Construction

Work related injuries and ill health

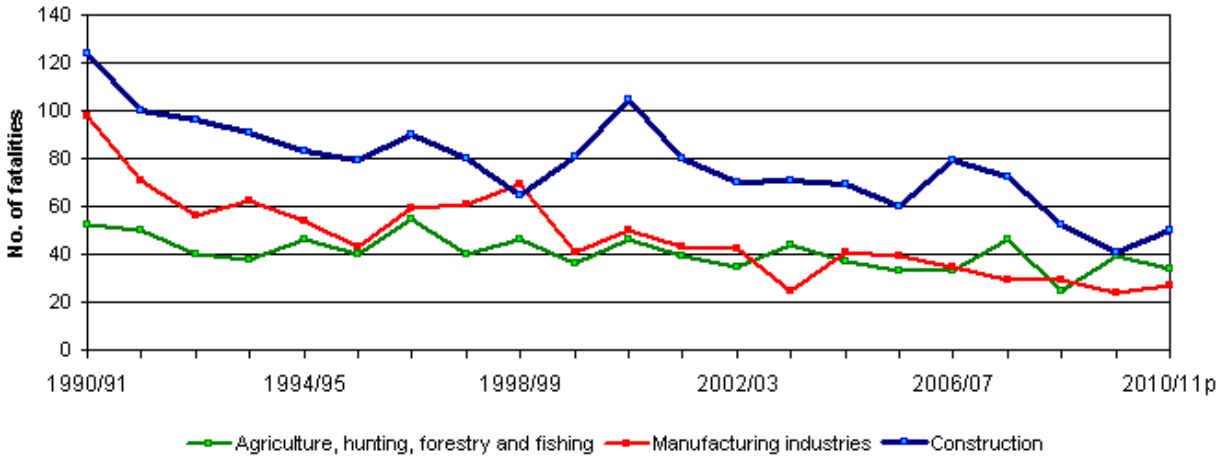
Summary

There have been significant reductions in the number and rate of injury over the last 20 years or more. Nevertheless, **construction remains a high risk industry**. Although it accounts for only about **5%** of the employees in Britain it still accounts for **27%** of fatal injuries to employees and **9%** of reported major injuries.

In 2010/11 there were:

- **50 fatal injuries to workers**. 18 of these fatalities were to the self-employed. This compares with an average of 61 over the previous five years – including an average of 19 to the self-employed (RIDDOR);
- the **number of employees who were fatally injured has reduced by two-thirds compared with 20 years ago.** This is roughly in line with the reduction in other industries (RIDDOR);
- reported non-fatal injuries have fallen by over a third and rates have fallen by a quarter since 2007/08 (RIDDOR);
- over **5 000** occupational cancer cases are estimated to arise each year as a result of past exposures in the construction sector (Cancer Burden Study, 2010);
- an estimated **36 000** new cases of work-related ill health with rates of musculoskeletal disorder significantly higher than average (LFS);
- about **2.3 million working days were lost** (1.1 days per worker) due to self-reported work-related illness or workplace injury. Just over three quarters of this was due to health problems and only one quarter to injuries (LFS).

Figure 1 Twenty year trend in worker fatalities



What is construction?

HSE now uses the SIC 2007 classification scheme to define industries, rather than the SIC 2003 scheme, which we used in previous years see www.hse.gov.uk/statistics/industry/sic2007.htm. The industry for RIDDOR reports before April 2010 was coded using the older classification whilst the Labour Force Survey (LFS) was coded using SIC2003 prior to 2008/09. This data has been computer recoded to allow for comparisons over time. There may be errors as a result of this recoding.

The definition of construction is very similar in the two coding schemes except that, under SIC2007, it includes the development of building projects, which now accounts for about 4% of the construction workforce. This makes rates slightly lower as real estate involves a much lower risk – at least in terms of health and safety.

Between 2003/04 and 2006/07 some injuries were allocated to other industry groups, effectively reducing the numbers and rates of non-fatal injuries for construction. This means that numbers and rates of injury for those years cannot be straightforwardly compared with numbers and rates for earlier or later years.

The LFS introduced a new automatic coding tool at the same time as the change to SIC2007. A more detailed explanation of the impact to the LFS can be found on the ONS website, see www.statistics.gov.uk, in the LFS User Guide – Volume 3. LFS rates of illness and injury for construction are of a similar order to those previously published under SIC2003.

Ill health

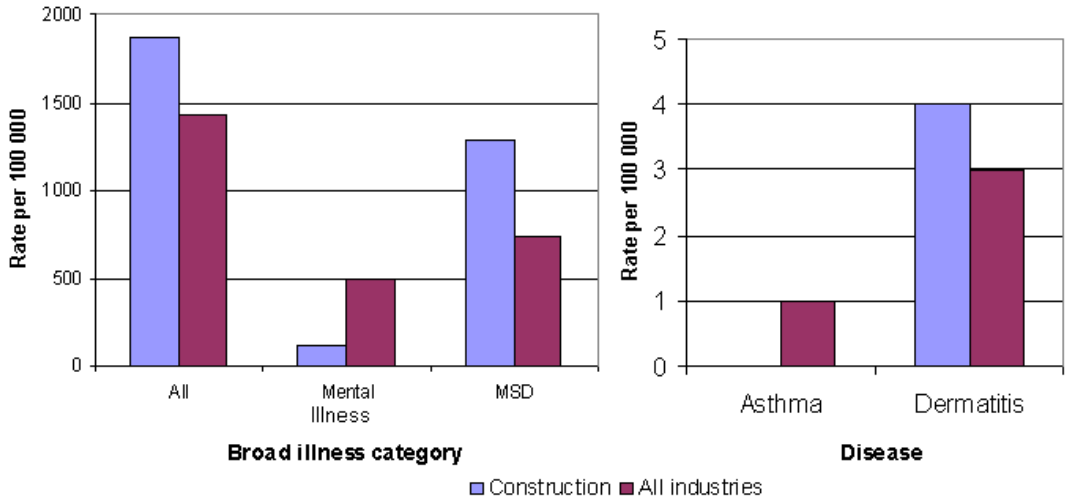
THOR/LFS

The Labour Force Survey (LFS) and voluntary reporting of occupational diseases by doctors (THOR and THOR-GP) provide data about health risks in different industries and occupations. Additional data, for example, for previous years may be found in the various tables. For further information on these data sources, see www.hse.gov.uk/statistics/sources.htm.

When comparing results from THOR and the LFS it is important to understand that cases reported under THOR have been **diagnosed by doctors** while those reported under LFS are cases of **self-reported illness** caused or made worse by current or most recent job for people working in the last 12 months.

The incidence rates (new cases) of work-related illness seen by consultants participating in one of the THOR surveillance schemes are shown in the following charts. The rate for manufacturing and the all sector average rate are shown for selected disease categories.

Figures 2 and 3 Work related ill health identified:
in General Practice (THOR GP) **by Consultants (SWORD and EPIDERM)**

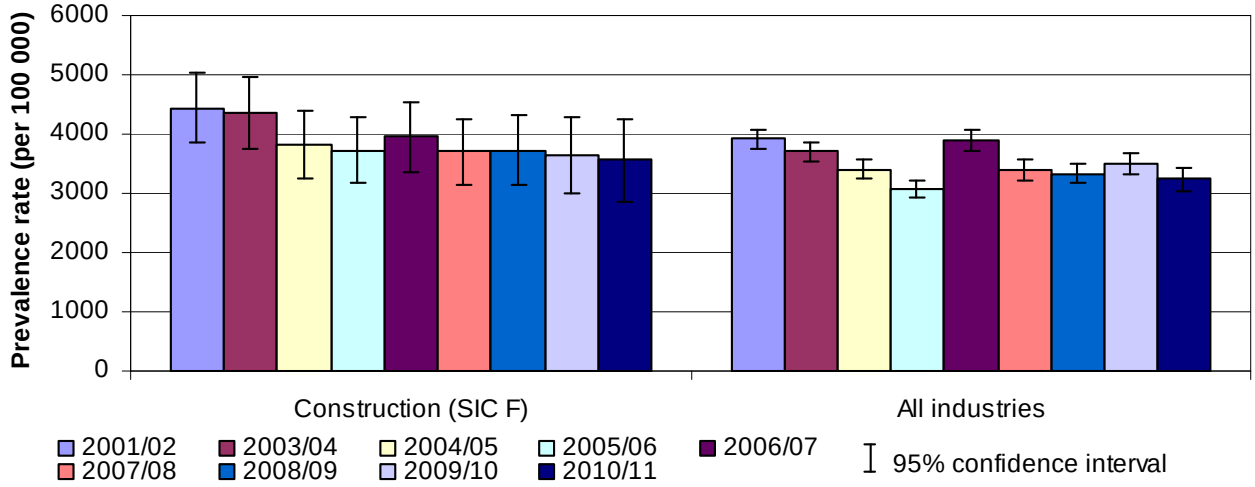


Health issue	**THOR** – The estimated average **incidence rate** (new cases) per 100 000 persons between 2008 and 2010	**LFS –** The estimated average rate of **self-reported illness** per 100 000 persons between 2008/09 and 2010/11
New cases of work-related ill health	1 863 (THORGP04) This is about 30% higher than the rate (1 429) for all industries, but this is lower than any non-service industry section.	1 600 (1.6%) (WRIIND4_3YR) This was of a similar order (not statistically significantly different) to that for all industries 1 600 (1.6%).
New cases of work-related musculoskeletal disorders (incidence rate)	1 286 (THORGP05). This is 75% higher than the rate (734) for all industries. It is about the same as that for manufacturing, but about one third lower than agriculture.	730 (MSDIND4_3YR) This is statistically significantly higher than the all industry rate (550).
Mental ill-health/self-reported stress, depression or anxiety	112 (THORGP06). This is less than a quarter of the rate (500) for all industries. It is the lowest rate for all industry sections, except for agriculture (45)	430 (STRIND4_3YR) This is statistically significantly lower than the all industry rate (680)
	See www.hse.gov.uk/statistics/tables/index.htm for links.	*The values quoted above are the central estimates from the LFS survey. The respective tables include the **confidence interval** (C.I. -an indicator of the reliability) for each estimate.*

The Labour Force Survey also estimated that in 2010/11:

- 79 000 people whose current or most recent job in the last year was in Construction, suffered from an illness (longstanding and new cases) which was caused or made worse by this job see www.hse.gov.uk/statistics/lfs/wriind2.xls. The associated prevalence rate, 3 600 (3.6%) working in the last year, was of a similar order (not statistically significantly different) to that for all industries (3 200 per 100 000 people - 3.2%); and
- a total of 1.7 million working days or 0.87 days per worker in 2010/11 were lost due to self-reported work-related illness, see www.hse.gov.uk/statistics/lfs/wdlind.xls. This is similar (not statistically significantly different) to the rate of 0.82 days per worker for all industries.

Figure 4 Estimated prevalence rates of self-reported[1] illness caused or made worse by the current or most recent job, per 100 000 people working in the last 12 months



Examining the prevalence rates over time using smoothing techniques, which aim to reduce irregularities (random fluctuations) in the times series, suggests a downward trend. The smooth trend indicates a fall of around 20% between 2001/02 and 2010/11, with a range of possibilities (95% confidence interval) 7% to 32%.

Occupational cancer

Construction is an industry with high cancer registrations with 56% of occupational cancer registrations in men. About half (almost 4 000 per year) of occupational cancer deaths are attributable to exposure to carcinogens (e.g. substance or occupational circumstance) in the construction industry. Painters and decorators are at high risk, possibly due to solvent exposure.

The most significant carcinogen is still past exposure to asbestos (71%), see www.hse.gov.uk/statistics/causdis/asbestos.htm, followed by silica (16%) and diesel engine exhaust/ environmental tobacco smoke (6-7% each). Solar radiation, coal tars and pitches are responsible for about 1 300 cancer registrations, mostly causing non-melanoma skin cancers.

Further information is available from our cancer page (see www.hse.gov.uk/statistics/causdis/cancer/index.htm) or from www.hse.gov.uk/research/rrpdf/rr800.pdf "The burden of occupational cancer in Great Britain."

[1] The breakdown by industry section for 2008/09 onwards is not entirely consistent with those of previous years. This is because:

(i) the LFS data was coded directly to SIC92 for years up to 2008/09 and then mapped to the new industrial classification, SIC2007, according to the assumed relationship between the two classifications;

(ii) data from 2008/09 onwards has been coded directly to SIC2007; and

(iii) a new method of coding industry data, using an automatic tool, was introduced with the new classification.

Injuries

Fatal injuries

Figure 5 Number and rate of fatal injuries to workers 2004/05 to 2010/11p

There were 50 fatal injuries to workers in Construction in 2010/11p, 18 of these fatalities were to the self-employed. This compares with an average of 61 over the previous 5 years – including an average of 19 to the self-employed.

The rate of fatal injury per 100 000 construction workers was 2.3 in 2010/11p compared with a 5 year average of 2.5.

In 2010/11p, 29% of all fatal injuries to workers were in Construction and it accounts for the greatest number of fatal injuries of the industry sections.

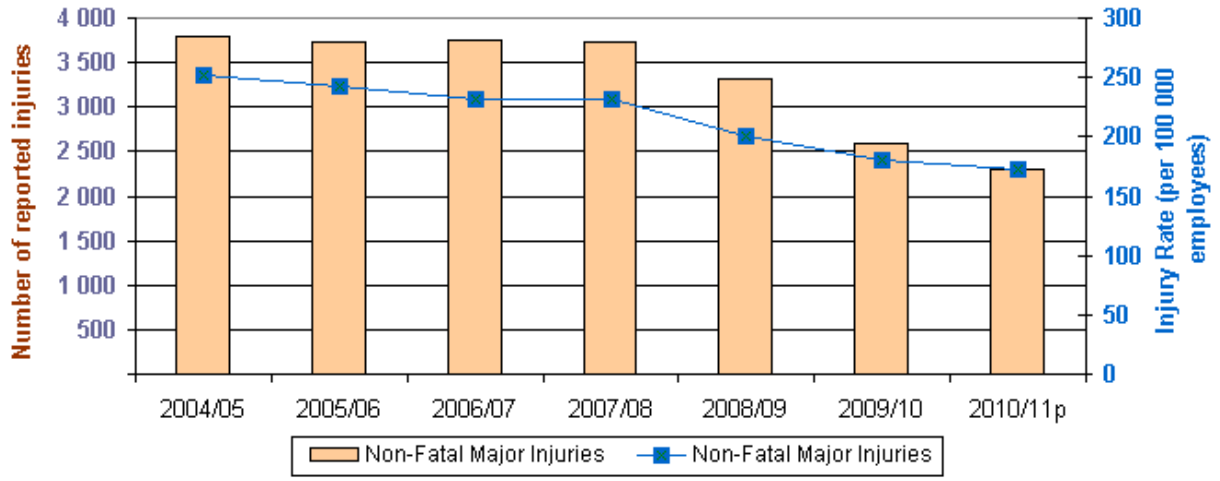
The general trend in the number and rate of fatal injury from 2004/05 to 2010/11p is downwards, but it has been fairly static over the past 3 years.

The fatal injury rates quoted above are slightly lower than those provided in June because a different source for employment estimates (Annual Population Survey) has been used. This gives a higher estimate (8% for employees and 4% for all workers in 2010/11p) for construction employment. See www.hse.gov.uk/statistics/sources.htm#employment for further information.

The number of fatalities is the same as when calculated using the SIC2003 definition of construction, but the rate is slightly lower as construction, under SIC2007, includes development and selling of real estate.

Major injuries

Figure 6 Number and rate of major injuries to employees, 2004/05 to 2010/11p

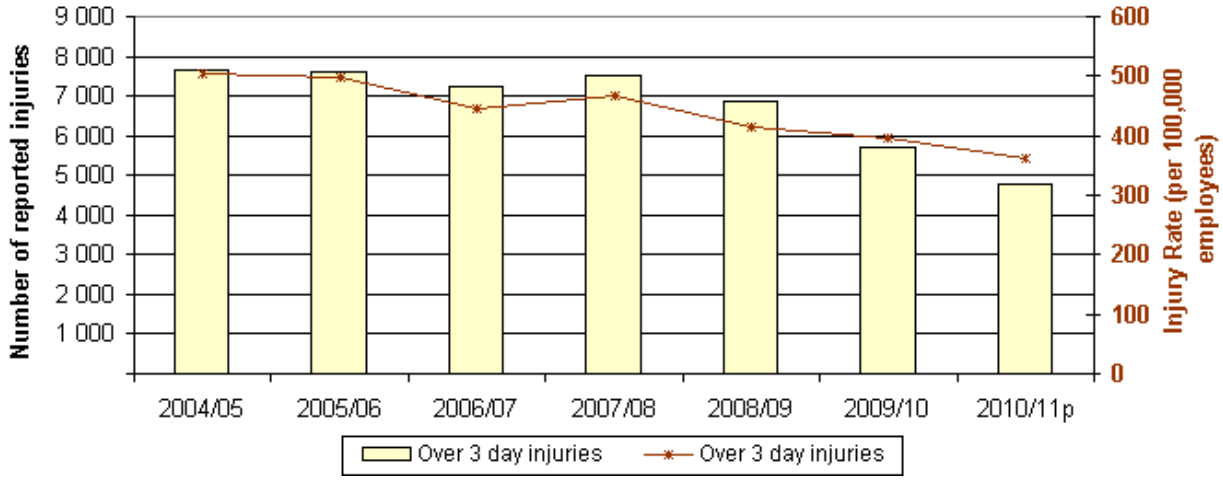


There were 2 298 reported major injuries to employees in 2010/11p, compared to an average of 3 423 over the previous five years. The corresponding rates of major injury per 100 000 employees were 173.2 in 2010/11p and an average of 217.6.

There has been a general reduction in the rate of reported major injury since 2004/05. The number of reported injuries has also fallen (25% for rates and 38% for numbers) since 2007/08.

Over three day injuries

Figure 7 Number and rate of over-3-day injuries to employees, 2004/05 to 2010/11p

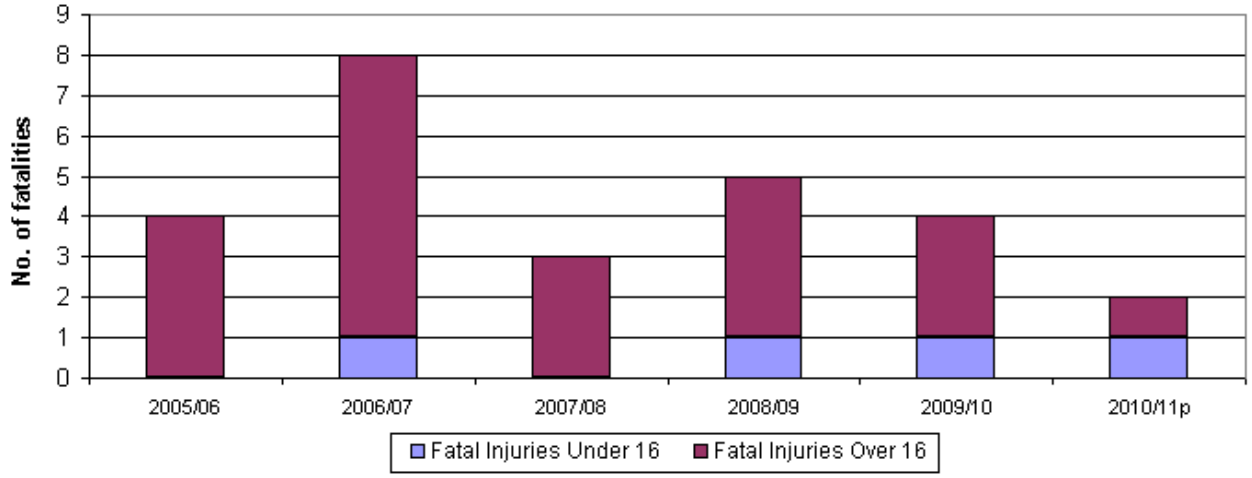


There were 4 784 reported over-3-day injuries to employees in 2010/11p, compared to an average of 6 990 over the previous five years. The corresponding rates of over three day injury per 100 000 employees were 360.5 in 2010/11p and an average of 444.5.

As with major injuries there has been a general reduction in the rate of reported over three day injuries since 2004/05. The number of reported injuries has also fallen (22% for rates and 36% for numbers) since 2007/08.

Reported injuries to members of the public

Figure 8 Fatal injuries to members of the public from 2005/06 to 2010/11p

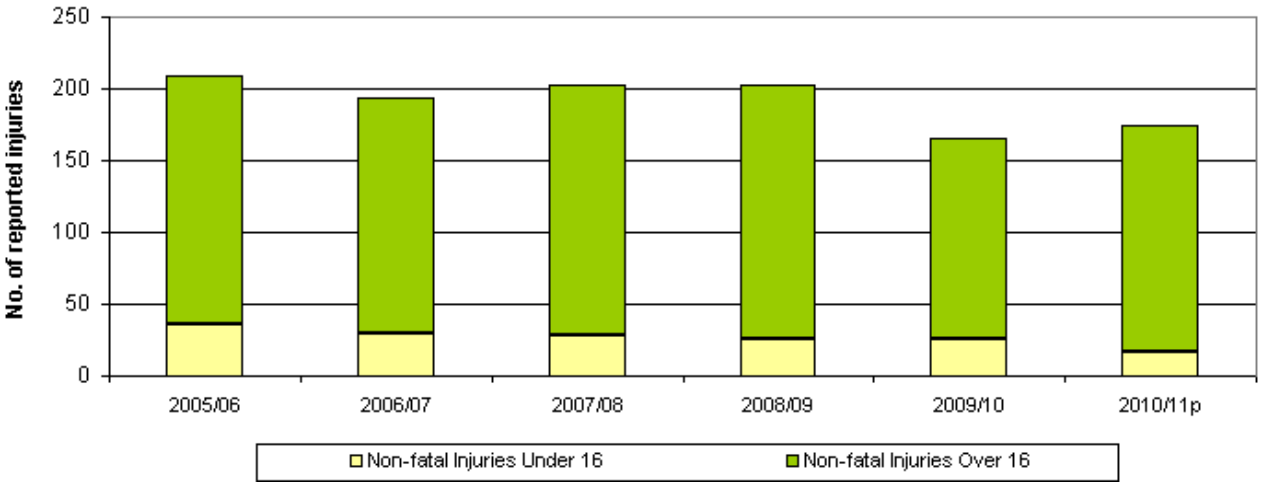


There were two fatal injuries to members of the public in 2010/11p compared to an average of five a year over the previous five years. One of these fatalities was to someone aged 16 or under.

The number of fatalities has fallen fairly steadily over the past five years but, statistically speaking, the numbers are small and considerable year-on-year variation can be expected.

Just over a quarter (27%) of fatal injuries to the public over the last five years were due to falls. Slips/trips and moving vehicles accounted for 18 and 14% respectively.

Figure 9 Non-fatal injuries to members of the public 2005/06 to 2010/11p



There were 174 reported non-fatal injuries to members of the public in 2010/11p compared to an average of 195 a year over the previous five years. 17 of these injuries were to those aged 16 or under.

Nearly half (44%) of reported non-fatal injuries to the public over the last five years were due to slips and trips. Almost a third (30%) were due to injuries from falling objects and one eighth (12%) from falls.

Labour Force Survey (LFS) injuries and days lost

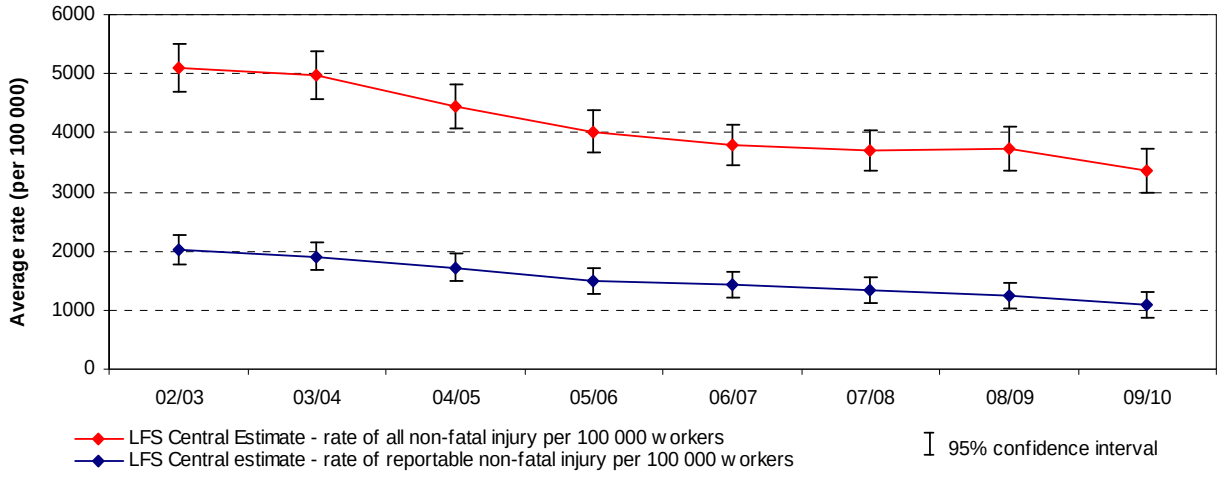
The Labour Force Survey suggests that the construction sector accounted for around 11% and 12% of reportable non-fatal injuries and all non-fatal injuries in 2009/10 (three-year average).

The estimated incidence rates of reportable non-fatal injury and all non-fatal injuries for the construction industry were 1 100 and 3 300 per 100 000 workers respectively (1.1% and 3.3%) in 2009/10 (three-year average). Both were statistically significantly higher than the corresponding average rates of 750 and 2 300 per 100 000 workers across all industries. For reportable non-fatal- injury rates see www.hse.gov.uk/statistics/lfs/injind1_3yr.xls

Examining the reportable non-fatal injury rates over time using smoothing techniques, which aim to reduce irregularities (random fluctuations) in the times series, suggests a downward trend.

Results from the LFS suggest that around half of reportable non-fatal injuries are recorded under RIDDOR, but that the level for construction is lower than this.

Figure 10 Estimated incidence rates of non-fatal injury per 100 000 people working in construction in the last 12 months (all injuries and reportable injuries with over 3 day absence)



The LFS also indicates that in 2010/11 the estimated total number of days lost (full-day equivalent) due to workplace injury attributed to the current or most recent job was about 525 000, equating to approximately a quarter of a day per worker, see www.hse.gov.uk/statistics/lfs/injind2.xls.

The average rate for all industries was 0.16 days per worker and the rate for construction is not statistically significantly different from the average across all industries.

Industry profile

Construction accounted for 5% of the employees in Britain, 6% (27% fatalities, 9% major and 6% of over-3-day injuries) of reported injuries to employees.

The most common kinds of reported injuries to employees in all industries occur as a result of handling (31%), or slips and trips (27%). These also represent the most common kinds of reported injury within Construction. In 2010/11p, handling accounted for 28% of all reported injuries to employees, slips and trips accounted for 23%.

Construction accounted for 26% (247 cases) of all reported injuries to employees involving high falls, 29% of collapses (32), 25% (3) of drowning/asphyxiation, 16% (70) involving electricity and 16% (10) explosions. Taking all kinds of falls together it accounted for 12% (1 209) of all reported injuries from falls.

Further detail can be obtained using HandS-On at www.hse.gov.uk/statistics/hands-on/index.htm

First published 11/11.

Published by the Health and Safety Executive 04/12