

# **Achieving the *Revitalising Health and Safety* targets**

## **Statistical progress report, November 2005**

### **Health and Safety Executive Statistics Branch**

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## 1 Introduction

The *Revitalising Health and Safety* strategy statement, launched in June 2000, set three national targets for improving health and safety performance 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.

The Health and Safety Executive (HSE) set out its technical approach to measuring progress against the *Revitalising* targets in a *Statistical Note* published in June 2001, on the website at [www.hse.gov.uk/statistics/statnote.pdf](http://www.hse.gov.uk/statistics/statnote.pdf). Among other things, this said that a report on progress would be prepared each autumn, comparing the latest data with those for the base year (1999 or financial year 1999/2000).

This document is the fifth such annual report. It presents our judgements on progress at the mid-point of the *Revitalising* period (2004 or financial year 2004/05), against the target reductions of 5% for fatal and major injuries, 10% for ill health incidence and 15% for working days lost. Because this is the mid-point, this year we are also producing a more detailed progress report, which will be placed on the website and subjected to external peer review, as promised in the *Statistical Note*.

The assessments of progress represent our statisticians' best judgements based on the information available at November 2005. They are subject to uncertainty, for example because some research is not yet complete, and because some of the data come from surveys which are affected by sampling error.

The judgements make use of data from a number of different sources (which was also a commitment from the *Statistical Note*). These are listed here and described in much more detail on the website at [www.hse.gov.uk/statistics/sources.htm](http://www.hse.gov.uk/statistics/sources.htm):

**RIDDOR:** Injuries reported to HSE or local authorities under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995.

**LFS:** Estimates of self-reported injuries, ill health and days lost from the Labour Force Survey; for ill health also known as SWI (self-reported work-related illness) surveys.

**THOR:** New cases of work-related illness seen by occupational physicians and disease specialist doctors in The Health and Occupation Reporting network.

**IIDB:** New cases of prescribed diseases assessed for compensation under the Industrial Injuries Disablement Benefit scheme.

**WHASS:** Interim results on workers' perceptions of changes in risk control from the Workplace Health and Safety Survey standalone worker survey.

**RCIs:** HSE inspectors' ratings of Risk Control Indicators measuring workplaces' compliance against aspects of hazard management.

## 2 Summary

### Fatal and major injuries: Assessment of change from 1999/2000 to 2004/05

Reported major injuries	→	The rate of employee major injury dropped by 2.2% in 2004/05 but shows no clear trend since 1999/2000. The rate of major injury is 117.7 per 100 000 employees in 2004/05 compared with 116.6 in 1999/2000.
Fatal injuries	→	The rate of fatal injury to employees rose by 30% in 2000/01 and has dropped since then. The rate of 0.7 per 100 000 employees in 2004/05 is about 0.5% less than in 1999/2000. Because of the relatively small numbers of fatal injuries, their impact on the fatal and injury target is small.
Reported over-3-day injuries	↘	The rate of employee over-3-day injury has generally decreased since 1997/98, and is now the lowest on record. This does not contribute to the target assessment but is relevant information in understanding injury trends.
Labour Force Survey (LFS) and surveys of companies	↘	The annual LFS rate of reportable injury dropped by 22% between 1999/2000 and 2004/05. The rate of “all workplace injury” (including absences of 3 days or less) dropped by 20%, suggesting that the trend in reportable injury, defined as more than 3 days absence, does not reflect a tightening up on absence management.  Surveys of firms in manufacturing, retail, wholesale and hotel industries indicate a decrease in the over-3-day injury rate in those industries (mainly in large firms). This supports the picture from RIDDOR and the LFS of a decrease in over-3-day injury.
Surveys of companies – major injuries	→	The rate of major injury has fluctuated in manufacturing with no clear trend but is higher in recent years in retail, wholesale and hotels.
Surveys of companies - reporting	→	In both manufacturing and services surveys, the reporting of major injuries fluctuated between 1999/2000 and 2004/05, showing no clear change. The surveys suggest that changes in reporting behaviour have not contributed to the trends in reported major injuries: hence the assessment of trends is based on reported major injuries, without any adjustment for under-reporting.
<b>Overall direction</b>	→	All the sources indicate that there is no clear trend in the rate of major injury to employees, or in the reporting of major injuries. Reporting does not impact on trends in major injuries. The conclusion is therefore of no clear change in the rate of fatal and major injury.
<b>Size of change</b>		The rate of fatal and major injury has fluctuated and is around 1% higher in 2004/05 compared with 1999/2000, the base year of the <i>Revitalising</i> targets. The mid-point target for a reduction of 5% in the rate of fatal and major injury in the five years has therefore not been met.

### III health incidence: Assessment of change from 1999/2000 to 2004/05

Musculo-skeletal disorders	↘	Self-reported work-related musculoskeletal disorders show a statistically significant reduction from 2001/02 to 2004/05. THOR surveillance data also point to a reduction over the <i>Revitalising</i> period 1999 to 2004, though the occupational physician component shows a non-significant increase. The related indicators of risk control show a neutral picture.
Stress, depression or anxiety	→	Self-reported work-related stress, depression or anxiety has remained at essentially the same level between 2001/02 and 2004/05. Overall THOR surveillance data shows levels increasing from 1999 to 2001, and falling since then, though reports from occupational physicians have remained level. It is not clear where levels in 2004 stand in relation to 1999. However, recent data on risk control suggest a possible worsening.
Asthma/short-latency respiratory	↘	THOR data show consistent and statistically significant decreases in asthma from 1999 to 2004. Occupational physician data for overall respiratory disease also show a significant drop. WHASS data on workers' perceptions of respiratory hazards suggest an improvement over the last 12 months.
Dermatitis / skin	↘	THOR data show consistent and statistically significant decreases in dermatitis from 1999 to 2004. Occupational physician data for skin diseases overall also show a significant decrease. WHASS data on workers' views of the risk of skin problems suggest an improvement over the last 12 months.
Infections	→	Different sources (THOR specialist doctor reports, IIDB cases and RIDDOR) give very different pictures of the incidence of work-related infectious disease and none shows a clear trend.
Mesothelioma/long-latency respiratory	↗	Numbers of mesotheliomas and other asbestos related diseases continue to increase, though mesotheliomas at ages under 45 have been reducing for 10 years. Death rates from coal workers pneumoconiosis and silicosis are on a long-term downward trend but show little change in the last 10 years. In terms of numbers, the impact of these diseases on the overall target is small.
Vibration-related	→	Over the last five years compensated cases of vibration white finger have reduced in number, while those of carpal tunnel syndrome have increased. Vibration-related conditions presenting to THOR have remained broadly constant. Risk control measures suggest some recent improvement.
Hearing loss	→	The number of compensated cases of occupational deafness has increased from 225 in 1999 to 325 in 2004. In contrast, the number of cases presenting to the THOR network show an erratic but fairly clear downward trend.
<b>Overall direction</b>	↘	The evidence suggests that while work-related stress incidence shows no clear change since 1999/2000, musculoskeletal disorders and most other kinds of work-related illness are lower. Assessed from self reports, the total burden of work-related illness shows a statistically significant reduction. Evidence from other sources is consistent with this.
<b>Size of change</b>		Given the consistency of evidence that the level has reduced, it is reasonable to assess the size of reduction using the most broadly based source, self-reported work-related illness in the LFS. On this basis, the reduction since 2001/02 has probably met the <i>Revitalising</i> target of 10%: it is statistically significant, with a central estimate in the order of 15% (range of possibilities 8% to 23%). There is no directly comparable estimate for the base year, 1999/2000; the closest SWI data suggest that it was a little lower than the 2001/02 level. Most components of THOR surveillance data give estimated 1999 to 2004 reductions which meet the 10% target. We conclude that the target has probably been met.

### Working days lost: Assessment of change from 2000-02 to 2004/05

Days lost from injuries	→	The estimated number of working days lost per worker due to workplace injury was 0.30 days in 2004/05, compared with 0.36 days in 2000/01 (the closest available to the <i>Revitalising</i> base year); the difference between the two rates was not statistically significant.
Days lost from ill health	↓	The estimated number of working days lost due to work-related ill health per worker was 1.2 days in 2004/05, statistically significantly lower than that of 1.4 in 2001/02 (the closest available to the <i>Revitalising</i> base year).
<b>Overall direction</b>	↓	Taking injuries and ill health together, since 2000-02 the estimated number of working days lost per worker has shown a statistically significant reduction, from 1.8 days to 1.5 days in 2004/05. The limited available data also followed a statistically significant downward trend.
<b>Size of change</b>		The range of possibilities (95% confidence interval) for the decrease is from 3% to 23%. The central estimate is in the order of 10-15%, suggesting that the reduction since 2000-02 was possibly enough to meet the 15% <i>Revitalising</i> target.

### Key for all three targets:

↗	Rise since 1999/2000	↓	Fall since 1999/2000	→	No clear change since 1999/2000
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### 3 The fatal and major injuries target

The judgement on trends in the occurrence of fatal and major injury is a combination of an assessment of trends in reporting of major injuries, and of trends in the Labour Force Survey (LFS) rate of reportable injury. (Because of their relatively small numbers of fatal injuries, their impact on the target is small).

The progress report in November 2004 carried an assessment of little change for the rate of fatal and major injury because there was insufficient evidence to know whether major injuries were rising or were being better reported, and this fitted in with the flat trend from the LFS (to 2002/03). For this year's judgement, there is fresh evidence from the injury statistics for 2004/05 (the LFS and reported injuries); and from outputs of a programme of research into injury levels and reporting.

#### 3.1 Injuries reported under RIDDOR

On reported injuries, the rate of employee **major** injury dropped by 2.2% in 2004/05, the first reduction since 2000/01. However there is no clear trend since 1999/2000, the RHS base year. The rate of major injury is 117.7 in 2004/05 compared with 116.6 in 1999/2000, or 1% higher. The rate of major injury has shown no real trend in the five years: the run of figures is: 116.6, 110.2, 110.9, 111.1, 120.4 and 117.7.

The rate of employee **over-3-day** injury has generally decreased since 1997/98, and is now the lowest on record. The ratio of reported major to over-3-day injuries has increased since 1999/2000, mainly because of the downward trend in over-3-day injuries.

The rate of **fatal** injury to employees has declined throughout the 1980s and 1990s. The rate rose by 30% in 2000/01 and has dropped since then. The rate of fatal injury to employees in 2004/05 is about 0.5% less than in the base year. Because of the relatively small numbers of fatal injuries, their impact on the injuries target is small.

#### 3.2 Self-reported injuries from the Labour Force Survey (LFS)

The annual LFS rate of workplace injury has dropped in recent years: the rate of reportable injury – i.e. major and over-3-day combined – dropped 3% between 1999/00 and 2002/03 and then by 19% in the next two years. The corresponding LFS figures for the rate of “all workplace injury” (includes people taking 3 or fewer days absence) are similar at 4% and 16%. This suggests that the trend in reportable injury, defined in terms of absence, does not simply reflect a tightening up on absence management. In summary, the most recent trends in the LFS are downward (*Table 1* in Annex A gives detailed statistics).

#### 3.3 Research into reporting levels

The LFS question set does not permit the separate identification of major and over-3-day injuries. HSE has therefore launched a programme of research into the levels of reporting of these different categories of reportable injuries. We have commissioned

two surveys by the Health and Safety Laboratory into reporting of major and over-3-day injuries by manufacturing and some services employers. *Table 2* in Annex A provides some preliminary rates of major and over-3-day injury from the surveys, based on what employers recognise and record as workplace injury (major or over-3-day).

- Manufacturing: No clear trend for major injury rates. Over 3 day rates decline in large companies and in the survey overall but are up in medium-sized companies.
- Services (Distribution and Hotels): Major injury rates are higher in the latest 3 years. Over 3 day rates decline in large companies and in the survey overall but no clear trend for medium-sized companies.

A third survey, covering business and financial services, is still to be completed. The early results indicate that the major injury rate fluctuates but is higher in recent years, while the over 3 day injury rate is lower in recent years. These results support the surveys of manufacturing and distribution.

The employer surveys show broad agreement with the trends in injuries reported under RIDDOR, and trends in the Labour Force Survey, on the following points:

- The rate of major injury in manufacturing has fluctuated with no clear change and has increased in recent years in some service industries (retail & wholesale, and hotels).
- The rate of over-3-day injury has decreased in these industries.

These common messages give us confidence to argue that there is no clear change in the rate of major injury but a decrease in the rate of over-3-day injury.

The surveys have implications for our assumptions about reporting levels and the **up-rating of reported major injuries**. The *Statistical Note on Progress Measurement*, published in 2001, set out an approach which involved uprating the RIDDOR rate of fatal and major injuries to allow for under-reporting, using the ratio for all reportable injuries from the LFS. Since then, it has become clear that reporting patterns have changed, such that this methodology is no longer appropriate.

The reporting estimates from the HSL surveys are derived from matching survey questionnaires with RIDDOR records in HSE systems. The process uses a mix of electronic searching and manual checks. The results provide indicative trends in reporting levels of major and over-3-day injuries. This is important for understanding trends in reported injuries.

In both manufacturing and services surveys, the level of reporting of major injuries fluctuates, showing no clear change. The reporting of over 3 day injuries increases slightly in manufacturing and increases modestly in services. Reporting estimates from the LFS, dominated by over 3 day injuries, are higher in the last 2-3 years than in 1999/2000 (*Table 3* in Annex A shows the reporting estimates).

Taking these results, there is evidence of an increase in the reporting level of over-3-day injuries but no real change for major injuries. The level of reporting in the HSL surveys is substantially higher for major than for over-3-day injuries (around 60-80% compared

with 50-60%). This suggests that the non-fatal reporting level estimates from the LFS (covering both major and over-3-day injuries) are not appropriate for indicating trends in reporting of major injuries.

Further research conducted by HSL (and peer reviewed) concluded that the non-fatal up-rating factor could not be applied because the surveys “did not support the assumption that the reporting of major and over 3 day injuries are similar”. This suggests that reporting levels differ between major and over-3-day injuries and that up-rating for underreporting must be made separately for the two categories of injury.

Given that the reporting of major injuries shows no clear trend (in the sectors surveyed), any up-rating would not change the trend in reported major injuries except to add more uncertainty. The assessment of trends in the major injury rate for the *Revitalising* mid-point progress judgement is therefore based on the trends in reported major injuries without up-rating.

A final piece of HSE-sponsored research on reporting levels is a **hospital study**. A specialist occupational physician is conducting a study of injured workers who attend an accident and emergency clinic of a large hospital. The study will provide estimates of injury reporting for the year May 2005 – May 2006, and is a repeat of a similar study at the same hospital in 1999. Robust results are not yet ready but the results so far show that employers do report some injuries that lead to more than 3 days absence from work but do not report injuries that lead to reduced duties for more than three days and so should be reported (as was also found in the 1999 study).

### 3.4 Research into effect of economic factors

Research conducted by the Institute for Employment Research (IER) shows that trends in the aggregate injury rate are influenced by the economic cycle and by the changing mix of occupations or jobs held by workers. For example,

- Half of the decrease in the overall rate of RIDDOR injury since 1986 reflects **changes in occupations** of workers. The other half of the decrease reflects reductions in rates of injury within occupational groups, and hence arguably improvements to risk control and design of jobs by employers.
- The **business cycle** is linked to workplace injury rates. The IER estimates that a 1% increase in GDP above trend is associated with a 1.4% increase in the rate of major injury but no significant effect on the rate of over 3 day injury.
- Growth in the past five years is then estimated to add 7.8% to the rate of major injury. The estimated effect of both economic growth and occupational change is to increase the rate of major injury by 3% (with a confidence interval of 1%-5%) since the *Revitalising* base year. It is arguable therefore that the recent increase in economic activity is making it harder to reach the *Revitalising* target for major injuries.

This research does not affect the judgement on progress against the fatal and major injuries target but does provide some useful contextual information to assist the understanding of recent movements in injury rates.

## 4 The ill health incidence target

The judgement on trends in the incidence (new cases) of work-related ill health over the past five years involves looking at evidence on different types of ill health, from various sources. Some of these are not available for the base year of the *Revitalising* targets (calendar 1999 or financial 1999/2000). The following sections consider the main data sources in turn.

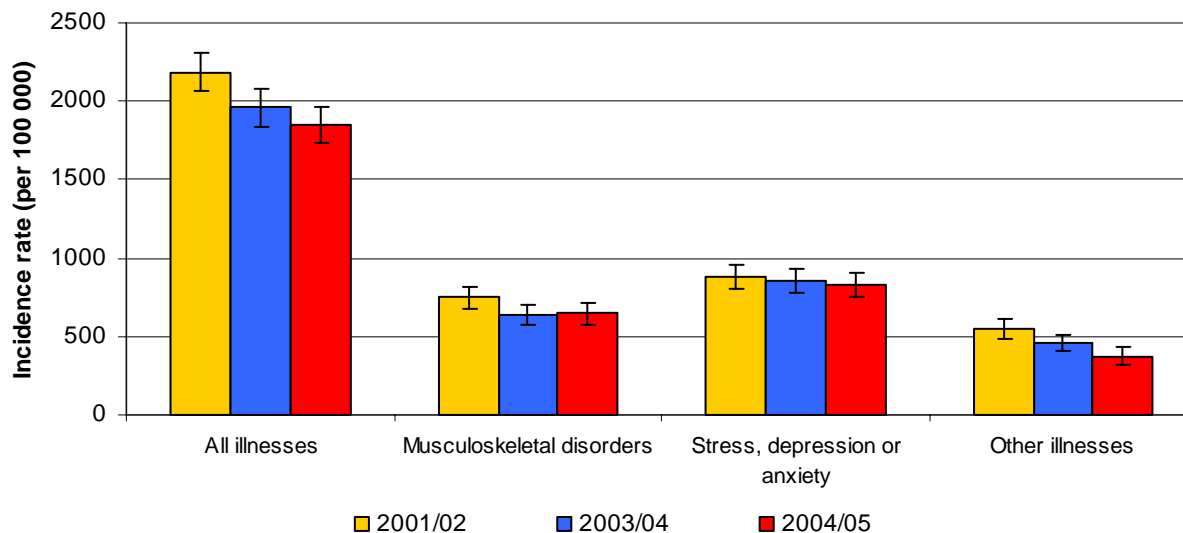
The progress report in November 2004 found no overall change in ill health incidence since 1999/2000, but a downward trend since 2001/02, notably for musculoskeletal disorders. The judgement this year takes account of a further year's data from the main regular sources (including self-reported work-related illness from the LFS), as well as a new analysis of trends from THOR doctor reporting data and information on recent changes in risk control from inspectors' reports and from initial results on employees' perceptions in the Workplace Health and Safety Survey.

### 4.1 Self-reported work-related illness (SWI) from the LFS

Estimates of the incidence rate of self-reported work-related illness from the last three SWI surveys are shown in *Figure 1* (the three earlier surveys, 1990, 1995 and 1998/99 are, for a variety of reasons, not fully comparable). Notice that the earliest data within the *Revitalising* Health and Safety strategy period is for 2001/02, two years on from the base year for the *Revitalising* targets: 1999/2000. This introduces additional uncertainty in the assessment of change since that base year. We shall first examine the changes from 2001/02 to 2004/05.

In the three years to 2004/05 (the midpoint for the 10-year *Revitalising* targets) the overall SWI incidence rate has fallen from 2200 to 1800 (rates per hundred thousand people working in the last 12 months). The difference is statistically significant, and suggests a reduction of the order of 15%. Sampling variability means that the size of the decrease cannot be accurately determined. The range of possibilities (95% confidence interval) for the actual reduction runs from 8% to 23%.

**Figure 1: Estimated incidence rates of self-reported work-related illness, for people working in the last 12 months, 2001/02, 2003/04 and 2004/05**

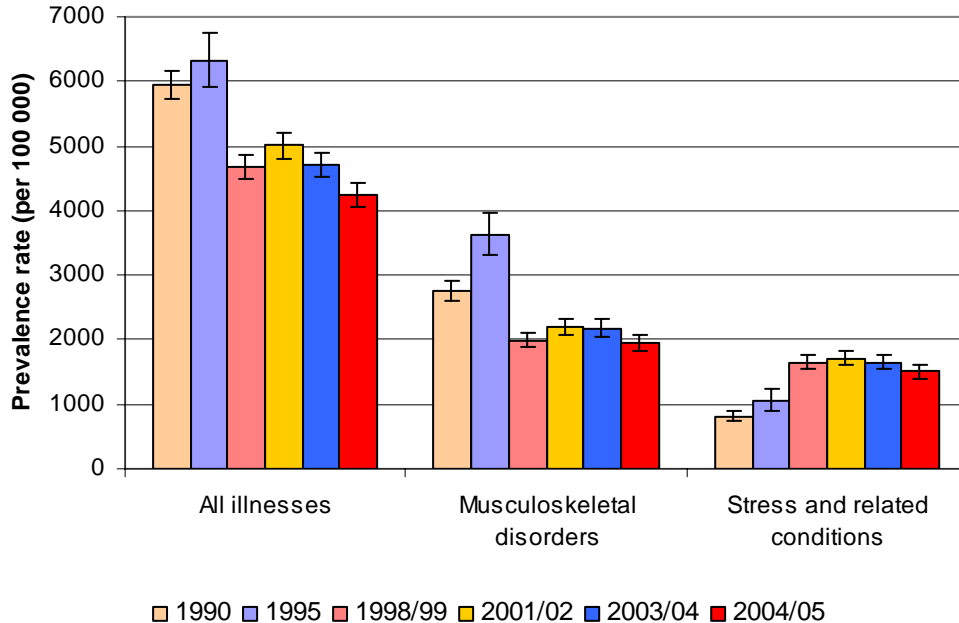


Within this overall total, there are statistically significant reductions in musculoskeletal disorders and "other" illnesses. (The LFS sample size is not large enough to yield reliable trend estimates for individual diseases other than the two broad groups above). As a whole, the total of work-related illness other than musculoskeletal and stress/mental disorders has shown a statistically significant fall between 2001/02 and 2004/05. The incidence rate for stress has remained essentially constant over this period.

The observed overall reduction appears fairly comfortably to meet the 10% target for reduced incidence of work-related illness. The chance of observing a reduction of this size if, in reality, incidence had fallen by less than 10% is about 1 in 4.

We do not have fully comparable SWI data before 2001/02, but broad comparisons can be drawn with earlier surveys for data covering England and Wales and restricted to prevalent cases in people who have worked in the previous 12 months. These data are shown in *Figure 2*.

**Figure 2: Comparison of estimated prevalence rates of self-reported work-related illness, for people working in the last 12 months in England and Wales, 1990 to 2004/05**



They suggest a broadly downward trend in the all illness total since 1990, but also that there may have been little change, or even an increase between 1998/99 and 2001/02. Of the two major components of this total, musculoskeletal disorders follow the same pattern as the total, but stress shows a strong rise across the 1990s, with a levelling out since 1998/99.

From this data it would appear that the Revitalising baseline level for all SWI illnesses would have been similar to or lower than the observed level in 2001/02. The same observation would apply for musculoskeletal disorders, while for stress the evidence points to a similar level in 1999/2000 as in 2001/02.

#### **4.2 Specialist doctor reporting in the THOR network**

The Health and Occupation Reporting (THOR) team at Manchester University have produced a statistical report on the estimation of incidence trends based on THOR data. The methods developed are aimed at controlling for varied levels of participation in the schemes over the years. The report also assessed the data for evidence of "reporting fatigue": is there a tendency for participants to respond less completely as time goes on? At present only data from the EPIDERM, SWORD and OPRA schemes (covering dermatologists, chest physicians and occupational physicians respectively) have been analysed. Further development of this work is in hand.

This report summarises the conclusions and their implications for the assessment of work-related disease incidence since 1999 (the base year for the *Revitalising* targets).

The principal results are shown in the following table, together with an 'unadjusted' estimate of the change between 1999 and 2004 calculated simply by taking the percentage change in the overall annual estimate from each scheme over this period, expressed as a percentage of the 1999 value and divided by 5. For comparison, the unadjusted figures for MOSS (rheumatologists) and SOSMI (psychiatrists) are also shown. Participation-adjusted estimates are not yet available for these schemes.

**Table 1: Annual percentage change in incidence of selected disease categories under THOR surveillance, 1999 to 2004**

Reporter group	Disease category	Annual percent change		Potential fatigue bias (percent) (see text)
		Unadjusted	Adjusted for changes in participation (95% CI)	
EPIDERM	Dermatitis	-4.8	-3.9 (-6.1, -1.6)	-1 to -2
SWORD	Occupational asthma	-8.3	-7.8 (-13.1, -2.1)	--
OPRA	Skin conditions	-12.7	-10.2 (-15.0, -5.0)	-1 to -2
	-- of which dermatitis	-12.4	Na	
	Musculoskeletal disorders	-3.4	1.2 (-3.0, 5.6)	
	Stress and mental disorders	15.1	13.3 (8.9, 17.9)	
	Respiratory conditions	-9.4	-5.9 (-13.4, 2.2)	
	-- of which asthma	-12.7	Na	
MOSS	Musculoskeletal disorders	-5.5	Na	na
SOSMI	Stress and mental disorders	-8.6	Na	na

na -- not available

There is a reasonable degree of agreement between the unadjusted and adjusted estimates. Only those for OPRA musculoskeletal disorders suggest movements in contrary directions, and here the adjusted change estimate is not statistically significant (in other words contains both negative and positive movements within the range of "true" trends consistent with the data). The adjustment for changes in participation seems to make more difference in OPRA (adjusted changes on average over 2% higher -- less negative ) than for the two disease specialist schemes (less than 1%).

The OPRA and EPIDERM schemes both show some evidence that could be interpreted as reporting fatigue. Both the interpretation of this evidence as showing reporting fatigue, and the quantification of impact on estimated incidence requires further analysis. If reporting fatigue is the correct interpretation, the current analysis suggests it may be of the order of 1 or 2 percent per year in both schemes, and we will incorporate this in our assessment of trends.

In the SWORD scheme there is no consistent evidence suggestive of reporting fatigue (if anything, the contrary).

## Dermatitis

There are statistically significant reductions in the reported incidence of dermatitis from 1999 to 2004. This is seen both in core and sample reporters in EPIDERM, and in OPRA reporters. Although fatigue bias might account for the EPIDERM trend if the reality was at the lower (less reduction) end of the confidence interval, this is not the case for the OPRA data where the estimated reduction is comfortably beyond what could be explained by fatigue bias. We conclude that there have been real reductions in the incidence of occupational dermatitis presenting to THOR.

Figure 3

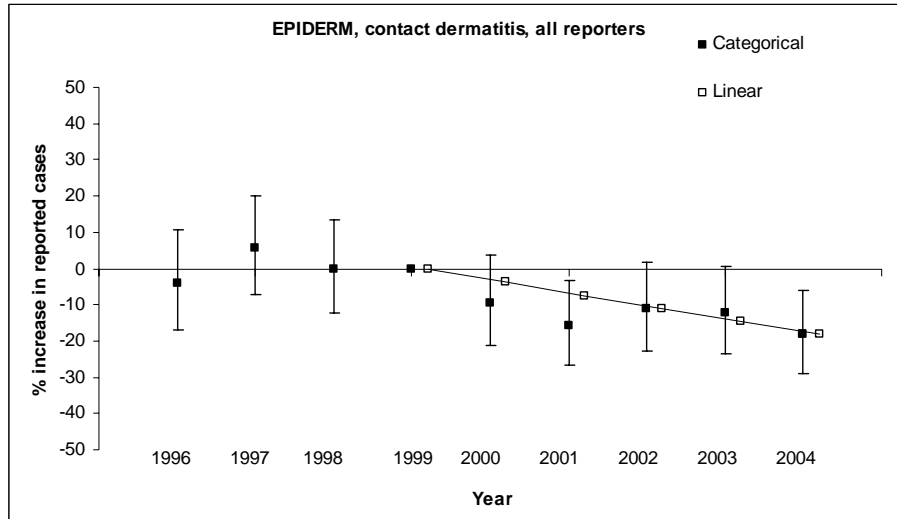
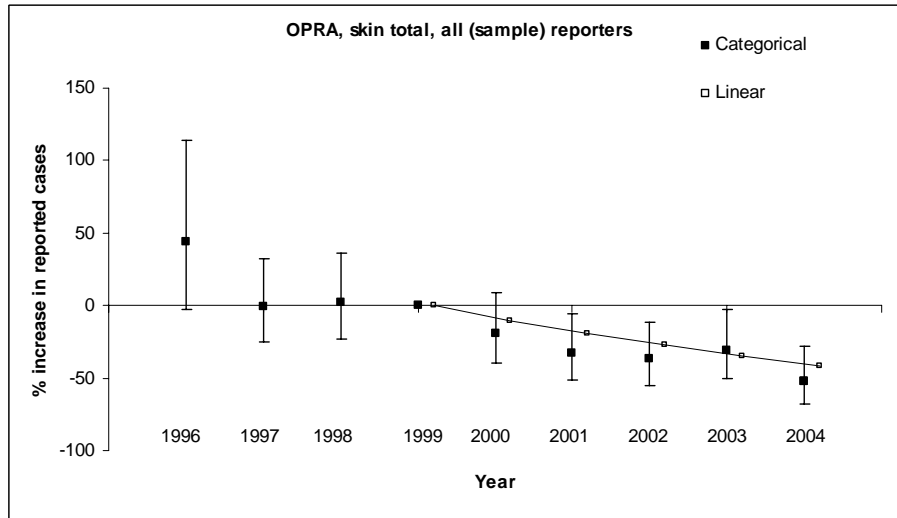


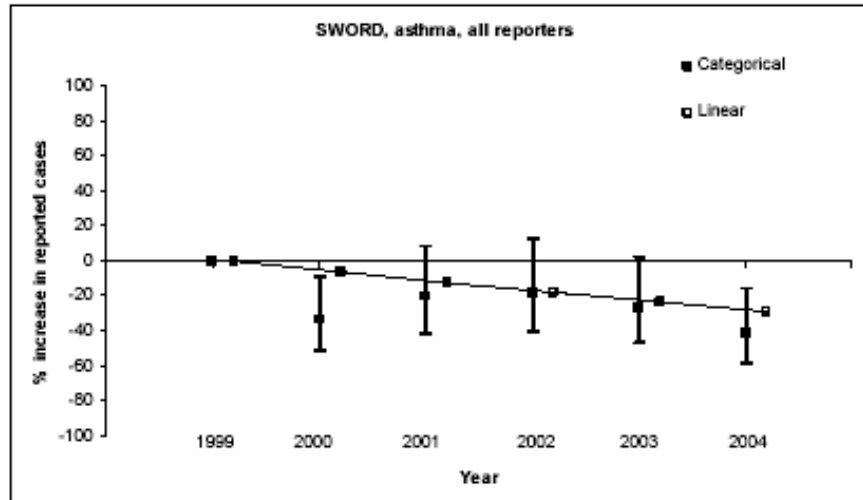
Figure 4



## Occupational asthma

The SWORD data show a statistically significant reduction in occupational asthma incidence, and no evidence of reporting fatigue.

Figure 5



### Musculoskeletal disorders and stress

For these two disease categories, only OPRA data has thus far been subject to the detailed trend analysis described above. OPRA data only covers workers with access to specialist occupational health provision -- about 12% of the working population overall, with marked variations between sectors, from 1% in agriculture to nearly 50% in health and social services.

### *Musculoskeletal disorders*

Adjusted incidence in OPRA show an estimated increase, but not to a statistically significant extent. This would remain the case after applying the rough adjustment for reporting fatigue.

Figure 6

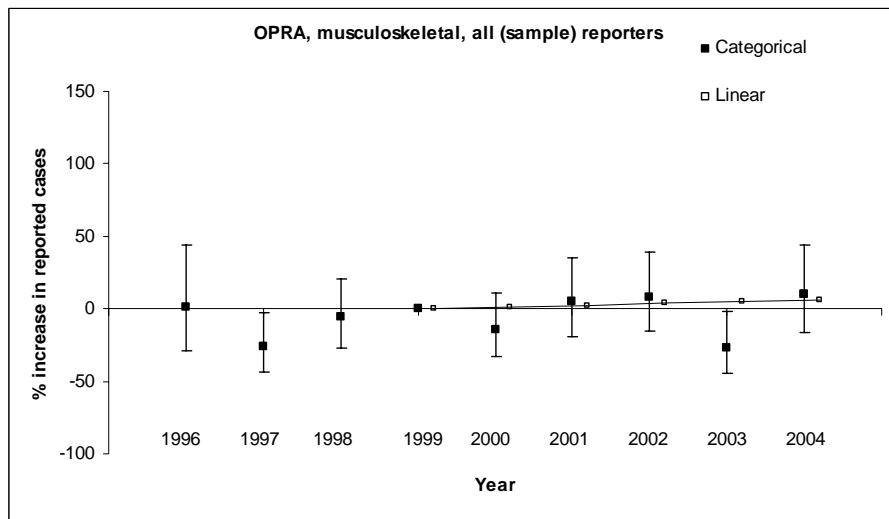
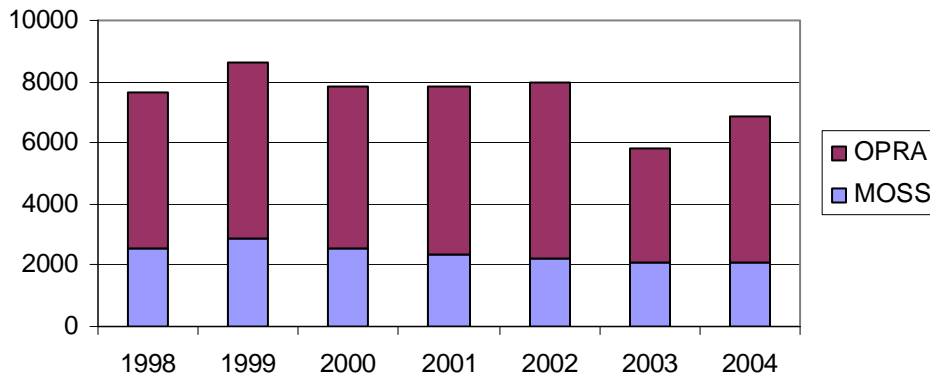


Figure 7 shows the estimated numbers of musculoskeletal cases presenting to the THOR network (MOSS and OPRA combined). The unadjusted reduction in MOSS numbers from 1999 to 2004 is 22% (5.5% per year)

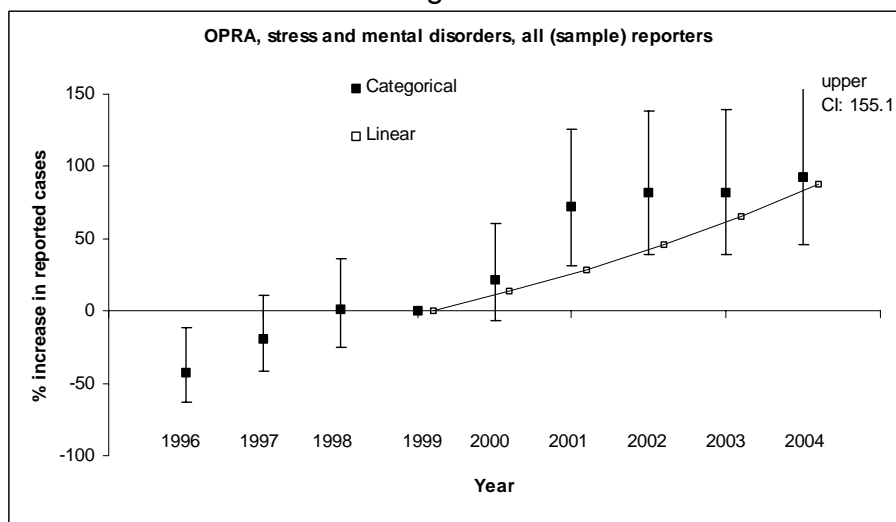
**Figure 7: Estimated numbers of work-related musculoskeletal disorder presenting to THOR, 1998 to 2004**



### **Stress and mental disorders**

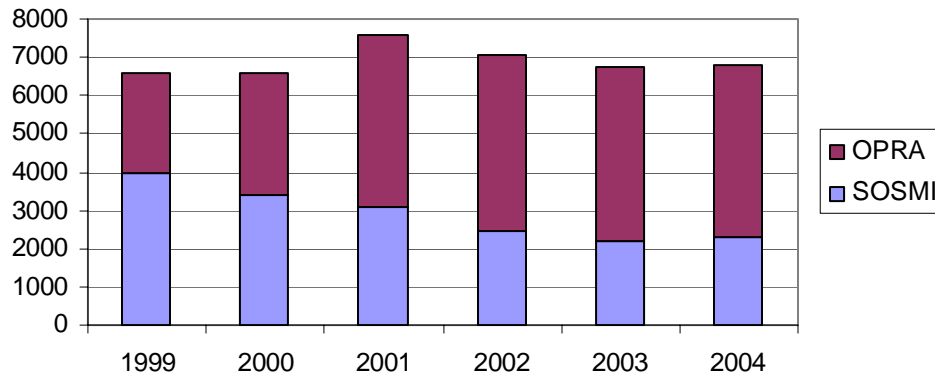
A strong and clearly statistically significant increase in incidence is recorded by OPRA reporters, with an average annual increase of 13% from 1999 to 2004. Looking at the pattern for individual years suggests that this increase occurred predominantly in the first couple of years, with little or no change since 2001.

**Figure 8**



By contrast the (unadjusted) number of cases seen and identified as work-related by psychiatrists in the SOSMI scheme has reduced consistently since 1999. The numbers have reduced by 43% from 1999 to 2004. This is a large change (and a large contrast with the trends in OPRA numbers) to be explainable by participation or reporting changes. Differences in sectoral coverage or changes in referral patterns may be involved.

**Figure 9: Estimated numbers of work-related stress or mental disorder presenting to THOR, 1998 to 2004**



### 4.3 The Workplace Health and Safety Survey (WHASS)

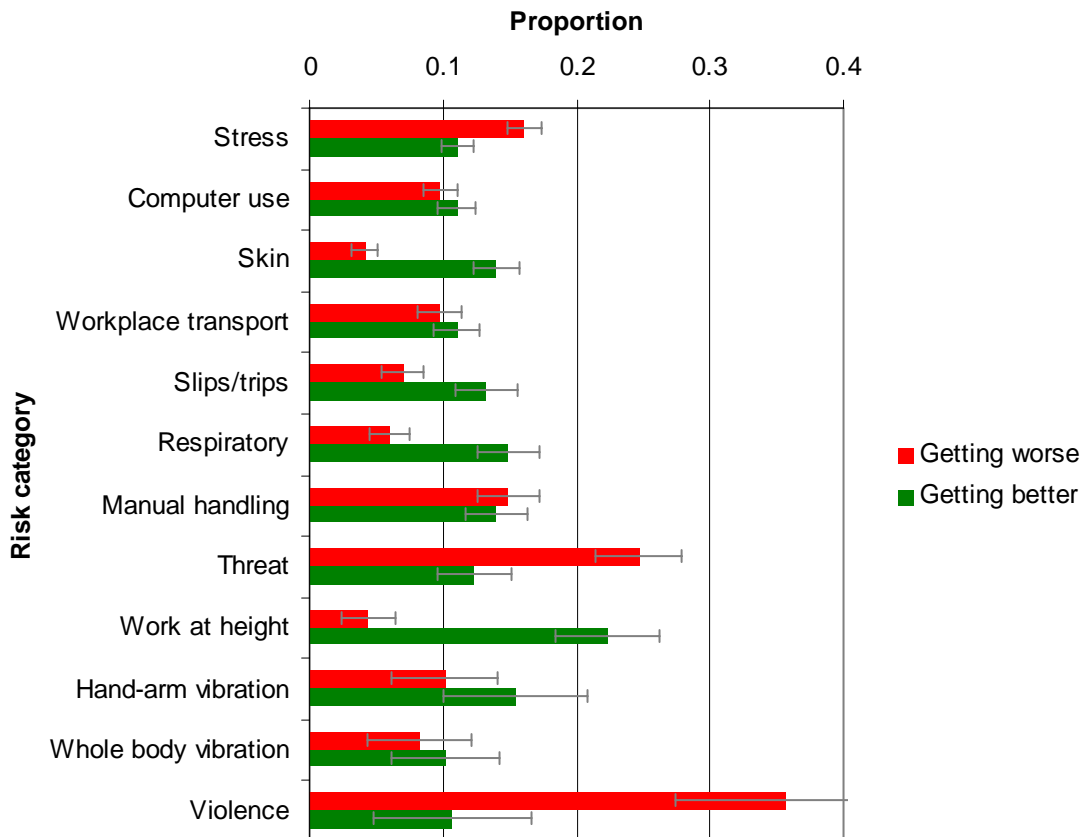
The WHASS standalone worker survey asks individual workers a wide range of questions about health and safety issues in their workplace. Among these questions, it asks what kinds of health and safety risks (more strictly, hazards) they face at work, and how they think the control of these risks has changed over the previous 12 months (got better, got worse or stayed the same). Data collection continues, but interim results for these questions, relating to the 12 months to October 2005, have been extracted in order to contribute to the target progress assessment.

The key results are summarised in the figure below. There is generally a net balance in favour of "getting better". This is very marked for skin, slips and trips, respiratory and work at height.

The two clear exceptions to this are stress and, most markedly, the related categories of violence and threats/abuse for which "getting worse" responses clearly outnumber "getting better" responses. All these differences are statistically significant, most clearly for violence.

Figure 10

**Proportions of exposed respondents who reported risk control getting better or worse over last 12 months, by risk category**



In terms of the health outcomes discussed in this section of the progress report, these indications of risk control are in line with movements in illness incidence over the longer *Revitalising* time period (since 1999). Dermatitis and occupational asthma, the two disease categories with the strongest indications of incidence reduction, are among the categories for which workers report a clear balance of improvement in risk control. For musculoskeletal conditions indications from outcome data are mixed and reports of improvement and deterioration of risk control (computer use and manual handling) roughly in balance. For stress both outcome indicators and risk control indicators are unfavourable.

A more detailed examination of the risk control responses is given in Annex B, and includes a comparison of risk control responses from individuals with and without a work injury or work-related illness.

#### 4.4 HSE inspectors' Risk Control Indicators (RCIs)

Since 2002/03 HSE inspectors have completed rating forms in respect of all planned inspections. For each of a range of hazards, inspectors rate compliance against aspects of hazard management. For example, for musculoskeletal hazards workplaces are rated on: avoidance/control; instruction and training; and management commitment/worker involvement. The rating for all indicators is on a four-point scale where 1 denotes full compliance, 2 broad compliance, 3 some compliance and 4 limited or no compliance in areas that matter. An aggregate compliance score for a hazard is calculated by adding together scores for the individual indicators for that hazard.

The main results of this latest trend assessment relevant to the health outcomes discussed in this report, covering the three-year period 2002/03 – 2004/05, are summarised here and presented in more detail in Annex C.

**Asthma:** There is a trend in the scores that could be indicative of a slight deterioration in compliance for 'asthmagen management system'. However there are small and inconsistent movements in the scores for the other indicators.

**Stress:** There is a trend in the scores that could be indicative of a slight deterioration in compliance for 'implementation of control measures' as well as in the aggregate score for both indicators combined, but small and inconsistent movements in the scores for 'awareness and hazard' identification.

**Hand-arm vibration:** There is a trend in the scores that could be indicative of a slight improvement in compliance for both 'awareness' and 'supply information' as well as in the aggregate score for all three individual indicators combined.

**Musculoskeletal disorders** and **noise** have shown relatively small and inconsistent movements in all indicators.

It cannot be assumed that the scores will be solely determined by the actual standards of workplace compliance. There are other factors that may also contribute to the changes in the average indicator score. For example it may be that inspectors are now marking differently as they become more familiar with issues relating to the topics; or the scores may have been affected by changes in the types of premises being visited.

## **5 The working days lost target**

The *Revitalising* target for working days lost is made up of two parts: days lost due to workplace injuries and due to work-related ill health. At present, this information comes entirely from responses to questions in the Labour Force Survey (LFS). Limitations on the level of information collected, in particular for ill health, and the effects of sampling and recall error mean that the estimated rates are subject to some uncertainty. In future other sources will contribute to the judgement e.g. GP based reporting.

Only ill health data are available for 2001/02 and injury data for 2000/01. For the purposes of this target, the base year combines 2000/01 injury data with 2001/02 ill health data and is classed as 2000-02. The assessment in November 2004 was that there was no statistically significant change since the base period. For the mid-point assessment, data are available for ill health and injuries from the 2004/05 LFS.

The same methodology has been used to estimate working days lost for workplace injuries and work-related ill health, and estimates have been expressed as full-day equivalent days to take account of the variation in daily hours worked. For this assessment, days lost per worker over time (based on 3 available data points) were examined using a simple regression model using the known variance from the data set rather than the residuals from the regression.

### **5.1 Days lost from injuries**

The estimated number of working days lost (full-day equivalent) due to workplace injuries was 0.30 days per worker in 2004/05, statistically significantly lower than that of 0.38 days in 2003/04, but of a similar order (not statistically significantly different) to that of 0.36 days in 2000/01 (the closest available to the *Revitalising* base year).

The decrease between 2003/04 and 2004/05 appears to be largely due to a decrease (albeit not statistically significant) in the average number of days lost per injury. There was also a reduction in the number of people suffering a workplace injury. In 2004/05, the average number of days lost per injury was at a similar level to 2000/01.

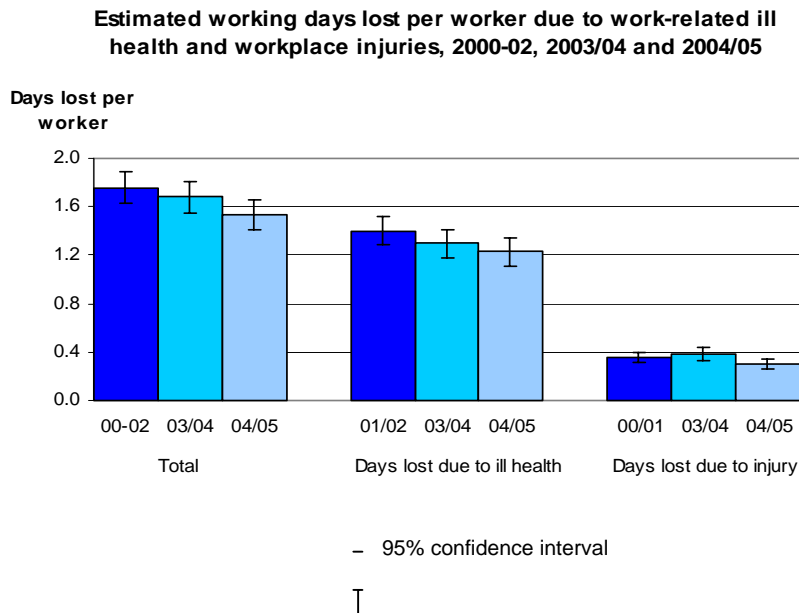
In 2004/05, the total number of working days lost (full-day equivalent) due to workplace injury was 7.0 million, compared with 8.1 million in 2000/01.

### **5.2 Days lost from ill health**

Work-related illness accounts for about 80% of the total number of working days lost and it plays a major part in defining whether the target has been met.

In 2004/05, an estimated 28.4 million working days (full-day equivalent) were lost due to work-related illness. This equates to an annual loss of 1.2 days per worker, which was statistically significantly lower than that of 1.4 days in 2001/02 (the closest available to the *Revitalising* base year). The range of possibilities (95% confidence interval) for the reduction was from 0.5% to 24%.

This decrease appears to be largely due to a decrease in the estimated numbers of people suffering from a work-related illness between 2001/02 and 2004/05. There was also a reduction in the number of individuals taking a moderate length of time off work because of their illness (i.e. between 2 weeks and 3 months).



### 5.3 Other data on sickness absence

Several alternative sources give data on total sickness absence, i.e. not just related to work causes. The picture from these is mixed, and does not provide evidence directly relevant to the assessment of progress against this target, but is mentioned here to provide some contextual information.

Both the Confederation of British Industry (CBI) and Chartered Institute of Personnel and Development (CIPD) carry out surveys of employers and their levels of and reasons for absence.

The CBI's latest survey on absence and labour turnover found:

- 168 million days lost to sickness absence across the UK in 2004, a similar level to 2002 (166 million days) but lower than 2003 (176 million).
- An average of 6.8 working days lost per employee.
- Long-term absences accounting for only 6% of cases, but contributing around one third of the total days lost.

The CIPD report, *Absence Management 2005*, found:

- An average of 8.4 working days lost per employee per year due to sickness absence.
- The most common cause of short-term absence being minor illness.
- For long-term absences stress and mental ill health being top for non-manual workers and musculoskeletal injuries for manual employees.

## Annex A: Tables supporting the injuries judgement

**Table 1 Rates of fatal and non-fatal injury from RIDDOR and the LFS**

Rate	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05
Fatal	0.7	0.9	0.8	0.7	0.7	0.7
Major	116.6	110.2	110.9	111.1	120.4	117.7
Over 3 day	550.9	536.9	513.5	506.5	514.2	469
Non-fatal	667.5	647.1	624.4	617.6	634.6	586.7
LFS Annual	1530	1520	1500	1490	1310	1200
LFS 3-year average	1490	1520	1500	1430	1330	
Reporting % from annual LFS	43.6	42.7	41.6	41.4	48.5	49.1
Reporting % from 3-year average LFS	44.9	42.7	41.5	43.0	47.6	

Note on estimation of reporting from the LFS:

The estimate of reporting is the ratio of the rate of reported non-fatal injury (major plus over 3 day) to the rate of LFS injury. In general we have used the averaged LFS. For example, the reporting estimate for 2001/02 is derived as the ratio of 624.4 (reported rate) to 1500 (LFS rate).

**Table 2a Rates of major and over 3 day injury from surveys conducted by HSL and LFS: Manufacturing**

Rate	1999/00	2000/01	2001/02	2002/03	2003/04
All returns (see Note 1)					
Major	148.9	134.2	168.1	162.1	167.3
Over 3 day	1444.3	1403.5	1332.1	1255.3	1087.7
Five-year returns (see Note 2)					
Major	149.3	127.2	168.0	153.7	(See Note 3)
Over 3 day	1455.2	1427.5	1351.7	1202.8	
LFS	1910	1870	1850	1750	1710

**Table 2b Rates of major and over 3 day injury from surveys conducted by HSL and LFS: Services - Distribution and Hotels**

Rate	1999/00	2000/01	2001/02	2002/03	2003/04
All returns (see Note 1)					
Major	94.2	83.7	104.2	143.1	129.4
Over 3 day	1611	1342	880	722	657
Five-year returns (see Note 2)					
Major	124.5	123.0	136.9	141.9	165.7
Over 3 day	762	710	643	633	611
LFS Distribution	1240	1290	1250	1180	1090
LFS Hotels	1060	1010	1070	1110	1120

**Table 3a Reporting percentages for major and over 3 day injuries from surveys conducted by HSL and LFS: Manufacturing**

Rate	1999/00	2000/01	2001/02	2002/03	2003/04
All returns (see Note 1)					
Major	78	73	75	62	(See Note 3)
Over 3 day	53	56	57	57	
Five-year returns (see Note 2)					
Major	79	74	65	61	(See Note 3)
Over 3 day	53	54	54	54	
LFS (major & over-3-day)	64	64	63	66	65

**Table 3b Reporting of major and over 3 day injury from surveys conducted by HSL and LFS: Services - Distribution and Hotels**

Rate	1999/00	2000/01	2001/02	2002/03	2003/04
All returns (see Note 1)					
Major	(See Note 3)	(See Note 3)	68	57	64
Over 3 day	(See Note 3)	(See Note 3)	31	50	52
Five-year returns (see Note 2)					
Major	(See Note 3)	(See Note 3)	60	48	54
Over 3 day	(See Note 3)	(See Note 3)	47	52	63
LFS Distribution	35	33	32	36	40
LFS Hotels	25	25	23	23	26

**Notes**

1 Based on returns from companies who traded throughout the five year period and those who were trading and gave useable returns in part of the 5 year period (In manufacturing 940 companies in 2003/04 compared with 629 in 1999/00; and in services 735 in 2003/04 with 605 in 1999/00).

2 Based on returns from companies who traded and gave a useable return throughout the five year period (796 companies in manufacturing and 585 in services).

3 Empty entries in the tables represent years when reporting estimates are not available. The estimates derive from matching survey questionnaires to RIDDOR records in database systems. The systems changed in a way that matching cannot be continued into 2003/04 for manufacturing, nor started in services before 2001/02.

## **Annex B: Selected interim results from the Workplace Health and Safety Survey (WHASS) standalone worker survey**

### **Introduction**

The WHASS programme is designed to generate data on a range of measures of health and safety performance ("precursors" in a wide sense of the harms -- injury and illness -- health and safety management aim to prevent). The main motive for developing this range of sources was the difficulty of measuring the ultimate outcomes represented by the Securing Health Together and Revitalising Health and Safety targets for the incidence of work injuries and work-related illness. These difficulties and the approach to their solution were set out in a "Statistical Note" published in 2001.

The first two elements of the WHASS programme were initiated earlier this year. These were separate ("standalone") surveys of employers and workers in Great Britain. The employer survey completed fieldwork in July 2005, the worker survey started fieldwork in September 2005 and will finish in December 2005. This timing means that the full data of the worker survey would not be available in time to inform the 2005 judgement on progress towards the targets. We therefore decided to analyse the results available at halfway through the fieldwork period. The sample size was designed to allow sectoral analysis. Analyses at the whole economy level will have acceptable statistical precision on the partial mid-point data.

### **Data considered**

The main contribution of the WHASS survey data to future judgements will lie in comparison of successive surveys. The contribution of this initial survey is necessarily limited, but the worker survey includes a series of questions on workers' view of whether the control of health and safety risks in the workplace has improved, got worse or stayed the same over the last 12 months. It is these questions which are the focus of this analysis and which provide context to the 2005 target judgement.

These questions were asked in relation to each of 12 risk categories and (except for stress) were addressed to respondents who had indicated that they were potentially subject to the risk in their work. All respondents were asked whether they thought the risk of stress at work affecting their health had increased or reduced (or stayed the same).

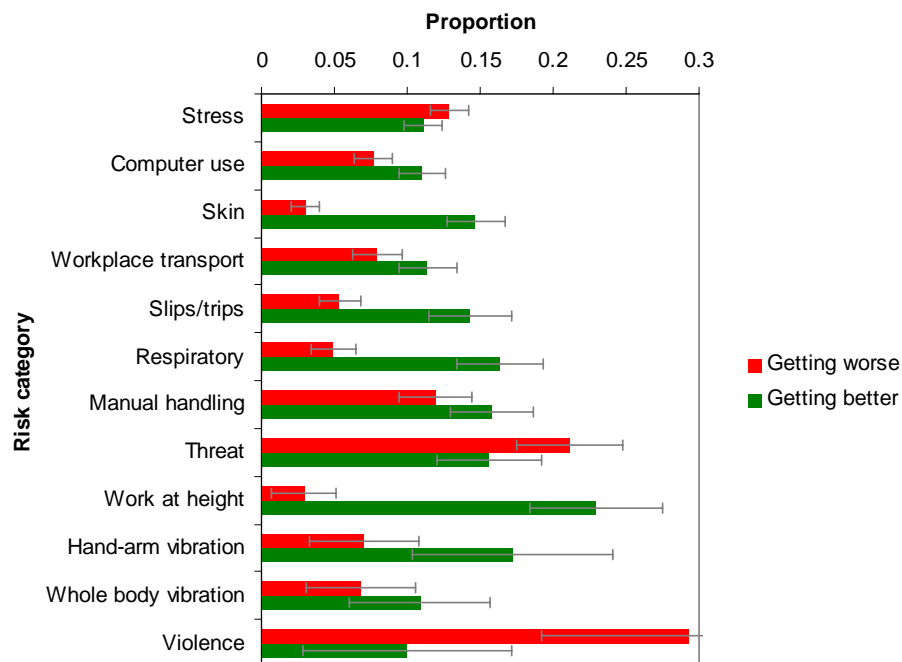
Because individuals' view of risk control in their workplace may well be affected by whether or not they themselves have suffered some work-related injury or illness the responses on risk control have been analysed separately for those who did, or did not report work-related injury or illness. We use the term "outcome" to describe a work injury or work-related illness.

## Results

Figure 1 shows the proportions of respondents who said that risk control in their workplace had got worse or got better over the last year for each of the 12 risk categories. Within each risk category the proportions are shown as the proportion of the population subject to the risk. The data in figure 1 excludes all respondents who reported either a work injury or work-related illness. The figure also shows the estimated proportion of the whole working population subject to each risk category. The categories are ordered by the prevalence of the risk, from the most common (stress) to the least common (violence -- though if this is considered together with threats and abuse, whole body vibration is least prevalent risk).

Figure 1

**Proportions of exposed respondents (excluding those reporting an injury or work related illness) who reported risk control getting better or worse over last 12 months, by risk category**



The error bars shown represented the statistical uncertainty of these estimated proportions. For most of the risk categories more respondents report risk control getting better rather than getting worse. (As one would expect, most respondents -- generally around 80% -- say things have stayed about the same.)

The net balance in favour of "getting better" is very marked for skin, slip/strips, respiratory and work at height.

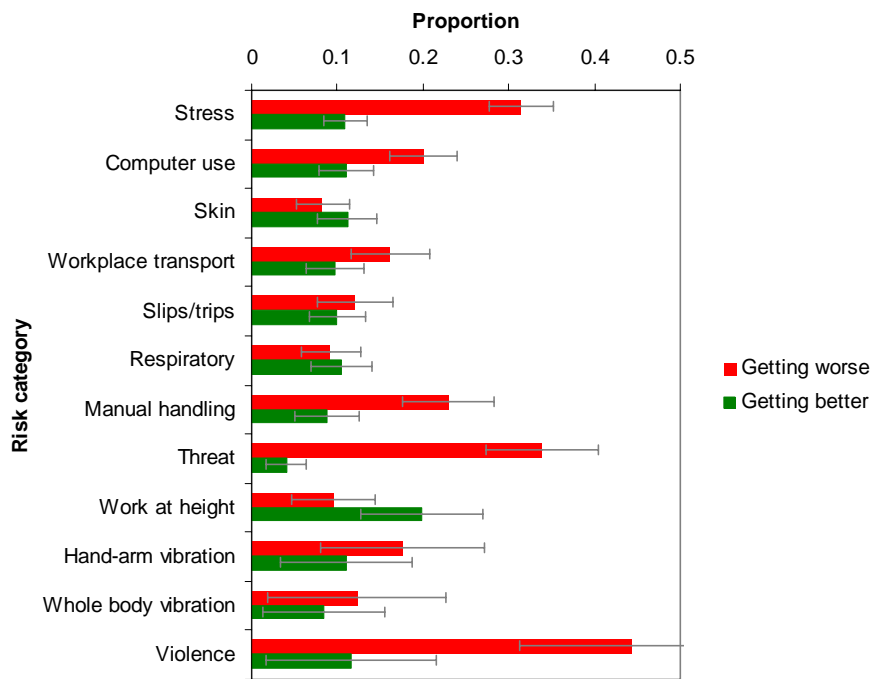
The two clear exceptions to this are the related categories of violence and threats/abuse where "getting worse" responses clearly outnumber "getting better" responses. Both these differences are statistically significant, most clearly for violence.

For stress also, there are more "getting worse" responses, though the margin is quite small (2% of all those subject to the risk).

Figure 2 shows the same analysis for respondents who reported a work injury in the previous 12 months, or who suffered from a work-related illness in that period.

Figure 2

**Proportions of exposed respondents reporting an injury or work related illness who reported risk control getting better or worse over last 12 months, by risk category**



As might be expected, the balance among these respondents is much less favorable. For almost all categories the balance is now negative.

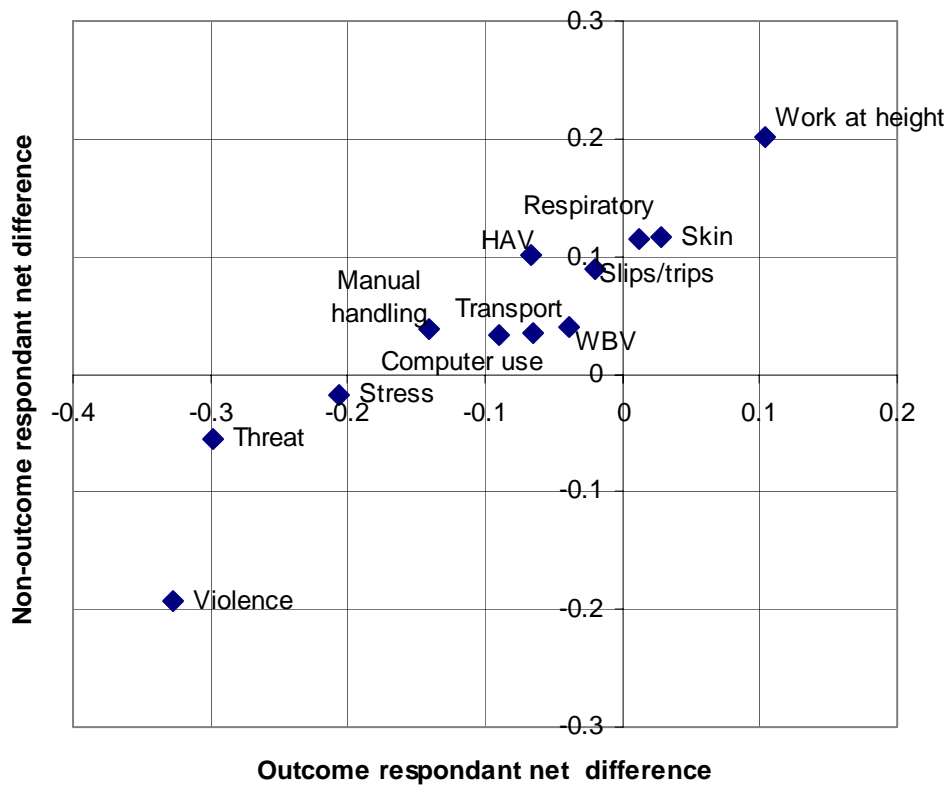
Comparing figures 1 and 2 suggests that both respondent groups would rank recent changes in risk control in the same order, with a more favorable picture for "traditional" health and safety risks such as working at height, skin and respiratory hazards and a worse picture for newer concerns such as stress and violence.

This agreement can be clearly seen in figure 3, which compares the net differences were among the non-outcome and outcome groups of each of the 12 risk categories. Both groups of respondents rank the risk category "work at height" as the one with the

most favorable recent changes in risk control. Though non-outcome respondents are more positive (a net difference of +20%) than outcome respondents (+10%). Generally speaking non-outcome respondents are 10 to 20 percentage points more positive than outcome respondents.

Figure 3

**Comparison of the net difference between "getting better" and "getting worse" responses of outcome and non-outcome respondents for each of the 12 risk categories**



**Effects of non-response**

Because these data have been drawn from a survey where the fieldwork is still in progress, but the profile of respondents for whom we have data may be different from that which is ultimately achieved. Specifically, there will be a higher proportion of "first-time" responders than will eventually be the case. In order to assess the importance of this potential bias of the interim dataset categorises respondents by whether they are first-time responders or "converted refusers" (respondents who were initially classified as "soft refusals", from whom responses were eventually obtained: respondents who are categorical that they do not wish to respond are of course not recontacted).

In the interim dataset of 4074 respondents, only 284 were converted refusers (table 1). The statistical power to detect any systematic difference between this group and initial respondents is therefore limited. However there is some suggestion that the outcome rate is higher in initial respondents (17.4%) than in converted refusers (14.4%). On these numbers, this difference is not statistically significant ( $P = 0.22$  -- there is a one in five chance that differences this large could emerge simply by chance in a sample of this size).

Table1: Cross tabulation of outcome status by respondent type

			Respondent type		Total
			Initial respondent	Converted refuser	
Outcome status	Respondent has outcome	Count % within Respondent type	660 17.4%	41 14.4%	701 17.2%
	Respondent has no outcome	Count % within Respondent type	3130 82.6%	243 85.6%	3373 82.8%
Total		Count % within Respondent type	3790 100.0%	284 100.0%	4074 100.0%

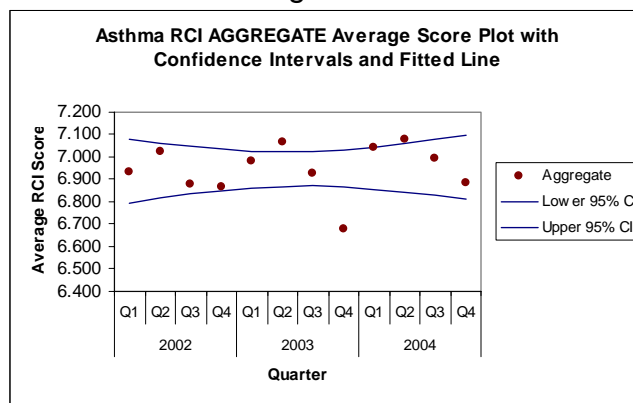
However, the difference is in a plausible direction, and probably does reflect a real difference that will persist into the full data. But the difference is relatively slight, and even if the ultimate proportion of converted refusers was substantially higher than in the interim dataset, it does not look as though the analysis of recent risk control trends reported above would be materially different.

## Annex C: Analysis of Risk Control Indicator (RCI) scores

The analysis presented below includes for each hazard a graphic showing aggregate scores quarter by quarter, together with a fitted trend line and its 95 percent confidence envelope. When the trend is not statistically significant, only the envelope is shown. Note that an upward trend denotes a deterioration in risk control.

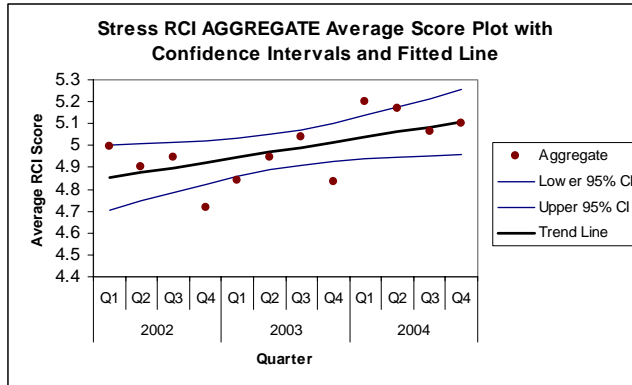
**Asthma:** There are small and inconsistent movements in the aggregate score for asthma. However this picture for aggregate score is masking a trend in the scores for one of the three components of the aggregate score: 'asthmagen management system'. For this particular indicator, there is a trend in the scores that could be indicative of a slight deterioration in compliance.

Figure 11



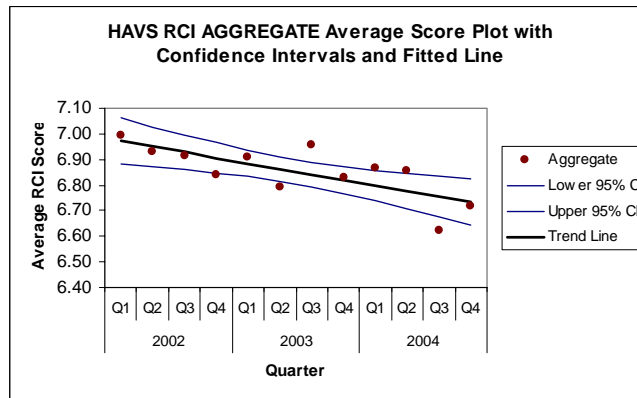
**Stress:** There is a trend in the aggregate scores that could be indicative of a slight deterioration in compliance. The trend is apparent for the specific indicator 'implementation of control measures', but not so for 'awareness and hazard identification', but small and inconsistent movements in the scores.

Figure 12



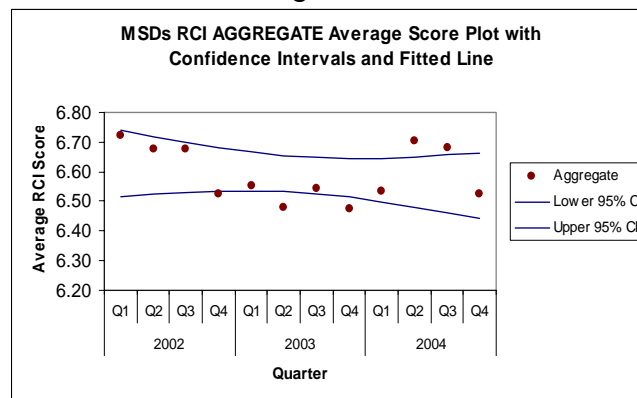
**Hand-arm vibration:** There is a trend in the aggregate scores that could be indicative of a slight improvement in compliance. This trend is apparent for both the individual indicators for ‘awareness’ and ‘supply information’, but not so for the indicator for ‘elimination/substitution’.

Figure 13



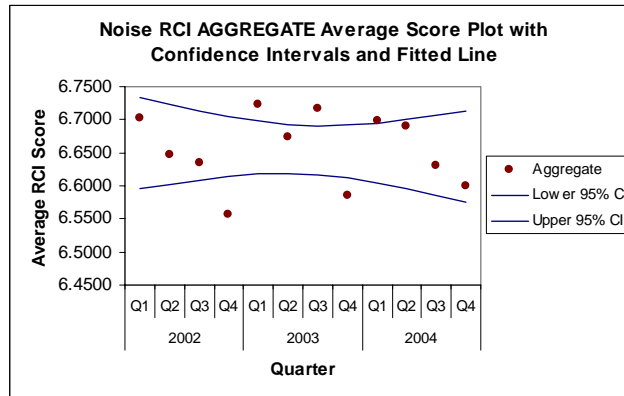
**Musculoskeletal disorders:** The scores show a clear downward trend (corresponding to improving control) up to the first quarter of 2004. The scores for the next two quarters were much higher, while that for the final quarter of 2004 was consistent with the earlier trend. The overall result is of no significant trend, but there is room to question whether the two middle quarters of 2004 are for some reason untypical.

Figure 14



**Noise:** The RCI scores have shown relatively small and inconsistent movements in all indicators. This is reflected in the aggregate score chart showing no significant trend.

Figure 15



The strength of the RCI data lies in the fact that it represents the independent judgement of Health and Safety professionals of compliance across a very large number of workplaces. The number of contacts range from over 4,000 per quarter for falls from a height, workplace transport, slips and MSDs to just over 400 per quarter for stress. The RCI data, therefore offers the potential to be a powerful indicator of the level of health and safety compliance in HSE enforced workplaces. However there are two main limitations to the data:

- Firstly, the RCI scores will be determined not just solely by the actual standards of workplace compliance, but also by other factors. For example it may be that inspectors are now marking differently as they become more familiar with issues relating to the topics. Alternatively it is possible that the scores have been affected by changes in the types of premises being visited. Therefore the changes in score over time should only be viewed as indicative of changes in workplace compliance.
- Secondly, the system was not originally designed with the purpose of measuring trends in workplace compliance. Two aspects of the current arrangements may limit its sensitivity to change: first, a four-point scale will be relatively insensitive to small changes in performance; and secondly, to the extent that inspections are directed towards poorer performers the range of results recorded will be less than it would be in a representative sample, and positive changes will be attenuated. Changes to address these issues are under consideration within HSE.