

## KEY MESSAGES FROM THE LFS FOR INJURY RISKS : GENDER AND AGE, JOB TENURE AND PART TIME WORKING

### Introduction

1. HSE has two sources of injury statistics: the flow of reports made by employers under RIDDOR (1); and the Labour Force Survey (LFS). The risks of injury as reported by employers are understated because employers do not report all non-fatal injuries that they should. To supplement information on risk of non-fatal injury, HSE commissions accident questions in the LFS. HSE also commissioned research into the LFS data in order to explore the risks of injury in the many parts of the workforce which are identified in the LFS. This note gives the main messages for injury risks from that research by gender, age, job tenure with employer and for part time working (2).

### Relative Risks

2. Under RIDDOR, employers have a duty to report injuries involving 4 days absence from work and fatal injuries. The LFS provides incidence rates of reportable (4+ days) injury and also rates for all workplace injury, including injuries with less than 4 days absence as recalled by LFS working respondents. This note refers to injury rates for the 3 categories of injury: fatal, reportable, and all workplace injury.

3. The rate of workplace injury in a group of workers may be higher than another and will be partly due to differences in job characteristics between the two groups. The research into the LFS data provides the relative risk between two groups after allowing for the effects of occupations, hours of work and other job characteristics of workers. For example, the rate of all workplace injury is over 75% higher in men than women, reflecting that men tend to be employed in higher risk occupations. After allowing for job characteristics, the relative risk of workplace injury is 20% higher in men compared with women. Job characteristics explain much of the higher rate of injury in men but not all because men still have an unexplained 20% higher relative risk.

### Men and Women

4. Rates of injury are higher in men than women. For example, the rate of all workplace injury in men, from the 1996/97 LFS, is 5.8 per 100 men workers compared with 3.3 for women. The injury rate in men is 76% higher. The corresponding figure for the 1995/96 LFS is 85% higher. Men also have a higher rate of reportable injury, for example, in 1996/97 the rate in men is 2.0 compared with 1.1 in women. There are three key messages on risks between men and women.

- (i) Men have a substantially higher rate of workplace injury than women. But men face around 20% higher relative risk of all workplace injury not explained by job characteristics. Men also face a higher risk of reportable injury.

- (ii) The statistics of RIDDOR show that 95-98 % of fatalities are to men and that the rate of fatal injury is nearly 80 times higher in men than women.

## Gender and Age

5. The picture on the relative risks of injury between age groups varies between men and women and between the three categories of injury.

6. The rate of all workplace injury is substantially higher in young men, 16-24, compared with men aged 45-54. From the 1996/97 LFS, the rate is 6.7 per 100 men workers aged 16-19 and is 8.4 for men aged 20-24, compared with 4.9 for men aged 45-54. The rate is 37% higher for 16-19 year olds and over 70% higher in 20-24 year olds. Young men, aged 16-24, still face a 40% higher relative risk of all workplace injury than men aged 45-54 even after allowing for occupations and other job characteristics.

7. However, the picture is different for reportable injury in men. For example, the rate of reportable injury is lower in men aged 16-19 than all age groups except for those above 55. The rate of reportable injury is 30% higher in men aged 20-24 compared with men aged 45-54. After allowing for occupations the relative risk is just 12% higher and is not statistically significant. In summary, there is no substantial variation in risk of reportable injury between young and older men.

8. The rate of fatal injury is lowest in young men and increases in older men. Table 1 displays the rates of fatal and non-fatal injury in men.

9. The LFS records too few women injured compared with men to tease out statistically significant risks by age groups. However, after allowing for occupations, the relative risk of injury is highest in women aged 55-59. In summary, there are four main messages for injury by age and gender.

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

## **Job Tenure**

10. The LFS can provide the rate of injury for workers who are new to their employer or been less than 12 months, or even 6 months with the employer. We have to allow for such short time with the employer when deriving the standard incidence rate which is expressed per year. Table 2 presents annualised rates of all workplace injury for workers whose job tenure with the employer ranges from less than 6 months to more than 5 years.

- i) Workers in the first few months with their employer have the highest rate of injury once expressed per 12 months.
- ii) On a yearly basis, the rate of injury to workers in the first 6 months is over twice that in workers who have been with their employers for at least a year, whether all workplace injury or reportable injury.
- iii) The relatively high risk for new workers remains after allowing for occupations and hours of work. Other factors cannot explain the higher risk in workers new to their employers

11. A review of literature in 1972 (3) provides some support in a conclusion about studies on "length of service" which "are all compatible with the idea that there is an initial learning effect of some sort which lasts a certain time after which the accident rate evens out".

## **Temporary jobs**

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

## **Part time jobs**

13. The weekly hours of work has an expected influence on the incidence rate of workplace injury. The rate of injury increases as the number of weekly hours increases, simply reflecting longer hours at work. However, incidence rates do not tell us if workers on very short or long hours have any additional risk of injury, compared with those who work a more standard number of hours. We bring rates of injury (per 100 workers) to the same basis of an average number of weekly hours of work. Table 3 reproduces LFS rates of injury from the IER research for five bands of usual weekly hours of work, ranging from less than 15 hours to more than 60 hours. These rates are brought to the same basis of an average 39.5 weekly hours. There are three key messages.

- i) Workers on a low number of weekly hours have substantially higher rates of all workplace and reportable injury than those working longer hours, and the rate gets lower as the number of weekly hours increases.

- ii) Those working less than 16 hours per week have double the rate of injury compared with those who work 30-50 hours per week (once equalised for hours of work).
- iii) The relatively high risk in workers with low hours remains after allowing for occupations and other job characteristics.

14. A study in 1992 of railway signals passed at danger (SPADs) showed high rates for drivers working short, not long hours and for drivers new into shift. The study provides some support for the LFS findings that part time working attracts a higher rate of injury.

### **General Issues**

15. The work to review these statistics has been undertaken as part of a continuing desire to understand the nature of risks faced by all citizens arising from the workplace. The Health and Safety Commission has established as one of its new Strategic Themes, the need to develop health and safety aspects of the competitiveness and social equality agendas (Strategic Theme 3). The aim is to ensure that the health and safety system reaches all workers to tackle any disparity of health and safety performance. The review of the LFS statistics provides essential data which will help to achieve this. Further details of the key programmes which support Strategic Theme 3 are published in the update to HSC's Strategic Plan for 1999/2002.

16. The issues explored in these statistics are general and are not related to any particular occupation or hazards. To help us understand the nature of some of the issues, we propose to commission further work. Firstly, a more detailed analysis to establish how these findings apply to particular industries and, secondly, a focussed literature search in order to explain or amplify the findings.

### **References and Tables**

(1) The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1985 and 1995 (RIDDOR).

2) "Workplace Injuries and Workforce Trends" Report by the Institute of Employment Research (IER), July 1999 (publication being arranged by IER).

(3) "A Review of the Industrial Accident Research Literature" by the National Institute of Industrial Psychology, 1972., for the Committee on Safety and Health at Work.

**Table 1 Rates of Fatal and Non-fatal Injury (1)  
Men by Age band 1996/97**

<b>Age band</b>	<b>Rate of Fatal Injury</b>	<b>Rate of Reportable Injury</b>	<b>Rate of All Workplace Injury</b>
16-19	0.86	1780	6690
20-24	1.37	2410	8390
25-34	1.50	2140	6220
35-44	1.83	2290	5890
45-54	2.37	1830	4870
55-59	2.53	1630	4930
60	3.36	1460	3620
All ages	2.03	2030	5810

(1) The rates of fatal injury are based on employer reports made under RIDDOR. Rates of non-fatal injury, reportable and all workplace injury, are derived from the LFS. All rates expressed per 100,000 men workers.

**Table 2 Rate of All workplace injury  
by Job Tenure with Employer (1)**

<b>Job Tenure</b>	<b>Rate of All Workplace Injury per 100 workers per 12 months</b>
Less than 6 months	11.4
6-11 months	5.6
12 months to less 5 years	4.2
5 years or more	3.5

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

**Table 3 Rate of All workplace injury by Usual weekly hours of work,  
LFS 1996/97(1)**

<b>Band of Usual Weekly hours of work</b>	<b>Average hours in band</b>	<b>Rate of All Workplace injury per 100 workers equivalised to a weekly average of 39.5 hours</b>
Less than 16	7.5	8.0
16 - 29	22.5	4.3
30 - 49	39.5	3.8
50 - 59	54.5	3.2
60 or more	64.5	3.0

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

