

Construction

Work related injuries and ill health

Contents

Summary	2
What is construction?	3
Ill health	4
Occupational cancer	5
Injuries	6
Overview	6
Fatal injuries	6
Major injuries	7
Over three day injuries	8
Occupations	9
Fatal injuries to members of the public	10
Labour Force Survey (LFS) injuries and days lost	11
Enforcement	12
Links to data sources and tables	13

Summary

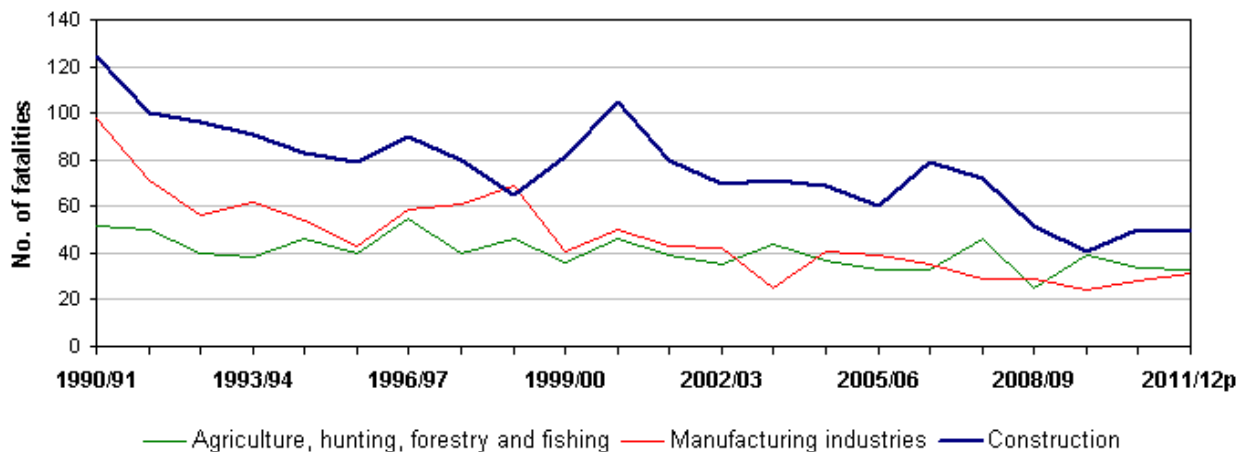
The information in this document relates to Health and Safety Statistics for 2011/12. The document can be found at: www.hse.gov.uk/statistics/industry/construction/index.htm

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 22% of fatal injuries to employees and 10% of reported major injuries.

The latest results in construction show:

- 49 fatal injuries to workers. 23 of these fatalities were to the self-employed. This compares with an average of 59 over the previous five years – including an average of 19 to the self-employed (RIDDOR);
- over 5 000 occupational cancer cases are estimated to arise each year as a result of past exposures in the construction sector (Research report 931 “The burden of occupational cancer in Great Britain”);
- there were an estimated 74 000 total cases and 31 000 new cases of work-related ill health (LFS);
- an estimated 1.7 million working days were lost due to work-related ill health and a further 0.6 million due to workplace injuries. This equates to 0.87 and 0.34 days per worker. (LFS)

Figure 1 Twenty year trends in worker fatalities



What is construction?

HSE now uses the SIC 2007 classification scheme to define industries. Under SIC 2007, construction (Section F) includes:

- Construction of buildings – Division 41;
- Civil engineering – Division 42; and
- Specialised construction activities – Division 43.

In practice, there is a lot of overlap between these divisions and so construction is treated as a whole.

The industry for RIDDOR reports before April 2010 was coded using the older SIC 2003 classification scheme while the Labour Force Survey (LFS) was coded using SIC 2003 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 SIC 2007 includes the development of building projects, which 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. For details, see series break – www.hse.gov.uk/statistics/industry/icc.htm.

The LFS introduced a new automatic coding tool at the same time as the change to SIC 2007. A more detailed explanation of the impact to the LFS can be found on the ONS Website, see www.ons.gov.uk/ons/guide-method/method-quality/specific/labour-market/labour-market-statistics/volume-3--2011.pdf. LFS rates of illness and injury for construction are of a similar order to those previously published under SIC 2003.

www.hse.gov.uk/statistics/industry/sic2007.htm provides further information about the change to SIC 2007.

Ill health

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.

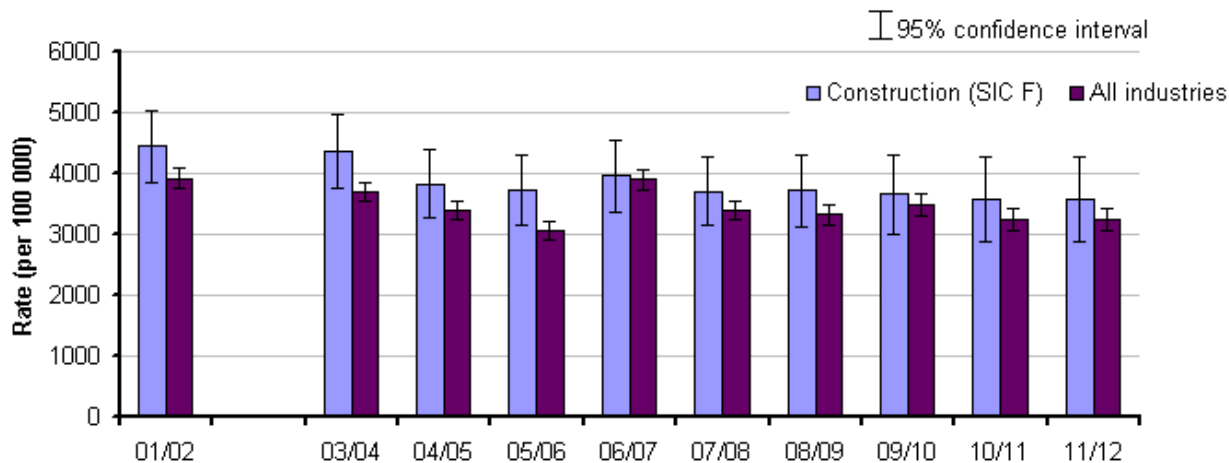
When comparing results from THOR and the LFS it is important to understand that cases reported under THOR have been diagnosed by doctors while those reported under LFS are cases of self-reported illness caused or made worse by current or most recent job for people working in the last 12 months.

Health issue	THOR – estimated rate of new cases of work-related illness per 100 000 persons (3 year average 2009 to 2011)	LFS – estimated rate of new cases of self-reported illness per 100 000 employed in the last 12 months (3 year average 2009/10 - 2011/12)
Work related ill health	1 710 (THORGP04) This is higher than the rate (1 355) for all industries.	1 380 (1.4%) (WRIIND4_3YR) This is of a similar order (not statistically significantly different) to that for all industries 1 500 (1.5%) or previous rates. There were an estimated 31 000 new cases of illness caused or made worse by a current or most recent job.
Work related musculoskeletal disorders	1 140 (THORGP05). This is 70% higher than the rate (670) for all industries. It is about the same as that for manufacturing, but almost half that in agriculture.	630 (MSDIND4_3YR) This is not statistically significantly higher than the all industry rate (500) or previous estimates.
Work related mental ill-health/self-reported stress, depression or anxiety	100 (THORGP06). This is almost a fifth of the rate (493) for all industries. It is the lowest rate for all industry sections, except for agriculture (44)	420 (STRIND4_3YR) This is statistically significantly lower than the all industry rate (670)
<i>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.</i>		

The Labour Force Survey also estimated (averaged over the period 2009/10 to 2011/12):

- 74 000 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. The associated rate, 3 270 (3.3%) working in the last year, was similar to that for all industries (3 200 per 100 000 people – 3.2%) (WRIIND2_3YR); and
- a total of about 1.7 million working days, or 0.87 days per worker, were lost due to self-reported work-related illness. (WRIIND6_3YR).

Figure 2 Estimated rates of total cases of self-reported work-related illness caused or made worse by their current or most recent job for people working in the last 12 months (LFS) ¹



Airborne materials from spray painting, welding or cutting/grinding metals; dusts from stone, cement, brick or concrete were all implicated by respondents to the Labour Force Survey as significant causes of "breathing or lung problems". These are common in some construction, see www.hse.gov.uk/statistics/causdis/asthma/index.htm.

Examining the rate of total cases over time, using smoothing techniques which aim to reduce irregularities (random fluctuations) in the time series, suggests a downward trend. The smoothed trend indicates a fall of around 31% between 2001/02 and 2011/12, with a range of possibilities (95% confidence interval) 20% to 43%.

Occupational cancer

Analysis by industry has shown that the construction industry has the largest burden of occupational cancer amongst the industrial sectors, over 40% of the occupational cancer deaths and cancer registrations were from construction. Most of them were caused by past exposures to asbestos and silica. In addition solar radiation, coal tars and pitches were responsible for an additional 1,300 cancer registrations, mostly causing NMSCs (skin cancer other than melanoma), see Tables CAN04 (www.hse.gov.uk/statistics/tables/can04.xls) and CAN05 (www.hse.gov.uk/statistics/tables/can05.xls).

The most significant carcinogen is still past exposure to asbestos (69%) followed by silica (17%) painting and diesel engine exhaust (6-7% each).

Further information is available from our cancer page or from research report 931 "The burden of occupational cancer in Great Britain", see www.hse.gov.uk/research/rrpdf/rr931.pdf.

¹ No ill health data was collected on the LFS in 2002/03.

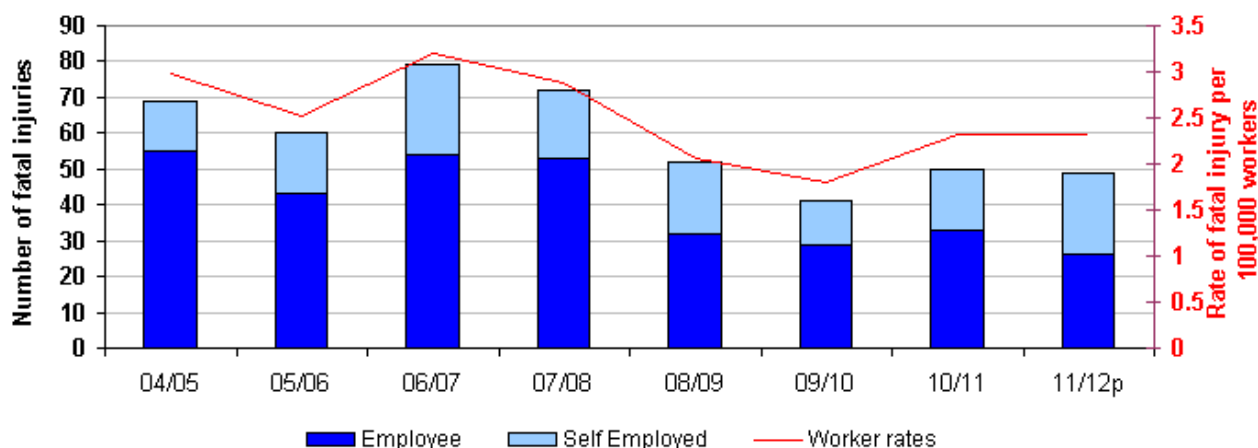
Injuries

Overview

Construction accounted for 5% of the employees² in Britain and 7% of reported injuries to employees (22% fatalities, 10% major and 6% of over-3-day injuries).

Fatal injuries

Figure 3 Number and rate of fatal injuries to workers in construction (RIDDOR)



There were 49 fatal injuries to workers in Construction in 2011/12p, 23 of these fatalities were to the self-employed. This compares with an average of 59 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 2011/12p compared with a 5 year average of 2.5.

In 2011/12p, 28% of all fatal injuries to workers were in Construction and it accounts for the greatest number of fatal injuries of the industry sections.

The number and rate of fatal injury has been fairly static for the past four years, but the average number of fatalities over the last 4 years is 45% lower than that for the previous four.

The main causes of worker fatalities were:

Injury kind	Proportion of fatalities in		
	Construction 2011/12p	Construction (2007/08-2011/12p)	All industries
■ Falls	51%	47%	24%
■ Being struck by a falling/moving object	16%	12%	16%
■ A collapse	10%	12%	10%
■ Being hit by a moving vehicle	4%	11%	16%
■ Electricity	10%	6%	4%

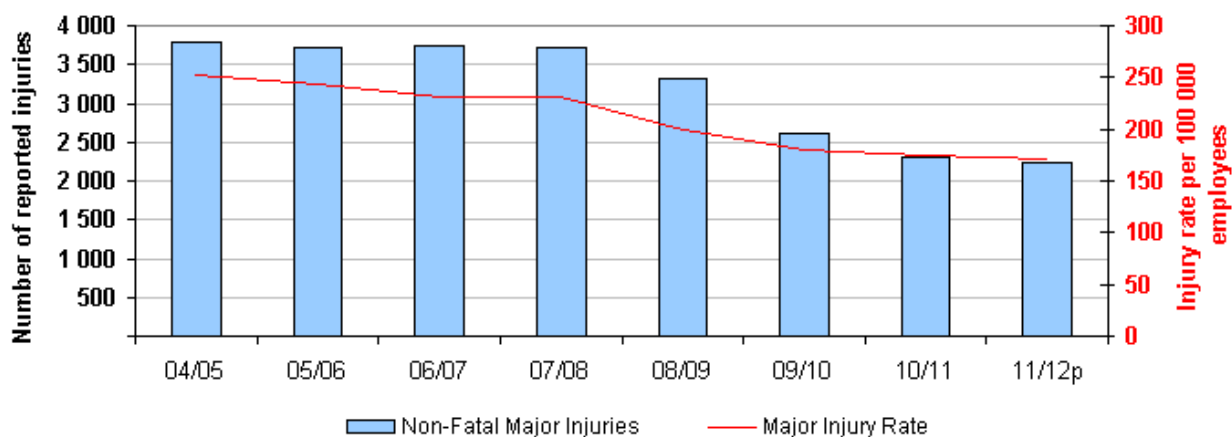
² 7% of the workers

Major injuries

There were 2 230 reported major injuries to employees in 2011/12p, compared to an average of 3 139 over the previous five years. The corresponding rates of major injury per 100 000 employees were 171.8 in 2011/12p and an average of 204.

There has been a general reduction in the rate of reported major injury since 2004/05. The number of reported injuries has also fallen significantly over the last five years.

Figure 4 Number and rate of major injuries to employees in construction (RIDDOR)



The most common causes of major injury to employees were:

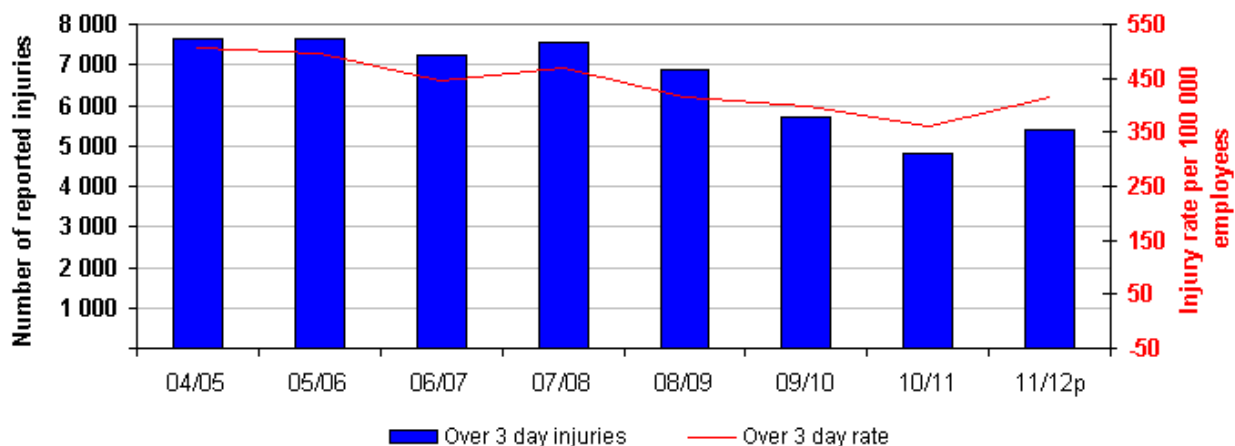
Injury kind	Proportion of reported major injuries		
	Construction 2011/12p	Construction All industries (2007/08-2011/12p)	
■ Falls	29%	28%	15%
■ Slips, trips and falls on the level	25%	26%	39%
■ Being struck by moving/falling objects	13%	15%	11%
■ Handling	11%	13%	13%

Over three day injuries

There were 5 391 reported over-3-day injuries to employees in 2011/12p, compared to an average of 6 427 over the previous five years. The corresponding rates of over three day injury per 100 000 employees were 415.4 in 2011/12p and an average of 418.

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 significantly since 2007/08, but there was an increase in 2011/12p.

Figure 5 Number and rate of over three day injuries to employees in construction (RIDDOR)



The most common reported causes of over three day injury to employees were:

Injury kind	Proportion of reported over three day injuries		
	Construction 2011/12p	Construction	All industries
		(2007/08-2011/12p)	
■ Handling	31%	36%	36%
■ Slips and trips	23%	22%	24%
■ Moving/falling objects	12%	14%	11%
■ Falls	10%	10%	6%

Occupations

The risk of injury varies significantly with occupation. The occupations in construction with the most reported injuries are shown below.

Fatal injuries to workers in construction

Occupation ³	2011/12p	Average 2006/07 - 2010/11
Construction operatives nec ⁴	10	4
Construction and building trades nec	8	8
Roofers, roof tilers and slaters	6	5
Elementary construction occupations	5	6
Scaffolders, staggers and riggers	3	3
Carpenters and joiners	2	3
Production managers, directors and supervisors in construction	2	2
Electricians and electrical fitters	2	2
Plumbers and heating and ventilating engineers	2	2
Painters and decorators	2	3
Crane drivers	2	-
Road construction operatives	-	2

Reported non-fatal injuries per year to employees in construction between 2006/07 and 2010/11 (main occupations)

Occupation	Non-fatal major injuries		Over-3-day injuries	
	2011/12p	Average 2006/07 - 2010/11	2011/12p	Average 2006/07 - 2010/11
Carpenters and joiners	191	274	669	651
Construction operatives nec	293	248	553	447
Elementary construction occupations	240	263	501	516
Electricians and electrical fitters	193	214	451	407
Plumbers and heating and ventilating engineers	123	174	464	542
Construction and building trades nec	128	299	246	492
Road construction operatives	49	88	268	305
Painters and decorators	83	97	174	123
Bricklayers and masons	52	103	197	233
Scaffolders, staggers and riggers	84	131	158	183
Roofers, roof tilers and slaters	69	90	117	135
Construction and building trades supervisors	55	174	124	340
Construction production managers and directors	64	62	88	78

³ The method of coding occupations changed in 2011/12p and variations may be influenced by this change. For further information, please see www.hse.gov.uk/statistics/soc2010.htm -

⁴ Not elsewhere classified

The nec occupation categories tend to be used in cases where the actual occupation is not entirely clear. Consequently, injury numbers for these occupations may be artificially high.

According to the Labour Force Survey (INJOCC1_3YR) estimated over three day absence injury rates per 100 000 workers are:

- Skilled construction and building trades – 1 470 per 100 000 workers; and
- Elementary trades and related occupations – 1 420 per 100 000 workers.

The LFS also indicates that workers in skilled construction and building trades lose an estimated average of about a third of a working day per year due to self-reported workplace non-fatal injury (0.34 days). The estimate for elementary trades was 0.42 days (INJOCC2_3YR). Both rates were statistically significantly higher than the average lost days per worker across all occupations (0.18 days).

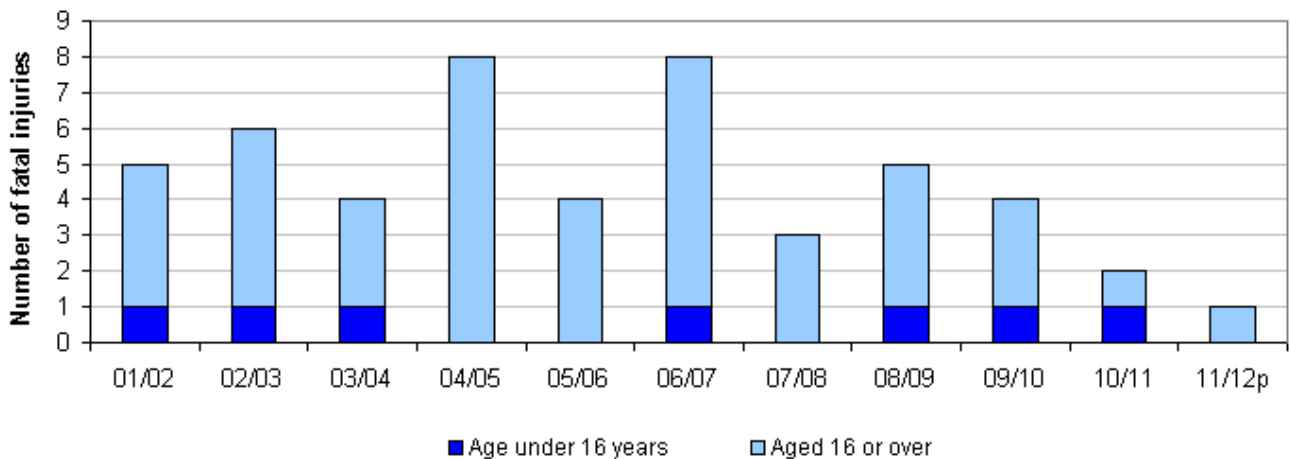
Fatal injuries to members of the public

There was one fatal injury to an adult member of the public in 2011/12p compared to an average of four a year over the previous five years.

The number of fatalities has fallen 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 previous five years were due to falls. Slips/trips and moving vehicles accounted for 18 and 14% respectively.

Figure 6 Fatal injuries to members of the public in construction (RIDDOR)



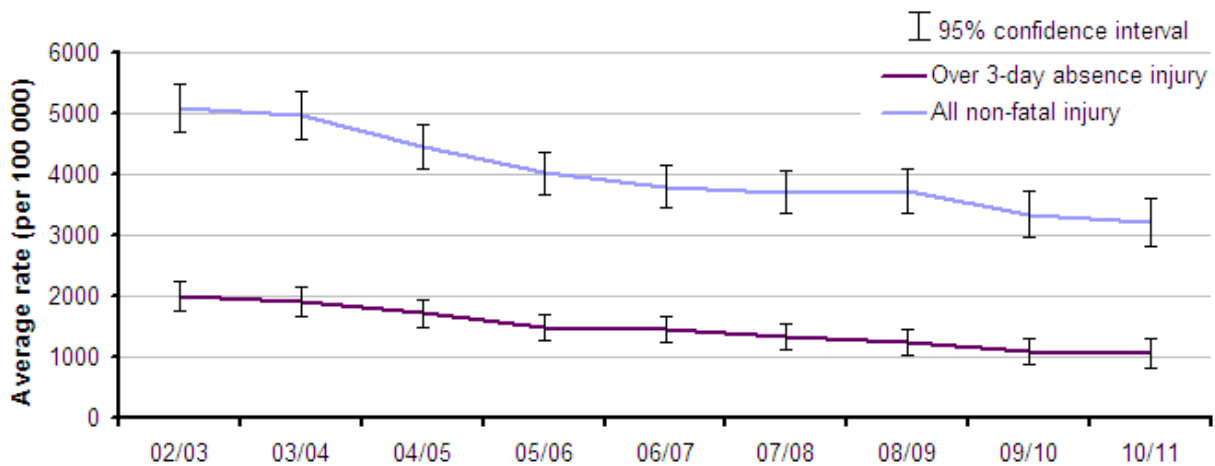
Labour Force Survey (LFS) injuries and days lost

The latest Labour Force Survey estimates (based on results averaged over 2009/10 to 2011/12) show that construction:

- accounted for around 11% of over three day absence injuries and all non-fatal injuries.
- had an estimated over three day absence injury rate of 1 060 per 100 000 workers (ie just over one in a hundred construction workers suffered such an injury each year). This is almost half of the estimated rate (2 010 or 2%) averaged over 2001/02-2003/04 ([INJIND1_3YR](#)). The RIDDOR over three day rate has also roughly halved over the same period.
- The latest over three days absence injury rate was statistically significantly higher than the rate of 710 per 100 000 workers across all industries ([INJIND1_3YR](#)).

Results from the LFS suggest that just over half of reportable injuries to employees are recorded under RIDDOR and the level for construction is similar to this. ([REPIND1_3YR](#)). Only about 9% of non-fatal injuries to the self-employed are reported.

Figure 7 Estimated averaged rates of all self-reported workplace non-fatal injury and injury with over three day absence for people working in the last 12 months (LFS)⁵



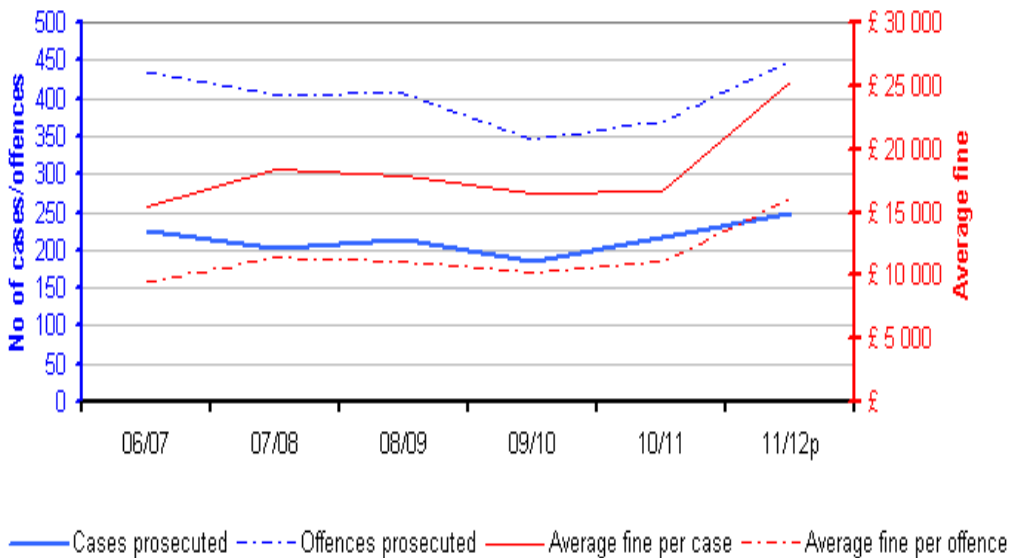
The LFS (INJIND2_3YR) also indicates that between 2009/10 and 2011/12 the average estimated total number of working days lost (full-day equivalent) due to workplace injury attributed to the current or most recent job was about 0.6 million, equating to just over a quarter of a day (0.29) per worker. The average days lost per worker for all industries was 0.18 days per worker and the rate for construction was statistically significantly higher than this.

⁵ Three year averaged rates are displayed e.g. 2009/10 to 2011/12, (centred on 2010/11)

Enforcement

Both prosecutions and enforcement notices have increased over the last six years, though there has been some variability and a fall in notices over the last year.

Figure 8 Prosecutions in construction

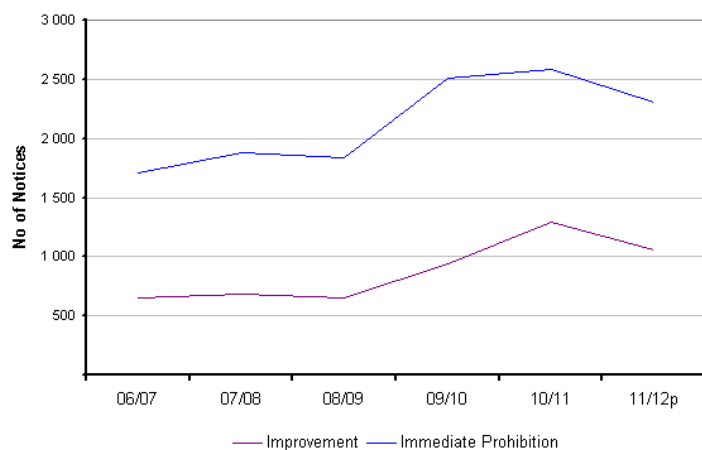


The average fine per offence⁶ increased – mainly in 2011/12p. This reflects eight cases where the fines were of £20,000 or above. Two of these involved fines of £500,000 each. There are only eight other cases since 2006/07 where the fine was £20,000 or more.

The total number of cases presented (across all industries) by HSE is the same as it was in 2006/07, but is about 40% less than in 2001/02.

Figure 9 Notices in construction

The overall number of notices⁷ is 16% higher than in 2006/07. The sharp fall in construction notices in 2011/12p can largely be attributed to the completion of a number of fixed term inspector posts in the construction sector in 2010/11.



⁶ Case refers to a prosecution against a single defendant. The defendant may be an individual person or a company. There may be one or more breaches of health and safety legislation (offences) in each case.

⁷ The notice numbers have been revised upwards as the previous version did not include all of those issued in March 2012.

Links to data sources and tables

Data Sources	Web Address (URL)
Labour Force Survey (LFS)	www.hse.gov.uk/statistics/sources.htm#lfs
Voluntary reporting of occupational diseases by specialist doctors (THOR)	www.hse.gov.uk/statistics/sources.htm#thor
Voluntary reporting of occupational diseases by General Practitioners (THOR GP)	www.hse.gov.uk/statistics/sources.htm#odin
Tables	Web Address (URL)
INJIND1_3YR	www.hse.gov.uk/statistics/lfs/injind1_3yr.xls
INJIND2_3YR	www.hse.gov.uk/statistics/lfs/injind2_3yr.xls
INJOCC2_3YR	www.hse.gov.uk/statistics/lfs/injocc2_3yr.xls
INJOCC3_3YR	www.hse.gov.uk/statistics/lfs/injocc3_3yr.xls
MSDIND2_3YR	www.hse.gov.uk/statistics/lfs/msdind2_3yr.xls
MSDIND4_3YR	www.hse.gov.uk/statistics/lfs/msdind4_3yr.xls
WRIIND2_3YR	www.hse.gov.uk/statistics/lfs/wriind2_3yr.xls
WRIIND4_3YR	www.hse.gov.uk/statistics/lfs/wriind4_3yr.xls
WRIIND6_3YR	www.hse.gov.uk/statistics/lfs/wriind6_3yr.xls
THORGP04	www.hse.gov.uk/statistics/tables/thorgp04.xls
THORGP05	www.hse.gov.uk/statistics/tables/thorgp05.xls
THORGP06	www.hse.gov.uk/statistics/tables/thorgp06.xls
THORS04	www.hse.gov.uk/statistics/tables/thors04.xls
THORS05	www.hse.gov.uk/statistics/tables/thors05.xls
THORR01	http://www.hse.gov.uk/statistics/tables/thorr01.xls
THORR04	www.hse.gov.uk/statistics/tables/thorr04.xls
Other tables	www.hse.gov.uk/statistics/tables/index.htm

The original of this document can be found at: www.hse.gov.uk/statistics/industry/construction/index.htm

© *Crown copyright* If you wish to reuse this information visit www.hse.gov.uk/copyright for details.
First published 10/12