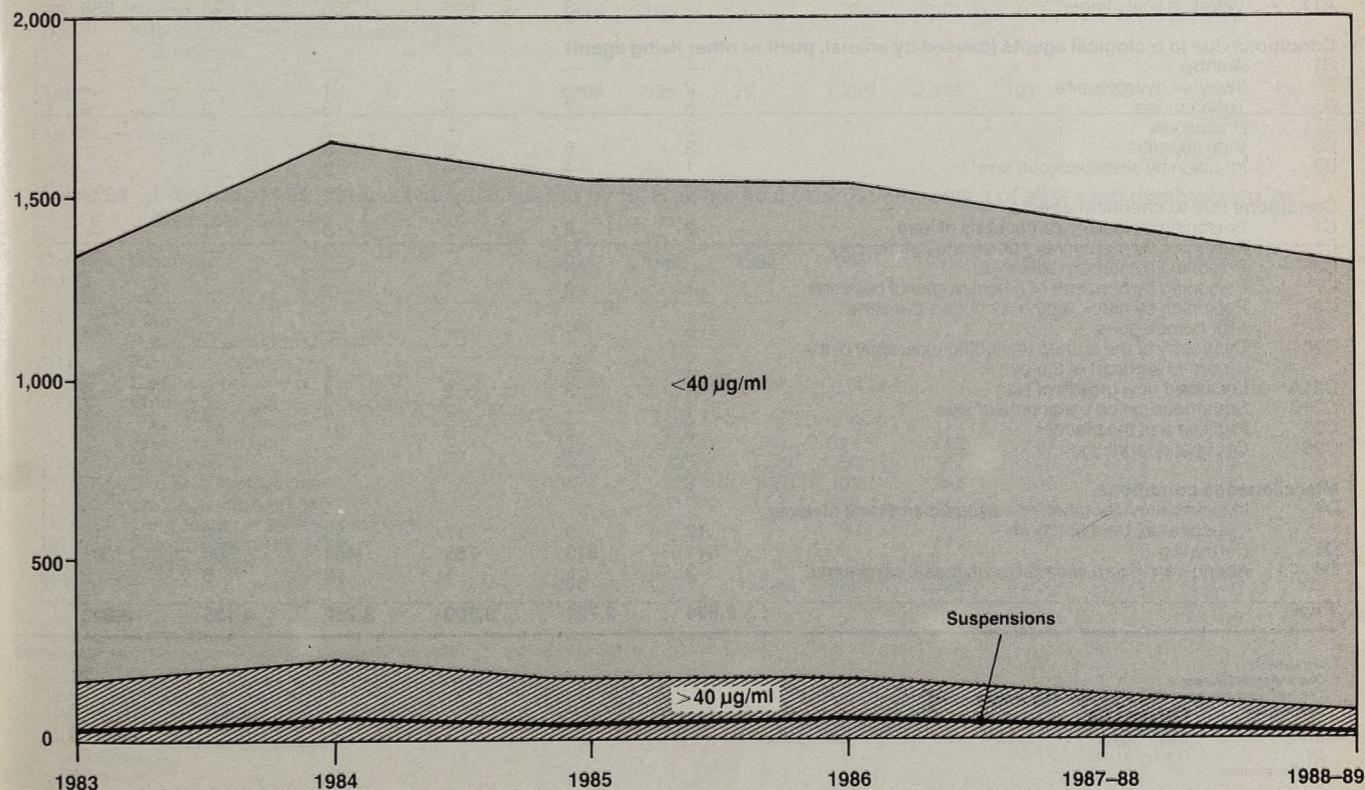


Figure 25 Blood lead levels – Females





were the major employers. Many fewer females were employed in these industrial sectors, with potteries and glazes, glass making and smelting being the main sectors.

The lead battery industry and the demolition industry had the highest proportions of male workers over 69 µg/100m, 9.2 per cent and 7.5 per cent respectively. For females, the data are given as actual numbers rather than

percentages since the numbers of women who exceed the 39 µg/100ml level are very small. Again the lead battery industry had the highest proportion of workers (24 per cent of females) exceeding this level.

A more detailed analysis and discussion of the blood lead data, including regional analyses, were published in the March 1990 issue of *Employment Gazette*.

Table 31 Prescribed industrial diseases other than those assessed by Special Medical Boards\*: new cases qualifying for disablement benefit by disease, 1983-84 to 1985-86†; new cases of assessed disablement by disease, 1986-87 to 1988-89‡

Disease No	Disease	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
<b>Conditions due to physical agents (physical cause)</b>							
A1	Radiation effects	1	—	1	—	2	—
A2	Heat cataract	1	—	1	2	2	3
A3	Decompression sickness	1	—	4	—	1	1
A4	Cramp of hand or forearm	3	3	3	13	11	14
A5	Beat hand	64	73	79	14	22	11
A6	Beat knee	29	47	82	37	138	97
A7	Beat elbow	38	60	59	6	11	4
A8	Inflammation of tendons of the hand, forearm or associated tendon sheaths (Tenosynovitis)	337	390	619	376	322	294
A9	Miner's nystagmus	—	1	—	—	1	—
A10	Occupational deafness	1,468	1,492	1,179	1,381	1,515	1,506
A11	Vibration white finger**	—	3	641	1,366	1,673	1,056
<b>Conditions due to biological agents (caused by animal, plant or other living agent)</b>							
B1	Anthrax	—	—	1	—	—	—
B3	Infection by leptospira	2	—	—	1	—	—
B5	Tuberculosis	6	7	3	13	3	5
B7	Brucellosis	3	—	—	2	—	1
B8	Viral hepatitis	3	5	9	5	3	1
B9	Infection by streptococcus suis**	1	—	—	3	—	—
<b>Conditions due to chemical agents</b>							
C1	Poisoning by lead or compounds of lead	2	2	2	3	1	—
C5	Poisoning by mercury or compounds of mercury	—	—	—	3	—	—
C6	Poisoning by carbon disulphide	—	—	—	—	1	—
C7	Poisoning by benzene or a homologue of benzene	—	2	1	3	—	3
C8	Poisoning by nitro-, amino- or chloro-benzene or homologues	—	—	—	—	—	13
C20	Dystrophy of the cornea (including ulceration of the cornea surface) of the eye	—	—	—	1	—	—
C21A	Localised new growth of skin	1	2	2	4	3	2
C21B	Squamous celled carcinoma of skin	1	—	2	4	3	2
C23	Papilloma of the bladder	5	5	5	21	21	7
C25	Occupational vitiligo	3	—	—	2	—	1
<b>Miscellaneous conditions</b>							
D4	Inflammation/ulceration of mucous membrane of upper respiratory tract or mouth	12	9	17	36	19	15
D5	Dermatitis	611	619	785	464	368	285
D6	Adeno-carcinoma of nasal cavity/nasal carcinoma	2	1	5	2	5	2
<b>Total</b>		<b>2,594</b>	<b>2,721</b>	<b>3,500</b>	<b>3,762</b>	<b>4,125</b>	<b>3,323</b>

\* See table 32.  
 † Years starting October 1.  
 \*\* The following diseases were prescribed after October 1, 1983:  
 Disease No Date prescribed  
 A11 April 1, 1985  
 B9 October 3, 1983  
 ... Not applicable.

Source: DSS

Table 32 Prescribed industrial diseases other than those assessed by Special Medical Boards\*: new cases of assessed disablement by award status, 1986-87 to 1988-89†

Disease No	Disease	Claims assessed in					
		1986-87		1987-88		1988-89	
		Old rules payment	New rules assessment	Old rules payment	New rules assessment	Old rules payment	New rules assessment
		1-13 per cent (No benefit)	14 per cent + (Benefit paid)	1-13 per cent (No benefit)	14 per cent + (Benefit paid)	1-13 per cent (No benefit)	14 per cent + (Benefit paid)
<b>Conditions due to physical agents (physical cause)</b>							
A1	Radiation effects	—	—	—	2	—	—
A2	Heat cataract	2	—	—	1	1	2
A3	Decompression sickness	—	—	1	—	—	1
A4	Cramp of hand or forearm	11	2	—	7	1	13
A5	Beat hand	14	—	—	21	—	10
A6	Beat knee	24	13	—	10	6	86
A7	Beat elbow	5	1	—	6	1	4
A8	Inflammation of tendons of the hand, forearm or associated tendon sheaths (Tenosynovitis)	285	87	4	49	255	18
A9	Miner's nystagmus	—	—	—	1	—	—
A10	Occupational deafness	1,381	—	—	1,515	—	1,506
A11	Vibration white finger**	1,055	300	11	140	1,396	137
<b>Conditions due to biological agents (caused by animal, plant or other living agent)</b>							
B1	Anthrax	—	—	—	—	—	—
B3	Infection by leptospira	—	1	—	—	—	—
B5	Tuberculosis	8	1	4	1	1	4
B7	Brucellosis	2	—	—	—	—	1
B8	Viral hepatitis	3	2	—	1	2	1
B9	Infection by streptococcus suis**	3	—	—	—	—	—
<b>Conditions due to chemical agents</b>							
C1	Poisoning by lead or compounds of lead	3	—	—	1	—	—
C5	Poisoning by mercury or compounds of mercury	3	—	—	—	—	—
C6	Poisoning by carbon disulphide	—	—	—	1	—	—
C7	Poisoning by benzene or a homologue of benzene	3	—	—	—	—	1
C8	Poisoning by nitro-, amino- or chloro-benzene or homologues	—	—	—	—	—	1
C20	Dystrophy of the cornea (including ulceration of the cornea surface) of the eye	1	—	—	—	—	12
C21a	Localised new growth of skin	3	1	—	1	1	2
C21b	Squamous celled carcinoma of skin	3	1	—	2	1	2
C23	Papilloma of the bladder	17	—	4	9	4	4
C25	Occupational vitiligo	1	—	1	—	—	1
<b>Miscellaneous conditions</b>							
D4	Inflammation/ulceration of mucous membrane of upper respiratory tract or mouth	25	11	—	18	1	14
D5	Dermatitis	354	105	5	53	305	10
D6	Adeno-carcinoma of nasal cavity/nasal carcinoma	2	—	—	1	4	1
<b>Total</b>		<b>3,208</b>	<b>525</b>	<b>29</b>	<b>1,789</b>	<b>2,145</b>	<b>191</b>
							<b>1,553</b>
							<b>1,634</b>
							<b>136</b>

See footnotes to table 31.

Source: DSS

Table 33 Prescribed industrial diseases assessed by Special Medical Boards: new cases of assessed disablement, by disease, 1981-89

Disease No	Disease	1981	1982	1983	1984	1985	1986	1987	1988	1989
B6	Farmer's lung	12	11	8	4	6	11	8	15	13
C15	Poisoning by nitrous fumes	—	4	1	—	—	—	3	—	—
C17	Beryllium poisoning	1	2	1	—	—	2	4	3	—
C18	Cadmium poisoning	2	3	4	1	2	3	3	2	—
C22b	Primary carcinoma of bronchus or lung in nickel workers	—	—	1	5	2	3	—	—	—
D1	Pneumoconiosis*	734	733	670	577	702	747	652	562	661
D2	Byssinosis*	108	133	72	56	37	26	23	13	15
D3	Diffuse mesothelioma	93	123	148	201	245	305	399	479	441
D7	Occupational asthma† **	—	112	163	144	165	184	213	180	214
D8	Lung cancer in asbestos workers†	—	—	—	—	8	34	55	59	54
D9	Bilateral pleural thickening†	—	—	—	—	61	111	115	114	125
D10	Lung cancer†	—	—	—	—	—	—	—	—	4
<b>Total</b>		<b>950</b>	<b>1,121</b>	<b>1,068</b>	<b>988</b>	<b>1,228</b>	<b>1,426</b>	<b>1,475</b>	<b>1,427</b>	<b>1,527</b>

\* See also tables 34 and 35.  
 † The following diseases were prescribed after January 1, 1981.  
 Disease No Date prescribed

D7 March 29, 1982  
 D8 April 1, 1985  
 D9 April 1, 1985  
 D10 April 1, 1987

\*\* See also table 36.  
 ... Not applicable.

Source: DSS



**Table 34 Pneumoconiosis and byssinosis: new cases diagnosed by Medical Boarding Centres (Respiratory Diseases)\* by industry to which the disease was attributed†, 1981-89**

Industrial Injuries Scheme cases	1981	1982	1983	1984	1985	1986	1987	1988	1989
Pneumoconiosis	493	467	402	330	364	357	325	299	339
Coal mining	27	24	12	8	7	11	6	3	8
Other mining and quarrying:	15	13	5	7	1	12	12	9	3
Slate	140	172	199	186	273	312	247	202	268
Other—except refractories	9	10	10	13	17	17	13	12	10
Asbestos**	2	3	7	—	1	1	5	6	6
Foundry workers	2	4	—	1	—	1	1	2	—
Iron foundry workers	3	2	5	3	6	2	2	3	2
Steel foundry workers	10	17	14	9	14	10	18	11	9
Non-ferrous foundry workers	3	2	—	—	—	—	—	—	—
Steel dressers	5	3	5	5	3	6	3	6	4
Pottery manufacture	28	18	11	15	16	18	20	9	12
Refractories‡	734	733	670	577	702	747	652	562	661
Other attributable industries	108	124	67	53	36	25	23	13	15
<b>Total</b>	<b>108</b>	<b>133</b>	<b>72</b>	<b>56</b>	<b>37</b>	<b>26</b>	<b>23</b>	<b>13</b>	<b>15</b>
Byssinosis	—	9	5	3	1	1	—	—	—
Cotton	—	—	—	—	—	—	—	—	—
Flax	41	40	40	51	49	46	73	57	38
<b>Total</b>	<b>41</b>	<b>40</b>	<b>40</b>	<b>51</b>	<b>49</b>	<b>46</b>	<b>73</b>	<b>57</b>	<b>38</b>
Cases diagnosed by Medical Appeal Tribunals	26	25	25	30	21	28	36	32	26
Pneumoconiosis (excluding asbestosis)	13	13	13	14	28	17	35	23	12
Asbestosis	2	2	2	7	—	1	2	2	—
Byssinosis	41	40	40	51	49	46	73	57	38
<b>Total</b>	<b>41</b>	<b>40</b>	<b>40</b>	<b>51</b>	<b>49</b>	<b>46</b>	<b>73</b>	<b>57</b>	<b>38</b>
PBMDB scheme cases††	37	25	44	30	18	17	28	20	18
Pneumoconiosis	3	—	—	—	—	—	—	—	—
Byssinosis	923	931	826	714	806	836	776	652	732
<b>Overall total: Pneumoconiosis and byssinosis</b>	<b>923</b>	<b>931</b>	<b>826</b>	<b>714</b>	<b>806</b>	<b>836</b>	<b>776</b>	<b>652</b>	<b>732</b>

\* Formerly known as Pneumoconiosis Medical Panels.  
 † The industry to which the disease is attributable is in some cases defined occupationally.  
 ‡ Cases where mesothelioma was also diagnosed are excluded, and shown in table 33.  
 †† Including the mining, quarrying and processing of refractory material.  
 ††† The figures of Pneumoconiosis, Byssinosis and Miscellaneous Diseases Benefits Scheme cases refer to years ending September 30.

Source: DSS

**Table 35 Pneumoconiosis: new Industrial Injuries Scheme cases diagnosed by Medical Boarding Centres\* (Respiratory Diseases) in coal mining, asbestos and other industries, by age and percentage disablement†, 1987-89**

Sector and age	1987 Percentage disablement assessed					1988 Percentage disablement assessed					1989 Percentage disablement assessed				
	10 or less	20 30 40	50 60 70	80 90 100	Total	10 or less	20 30 40	50 60 70	80 90 100	Total	10 or less	20 30 40	50 60 70	80 90 100	Total
<b>Coal mining</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Under 30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30-34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
35-39	1	—	—	—	1	—	—	—	—	1	—	—	—	—	1
40-44	2	—	—	—	2	2	—	—	—	2	2	—	—	—	2
45-49	7	—	—	—	7	1	—	—	1	2	4	—	—	—	4
50-54	16	2	—	—	18	13	—	1	1	14	15	2	—	—	17
55-59	12	4	—	—	17	6	3	—	1	10	13	5	—	—	19
60-64	24	22	—	—	46	20	16	2	2	40	19	8	—	—	29
65-69	37	29	—	2	68	31	23	1	2	57	29	41	4	1	75
70-74	28	36	1	3	68	33	34	1	3	71	27	36	4	—	67
75 and over	34	55	8	1	98	30	52	15	5	102	38	73	11	3	125
<b>All ages</b>	<b>161</b>	<b>148</b>	<b>9</b>	<b>7</b>	<b>325</b>	<b>136</b>	<b>129</b>	<b>20</b>	<b>14</b>	<b>299</b>	<b>148</b>	<b>165</b>	<b>19</b>	<b>7</b>	<b>339</b>
<b>Asbestos workers**</b>	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—
Under 30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30-34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
35-39	—	—	—	—	—	1	1	—	—	2	—	—	—	—	—
40-44	3	1	—	—	4	1	1	—	—	2	1	3	—	—	4
45-49	3	8	—	—	11	3	7	—	—	10	4	5	1	1	11
50-54	5	8	1	3	17	5	8	—	1	14	2	10	2	2	16
55-59	11	24	—	4	39	9	15	3	1	28	6	35	3	3	47
60-64	11	36	3	9	59	12	32	5	4	53	12	50	3	2	67
65-69	13	29	1	11	54	7	34	4	8	53	18	25	4	7	54
70-74	6	20	4	7	37	3	12	3	6	24	4	25	5	5	39
75 and over	3	13	2	8	26	—	11	—	4	15	2	23	5	—	30
<b>All ages</b>	<b>55</b>	<b>139</b>	<b>11</b>	<b>42</b>	<b>247</b>	<b>41</b>	<b>121</b>	<b>16</b>	<b>24</b>	<b>202</b>	<b>49</b>	<b>176</b>	<b>23</b>	<b>20</b>	<b>268</b>
<b>Other</b>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Under 30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30-34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
35-39	—	1	—	—	1	2	—	—	—	—	—	—	—	—	—
40-44	—	2	—	—	2	1	—	—	—	1	1	—	—	—	1
45-49	3	—	—	—	3	1	1	1	—	3	—	—	—	—	—
50-54	2	1	—	—	3	2	3	—	1	6	2	1	—	—	3
55-59	11	5	—	1	17	2	3	—	—	5	2	3	—	1	6
60-64	6	6	—	—	12	5	6	—	1	12	6	7	—	—	13
65-69	15	4	1	—	20	3	8	—	1	12	3	6	2	1	12
70-74	4	4	2	—	10	3	7	1	1	12	4	6	1	—	11
75 and over	4	5	1	1	11	6	3	1	—	10	3	2	1	2	8
<b>All ages</b>	<b>45</b>	<b>28</b>	<b>4</b>	<b>3</b>	<b>80</b>	<b>23</b>	<b>31</b>	<b>3</b>	<b>4</b>	<b>61</b>	<b>21</b>	<b>25</b>	<b>4</b>	<b>4</b>	<b>54</b>
<b>Total</b>	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—
Under 30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30-34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
35-39	1	1	—	—	1	3	1	2	—	3	—	—	—	—	—
40-44	5	3	—	—	8	4	1	—	—	5	4	3	—	—	7
45-49	13	8	—	—	21	5	8	1	1	15	8	5	1	1	15
50-54	23	11	1	3	38	20	11	1	2	34	19	13	2	2	36
55-59	34	33	—	6	73	17	21	3	2	43	21	43	3	5	72
60-64	41	64	3	9	117	37	54	7	7	105	37	65	3	4	109
65-69	65	62	2	13	142	41	65	5	11	122	50	72	10	9	141
70-74	38	60	7	10	115	39	53	5	10	107	35	67	10	5	117
75 and over	41	73	11	10	135	36	66	16	9	127	43	98	17	5	163
<b>All ages</b>	<b>261</b>	<b>315</b>	<b>24</b>	<b>52</b>	<b>652</b>	<b>200</b>	<b>281</b>	<b>39</b>	<b>42</b>	<b>562</b>	<b>218</b>	<b>366</b>	<b>46</b>	<b>31</b>	<b>661</b>

Source: DSS

\* See footnote to table 34.  
 † Under a statutory provision a person found to be suffering from pneumoconiosis qualifies for a pension at the 10 per cent rate even if he or she has no discernible respiratory disablement arising from the disease.  
 \*\* Cases where mesothelioma was also diagnosed are excluded, and shown in table 33.



**Table 36 Occupational asthma: new cases qualifying for Disablement Benefit, by causative agent and percentage disability, 1982-89**

Agent	1982	1983	1984	1985	1986	1987	1988	1989
1 Isocyanates	45	69	51	47	55	56	55	72
of which: 10 per cent or less	33	50	38	24	33	27	14	22
50 per cent or more	1	—	1	1	1	—	5	3
2 Platinum salts	4	9	4	4	10	8	7	5
of which: 10 per cent or less	4	8	—	—	—	—	—	—
50 per cent or more	—	—	—	—	—	—	—	—
3 Hardening agents	8	10	16	18	29	15	32	21
of which: 10 per cent or less	4	6	8	11	14	4	9	8
50 per cent or more	—	1	1	—	1	—	2	—
4 Soldering flux	23	20	26	24	22	21	19	29
of which: 10 per cent or less	16	13	18	14	10	7	1	2
50 per cent or more	—	2	1	—	2	1	2	3
5 Proteolytic enzymes	4	2	2	5	—	6	4	3
of which: 10 per cent or less	4	2	—	2	—	1	—	—
50 per cent or more	—	—	—	—	—	1	—	1
6 Animals/insects	5	6	7	7	13	8	5	9
of which: 10 per cent or less	4	5	6	3	9	2	1	3
50 per cent or more	—	—	—	1	—	—	—	—
7 Flour/grain	23	47	38	55	52	47	30	45
of which: 10 per cent or less	17	33	28	33	27	16	8	14
50 per cent or more	—	1	1	2	2	1	—	5
8 Antibiotics	—	—	—	—	—	29	4	4
of which: 10 per cent or less	—	—	—	—	—	11	—	1
50 per cent or more	—	—	—	—	—	—	—	—
10 Wood dusts	—	—	—	—	2	16	19	23
of which: 10 per cent or less	—	—	—	—	—	4	6	3
50 per cent or more	—	—	—	—	—	—	—	1
12 Castor bean dust	—	—	—	—	1	—	—	—
of which: 10 per cent or less	—	—	—	—	1	—	—	—
50 per cent or more	—	—	—	—	—	—	—	—
13 Ipecacuanha	—	—	—	—	—	1	1	—
of which: 10 per cent or less	—	—	—	—	—	1	—	—
50 per cent or more	—	—	—	—	—	—	—	—
14 Azodicarbonamide	—	—	—	—	—	6	4	3
of which: 10 per cent or less	—	—	—	—	—	1	1	1
50 per cent or more	—	—	—	—	—	—	—	1
<b>Total of agents 1 to 7*</b>	<b>112</b>	<b>163</b>	<b>144</b>	<b>165</b>	<b>181</b>	<b>161</b>	<b>152</b>	<b>184</b>
<b>Total of agents 8 to 14†</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>3</b>	<b>52</b>	<b>28</b>	<b>30</b>
<b>All agents</b>	<b>112</b>	<b>163</b>	<b>144</b>	<b>165</b>	<b>184</b>	<b>213</b>	<b>180</b>	<b>214</b>
of which: 10 per cent or less	82	117	102	95	102	78	45	54
50 per cent or more	1	4	4	4	6	3	9	14

Note: There have been no awards for the following agents; (9) Cimetidine, (11) Ispaghula.  
\* Agents prescribed from the start of the prescription.  
† Agents added to prescribed list with effect from September 1, 1986.

Source: DSS, HS

**Table 37 Deaths resulting in award of Industrial Death Benefit, etc, by scheme and main disease, 1978-87\***

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
<b>Industrial Injuries Scheme</b>										
Asbestosis	41	74	78	65	70	92	79	87	100	104
Other pneumoconiosis	548	535	510	474	482	482	367	436	375	337
Byssinosis	14	9	12	10	9	10	5	12	11	6
Farmer's lung	—	3	2	2	3	8	3	5	4	1
Papilloma of the bladder	8	10	15	7	12	13	9	9	9	15
Mesothelioma	109	131	133	175	190	202	249	287	290	330
Other prescribed diseases	16	16	13	23	16	33	30	45	39	44
<b>Total I.I. Scheme</b>	<b>736</b>	<b>778</b>	<b>763</b>	<b>756</b>	<b>782</b>	<b>840</b>	<b>742</b>	<b>881</b>	<b>828</b>	<b>837</b>
<b>Pneumoconiosis, Byssinosis and Miscellaneous Diseases Benefit Scheme</b>										
Asbestosis	2	—	2	1	—	—	—	—	—	—
Other pneumoconiosis	63	61	67	40	44	38	48	31	24	38
Byssinosis	1	1	—	—	—	—	—	—	—	—
Other diseases	15	15	12	9	10	11	19	9	21	20
<b>Total PBMDB scheme</b>	<b>81</b>	<b>77</b>	<b>81</b>	<b>50</b>	<b>54</b>	<b>49</b>	<b>67</b>	<b>40</b>	<b>45</b>	<b>58</b>
<b>Certification that death was due to the disease (Workers' Compensation Scheme)</b>										
Other pneumoconiosis	54	60	66	68	48	60	50	40	40	22
<b>Total WC Scheme</b>	<b>54</b>	<b>60</b>	<b>66</b>	<b>68</b>	<b>48</b>	<b>60</b>	<b>50</b>	<b>40</b>	<b>40</b>	<b>22</b>
<b>Total all schemes</b>	<b>871</b>	<b>915</b>	<b>910</b>	<b>874</b>	<b>884</b>	<b>949</b>	<b>859</b>	<b>961</b>	<b>913</b>	<b>917</b>
of which: pneumoconiosis (including asbestosis and byssinosis)	723	740	735	658	653	682	549	606	550	507

\* Death Benefit is not payable after April 10, 1988: 1987 is the last full year of data.

Source: DSS

**Table 38 Cases of occupational disease reported under RIDDOR, 1986-87 to 1988-89**

Disease	1986-87	1987-88	1988-89	Corresponding DSS PD number
<b>Poisoning by</b>				
1a Acrylamide	—	—	—	C19
1b Arsenic	—	1	2	C4
1c Benzene	—	1	—	C7
1d Beryllium	—	—	—	C17
1e Cadmium	1	1	2	C18
1f Carbon disulphide	—	—	—	C6
1g Diethylene dioxide	—	—	—	C11
1h Ethylene oxide	—	—	—	—
1i Lead	3	5	6	C1
1j Manganese	—	—	—	C2
1k Mercury	2	1	—	C5
1l Methyl bromide	—	2	—	C12
1m Nitrochlorobenzene	3	—	2	C8
1n Oxides of nitrogen	—	1	—	C15
1o Phosphorus	3	2	3	C3
2 Chrome ulcer	11	19	14	*
3 Folliculitis	6	1	3	*
4 Acne	—	1	—	*
5 Skin cancer	3	—	1	C21
6 Radiation skin injury	—	6	3	Part A1
7 Occupational asthma	71	45	60	D7
8 Extrinsic alveolitis	4	13	7	B6
9 Pneumoconiosis	13	5	4	Part D1
10 Byssinosis	—	—	1	D2
11 Mesothelioma	8	13	9	D3
12 Lung cancer (asbestos)	1	1	—	D8
13 Asbestosis	11	14	—	Part D1
14 Lung cancer (nickel)	—	—	—	C226
15 Leptospirosis	5	12	7	B3
16 Hepatitis	29	25	24	B8
17 Tuberculosis	14	11	9	B5
18 Pathogenic infection	20	6	15	—
19 Anthrax	—	—	—	B1
20 Bone cancer	—	—	—	—
21 Blood dyscrasia	1	—	—	Part A1
22 Cataract	3	7	—	A2
23 Decompression sickness	—	25	71	A3
24 Barotrauma	—	—	1	—
25 Nasal/sinus cancer	—	1	—	C22A/D6
26 Angiosarcoma	—	—	—	C24A
27 Urinary tract cancer	—	6	1	C23
28 Vibration white finger	68	96	55	A11
<b>Total</b>	<b>280</b>	<b>321</b>	<b>300</b>	

\* These three RIDDOR categories form part of DSS PD D5 (dermatitis), not separately identifiable in DSS figures. Dermatitis in general is not reportable under RIDDOR.

**Table 40 Death certificates mentioning mesothelioma, by age and sex, 1968-88**

Age group	1968-70	1971-73	1974-76	1977-79	1980-82	1983-85	1986-88
<b>Males</b>							
0-44	25	27	30	45	57	50	67
45-54	61	90	132	159	156	199	260
55-64	165	166	226	279	383	523	622
65-74	94	153	213	320	389	478	699
75+	36	52	63	141	181	297	404
<b>Total</b>	<b>381</b>	<b>488</b>	<b>664</b>	<b>944</b>	<b>1,166</b>	<b>1,547</b>	<b>2,052</b>
<b>Females</b>							
0-44	15	6	12	13	19	15	16
45-54	22	20	22	15	29	17	22
55-64	34	40	49	71	82	66	82
65-74	38	39	64	73	94	107	121
75+	14	19	20	44	44	60	77
<b>Total</b>	<b>123</b>	<b>124</b>	<b>167</b>	<b>216</b>	<b>268</b>	<b>265</b>	<b>318</b>
<b>Total</b>	<b>504</b>	<b>612</b>	<b>831</b>	<b>1,160</b>	<b>1,434</b>	<b>1,812</b>	<b>2,370</b>

**Table 41 Mesothelioma crude death rates (per million), by region, 1980-88**

Region	Males			Females		
	1980-82	1983-85	1986-88	1980-82	1983-85	1986-88
Northern	25.9	43.6	53.6	4.8	5.9	8.0
Yorkshire and Humberside	15.2	16.2	20.2	4.6	3.2	4.1
North West	12.1	20.0	23.2	3.7	3.8	4.6
West Midlands	8.6	7.7	10.7	1.9	1.8	2.3
East Midlands	10.8	15.7	16.1	2.2	3.4	3.0
South West	17.2	22.9	30.1	2.1	1.9	2.5
East Anglia	15.7	12.6	20.3	2.4	3.4	2.6
South East (excluding Greater London)	7.8	24.7	32.4	3.8	3.3	3.7
Greater London	0.9	16.4	22.9	3.4	4.3	4.5
Wales	8.1	9.6	14.8	2.1	1.2	1.6
Scotland	18.9	18.9	30.8	2.5	1.9	3.5
<b>Great Britain</b>	<b>14.6</b>	<b>19.3</b>	<b>25.4</b>	<b>3.2</b>	<b>3.1</b>	<b>3.7</b>

**Table 39 Death certificates mentioning specified asbestos related disease, 1970-88**

Disease	Year of death																			
	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	
<b>Asbestos</b>																				
A Together with lung cancer	26	32	44	43	33	49	53	59	60	46	56	77	75	60	60	66	84	58	78	
B Together with mesothelioma	40	29	40	30	65	50	74	53	85	76	68	65	79	89	86	87	65	109	89	
C Alone or together with other diseases	21	33	24	34	41	48	63	73	49	56	46	60	53	61	69	74	82	86	74	
<b>Total A+C</b>	<b>47</b>	<b>65</b>	<b>68</b>	<b>77</b>	<b>74</b>	<b>97</b>	<b>116</b>	<b>132</b>	<b>109</b>	<b>102</b>	<b>102</b>	<b>137</b>	<b>128</b>	<b>121</b>	<b>129</b>	<b>140</b>	<b>166</b>	<b>144</b>	<b>152</b>	
Total asbestosis deaths (A+B+C)	87	94	108	107	139	147	190	185	194	178	170	202	207	210	215					



Table 42 Lead workers under medical surveillance, 1983 to 1988-89

Maximum measured blood lead ( $\mu\text{g}/100\text{ml}$ )	1983		1984		1985		1986		1987-88		1988-89	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
<40	14,894	1,170	14,785	1,436	16,072	1,389	15,912	1,375	15,310	1,300	16,820	1,240
40<60	4,930	133	5,482	179	5,314	128	5,206	138	4,819	97	4,751	66
60<70	2,037	28	2,138	28	1,749	30	1,190	15	1,241	21	1,038	6
70<80							477	11	523	4	441	1
80 and over	260	2	366	8	247	3	217	4	239	1	196	—
Total under surveillance of which: 70 and over	22,121	1,333	22,771	1,651	23,382	1,550	23,002	1,543	22,132	1,423	23,246	1,313
Suspensions from work	198	20	254	62	183	37	351	57	388	33	340	12

Table 43 Lead workers under medical surveillance, by sex, blood lead level and industry sector, 1988-89

Sector	Males					Females		
	Percentage in blood level category ( $\mu\text{g}/100\text{ml}$ )					<40	40+	Total under surveillance
	<40	40-59	60-69	70+	Total under surveillance			
Smelting, refining, alloying, casting	67.2	25.2	5.6	2.0	7,082	189	4	193
Lead battery industry	46.0	34.9	9.9	9.2	3,151	102	32	134
Badge and jewellery enamelling and other vitreous enamelling	57.9	39.5	0.0	2.6	38	96	9	105
Glass making	61.0	32.9	4.5	1.7	1,086	199	5	204
Manufacture of pigments and colours	82.9	13.2	1.8	2.1	780	66	—	66
Potteries, glazes and transfers	82.1	15.7	1.8	0.4	709	317	18	335
Manufacture of inorganic and organic lead compounds	94.8	4.6	0.5	0.2	1,963	5	—	5
Shipbuilding, repairing and breaking	95.8	3.4	0.0	0.8	118	—	—	—
Demolition industry	56.4	27.8	8.3	7.5	1,144	2	—	2
Painting, building and vehicles	86.9	10.5	1.7	0.9	458	—	—	—
Work with metallic lead and lead containing alloys	76.3	18.7	3.4	1.6	2,639	53	5	58
Other processes	90.0	8.0	1.2	0.8	3,523	158	—	158
Scrap industry	89.5	8.1	1.3	1.1	555	53	—	53
All sectors	72.4	20.4	4.5	2.7	23,246	1,240	73	1,313

## Section 11: Definitions

### Injuries

The source of occupational injury data is reports to enforcing authorities made under the Notification of Accidents and Dangerous Occurrences Regulations 1980 (NADOR) for the years 1981-85 and Reporting of Injuries, Diseases and Dangerous Occurrences Regulations, 1985 (RIDDOR) from 1986-87 onwards, when publication of the statistics was changed to a financial year basis.

The duty to report injuries rests with the 'responsible persons'. In the case of a reportable accident to an employee, this would be the employer. For a self-employed sub-contractor, it would be the main employer or contractor. Depending on the type of premises, the report has to be made to the Health and Safety Executive or to certain enforcing authorities, such as local authorities.

The definition of a fatal injury includes a death occurring up to a year after the accident.

### Major injuries

RIDDOR extended the definition of notifiable major injuries and, consequently, data based on reports made under NADOR and RIDDOR are not comparable. General trends may be determined by the examination of the individual series.

Under NADOR, the following extract from Regulation 2(1) states:

"... unless the context otherwise requires—'major injury' means:

- (a) fracture of the skull, spine or pelvis;
- (b) fracture of any bone:
  - (i) in the arm, other than a bone in the wrist or hand;
  - (ii) in the leg, other than a bone in the ankle or foot;
- (c) amputation of a hand or foot;
- (d) the loss of sight of an eye; or
- (e) any other injury which results in the person injured being admitted into hospital as an in-patient for more than 24 hours, unless that person is detained only for observation."

This is the definition used for all reported major injury accidents occurring over the period for which NADOR was in force—January 1981 to March 1986.

Counts of major injuries occurring from April 1986 are based on the definition given in RIDDOR. This was referred to in Section 2 and is given in full here for reference. Regulation 3(2) of RIDDOR lists the following injuries or conditions:

- (a) fracture of the skull, spine or pelvis;
- (b) fracture of any bone:
  - (i) in the arm or wrist but not in the hand; or
  - (ii) in the leg or ankle, but not in the foot;
- (c) amputation of:
  - (i) a hand or foot; or
  - (ii) a finger, thumb or toe, or any part thereof if the joint or bone is completely severed;
- (d) the loss of sight of an eye, penetrating injury or chemical or hot metal burn to an eye;
- (e) injury including burns requiring immediate medical treatment, or loss of consciousness, resulting from an electric shock from any electrical circuit or equipment, whether or not due to direct contact;
- (f) loss of consciousness resulting from lack of oxygen;

- (g) decompression sickness requiring immediate medical treatment (unless 1981 Diving Operations at Work Regulations apply);
- (h) acute illness or loss of consciousness resulting from absorption of substance by inhalation, ingestion or through the skin;
- (i) acute illness requiring medical treatment where there is reason to believe that this resulted from exposure to a pathogen or infected material;
- (j) any other injury which results in the person injured being admitted immediately into hospital for more than 24 hours.

RIDDOR also reinstated the employer's duty to report injuries resulting in an absence from work for more than three days. Trends in the numbers of such injuries reported for the first three years under RIDDOR are beginning to emerge.

Injuries to employees (including trainees), self-employed people and also non-employed people are reportable if they are judged to have arisen from work activity. The employment status of an individual is taken as that given on the injury report form. However, not all accidents to people arising from work activity are reportable under RIDDOR. The statistics exclude:

- accidents giving rise to three or fewer days of work;
- assaults on staff;
- 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 except when they are working at premises under the control of someone else at work;
- those accidents notified under the Poisonous Substances in Agriculture Regulations 1984 which are exempt from RIDDOR.
- injuries to passengers travelling on a railway and members of the public injured on railway premises.

### Local authority statistics

The local authorities copy individual RIDDOR reports to the HSE's Local Authority Unit (LAU). These copies form the source for the local authority RIDDOR injury contribution to the tables. It is estimated that local authorities copy to the LAU nearly 90 per cent of the reports that they receive from employers.

### Dangerous occurrences

RIDDOR extended the schedule of dangerous occurrences that had been reportable under NADOR. These occurrences are reportable whether or not anyone is injured. The categories are selective and aim to secure information about incidents which have a high potential for causing death or serious injury. Where the definitions are the same under both sets of regulations, a continuous series is shown from 1981. Where the definition is changed or new, the series is shown only for the three RIDDOR years. Under-reporting also affects this series of data and the numbers in each category can vary substantially from year to year.



### Gas safety statistics

The data for 1981-82 to 1985-86 were compiled from notifications under the Gas Act 1972. Since 1986-87 they have been compiled under regulation 6(1) of RIDDOR. The two series are not directly comparable: for example, those compiled under the earlier system include incidents which did not cause death or injury whereas RIDDOR does not require these to be reported. A review of the data quality of the gas safety statistics collected under RIDDOR has been carried out over the last year. Improved classification of incidents involving fire/explosion and poisonings has led to revisions to the figures published in previous reports. Figures relating to carbon monoxide poisoning needs to be treated with caution as this type of poisoning can be particularly difficult to diagnose.

### Occupational health statistics

The figures in the detailed tables derive from three sources:

- cases of prescribed disease compensated under the Industrial Injuries Scheme run by the DSS;
- death certificates mentioning either asbestosis or mesothelioma, which are copied to the HSE by the Office of Population Censuses and Surveys (OPCS); and
- maximum levels of blood lead recorded in the course of medical surveillance of lead workers under the 1981 Lead Regulations.

### Prescribed diseases—general

The Industrial Injuries Scheme compensates workers (or their dependents) injured or killed by an accident at work or suffering from a prescribed disease. The self-employed are not covered by this scheme. Diseases are only 'prescribed' in connection with defined occupations or occupational conditions. For example, tuberculosis is a prescribed disease, but only in respect of individuals whose occupation involves contact with a source of tuberculous infection. Diseases are prescribed only if some occupational cause is well established, and if terms of prescription can be framed in such a way that most cases falling within the terms will be of genuine occupational origin.

Where there is a long delay between the cause of a disease and its appearance, it is difficult both to identify and prove occupational causes, and to frame satisfactory terms of prescription. Even when this is done, the number of awards will probably understate the disease's incidence, because individuals may be unaware of the possible occupational origin of their disease.

Three principal benefits have been payable under the Industrial Injuries Scheme:

- *Injury Benefit* (until March 1983), a special higher rate of sickness benefit was payable to people absent from work because of prescribed disease. The abolition of this special rate of benefit from April 1983 means that this information is no longer available;
- *Disablement Benefit* is paid in cases where the disease has led to some long-term loss of function;
- *Industrial Death Benefit* (until April 1988) was paid to a worker's dependents where death was caused or materially accelerated by the prescribed disease.

The information that can now be drawn from the Industrial Injuries Scheme relates only to cases of prescribed disease leading to some degree of long-term disability. For claims lodged after October 1, 1986, and for

all diseases except pneumoconiosis, byssinosis and mesothelioma, benefit is paid only if disablement is assessed at 14 per cent or more. In order to illustrate the impact of the rule change, the figures for 1986-87 to 1988-89 are divided into three categories: awards made under the old rules (payment for all positive assessments); awards made under the new rules (with disability assessed at 14 per cent or more); and assessments of 1 to 13 per cent under the new rules (no benefit paid). This breakdown is shown in *table 32*.

### Disablement benefit (tables 31-36)

The figures for awards of disablement benefit are derived differently for different diseases. In particular, figures for diseases where compensation is assessed by a 'Special Medical Board' (SMB) are compiled on a calendar year basis and have been available for some years (*table 33*). Statistics for other diseases (*tables 31 and 32*) are compiled for years starting on October 1 and (with the exception of occupational deafness) became available on the current basis from October 1983 after reorganisation of statistical record-keeping within the DSS in the wake of the abolition of Industrial Injury Benefit.

The effect of this was that figures for total awards of Disablement Benefit for non-SMB diseases (other than deafness) then became available for the first time (previously most Disablement Benefit awards were not counted separately from Injury Benefit awards). As Injury Benefit was never payable for occupational deafness, the statistical basis for this disease was not affected.

The totals for pneumoconiosis and byssinosis awards are shown for completeness in *table 33*; more detailed information on these diseases is given in *tables 34 and 35*.

### Industrial Death Benefit

*Table 37* shows figures for deaths resulting in the awards of Industrial Death Benefit. The basis for the compilation of these figures has been changed in this table from that used in the past. There can be considerable delays between a death occurring, a claim being lodged and an award being centrally notified. The practice in the past has been to count awards to the year of death, provided the central notification was received in the same or the next year. If the notification was delayed by longer than this, it was counted to the year prior to the year of notification. The proportion of awards with late notification varies from year to year and has tended to increase in recent years.

To remove the consequent distortion, *table 37* counts awards in the actual year of death from 1983 onwards. For years prior to 1983, accurate year of death figures cannot be recovered from the records and the figures shown are compiled on the old basis.

IDB ceased to be payable for deaths later than April 1988 (payment for existing cases continues). The table therefore stops with 1987, the last full year of data.

### Industrial disease reported under RIDDOR

*Table 38* shows the numbers of reports of occupational disease received under RIDDOR. These 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.

The diseases and their associated occupational conditions are listed in schedule 2 to the Regulations. The schedule is very largely derived from the DSS Prescribed Diseases List, though with some omissions—notably the

five most common diseases: dermatitis, tenosynovitis, and the 'beat' conditions.

Most of the RIDDOR disease categories can be related to a corresponding DSS prescribed disease in *table 31, 32 or 33*. Comparison of these figures suggests substantial under-reporting under RIDDOR, particularly for diseases with long induction periods (for example, the pneumoconioses and occupational cancers).

### Asbestosis and mesothelioma recorded on death certificates (tables 39-41)

The figures in *table 39* are derived from information recorded on death certificates. They show the numbers of

death, certificates issued each year on which either asbestosis or mesothelioma (or both) are mentioned.

Some death certificates mentioning both conditions do so in ways which suggest that the word 'asbestos' is being used to indicate the role of asbestos in causing mesothelioma, rather than the existence of an asbestos induced lung fibrosis, which is what the word should strictly mean.

Consequently the trends in deaths from asbestosis *per se* are probably better reflected by the figures for asbestosis without mention of mesothelioma, rather than by the total number of certificates on which asbestosis is mentioned.



## Inquiry contact points

Inquiries about statistics for injuries arising from work activity, dangerous occurrences, enforcement action and gas safety should be addressed to:

Statistical Services Unit  
Room 512  
Health and Safety Executive  
Daniel House  
Stanley Precinct  
Bootle  
Merseyside  
L20 7HE  
(Tel: 051-951 4604/4862)

Inquiries about occupational ill-health statistics should be addressed to:

Epidemiology and Medical Statistics Unit  
Room 244  
Health and Safety Executive  
Magdalen House  
Stanley Precinct  
Bootle  
Merseyside  
L20 3QZ  
(Tel: 051-951 4542/4540)

Inquiries about Social Security statistics should be addressed to:

Department of Social Security  
Central Office  
Newcastle upon Tyne  
NE98 1YX  
(Tel: 091-213 5000)

Inquiries about domestic accident statistics should be addressed to:

Department of Trade and Industry  
Room 305  
10-18 Victoria Street  
London  
SW1H 0NN  
(Tel: 071-215 3215)

Inquiries about road traffic accident statistics should be addressed to:

Department of Transport  
Romney House  
43 Marsham Street  
London  
SW1P 3PY  
(Tel: 071-276 8785/8786)



