

Health and safety in construction in Great Britain, 2014

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Summary

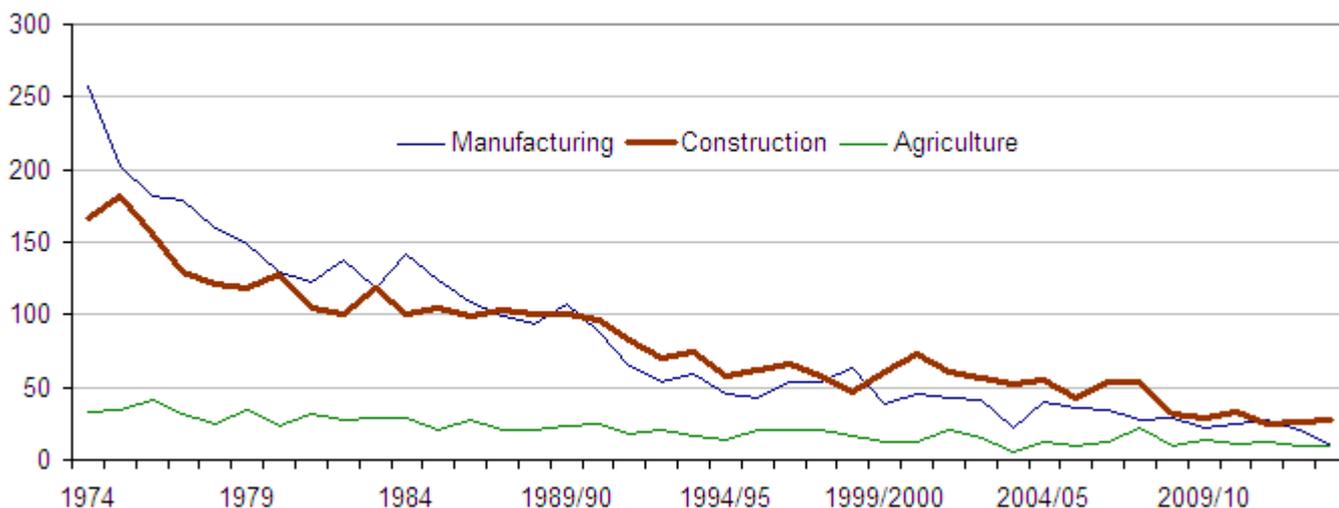
The information in this document relates to Health and Safety Statistics for 2013/14. The document can be found at: www.hse.gov.uk/statistics/industry/construction/

There have been significant reductions in the numbers and rates 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 accounted for 31% of fatal injuries to employees and 10% of reported major/specified injuries.

The latest results in construction show:

- there has been a substantial reduction in the number of fatal injuries in construction in the last 40 years;
- nevertheless there were 42 fatal injuries to workers - 14 of these fatalities were to the self-employed. This compares with an average of 46 over the previous five years – including an average of 17 to the self-employed (RIDDOR);
- there were an estimated 76 000 total cases of work-related ill health, of which 31 000 were new cases (LFS);
- an estimated 2.3 million working days were lost in 2013/14, 1.7 million due to ill health and 592 000 due to workplace injury, making a total of 1.1 days lost per worker (LFS);
- injuries and new cases of ill health resulting largely from current working conditions in workers in construction cost society over £1.1 billion a year.

Figure 1 Numbers of fatal injuries to employees (RIDDOR) 1974 to 2013/14p



What is construction?

HSE uses the Standard Industrial Classification of Economic Activities 2007 (SIC 2007¹) 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. It does not, however, include architects, engineers, etc. who are part of practices not run by construction companies.

Work activity codes

Construction work is also carried out within other industries, for example by people employed as painters or handymen. We can estimate the level using the new Work Activity codes – an additional European code used in newer RIDDOR reports. These codes are:

- Construction - new building
- Construction - civil engineering, infrastructures, roads, bridges, ports
- Construction - remodelling, repairing, extending, building maintenance
- Demolition.

In 2013/14p 91% of reports with these codes were coded as construction (SIC Section F) and they accounted for 69% of construction reports. That suggests that 9% of construction reports with these work activity codes were carried out in other industries. The numbers are small, eg 76 in manufacturing, and account for 0.6% (444) of reports in other industries.

The other main activity codes used for construction (SIC F) reports were Maintenance, repair (13%) and 'Other process' (11%). *Maintenance, repair* should not really be used for construction as construction maintenance is covered by *Construction - remodelling, repairing, extending, building maintenance*.

This incorrect use of the maintenance code makes it difficult to reliably estimate the proportion of construction work carried on in other industries. 1.1% of non-construction reports are coded as maintenance, but we don't know what proportion of this is construction. The total proportion of construction work in non-construction reports is probably between 0.6% and 1.7% - 444 to 1221 reported injuries in 2013/14p.

This report only addresses construction work coded to SIC 2007 Section F.

Economic context

According to the Office for National Statistics² (ONS) compared with August 2013, output in the construction industry showed a decrease of 0.3%, this is the first time since May 2013, when there was a fall of 1.7%, that the year-on-year estimate has decreased. The level of construction output remains 9% below its pre-downturn peak in Q1 2008.

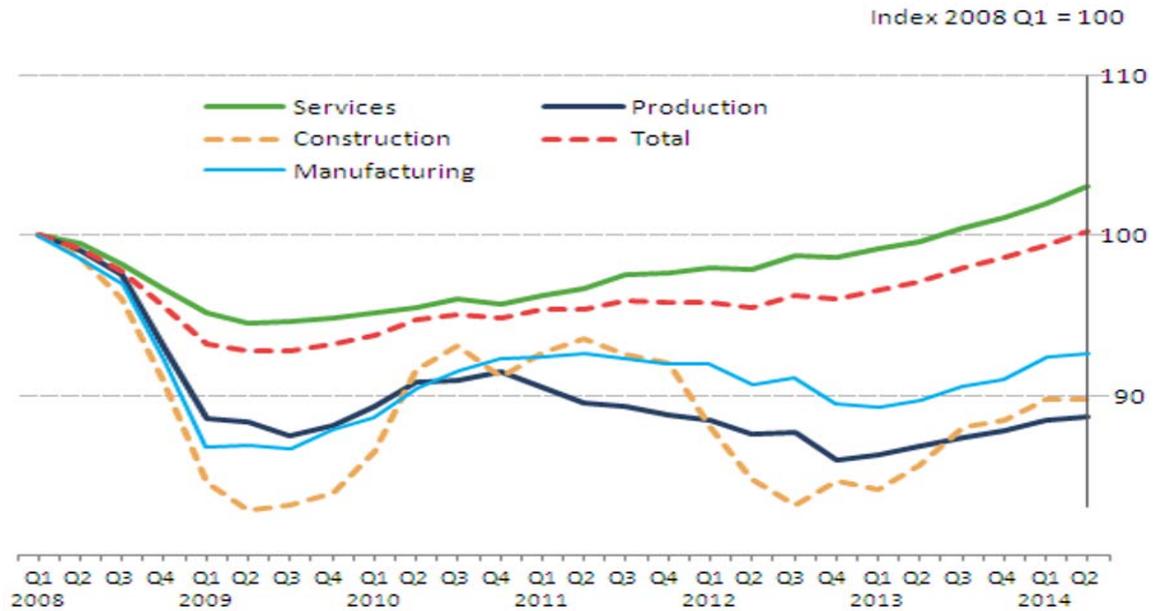
Repair and maintenance grew by 0.3% in the year to August 2014, whereas new work fell by 0.6%. Infrastructure and private commercial new work were the weakest components over the year. Private housing – which has been one of the main drivers of construction output growth since the beginning of 2013 – remains the strongest performing component on an annual basis, likely reflecting the recovery of housing market activity over the last year.

¹ www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/standard-industrial-classification/index.html

² Output in the Construction Industry, August 2014 - www.ons.gov.uk/ons/dcp171778_379906.pdf

(See also www.ons.gov.uk/ons/dcp171778_381573.pdf pages 4, 10, 14)

Figure 2 GDP and Main components relative to 2008 Q1 level



Source: Office for National Statistics³

Self-employment

The proportion of the construction workforce that claims to be self-employed has increased from 35% to 40% since 2008, although the total workforce has fallen by about 16%. Looking at it another way, since 2008 the number of employees has fallen by 31%, while the number of self-employed has only fallen by about 2%.

Maintenance work and new build

ONS provides estimates of construction output⁴ by the type of construction. By comparing these figures with those from the RIDDOR [work activity codes](#) we can examine the relationship between output and injury for the two sectors.

The ONS categories are not the same as the work activities. The mapping used is:

ONS categories		RIDDOR work activities (2013/14p)	
New housing	19%	New building	23%
Other new public work	9%		
Other new private work	25%		
New infrastructure ⁵	11%	Civil engineering, infrastructures, roads, bridges, ports	10%
Repair & maintenance	36%	Remodelling, repairing, extending, building maintenance	47%

³ www.ons.gov.uk/ons/dcp171778_376723.pdf - page 10

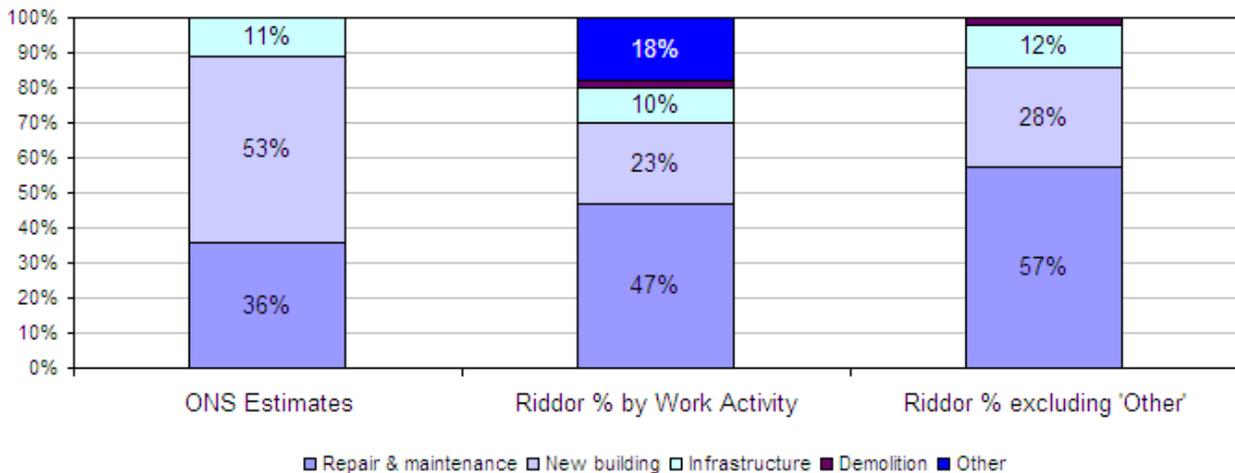
⁴ www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/august-2013/sty-construction-industry.html

⁵ Infrastructure is the generic term for the basic physical and organisational structures and facilities needed for the operation of a society or enterprise. These construction items include buildings, roads, power supplies, etc.

These categories are clearly not an exact match, but should be adequate for a rough comparison. Demolition is not included in the ONS categories, but is left in the RIDDOR list. It is only used in 2% of construction (SIC F) reports, so it doesn't have a significant impact on the proportions.

It is more difficult to know how to treat the 18% of reports that are given another work activity code. (The majority, 11%, are just 'other process'; 2% are 'movement' and another 1% each are inspection, production, storing or cleaning.) The third column in figure 3 shares these 'Other' reports out in proportion to the main categories. The true proportions are probably somewhere between those in columns two and three.

Figure 3 Output proportion compared to injury reports



The ONS estimate for new construction is much larger than the proportion of injuries associated with it – 53% cp 23-28%. The proportion of new infrastructure is similar to that for civil engineering reports. The ONS estimate for repair and maintenance is 36%, much less than the proportion of RIDDOR reports, especially if the reports coded as 'Other' are distributed in proportion to the main groups.

This suggests that the risk in maintenance / refurbishment work is higher than that in new build. These proportions need to be treated with some caution, however, as the categories are not an exact match, the work activity coding is not robust and value does not necessarily equate to activity (eg working days) in Figure 3.

Ill health

Overall, musculoskeletal disorders and stress

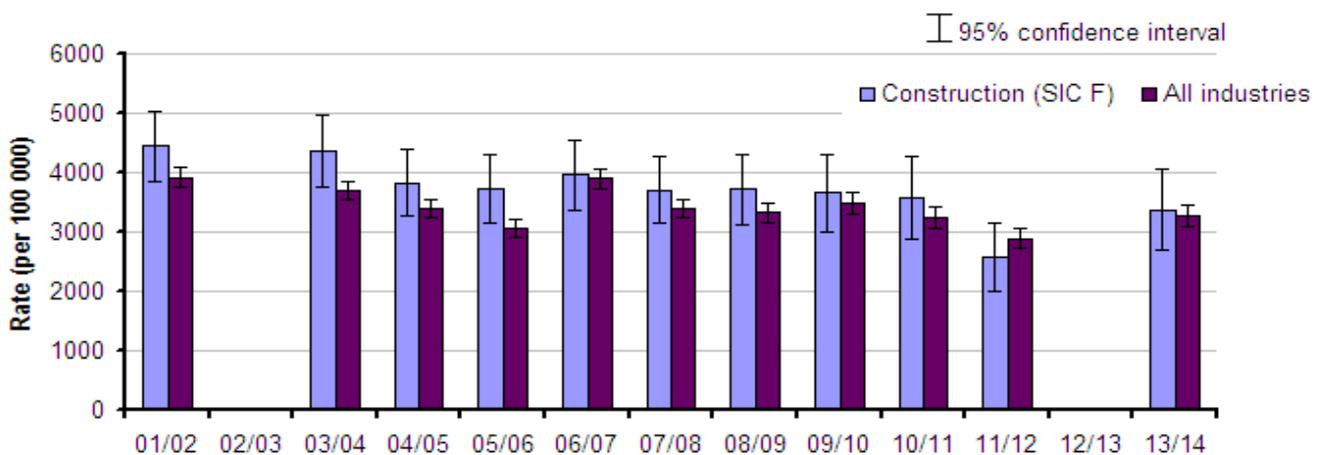
The Labour Force Survey (LFS) and voluntary reporting of occupational diseases by doctors (THOR and THOR-GP) provide data about health risks in different industries and occupations.

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 Labour Force Survey estimated that:

- averaged over the period 2010/11, 2011/12, 2013/14, 71 000 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 (WRIIND2_3YR);
- the associated rate, 3 170 (3.2%) was similar to that for all industries (3 130 per 100 000 people – 3.1%) (WRIIND2_3YR); and
- an estimated 1.7 million working days were lost due to ill health in 2013/14 – 0.8 day per worker (WDLIND, but see also WRIIND6_3YR).

Figure 4 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)



Examining the rates of total cases over time using smoothing techniques, which aim to reduce irregularities (random fluctuations) in the time series, suggests a downward trend. The smooth trend indicates a fall of around 32% between 2001/02 and 2013/14, with a range of possibilities (95% confidence interval) 21% to 44%.

Table 1 Ill health data sources⁶ and latest figures

Health issue	THOR (3 year average 2011 to 2013)	LFS – estimated rate of new cases of self-reported illness per 100 000 employed in the last 12 months (3 year average 2010/11, 2011/12, 2013/14)
Work related ill health	This is about 30% higher than for <i>all industries</i> . (Table THORGP04)	1 330 (1.3%) (Table WRIIND4_3YR) This is of a similar order (not statistically significantly different) to that for all industries 1 460 (1.5%) or previous rates. There were an estimated 29 000 new cases of illness caused or made worse by a current or most recent job.
Work related musculoskeletal disorders	This is almost twice than for <i>all industries</i> . (THORGP05)	610 (MSDIND4_3YR) This is not statistically significantly higher than the all industry rate (480) or previous estimates.
Work related mental ill-health/self-reported stress, depression or anxiety	This is about half that for <i>all industries</i> . It is the lowest of all industry sections. (THORGP06)	380 (STRIND4_3YR) This is statistically significantly lower than the all industry rate (670).
<p><i>The values quoted above are the central estimates from the LFS survey. The respective tables include the confidence interval (an indicator of the reliability) for each estimate.</i></p>		

Other work related diseases

Vibration white finger, carpal tunnel syndrome, occupational deafness and dermatitis are the most common cases of non-lung diseases in the construction industry under IIDB. (IIDB10 www.hse.gov.uk/statistics/tables/iidb10.xls).

There has been a significant decline in the incidence of allergic contact dermatitis since 2005 when the marketing and use of cement containing more than two parts per million of chromate was restricted in the EU. (THOR)

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", see www.hse.gov.uk/statistics/causdis/asthma . These exposures are common in some construction work.

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.

⁶ For a discussion of the sources used in producing HSE Statistics, see www.hse.gov.uk/statistics/

Injuries⁷

Overview

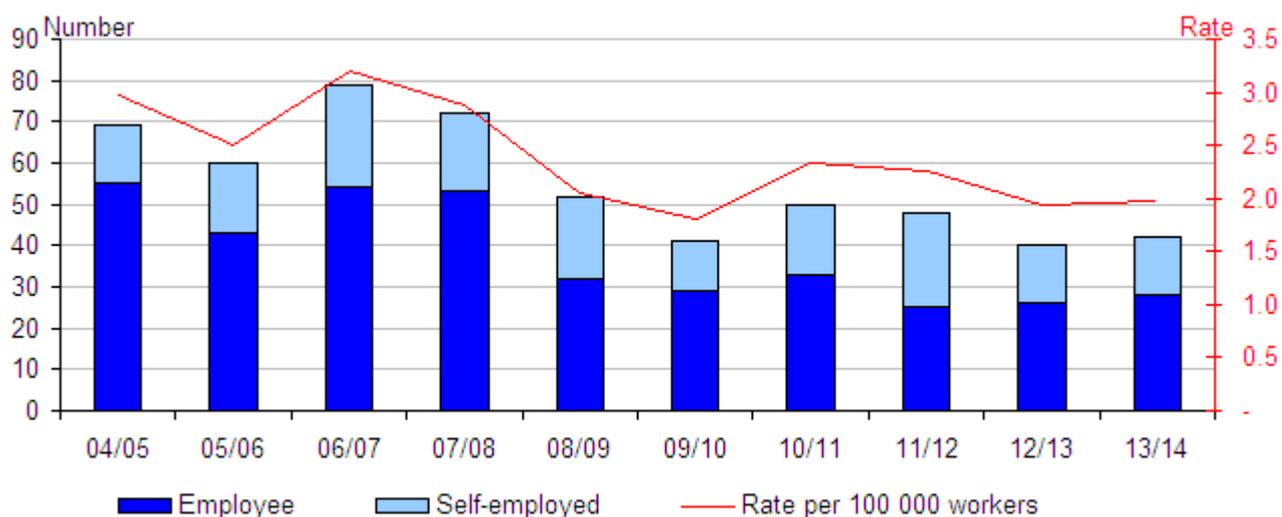
Construction accounted for about 5% of the employees in Britain, but for 31% of fatal injuries, 10% of reported major/specified injuries and 6% of over-7-day injuries to employees.

The latest results in construction show:

Fatal injuries

There were 42 fatal injuries to workers in construction in 2013/14p, 14 of these fatalities were to the self-employed. This compares with an average of 46 over the previous five years, including an average of 17 to the self-employed. The rate of fatal injury per 100 000 construction workers was 2.0 in 2013/14p compared with a five year average of 2.1.

Figure 5 Number and rate of fatal injuries to workers in construction (RIDDOR)



In 2013/14p, 32% of all fatal injuries to workers were in construction. It accounts for the greatest number of fatal injuries of the industry sections.

The main causes of construction worker fatalities were:

Table 2 Kinds of fatal injury in construction

Kind of injury	Fatal injuries 2013/14p	% of total fatal injuries to workers in construction
Fall from height	19	45%
Contact with machinery	3	7%
Struck by object	3	7%
Struck by moving vehicle	3	7%
Contact with electricity	3	7%
Struck against	1	2%
Slip, trip, fall same level	1	2%
Trapped by something collapsing	1	2%

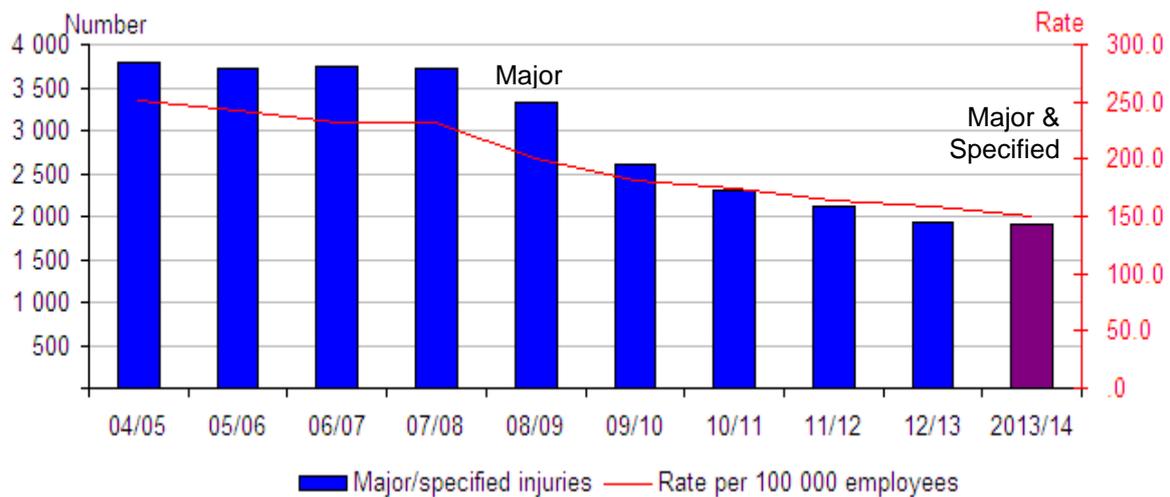
⁷ In 2011/12, the RIDDOR reporting system changed. There were also changes to what injuries had to be reported in 2012/13 (over-3 to over-7-day absence) and mid-way through 2013/14 (from major to specified injuries). (www.hse.gov.uk/statistics/sources.htm#riddor provides further explanation).

Major/specified injuries

There were 1 900 reported major/specified injuries to employees in 2013/14p, compared to an average of 2 457 majors over the previous five years. The corresponding rates of major/specified injury per 100 000 employees were 150.1 in 2013/14p, with an average major injury rate of 176.8 over the previous five years.

There has been a general fall in the number and rate of reported major/specified injury since 2004/05. There appears to have been a slight fall in the number and rate of reported major/specified injuries in the last year, but the change from major to specified part way through the year makes it difficult to judge. The rate of improvement has slowed over the past few years.

Figure 6 Number and rate of major/specified injuries to employees in construction (RIDDOR)



The most common causes of major/specified injury to employees were:

Table 3 Kinds of major/specified injury in construction

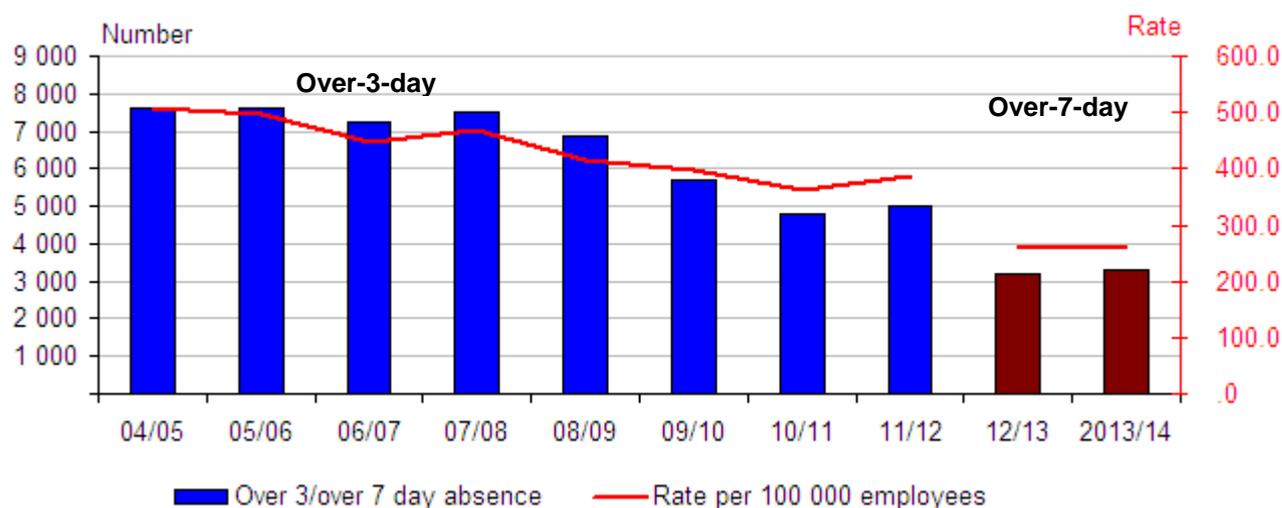
Kind of injury to employees	Major/specified injuries in construction 2013/14p	Percentage of total of major/specified injuries in construction
Fall from height	581	31%
Slip, trip, fall same level	520	27%
Struck by object	250	13%
Lifting and handling injuries	170	9%

Over-three-day and over-seven-day injuries

There were 3 293 reported over-seven-day injuries to employees in 2013/14p compared with 3 213 in the previous year, a rate of 260.1 per 100 000 (262.0). Over the previous three years, there were an average number of 5 180 over-three-day reports and an average rate of 382.5 for years 2009/10 – 2011/12.

The change from over-three-day to over-seven-day reporting makes it difficult to judge if there has been a reduction or increase in the number and rate of non-fatal, non-major injuries. Analysis indicates that the trend in the over-three/seven-day injury rate would have continued to flatten out, as seen in the last couple of years, following a period of sustained reduction. (See www.hse.gov.uk/statistics/causinj/over-7-day-adjust.htm for further information and a longer-term quarterly series of over-three/seven-day injury reports.)

Figure 7 Number and rate of over-three-day and over-seven-day injuries to employees in construction (RIDDOR)



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

Table 4 Kinds of over-seven-day injury in construction

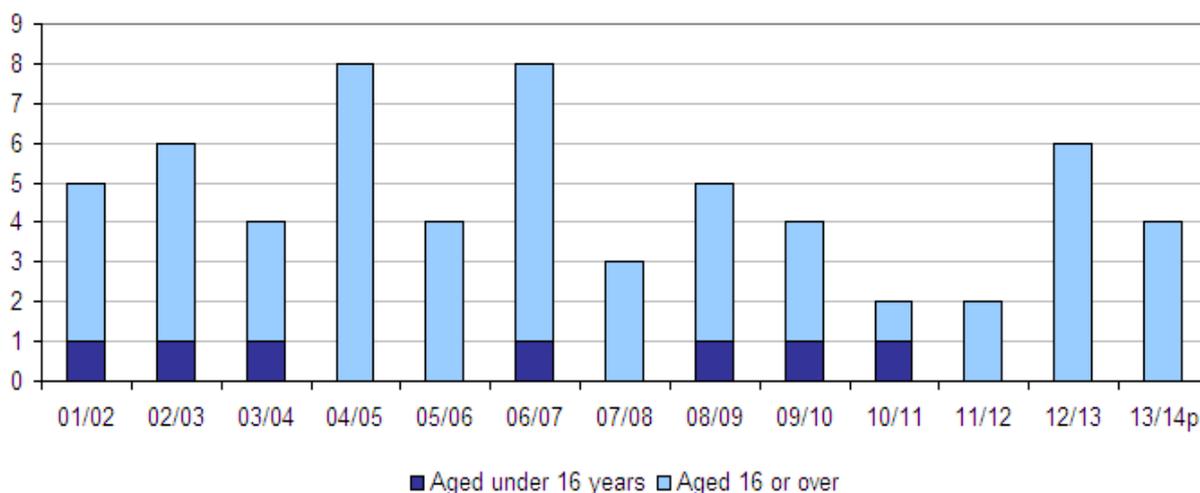
Kind of injury to employees	Over-7-day injuries 2013/14p	Percentage of over-7-day injuries in construction
Lifting and handling injuries	992	30%
Slip, trip, fall same level	681	21%
Fall from height	373	11%
Struck by object	364	11%

Fatal injuries to members of the public ⁸

There were four fatal injuries to members of the public in 2013/14p. This is the same as the average for the previous five years. 46 members of the public lost their lives in the last ten years.

The top defined kinds of fatal injuries to the public in the most recent five years were falls, slips/trips and being struck by vehicles.

Figure 8 Number of fatal injuries to members of the public in construction 2001/02 to 2013/14p (RIDDOR)



Labour Force Survey (LFS) injuries and days lost

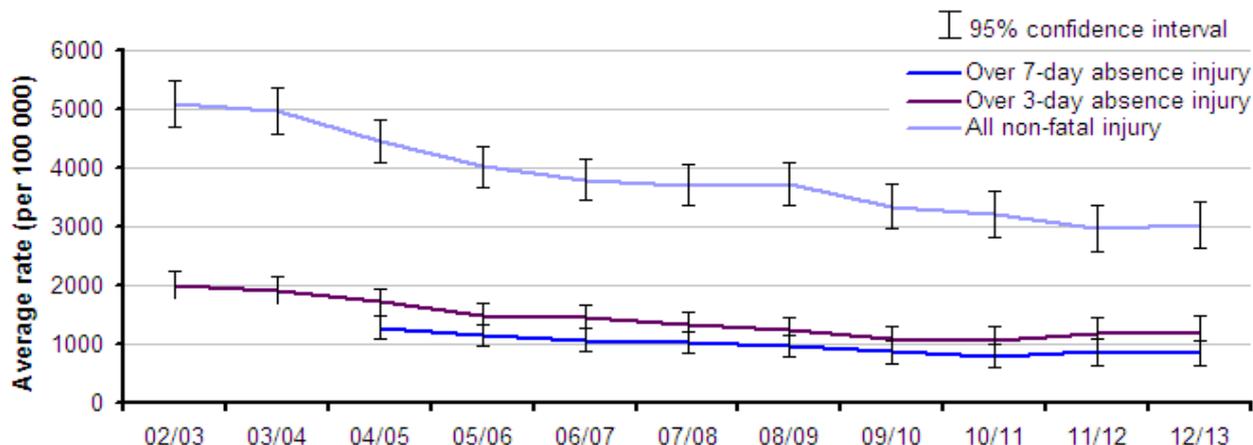
The latest Labour Force Survey estimates (based on results averaged over 2011/12 to 2013/14) show that construction:

- had statistically significantly higher rates for all non-fatal injuries than for all industries;
- accounted for around 13% of over-seven-day absence injuries, 12% of over-three-day and 11% of all non-fatal injuries;
- had an estimated over-seven-day absence injury rate:
 - of 860 per 100 000 workers (ie just under one in a hundred construction workers suffered such an injury each year)
 - was higher (statistically significantly) than the rate of 500 per 100 000 workers across all industries (INJIND4_3YR);
 - which is similar (not statistically significantly different) to the rates between 2008/09 and 2010/11 (INJIND4_3YR).

Under the old RIDDOR reporting requirement (major and over-3-day incapacitation), self-reported results suggested that just over half of all non-fatal injuries to employees were actually reported, with the self-employed reporting a much smaller proportion. For 2012/13 and 2013/14, early indications suggest reporting levels of non-fatal injuries to employees recorded under the new RIDDOR requirements (major/specified and over-7-day incapacitation) have now fallen below half.

⁸ Work-related deaths and injuries to persons not at work, usually referred to as members of the public, fall within scope of RIDDOR

Figure 9 Estimated averaged rates of all self-reported workplace non-fatal injury and injury with over-three and over-seven-day absence for people working in the last 12 months (LFS)



The LFS (INJIND2_3YR) also indicates that between 2011/12 and 2013/14 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 (0.3) 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.

Occupations

According to the Labour Force Survey (INJOCC1_3YR) estimated rates of over-three-day absence injury to *Skilled construction and building trades* are 1 900 per 100 000 workers. The rate is statistically significantly higher than the average across all occupations rate of 680 per 100 000 workers.

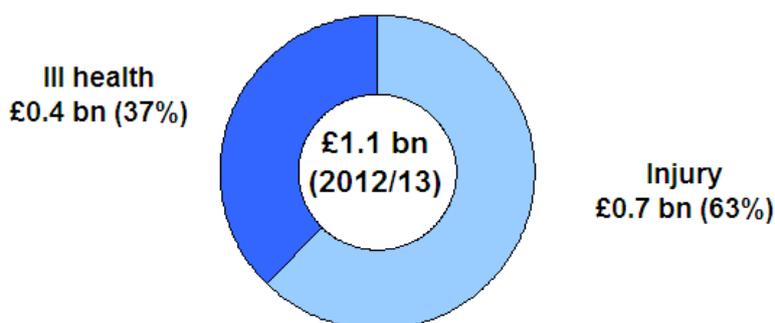
The LFS also indicates that workers in skilled construction and building trades lose an estimated average of over a third of a working day per year due to self-reported workplace non-fatal injury (0.38 days). (INJOCC2_3YR). This was statistically significantly higher than the average lost days per worker across all occupations (0.18 days). The average days lost per worker for all construction in 2013/14 was 0.28 days (WDLIND, see also INJIND2_3yr).

Estimated costs to Britain

Workplace injury and work-related ill health impose costs on employers (e.g. sick pay), on individuals (e.g. the human costs of pain, grief and suffering), and on the Government (e.g. health care expenditure).

Latest GB estimates show that injuries and new cases of ill health resulting largely from current working conditions⁹ in workers in construction cost society an estimated £1.1 billion in 2012/13 (expressed in 2012 prices).

Figure 10 Costs to Britain of workplace injury and work-related ill health in the construction industry 2012/13 (in 2012 prices)



⁹ Further work continues to estimate the cost of work-related conditions, such as cancer, caused by historic conditions.

Enforcement¹⁰

HSE and local authorities are responsible for enforcing health and safety legislation. Each has a range of tools at their disposal in seeking to secure compliance with the law and ensure a proportionate response to offences. For more serious offences, inspectors may serve improvement notices and prohibition notices and they may prosecute (or in Scotland, report to the Procurator Fiscal with a view to prosecution).

In 2013/14p the number of cases heard was 8% lower than the average for the previous 3 years. Nearly 95% of cases resulted in a conviction.

Figure 11 Prosecutions in construction

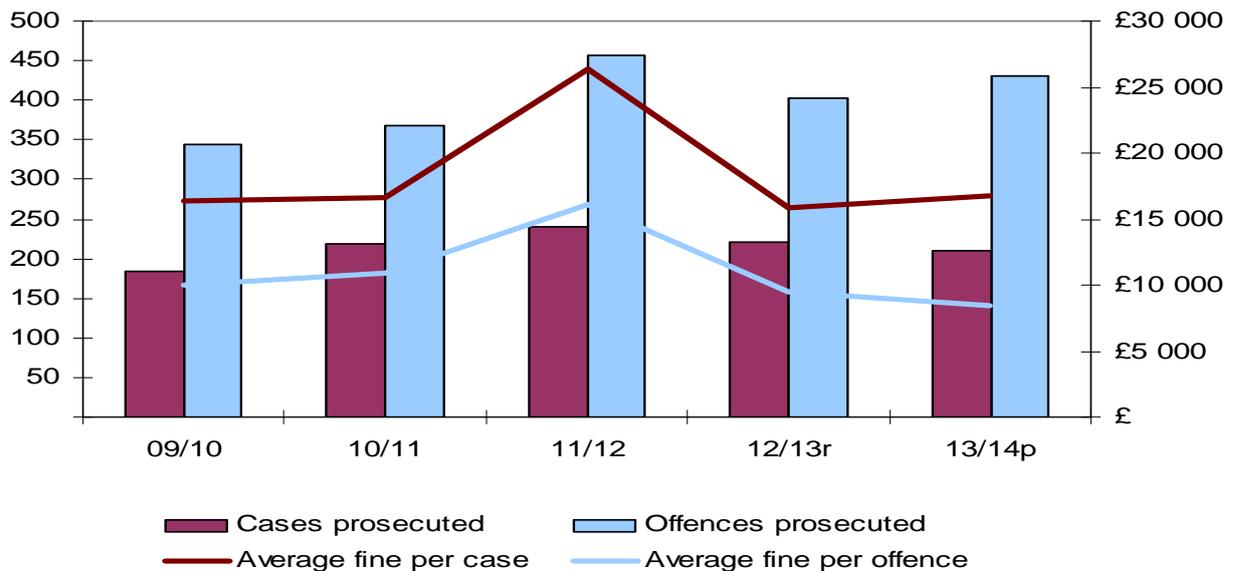
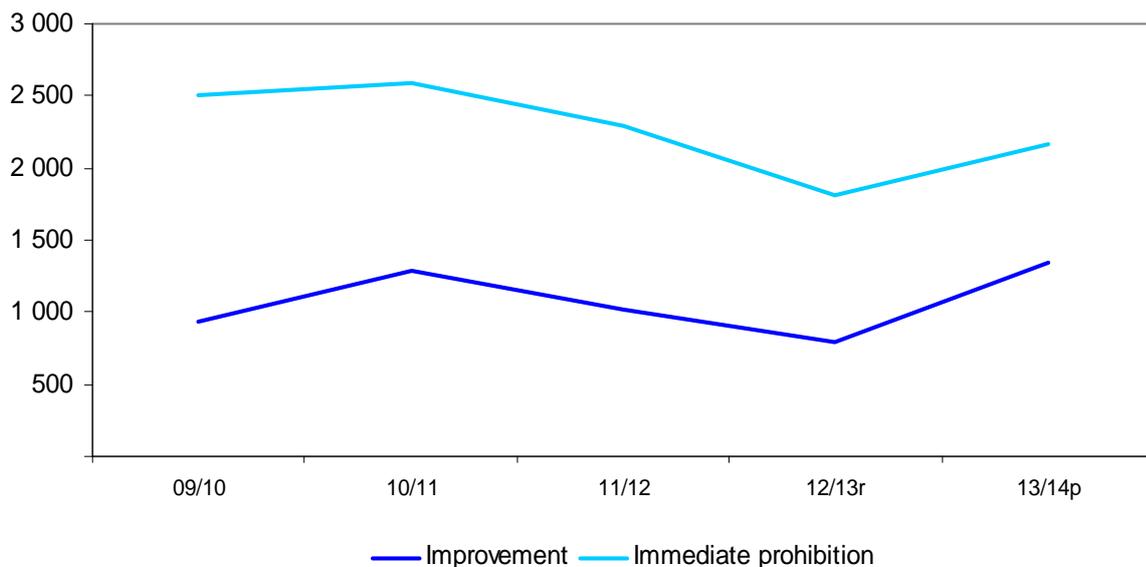


Figure 12 Notices in construction



The number of Notices, particularly Improvement Notices, increased, after falling in the previous two years

¹⁰ For further information on enforcement, see www.hse.gov.uk/statistics/enforcement.htm

Links to data sources and tables

Tables	Web Address (URL)
RIDIND	www.hse.gov.uk/statistics/tables/ridind.xls
INJIND1_3YR	www.hse.gov.uk/statistics/lfs/injind1_3yr.xls
INJIND2_3YR	www.hse.gov.uk/statistics/lfs/injind2_3yr.xls
INJOCC1_3YR	www.hse.gov.uk/statistics/lfs/injocc1_3yr.xls
INJOCC2_3YR	www.hse.gov.uk/statistics/lfs/injocc2_3yr.xls
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WDLIND	www.hse.gov.uk/statistics/lfs/wdlind.xls
THORGP04	www.hse.gov.uk/statistics/tables/thorgp04.xls
THORGP05	www.hse.gov.uk/statistics/tables/thorgp05.xls
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THORR01	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/

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For information regarding the quality guidelines used for statistics within HSE see www.hse.gov.uk/statistics/about/quality-guidelines.htm.

A revisions policy and log can be seen at www.hse.gov.uk/statistics/about/revisions/

Additional data tables can be found at www.hse.gov.uk/statistics/tables/

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