

Health and Safety Executive Board		HSE/11/13	
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Statistical assessment of progress towards the Revitalising Health and Safety targets

Purpose of the paper

1. This paper provides a statistical assessment of the progress made towards the Revitalising Health and Safety (RHS) targets over the period from 1999/00 to 2009/10. It marks the conclusion of the RHS initiative. Work is underway to determine the future for performance measurement of the health and safety system but this work is not considered in this paper.

Background

2. The *Revitalising Health and Safety* strategy statement, launched in June 2000, set three aspirational national targets for improving the performance of the health and safety system by 2010:
 - to reduce the incidence rate of **fatalities and major injuries** by 10%;
 - to reduce the incidence rate of cases of **work-related ill health** by 20%;
 - to reduce the number of **working days lost** per worker from work-related injury and ill health by 30%;
 and to achieve **half** the improvement under each target by 2004
3. HSE set out its technical approach to measuring progress against the RHS targets in a *Statistical Note* which was published on the website in June 2001. Annual progress reports were published from 2001 to 2009 and the assessment of the progress at the mid-point (2004/05) was peer reviewed.
4. Data for the final year of the RHS period, 2009/10, were published in October 2010 and hence we are now able to make a final assessment of the progress made towards the targets over the ten year period.

Argument

5. Annex 1 provides a summary of changes in the various health and safety outcome measures we have available since 1999/00 and Annex 2 shows the key data graphically. The paragraphs below summarise the progress made for each of the target areas together with some explanatory discussion.

Fatal and Major injury

6. The injury target was to reduce the rate of fatal and major injury by 10% over ten years. As the target definition was intrinsically linked to RIDDOR, this data forms the basis of the assessment of progress. However, because of the known limitation of under-reporting of RIDDOR, HSE statisticians always

7. In 2001, HSE contracted out the collection of RIDDOR data to the Incident Contact Centre (ICC). This led to a number of changes in the way that RIDDOR reports were made and handled. In particular, there was a concerted effort to improve reporting levels through the introduction of new reporting channels (such as the internet) and a move to allow people other than the duty holder to report. Analysis has shown that this increased reporting, together with a change in the interpretation and definition of major injury by the ICC, led to a discontinuity in the injury series, which is particularly evident in the major injury series. For the first two years of the ICC operation, there was effectively parallel running of the old and new systems and the ICC data was adjusted accordingly. Hence the discontinuity in the data does not appear until 2003.
8. The effect of the discontinuity has been analysed and publicly reported on the HSE statistics website (see www.hse.gov.uk/statistics/discontinuity.pdf and www.hse.gov.uk/statistics/discontinuity2.pdf). In summary, we estimate that the net effect of the changes was to increase the major injury series by around 2,000 (or 6.5%) per year from 2003/04 onwards.
9. In order to make an assessment of progress from 1999/00 on a consistent basis, an adjusted fatal and major injury series has been produced from 1999/00 to 2002/03 which reflects our best estimate of what the series would have looked like under current reporting arrangements. Using the adjusted series, the rate of fatal and major injury fell by 22% between 1999/00 and 2009/10 (see charts in Annex 2). The unadjusted series fell by 13% over the same period with the fatal injury component falling by 38%. Other injury data, such as over-3-day reports and reportable injuries from the Labour Force Survey also saw sharp falls. Hence, based on all the available evidence, our assessment is that the injury target was **met**.

Incidence rate of work-related ill health

10. It was always recognised that measurement of the ill health target would not be straightforward. At the point the targets were set, we did not have a regular, statistically representative data source for work-related ill health. Furthermore, long latency effects and difficulties in attributing work effects to health conditions adds to the complexity. It was never fully clarified whether the target measure should include long latency outcomes.
11. There are two primary sources of data for work-related ill health: self-reported data from the Labour Force Survey (LFS) and reports received from specialist physicians and GPs through The Health and Occupation Reporting network (THOR), supplemented by various other condition-specific data sources (e.g. the Industrial Injuries Disability Benefit system). The LFS ill health questions have run annually since 2003/04 with occasional surveys before that, including a survey in 2001/02. For the ten year Revitalising period, this is the only representative source we have for work-related ill health and forms the basis of the overall assessment of progress against the target (although the

assessment of change in the incidence of individual conditions uses the best available data source for that condition – see Annex 1).

12. Specialist THOR schemes have been running since the 1980s. However, changes in NHS referral patterns and reporter behaviour over time makes the THOR trend data difficult to interpret consistently. Since 2005, we have also had THOR-GP data which is more representative and comparable with the LFS but is not available for the whole period.
13. Both the LFS and THOR-GP show that stress and musculoskeletal disorders (MSDs) make up more than three-quarters of the new ill health conditions that occur each year. The LFS shows that the incidence rate of both conditions fell over the period from 2001/02 to 2009/10 although the fall was only statistically significant (at the 95% level) for MSDs. Other conditions which saw falls over the RHS period were work-related asthma, skin disease and vibration-related ill health. Rates of Mesothelioma and other asbestos-related disease increased over the period due to historical exposures but numerically these are too small in number to affect the overall measure of work-related ill health.
14. In light of the available data, we need to use a base year of 2001/02 rather than 1999/00 for the ill health target and this was explained at the outset of the measurement process (some attempt was made initially to use THOR data to interpolate between 1999/00 and 2001/02 but this was insufficiently robust to provide a suitable baseline). Between 2001/02 and 2009/10, the incidence rate of work-related ill health as measured by the Labour Force Survey fell by 15% with a 95% confidence range of 7% to 23% (see charts in Annex 2). Although the THOR-GP data suggests that falls in work-related ill health since 2006 may have been sharper than that seen in the LFS, this data source is still relatively new and untested. Therefore, taking the LFS data as our best estimate of the change that occurred over the RHS period, and compared with a target reduction of 20%, our assessment is that the target is **probably not met**.

Working days lost from work-related ill health and injury

15. The main source of data related to sickness absence from work-related ill health and injury comes from the Labour Force Survey. With fewer cases of ill health and fewer injuries, you would expect working days lost from work-related conditions to have fallen. However, in addition to the fall resulting from fewer cases, the average number of days lost for each case of work-related ill health also fell between 2001/02 and 2009/10.
16. The target relates to the average days lost per worker from work-related conditions and this fell by 30% between the baseline period of 2000-02 and 2009/10 with a 95% confidence range of 20% to 40%. Other sources of total sickness absence data (i.e. not just work-related) such as the CBI and CIPD surveys have shown falls in sickness absence rates of around 20% over the RHS period. Hence our assessment is that this target is **probably met**.

Action

17. The Board are asked to note the progress made by the health and safety system over the ten year Revitalising period.

Paper clearance

1. Cleared by the HSE Senior Management Team on 2nd February 2011.

Annex 1 – Summary of Progress in Health and Safety outcomes since 2000

Workplace injuries: Assessment of change from 1999/2000 to 2009/10

Reported major injuries	↘	The rate of employee major injury reported under RIDDOR shows a falling trend from 1997/98 to 2002/03, and again from 2003/04 to 2009/10. In 2003/04, changes in recording systems caused a rise in cases creating a discontinuity in the data series. After adjusting for this discontinuity, our best estimate of the change in the major injury rate between 1999/00 and 2009/10 is a reduction of 22%. Using the unadjusted data, the major injury rate fell by 13% between 1999/2000 and 2009/10.
Fatal injuries	↘	Year on year fatal injury figures are subject to fluctuation given the relatively small numbers. Therefore it is more appropriate to use a smoothed trend to analyse worker fatalities than the raw data (see annex). The smoothed rate of fatal injury to workers has fallen by 38% between 1999/2000 and 2009/10.
Reported over-3-day injuries	↘	The reported rate of employee over-3-day injury has decreased since 1999/2000 in every year but one (2003/04) and it is now 33% below the 1999/2000 level.
Self-reported injuries in the Labour Force Survey (LFS)	↘	The Labour Force Survey (LFS) gives a measure of self-reported injuries that is not affected by under-reporting. The annual rate of total reportable injury in the LFS shows a statistically significant fall of 45% between 1999/2000 and 2009/10 (with a range of possibilities - 95% confidence interval - from 37% to 54%). The rate of all workplace injury (including absences of 3 days or fewer, which are not reportable) has also fallen substantially since 1999/00.
Overall direction	↘	All outcome measures show substantial decreases. Taking together the findings from these different measures, it is reasonable to estimate that the overall rate of work-related injury has fallen by at least 30% over the ten year period and that the major injury rate has fallen by over 20%..

Ill health incidence: Assessment of change from 1999/2000 to 2009/10

Musculo-skeletal disorders	↘	The 2009/10 incidence rate of self-reported work-related musculoskeletal disorders from the LFS was statistically significantly lower than that in 2001/02, the closest available year to 2000. THOR surveillance data points to a fall in reported cases from rheumatologists 1999 to 2009, although some or all of this fall may be due to changes to referral rules and procedures.
Stress, depression or anxiety	→	Whilst the incidence rate of self-reported work-related stress, depression or anxiety from the LFS in 2009/10 is lower than in 2001/02, the difference is not statistically significant at the 95% level. THOR surveillance data shows a mixed picture with a downward trend in psychiatrist reports of work-related mental health between 2000 and 2009, but with an upward trend in occupational physician reports over the same period.
Asthma/short-latency respiratory	↘	THOR data shows a statistically significant decrease in occupational asthma cases from 1999 to 2009.
Dermatitis / skin	↘	THOR data show a statistically significant decrease in work-related skin disease from 1999 to 2009.
Mesothelioma/long-latency respiratory	↗	The rate of mesothelioma deaths and other cases of asbestos-related disease, which dominate this category, continues to increase, largely due to historical exposures. Death rates from coal workers' pneumoconiosis and silicosis are on a long-term downward trend.
Vibration-related	↘	In the period between 1999 and 2007, the annual total of compensated cases for conditions linked to vibration fell substantially. A widening of the prescription rules saw this number increase between 2007 and 2008 but cases remain way below the figures seen at the beginning of the decade.
Hearing loss	→	The number of new compensated cases of occupational deafness has fluctuated since 1999.
Overall direction	↘	Stress and musculoskeletal disorders are the largest components of work-related illness. Based on self-reports, there has been a statistically significant reduction of 15% in the overall illness incidence rate between 2001/02 and 2009/10 (with a range of possibilities - 95% confidence interval - from 7% to 23%).

Working days lost: Assessment of change from 2000-02 to 2009/10

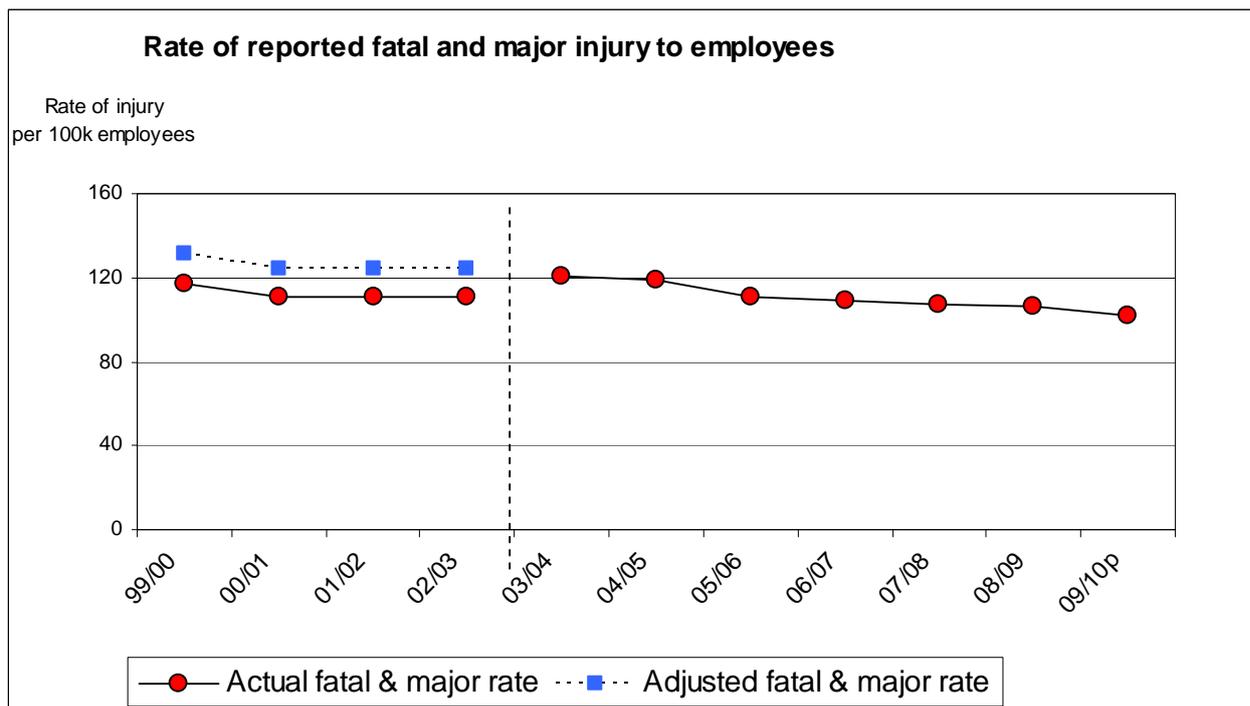
Days lost from work-related ill health	↘	The estimated number of working days lost per worker due to work-related ill health in 2009/10 was statistically significantly lower than in 2001/02, according to the Labour Force Survey.
Days lost from work-related injuries	↘	The estimated number of working days lost per worker due to workplace injury in 2009/10 was statistically significantly lower than in 2000/01, according to the Labour Force Survey.
Overall direction	↘	Based on self-reports of working days lost due to work-related illness and injury, there has been a statistically significant reduction of 30% in the days lost per worker between 2000-02 and 2009/10 (with a range of possibilities - 95% confidence interval - from 20% to 40%).

Please see Annex 2 for charts showing recent trends for injuries, ill health and days lost

Key:

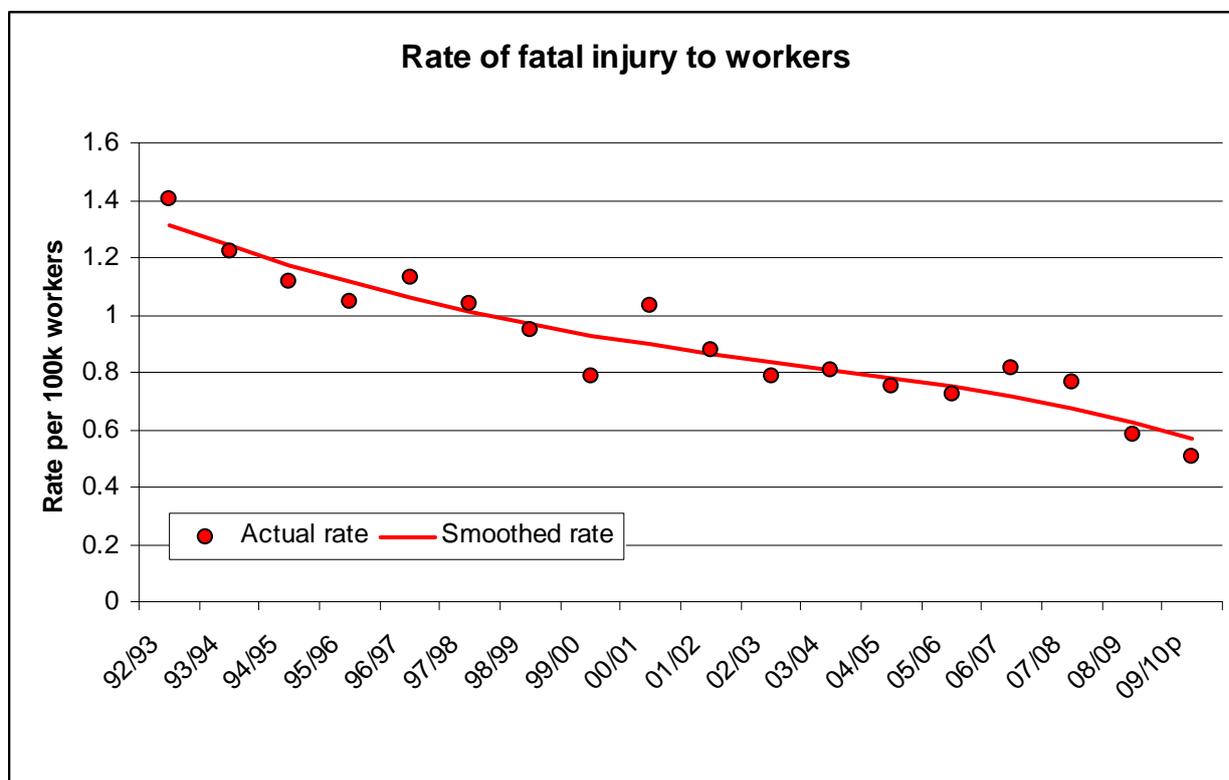
↗	Rise since 2000	↘	Fall since 2000	→	No clear change since 2000
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Annex 2 – Supplementary Charts



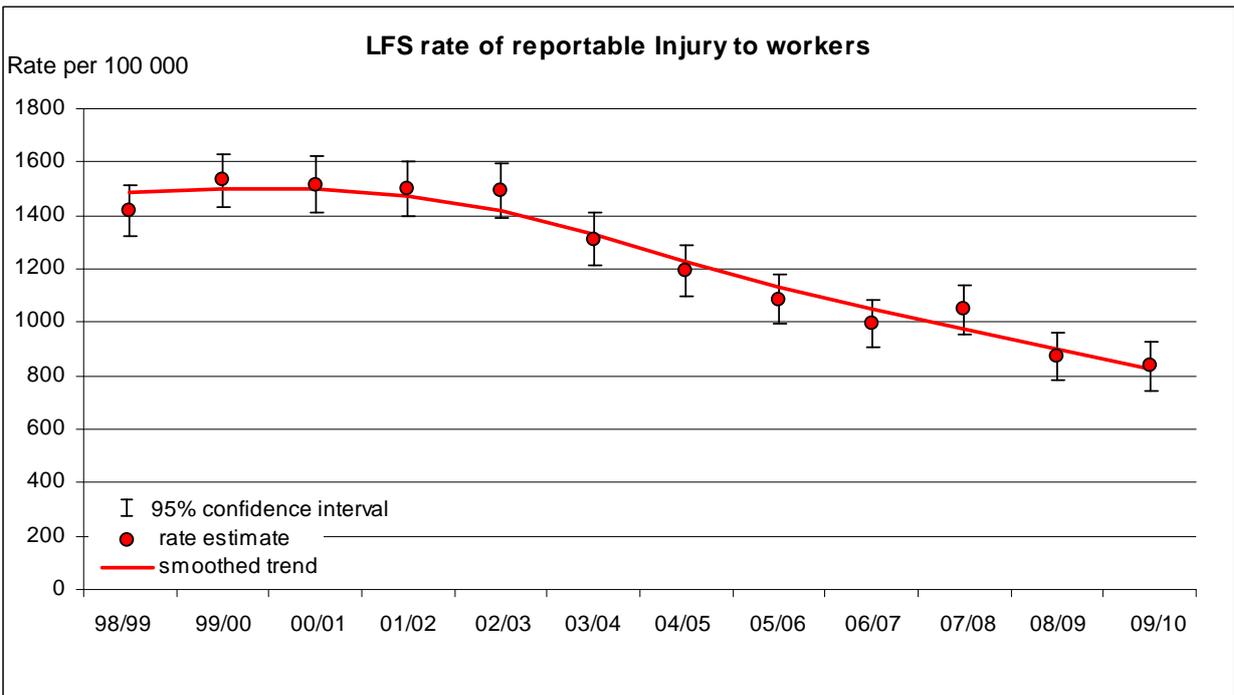
Vertical dotted line represents discontinuity in reported major injury series see <http://www.hse.gov.uk/statistics/discontinuity.pdf>

The adjusted rate represents our best estimate of the true trend after allowing for the discontinuity. See <http://www.hse.gov.uk/statistics/discontinuity2.pdf>





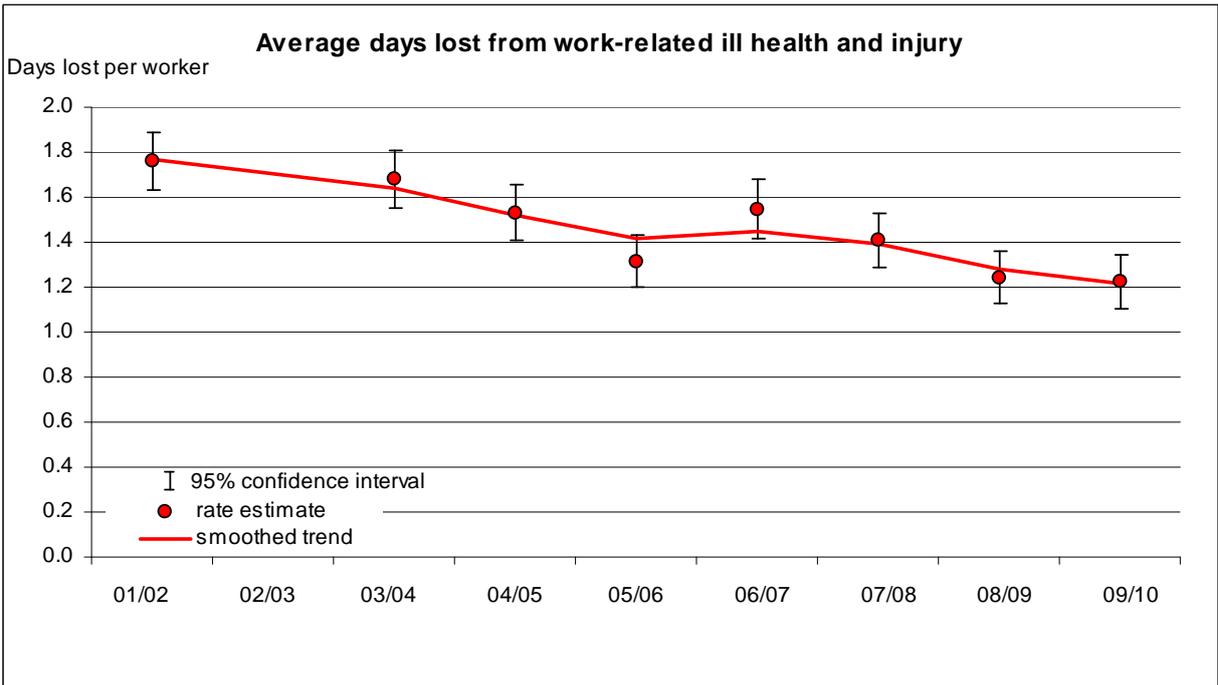
Source: RIDDOR



Source: Labour Force Survey



Source: Labour Force Survey



Source: Labour Force Survey