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Sharing the costs – Reaping the benefits

Incentivising return to work initiatives

A Report for Norwich Union Healthcare

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Foreword

NERA's report illustrates clearly the costs of absence, costs which we, as an employer, insurer and provider of healthcare services to employers, recognise and understand. The benefits of employer led interventions are also widely acknowledged, by the Government and a wide variety of stakeholders.

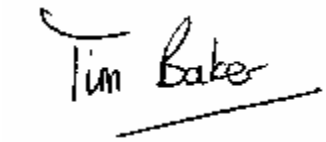
However, this report seeks to raise an issue which I believe merits further consideration and discussion. That is the issue of a classic case of market failure: no one stakeholder has an overriding incentive to invest in workplace health services because of the way the benefits accrue – over the long term and to several stakeholders.

That market failure has led to the underdevelopment in the supply market of services that focus on return to work. That supply market has only recently started to innovate in new ways of delivering rehabilitation and return to work services, held back in part by a private medical industry which has stuck to a traditional offer, which whilst popular, remains accessible to only a small proportion of the workplace.

NERA suggest however that the employer is best placed to offer interventionary services in areas most commonly cited as reasons for absence – for example back pain and mental health - and that incentivising them fiscally is an effective way of encouraging take up of an activity which has a wider social good. Incentivising investment could potentially grow the supply market significantly and enable employers to embrace a new set of products focussed on return to work benefiting the whole workforce.

Whilst NERA's preferred solution is a tax credit through the national insurance system, we hope that this report can be seen as a starting point for further discussion about appropriate solutions, products, scope and methods of incentivisation. However one thing is certain – there is more to be done, and there is growing recognition and the appetite to do it.

As a healthcare service provider, we of course have a vested interest in this subject. However I urge you to read this with an open mind and a vision of what increased investment in employee health could do to revolutionise the relationship between stakeholders and finally begin to tackle the problem of sickness and absence in the workplace.



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Summary

The Cost of Absence to Employers

Ill-health in the workplace generates costs to employers both through employees being absent from work and through reduced productivity when at work.

Employee ill-health imposes two types of cost on employers. The first consists of the costs of absence from work, which creates a cost to employers both because it may be necessary to employ additional staff to cover a given workload and because employers may be required and/or choose to pay or top up wages and salaries during periods of absence. Costs may also be manifested in the form of a poorer quality of service as well as the more obvious loss of output or the payment of overtime required to deal with a backlog of work.

The second cost of ill-health is the loss of productivity of employees who are unwell but still come to work – what is often termed "presenteeism". Studies suggest this is a large component of overall workplace health costs.

The aggregate burden of employee absence is estimated by the CBI to be almost £28bn per year.

According to a recent CBI survey, the direct cost of absence to UK employers was £13.2 billion in 2005.[1] The average cost per employee varies widely between different types of employer (by industry, size and sector). The CBI survey asks respondents to estimate indirect costs as well, covering factors such as impacts on service quality and customer satisfaction. Indirect costs add an additional £14.5 billion to the cost of absence—raising the total cost to employers of absence to £27.7 billion in 2005.[2]

Who Bears the Cost of Workplace Absence?

Employers bear some of the cost of absence, but other stakeholders bear costs as well. A large portion of the costs will be met by various parts of the public sector.

The costs of absence are, in the first instance, borne by employers. However the scale of costs and responsibility for funding absence vary as the length of an absence grows. On the 4th day of absence employees become eligible for statutory sick pay (SSP), which is a standard payment that employers can claim (as a rebate on National Insurance Contributions) to contribute to the cost of absence. In practice, many employers will pay a part or all of the regular wages or salary in excess of the SSP rate to sick employees for some period of absence. SSP payments payments last a maximum of 28 weeks, after which employees may become eligible to claim incapacity benefit and full funding responsibility shifts to the State. In November 2005, 2.71 million people of working age were on incapacity benefits. The 2005-2006 estimated outturn of total expenditure on incapacity benefits is £13 billion.[3]

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[1] *Absence Minded: Absence and Labour Turnover 2006*, CBI; 14.

[2] *Absence Minded: Absence and Labour Turnover 2006*, CBI; 14.

[3] Department of Work and Pensions Website: <www.dwp.gov.uk>.

In addition to the direct costs of paying SSP and incapacity benefit, sickness and absence from work has an important effect on other areas of public spending. Much of the cost of providing health care will fall to the NHS. Individuals receiving sickness or incapacity benefits may also become eligible for other state benefits, such as tax credits, housing benefit and other forms of income support. A portion of the costs may be covered through other routes (e.g. private medical insurance may cover some health care costs), but a general observation is that private products and services to meet the burden of absence are not particularly well developed, with the implication that much of the cost of absence falls on public services.

There are also broader social costs associated with ill-health. For instance, there are costs to individuals associated with illness, and there are costs to their carers.

Musculoskeletal disease and mental illness are leading causes of workplace ill-health.

Musculoskeletal disease (MSDs) and mental illness have been highlighted as leading causes of long-term absence amongst the workforce. Table 1 highlights examples of the burden associated with these conditions.

Table 1: The Burden of Musculoskeletal Disease and Mental Illness

Data suggest their burden is spread across a wide range of stakeholders.

	Musculoskeletal Disease	Mental Illness and Stress
Annual working days lost	11.6m	12.9m
Average length of absence	20.5 days	30.9 days
Aggregate cost to the NHS	£1,198m	£3,667m
% of short-term absence	23%	14%
% of long-term absence	39%	30%
Number of people claiming incapacity benefit	481,800	2,387,000
Number of people receiving incapacity benefit	337,300	1,444,800
Cost to the NHS of GP consultation	£238m	£385m
Cost to society	£7.34bn	£4.3bn
Cost to employers	£760-804m	£398-430m

See main report for sources. Most data are for 2005

Evidence suggests that early intervention to manage ill-health in the workplace is highly cost effective.

Can Early Intervention Reduce the Long-Term Costs of Absence?

There is strong evidence to suggest that early intervention to treat illnesses such as MSDs and mental illness can deliver meaningful benefits. Studies from the academic literature have demonstrated both that benefits are delivered and that they more than outweigh the costs.

Some employers in the UK are already implementing workplace health programmes. They tend to be large employers.

Case studies from a number of UK companies also suggest that intervention to manage illness early brings benefits to employers in terms of getting individuals back to work. In many cases, the benefits to employers are multiples of the costs of establishing and running programmes. It is interesting to note employers generally are not interested in whether an illness has been caused by a work-place accident

or by factors beyond the workplace. What matters is getting individuals back to work.

As well as providing a direct pay-back to employers, the evidence indicates that there will be significant benefits to other stakeholders. Studies suggest that early intervention will cause long-term sickness to fall, generating potential savings on incapacity benefit and reducing the direct health costs borne by the NHS.

A Failure in the Market for Workplace Health Initiatives

Employers are the obvious candidates to lead investment in workplace health initiatives.

There is an obvious question that needs addressing: why, if the pay-back from early intervention to manage illness is high, are employers and the health system not engaging in workplace health initiatives on a wide scale?

A characteristic of the potential market for workplace health initiatives is that no one stakeholder has an over-riding incentive to invest in programmes because of the nature of how the costs and benefits accrue. For example:

However, there are failures in the market for workplace health interventions such that employers, left to their own devices, would under-invest in programmes from society's perspective.

- The costs of illness are spread across many different stakeholders (e.g. employers, the NHS, the social security budget and individuals).
- There is uncertainty over when and how the benefits from early intervention accrue. As an example, employees are mobile, so investment in workforce will not always generate a return to the investing employer. Benefits will also accrue over time—the pay-back from investment may be five or ten years down the line—which increases both the uncertainty about the scale of benefits and about to whom they will accrue.

The NHS may have little incentive to prioritise workplace health interventions because of other priorities they face, or because of infrastructure and workforce barriers. The benefits to DWP, for instance by reducing the future flow of incapacity benefit claimants, is also a long-term gain rather than immediate win.

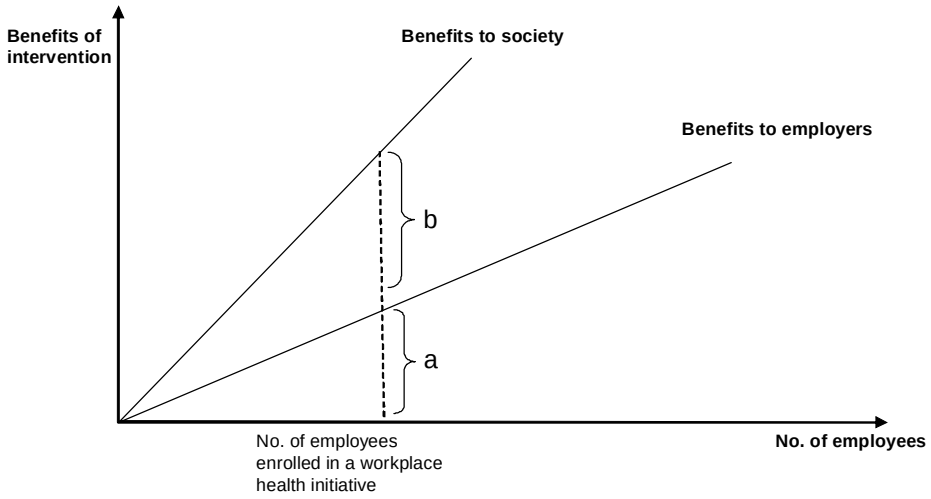
The distribution and timing of the benefits gives rise to a failure in the market for workplace health initiatives. From society's perspective, no one stakeholder has an incentive to invest in programmes in a socially optimal perspective because each stakeholder considers the private costs and benefits rather than the social costs and benefits. A practical issue is that large employers may be better-placed to set up workplace health programmes and than small employers.

Figure 1 provides an illustration of how the benefits of workplace health initiatives might accrue as the level of intervention increases. The precise shape and scale of the graph is less important. The key message is that as the number of employees being offered workplace health intervention

grows, the benefits will grow but there is a distinction between the benefit to employers and the benefits to society more broadly. For any given level of enrolment, the benefits to employers (labelled as "a" on the Figure) will be smaller than the cumulative benefits to all stakeholders ("a"+"b" in the Figure).

Figure 1: A distinction between the benefits to employers and the benefits to society

The benefits to society from investing in workplace health initiatives exceed the benefits to any individual stakeholder (e.g. employers).



The consequence of this distinction is that when employers demand workplace health intervention, they will under-invest from society's perspective because they focus on the private benefits rather than the social benefits.

Encouraging Investment in Workplace Health Initiatives

Fiscal incentives are one tool that can be used to correct for the failure in the market for workplace health interventions.

Fiscal incentives are one tool that can be used to correct the kind of failure being shown in the market for workplace intervention. The intention would be to provide support to a stakeholder (such as an employer) to invest more in the intervention than they otherwise would. Indeed it has been argued that the current tax arrangements for the treatment of employee health interventions act as a disincentive for employers to invest in the health of their employees. However, the sort of schemes discussed in this report would be focused on speeding return-to-work and managing long-term absence, and our assumption is that they would be not treated as a benefit-in-kind for tax purposes.

There are pros and cons from alternative fiscal tools.

The recommendation in this report is that fiscal incentives could be provided to encourage employers to invest in a clearly defined set of products that are focused on early intervention, return to work and rehabilitation. However, the precise sort of incentive needs careful discussion and there are pros and cons to alternatives.

Targeted incentives of all kinds can be administratively complex and, thus, expensive to manage for both the government and the recipient.

Targeting of such tools is possible, but can be cumbersome.

This has been illustrated by the difficulties that the government has experienced in ensuring that the system of tax credits for low income workers functions in the way intended. There is a choice that has to be made between (a) attempting to specify very precise eligibility rules for access to tax credits or matching funds, but then discouraging potential beneficiaries because of the effort required to demonstrate that a programme meets the requirements for support, and (b) providing (perhaps a lower level of) support with fewer strings attached. In the latter case, the spill-over of public spending for peripheral purposes or existing programmes will be larger.

Matching funds may provide government with greater control over exactly where funding is directed in comparison with the use of tax incentives. On the other hand, tax relief, if rationally evaluated, may represent a more immediate and direct way for the employer to exploit the incentive, as they do not require the active intermediation of the government.

Providing matching funds and allowing offsets against employer National Insurance Contributions are the two most feasible options.

Allowing tax relief against corporation tax (e.g. by allowing employers to offset the cost of workplace health programmes against profits at 150% of the cost of the programme) is not appropriate in this circumstance because a large proportion of the employers (e.g. the public sector) do not pay corporation tax. This would suggest either that matching funds or offsets against National Insurance Contributions would be a more effective option. However, for the government, explicit authorisation of public spending (e.g. to provide matching funds) is often more difficult than forgoing tax revenues. These considerations underpin the use of tax credits for Research & Development rather than the system of grants that it replaced. The same concerns would point to the adoption of tax credits for workplace health programmes as well.

The administrative burden of fiscal incentives could be eased by ensuring they only applied to pre-authorised schemes/providers.

One way of addressing the issue of administrative costs is to rely upon a structure of authorised providers who offer a menu of pre-approved programmes to employers that can be adapted within certain limits. The obvious advantage of this approach is that it could exploit economies of scale in setting up and providing workplace health services that would not be available to any but the largest employers running their own schemes. Another important feature for the government is that it would be easier to implement provisions designed to ensure that funding for such programmes does not have a significant impact in drawing staff away from the NHS.

Under a system of pre-approval of providers and plans, there is relatively little difference between tax credits and matching funds. In economic terms, matching funds is more likely to be neutral between public and private organisations. However, the process of obtaining matching funds might be expected to be more cumbersome than arranging tax deductions or tax credits, so that the benefits of neutrality might be offset by an

increase in administrative burdens on both sides.

The market failures discussed in this report are not purely transitional, so there is a case for supporting incentives over the long-term.

One argument that is sometimes made in setting up programmes that support activities which generate external benefits is that any assistance should be transitional. In effect, the suggestion is that once the recipients of support understand and value the full benefits of, in this case, workplace health programmes, they will continue to undertake them without long term support. Assistance would, then, only be required for a transitional period. The argument has some validity if the major barrier to implementing such programmes is the cost of setting them up. But, externalities of the type discussed in this paper are not purely transitional. They are persistent and long-term in nature, so that measures to correct the under-provision of workplace health programmes on the basis of private incentives alone would need to be equally long-term. That does not rule out adopting a limited initial period for the provision of support, but the time frame should reflect the need to evaluate whether the nature and level of support is appropriate in the light of the benefits that are generated.

Recommendation

We recommend that the most appropriate fiscal incentive would be an offset against employer NICs.

We suggest that an offset against employer National Insurance Contributions would be the most appropriate way to provide a fiscal incentive for investing in employee health programmes. This provides an incentive to both private sector employers and public sector employers (an incentive via corporation tax would not incentivise the latter).

Estimating the cost and impact of such an approach requires a level of data that is not currently available in the public domain. However, we have attempted to estimate a "steady-state" assessment of the costs and benefits (we refer to it as a steady state because it implicitly illustrates a situation where schemes have been in existence and the full benefits are being realised). If we assume:

- That employers who offer pension schemes to their employers also offer a workplace health intervention;
- Such intervention reduces long-term absence by 25%; and
- Workplace health schemes cost an average of £100 per employee.

The cost of 50 per cent NIC relief to the Treasury on these assumptions would be around £850m per year. Table 2 shows our estimates of the cost-benefit ratio to employers, with and without tax relief for public and private sector employers. The results suggest that private sector employers would require a fiscal incentive to invest in workplace health interventions for the benefits to exceed the costs, although this result does not hold for the public sector (primarily because long-term absence for conditions such as mental illness and musculoskeletal disease are far

Without fiscal incentives, the benefits to employers of investing in workplace health interventions does not always exceed the cost (on the basis of the assumptions in our model).

higher in the public sector.

Table 2: Estimate Cost Benefit Ratios to Employers, With and Without Tax Incentives

	Employer Size				
	<25	**25-99**	**100-999**	**1,000+**	**Total**
Cost-benefit ratio for private employers with tax credits	163%	98%	117%	124%	**120%**
Cost-benefit ratio for private employers without tax credits	82%	49%	59%	62%	**60%**
Cost-benefit ratio for public services with tax credits	178%	178%	305%	331%	**314%**
Cost-benefit ratio for public services without tax credits	89%	89%	152%	165%	**157%**

Source: NERA calculation

Once other benefits are included, fiscal relief for workplace health interventions will demonstrate a net benefit from society's perspective

Note that these estimates exclude savings to the NHS achieved through reductions in long-term health costs, or savings through reductions in future numbers of Incapacity Benefit claimants. With these included, the cost-benefit ratios from society's perspective would be far more favourable, implying a net benefit to society from encouraging workplace health intervention under all scenarios.

1. Introduction

Ill-health in the workplace is recognised as a significant cost on employers. According to the latest survey by the Confederation of British Industry (CBI), the cost of employee absence was over £13bn in 2005.[4] The sources of costs are varied, but include the cost of lost productivity, salary costs of absence, overtime and labour replacement costs, and impacts on quality of service. Ill-health, in particular when it is a long-term problem, imposes costs elsewhere, most notably on the NHS, on the social security system and on the broader economy. Data suggest that these broader aggregate social costs of ill-health are significantly larger than the direct cost of illness to employers.

There is a growing consensus that ill-health can be managed efficiently through early intervention, treating illness promptly and preventing acute episodes of illness from becoming a recurrent chronic problem. In the context of workplace health, the logic is that early intervention has the potential to reduce long-term absence, reduce the burden on the NHS and slow the flow of workers who eventually end up on Incapacity Benefit. Whilst policies in the NHS are encouraging this kind of focus in general, there is also an incentive for employers to engage in early intervention as a way of improving productivity in the workplace and reducing the burden of absence. Indeed, employers may be better placed to provide prompt intervention because, at least in principle, they have mechanisms for identifying ill-health and the cause of absence promptly. They can also be a route to providing fast intervention.

This report examines evidence on the burden of workplace health (Section 2) and uses two examples (musculoskeletal disease and mental illness) to assess evidence on the benefits of early intervention to manage illness (Section 3). Evidence from the academic literature and case studies from the UK suggest that workplace health initiatives can generate significant benefits for employers. However, we conclude that the incentives for employers to invest in early intervention on their own may be weak for a number of reasons. These include:

- Employers bear only part of the cost of workplace absence, with other costs being borne by the NHS, the social security system, carers and relatives etc. When investing in early intervention, employers will focus on the costs and benefits to them rather than the broader social benefits, which may lead to underinvestment from society's perspective.
- The benefits of early intervention will accrue over time. This increases both the uncertainty of generating benefit from the employers perspective and increases the risk that the benefit will not accrue to the investing employer, as workers switch jobs.
- Many employers do not have good information on the causes of absence or know when or how to intervene.

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[4] *Absence Minded: Absence and Labour Turnover 2006*, CBI; 14.

- The supply market for early intervention is not particularly well-developed in the UK.

In Section 4, we discuss issues associated with encouraging employers to invest more to manage the health of their employers. We suggest that employers are best-placed to intervene, primarily because they have the potential to identify illness early and steer employees to appropriate and rapid intervention. Whilst this could be undertaken by the NHS, in particular through primary care, the reality is that many individuals do not have early contact with GP services and prompt access to follow-on services can be a problem. Recent efforts by the Department for Work and Pensions to reduce the number of individuals receiving Incapacity Benefit, whilst positive, does not really drive at early intervention to prevent the flow of people into long-term illness.

A particular issue we examine is whether there is a case for using fiscal incentives to encourage employer investment in workplace health, and whether this would be an efficient way of mitigating the ill-health that leads to absence and reduced productivity.

2. The Burden of Employee Ill-Health

2.1. Current situation

Employee ill-health imposes two types of cost on employers. The first consists of the costs of absence from work as a result or side-effect of ill-health. This covers everything from short periods of absence to attend medical appointments to prolonged periods due to serious illness or disability. Absence from work imposes costs on employers both because it may be necessary to employ additional staff to cover a given workload and because employers may be required and/or choose to pay or top up wages and salaries during periods of absence. However, measuring such costs is an uncertain exercise in many activities because, collectively or individually, staff may work longer hours or more productively to make up for hours or days taken off due to sickness. It is easier to measure the economic losses due to absence in manual or structured non-manual jobs – e.g. assembly line production or call centres. Even then, the costs may be manifested in the form of a poorer quality of service – longer queuing times – rather than a more obvious loss of output or the payment of overtime required to deal with a backlog of work.

The second cost of ill-health is the loss of productivity of employees who are unwell but still come to work – what is often termed "presenteeism". Such behaviour is often a rational response by employees to asymmetric sick pay or incentive systems which may reward employees for low levels of absence when there is no direct way of measuring productivity at work. Equally, employees suffering from chronic or long-term health problems may be reluctant to take frequent or long absences from work because (a) this may put their job or prospects of promotion at risk, and (b) prolonged absences may lead to professional or social isolation that exacerbate the effects of ill-health on their capacity to work effectively. In these circumstances, it may be very difficult to make sensible estimates of the losses resulting from ill-health. Inevitably, employees are not equally productive, nor may their productivity be consistently higher or lower than the average over time. Thus, it may only be possible to identify when someone falls below the normal range for a period of weeks or months. This will neglect what may be more important for an employer, which is how to ensure that intermittent or chronic ill-health among its workers does not lead to a significant reduction in average productivity even when no individuals appear to have identifiable problems.

For these reasons, estimates of the costs of employee ill-health must be treated with some caution. They rely heavily upon survey data reported by employers or employees without a clear methodology to provide a consistent basis for reporting. The results discussed in the following sections are best understood as providing an indication of the magnitude of the costs of ill-health as perceived by employers. Nonetheless, this is relevant in the present context because the surveys provide a basis for assessing how the problem is viewed by employers and what such employers might regard as being the pay-off from investing in measures to mitigate the costs of employee ill-health.

One other point to note is that the response rates to the CBI and CIPD surveys of employee absence reported below are relatively low. The surveys are conducted by

contacting either the HR personnel of companies or senior managers. In the case of the CBI survey the response rate was about 4% and, despite assertions made in the text, it is far from clear that the responses were typical of either all sectors or all types of organisation. Further, it appears that no attempt was made to weight responses to correct any potential sample biases. The CIPD postal survey generated a response rate of about 7% and again there is no indication whether any attempt was made to weight answers to counter potential sample biases. The CIPD also conducted a smaller online survey, which got a much higher response rate of 64%. The results of the postal and electronic surveys have been pooled, so it is not clear how the two samples might differ.

It seems likely that the responses to the surveys reflect the situation in organisations with relatively formal and well-documented policies concerning ill-health and absence. These may be the type of organisations that would be most likely to respond to incentives and other policies focused on mitigating the impact of employee ill-health. Equally, however, they may represent no more than the tip of a very large iceberg, whose shape and economic impact may be virtually unknown.

2.2. The cost of absence

According to the 2006 CBI survey, the direct cost of workplace absence to UK employers was £13.2 billion in 2005.[5] This cost varies depending on the size of the employer and on the type of employer. Table 2.1 shows the average annual cost per employee of absence, by employer type and size. The data show the direct cost of absence (covering the salary costs, replacement costs and lost service or production time). There are indirect costs as well, covering factors such as impacts on service quality and customer satisfaction, which the CBI survey suggests is slightly higher than the direct costs (although the estimate should be interpreted with care as it is not thought to be measured on a consistent basis). Indirect costs add an additional £14.5 billion to the cost of absence—raising the total cost of absence to £27.7 billion in 2005.[6] The Table also shows data from a similar survey completed by the Chartered Institute of Personnel Development (CIPD).

[5] *Absence Minded: Absence and Labour Turnover 2006*, CBI; 14.

[6] *Absence Minded: Absence and Labour Turnover 2006*, CBI; 14.

Table 2.1
The Average Cost of Absence to Employers (UK, 2006)

CBI Survey (2006)	
Average Direct Cost per Employee per Year:	£531
Largest Organisations (5000+ employees)	£633
Smallest Organisations (<50 employees)	£357
Public Sector	£540
Private Sector	£531
Indirect Cost	£584
CIPD Survey (2006)	
Average Direct Cost per Employee per Year:	£598
Public Sector	£680
Private Sector	£522

Sources: *Absence Minded: Absence and Labour Turnover 2006*, CBI; 14-15.
Absence Management: Survey Report July 2006, Chartered Institute of Personnel and Development; 14.

The CBI report shows that absence levels decreased slightly from 2004 to 2005, and are lower than earlier years. 164 million days were lost due to workplace absence in 2005, an average of 6.6 days per employee and 3.1% of working time.[7] This is a decrease of 4 million days from the estimate for 2004, and a decrease of 12 million days from the estimate for 2003, which suggested absence averaged 6.8 and 7.2 days per employee per year in 2004 and 2003, respectively.[8] The CIPD survey numbers are different, as a result of differences in survey methodology, but follow the same trend. The CIPD indicates that in 2005, annual absence levels fell by 0.2% to 3.5% of working time to an average of 8 days per employee. This is reported to be a result of increased absence management by employers.[9]

The most common causes of incapacity status are musculoskeletal disorders and mental health.[10] As of February 2005, musculoskeletal disorders accounted for 20% of claimants and 23% of recipients; and mental health accounted for 39% of claimants and 32% of recipients.[11]

[7] *Absence Minded: Absence and Labour Turnover 2006*, CBI; 9.

[8] *Who Cares Wins: Absence and Labour Turnover 2005*, CBI; 9.

[9] *Absence Management: Survey Report July 2006*, Chartered Institute of Personnel and Development; 3.

[10] Henderson, M et al (2005): 'Long Term Sickness Absence', BMJ; 330: 802-803.

[11] Department of Work and Pensions Website: <www.dwp.gov.uk>.

Who bears the costs of absence?

The costs of absence are, in the first instance, borne by employers. However the scale of costs and responsibility for funding absence vary as the length of an absence grows. Employers meet costs in the first days of absence. On the 4th day of absence employees become eligible for statutory sick pay (SSP), which is a standard payment that employers can claim (as a rebate on National Insurance Contributions) to contribute to the cost of absence. In practice, many employers will pay a part or all of the regular wages or salary in excess of the SSP rate to sick employees for some period of absence. SSP payments last a maximum of 28 weeks, after which employees may become eligible to claim incapacity benefit and full funding responsibility shifts to the State. Those on incapacity benefit may be required to have a personal capability assessment and medical examination.[12] In November 2005, 2.71 million people of working age were on incapacity benefits. The 2005-2006 estimated outturn of total expenditure on incapacity benefits is £6.6 billion. Income support for those on short or long-term sickness absence and the severe disablement allowance paid to the working age population adds another £6bn to this cost. [13]

In addition to the direct costs of paying SSP and incapacity benefit, the level of sickness and absence from work has an important effect on other areas of public spending. Much of the cost of providing health services to individuals with short and long-term absence falls on the NHS. Individuals receiving sickness or incapacity benefits may become eligible for other state benefits such as tax credits, housing benefit and other forms of income support. A portion of the costs may be covered through other routes (e.g. private medical insurance may cover some health care costs), but a general observation is that private products and services to meet the burden of absence are not particularly well developed, with the implication that much of the cost falls on public services.

2.3. The causes of absence

Table 2.2 uses data from the CIPD survey to show the most significant causes of absence. The Table distinguishes between short term absence (less than 20 working days) and long-term absence (20 working days or more), and between manual and non-manual occupations. Long-term absence accounts for over one-third of the days lost to absence.[14] Unsurprisingly minor illness is the most common cause of short term absence. Back pain, musculoskeletal injuries and factors related to stress and mental illness are common drivers of long-term absence.

[12] DirectGov Website: <www.directgov.gov.uk>.

[13] Department of Work and Pensions Website: <www.dwp.gov.uk>.

[14] *Absence Minded: Absence and Labour Turnover 2006*, CBI; 16-17..

Table 2.2
The Leading Causes of Absence
(% of respondents citing this cause as a leading cause)

	Short-Term		Long-Term	
Rank	**Manual**	**Non-manual**	**Manual**	**Non-manual**
1	Minor illnesses (95%)	Minor illnesses (98%)	Back pain (19%)	Stress (33%)
2	Back pain (62%)	Stress (56%)	Musculoskeletal injuries (17%)	Acute medical conditions (19%)
3	Musculoskeletal injuries (53%)	Home and family responsibilities (44%)	Acute medical conditions (15%)	Mental ill health (13%)
4	Home and family responsibilities (40%)	Recurring medical conditions (42%)	Stress (11%)	Operations and recovery time (8%)
5	Stress (37%)	Back Pain (41%)	Operations and recovery time (7%)	Minor illnesses (6%)
6	Recurring medical conditions (35%)	Musculoskeletal injuries (35%)	Mental ill health (6%)	Recurring medical conditions (4%)

Source: *Absence Management: Survey Report July 2006*, Chartered Institute of Personnel and Development; 20-23.

The public sector is more likely to rate stress as a major cause of long-term absence, as is the non-profit sector, which also rates back pain as the number one cause of absence. In the private sector, manual employers rate acute medical conditions as one of the top causes of workplace absence, and manufacturing and production rank recurring medical conditions and work-related accidents as the leading causes of absence.[15]

In the CBI's survey, long-term absence accounts for one-third of the total days lost. Larger organisations have higher long-term absence rates.[16] The CIPD survey states that almost 60% of absence is short term (up to 7 days), 18% is medium-term (between 8 days to 19 days), and 18% is long-term (20 days and longer).[17]

[15] *Absence Management: Survey Report July 2006*, Chartered Institute of Personnel and Development; 22-23.

[16] *Absence Minded: Absence and Labour Turnover 2006*, CBI; 16-17.

[17] *Absence Management: Survey Report July 2006*, Chartered Institute of Personnel and Development; 10.

2.4. The costs of reduced productivity at work

The cost of worker ill-health for an employer is usually estimated as the loss of productivity arising from ill-health. It is possible to distinguish between: (a) absence from work, discussed above, and (b) reduced performance while at work. Studies suggest that, perhaps, the greater part of the productivity loss due to ill-health is related to the reduced productivity while at work. Considering only absenteeism then significantly underestimates the cost of the illness to employers.

Estimating the productivity lost due to a worker's inability to perform well is not as straightforward as measuring the number of days a worker did not show up in the workplace. No systematic efforts have been made to collect data on losses due to the reduced productivity of workers suffering ill-health but who are not absent from work. The data that is available comes from smaller studies of specific conditions or organisations, some of which are reported below in more detail. The overall conclusion is that these costs are at least as large as the cost of absence and may be several times higher.

There is a danger that aggressive attempts to manage absence may simply transform some of the costs of absence into cost of reduced productivity at work. Little may be gained by encouraging workers suffering from genuine ill-health to return to work if the productivity of the time that they spend at work is low or if their presence has a detrimental effect on the performance of their work group. For these reasons, there is a delicate balance that must be achieved between minimising absence and ensuring that workers suffering from ill-health but who are able to work can do so in a way that meets minimum productivity expectations.

2.5. Two case studies

2.5.1. Musculoskeletal disorders

Musculoskeletal disorders (MSDs) include problems such as lower back pain, joint injuries and a variety of repetitive strain injuries.

Table 2.3
Examples of Scientific Evidence on the Cost of MSDs

	Data	Year	Sample	Journal	Objective	Results
1	All employed individuals who participated in the American Productivity Audit between August 2001 and July 2002 (n=28902)	2003	Random	JAMA	To measure the excessive lost productive time (LPT) costs from pain conditions: arthritis, back pain, headache, and other MSD.	Workers who report back pain or arthritis had a LPT of 5.2 h/wk. Other common pain conditions resulted in a LPT of 5.5 h/wk. The majority of the LPT (72%) was explained by reduced performance while at work, and not by work absenteeism.
2	Data from employees of a large US corporation	2000	Non-random	Am J Psychiatry	Comparison of costs associated with depression and other four conditions (heart diseases, diabetes, hypertension and back problems)	Back pain was associated with a mean of 7.21 annual sick days. The cost of back pain to the corporation is estimated to be 1.5 million dollars, slightly less than the cost of depression.
3	Workers who returned to work after 4-6 weeks absence due to MSDs. Self-administered questionnaires.	2005	Prospective cohort study	Scand J Work Environ Health	To quantify the reduced productivity of workers on full duty after sickness absence from a MSD.	Reduced productivity was prevalent for 60% of the workers after they returned and for 40% after 12 months follow-up.
4	Self-reported productivity of a sample of industrial workers and construction workers	2005	Non-random	J Clin Epidemiol	To assess the validity of health questionnaires. However, in doing so productivity loss is measured.	Although the exact proportion of workers varies according to the questionnaire, reduced work productivity was always significantly associated with MSDs.
5	Self-reported productivity of a sample of work computer users	2002	Non-random	J Occup Rehabil	To assess whether self-reported reduced productivity occurred in white collar due to MSDs. The reduced productivity was assessed by two questions in a questionnaire.	There were 8% of men and 8.4% of women who reported a reduced productivity due to MSDs. The mean magnitude of the reduction in productivity was 15% for men and 13% for women.

Sources:
1: Stewart, WF et al (2003): *Lost productive time and cost due to common pain conditions in the US workforce*, JAMA; 290(18): 2443-54
2: Druss, BG et al (2000): *Health and disability costs of depressive illness in a major US corporation*, Am J Psychiatry; 157(8): 1274-8
3: Lotters, T et al (2005): *Reduced productivity after sickness absence due to musculoskeletal disorders and its relation to health outcomes*, SJWEH; 31(5): 367-74
4: Meerding, WJ et al (2005): *Health problems lead to considerable productivity loss at work among workers with high physical load jobs*, J Clin Epidemiol; 58(5): 517-23
5: Hagberg, M et al (2002):*Self-reported reduced productivity due to MSD symptoms: associations with workplace and individual factors among white-collar users*,JOR;12(3):151-62

Productivity losses due to MSDs

Table 2.3 provides an overview of studies from the scientific literature examining the productivity losses due to MSDs. Although none of the studies reported are based in the UK, the evidence suggests that there are significant productivity and absence costs in employees with MSDs relative to other employees.

The aggregate burden of MSDs

Table 2.4 provides a summary of the different types of cost and their scale due to MSDs. Data are not always available on a consistent basis, but they illustrate both the scale and the scope of the costs of MSDs. Whilst this report has emphasised the absence burden, data suggest that MSDs in general impose a large cost on the NHS and are a significant portion of incapacity benefit expenditures. Importantly, the broader costs of MSDs to society are many times larger than the individual components to employers, the NHS or the Department for Work and Pensions.

Table 2.4
The Burden of MSDs

	Burden	Notes
Annual working days lost	11.6m	2004-2005
Average length of absence	20.5 days	2004-2005
% of short-term absence	23%	2004
% of long-term absence	39%	2004
Number of people with MSDs claiming incapacity benefit	481,800	As of February 2005
Number of people with MSDs receiving incapacity benefit	337,300	As of February 2005
Aggregate cost to the NHS	£1,198m	2001-2002
Cost to the NHS of GP consultation	£238m	2001-2002
Cost to employers	£760-804m	1995-1996 figures adjusted to 2005 prices.
Cost to society[18]	£7.34bn	1995-1996 figures adjusted to 2005 prices.

Sources: Health and Safety Executive Website: <www.hse.gov.uk>.
Mercer Human Resource Consulting Survey on UK Employee Sickness: <www.mercerhr.com>.
Compendium of Health Statistics, 2004-2005.

[18] Costs to society are an aggregate measure of the overall burden of a disease to an economy. It will include costs to employers, the NHS, and the social security system. It will also include the costs to patients and the costs to their carers.

Health Protection Agency, Burden of Disease: <www.hpa.org.uk/publications/2005/burden_disease/3.pdf>.
Department of Work and Pensions Website: <www.dwp.gov.uk>.

The 2003-2004 Self-Reported Work-Related Illness Survey (SWI) estimated that 11.6 million working days were lost in 2004-2005 through musculoskeletal disorders caused or made worse by work. On average, each person suffering took 20.5 days off work in 2004-2005.[19] In 2001-2002, NHS inpatient treatment costs for MSDs were £607 million, or 2% of total in-patient treatment costs, and the costs of GP consultations totalled £238 million, or 5% of all GP consultation costs. In 2001-2002, the aggregate cost of MSD treatment to the NHS was approximately £1,198 million.[20] The Health Protection Agency made a similar estimate of the cost of MSDs to the NHS, suggesting the cost was £1.3bn (2005).[21] The most common reason for PMI claims, in 2004, was a musculoskeletal condition—MSDs constitute nearly 29% of bills and 26% of benefits.[22] Reports suggest that 12.4% of incapacity claims and 22% of actual benefits are attributable to MSDs.[23]

According to the Health and Safety Executive (HSE), the latest figures indicate that MSDs cost society over £7 billion a year (1995-1996 figure of £5.7 billion a year in 2005 prices) and cost employers between £760 and £804 million a year (1995-1996 figure of £590 and £624 million a year in 2005 prices).

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[19] Health and Safety Executive Website: <www.hse.gov.uk>.

[20] Compendium of Health Statistics, 2004-2005.

[21] Health Protection Agency, Burden of Disease: <www.hpa.org.uk/publications/2005/burden_disease/3.pdf>.

[22] Dash, P (2005): 'Future Changes in Diagnostics, Treatment and the NHS: Challenges for the Health Insurance Marketplace', Association of British Insurers: 13-14.

[23] Dash, P (2005): 'Future Changes in Diagnostics, Treatment and the NHS: Challenges for the Health Insurance Marketplace', Association of British Insurers: 19.

Table 2.5
Examples of Scientific Evidence on the Cost of Depression

N	Data	Year	Sample	Journal	Objective	Results
1	All employed individuals who participated in the American Productivity Audit between May and July 2002	2003	Random	JAMA	To measure the excessive lost productive time (LPT) costs from depression	Significantly more LPT with depression than without (mean 5.6 h/wk vs mean 1.5 h/wk)
2	Data from employees of a large US corporation	2000	Non-random	Am J Psychiatry	Comparison of costs associated with depression and other four conditions (heart diseases, diabetes, hypertension and back problems)	Depressive condition was associated with a mean of 9.86 annual sick days, significantly more than any other condition. The cost of depression for the employer is equivalent or greater than the cost of other conditions.
3	Data from two national survey estimates	1999	Random sampling inside the survey	Health Affairs	To measure the short-term (30 days) work disability due to depression	Depressed workers were found to have between 1.5 and 3.2 more short-term work-disability days. The salary-equivalent loss is between $182 and $395 in a thirty-day period.
4	Matching of a large absence database and several published productivity survey	2004	Non-random	J Occup Environ Med	Comparison of costs of various medical conditions	Depression ranks third ($348 per employee per year) after hypertension ($392) and heart diseases ($348) among the most costly conditions for the employer.

Sources:
1: Stewart, WF et al (2003): *Cost of lost productive work time among US workers with depression*, JAMA; 289(23):3135-44
2: Druss, BG et al (2000): *Health and disability costs of depressive illness in a major US corporation*, Am J Psychiatry; 157(8): 1274-8
3: Kessler, RC et al (1999): *Depression in the workplace: effects on short-term disability*, Health Aff, 18(5):163-71
4: Goetzel, RZ et al (2004): *Health absence, disability and presenteeism cost estimates of certain physical and mental health conditions affecting US employers,* JOE; 46:398-412

2.5.2. The Burden of Mental Illness and Stress

Productivity losses due to mental illness and stress

Table 2.5 summarises the findings from a number of studies that look at the impact of stress and mental illness on productivity levels of workers. They suggest that the burden of MSDs and depression per employee are not much different in terms of productivity losses and are estimated to be around 5.5 hours per week. When several conditions are compared directly, depression and MSDs are as costly as other more risky health states like heart diseases, diabetes and hypertension. The studies reported in Table 2.4 and Table 2.6 both confirm that losses due to presenteeism are a significant portion of lost productivity.

The aggregate burden of mental illness and stress

Table 2.6 provides a summary of the different types of cost and their scale due to mental illness and stress. As with MSDs, data are not always available on a consistent basis, but the implications are similar. Costs are borne by a variety of stakeholders, including employers, the NHS, the DWP and by society more broadly.

Table 2.6
The Burden of Mental Illness and Stress

	Burden	Notes
Annual working days lost	12.86m	2004-2005
Average length of absence	30.9 days	2004-2005
Aggregate cost to the NHS	£3,667m	2001-2002
% of short-term absence	14%	2004
% of long-term absence	30%	2004
Number of people claiming incapacity benefit	2,387,000	As of February 2005
Number of people receiving incapacity benefit	1,444,800	As of February 2005
Cost to the NHS of GP consultation	£385m	2001-2002
Cost to society	£4.3bn	2000 figures adjusted to 2005 prices, burden of stress alone.
Cost to employers	£398-430m	2000 figures adjusted to 2005 prices, burden of stress alone.

Sources: Health and Safety Executive Website: <www.hse.gov.uk>.
Mercer Human Resource Consulting Survey on UK Employee Sickness: <www.mercerhr.com>.
Compendium of Health Statistics, 2004-2005.
Department of Work and Pensions Website: <www.dwp.gov.uk>.

Estimates indicate that work-related mental health problems account for 12.8 million reported lost working days per year in Britain. On average, each person suffering took 30.9 days off work in 2004-2005.[24]

In 2001-2002, inpatient treatment costs to NHS hospitals amounted to £1,291 million, or 5% of total inpatient treatment costs, and the costs of GP consultations totalled £385 million (11% of primary care expenditure). The total cost of mental illness to the NHS has been estimated at £3,667 million (6% of NHS expenditure).[25] The impact on incapacity benefit is also large. Reports suggest that 28.7% of incapacity claims and 35% of incapacity benefits are attributable to mental health disorders.[26]

According to the Health and Safety Executive (HSE), stress costs society £4.3 billion a year (2000 figure of £3.8 billion a year in 2005 prices) and costs employers between £398 and £430 million a year (2000 figure of £353 and £381 million a year in 2005 prices).[27].

2.6. Summary

Data suggest that workplace absence imposes a significant cost on employers. Salary and replacement costs are obvious direct costs, but absence also imposes indirect costs, such as through knock-on impacts on service quality. However, absence is not the only cost to employers. Ill-health will also reduce productivity whilst people are at work. Evidence from the literature suggests that "presenteeism" is a significant cost, perhaps even more so than the costs of absence.

Costs do not just affect employers. The effect of long-term ill-health is extremely detrimental for those who are unable to work. As a consequence, it imposes large costs on the health and social security budgets. Broader social costs are also relevant. Case studies of MSDs and mental illness indicate the social costs (which will include the costs to carers, as well as health, social security and productivity costs) are huge.

An obvious question is whether anything can be done to reduce the costs associated with absence. Data from surveys suggest that employers currently use a fairly narrow range of tools to deal with absence. Often they are administrative and not necessarily focused on tackling the underlying drivers of absence. Hence, there is a discrepancy between the tools that employers commonly use to manage absence and the tools that they believe are the most effective. In the next Section, we examine whether there are benefits to employers from intervening early to proactively manage workplace absence.

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[24] Health and Safety Executive Website: <www.hse.gov.uk>.

[25] Compendium of Health Statistics, 2004-2005.

[26] Dash, P (2005): 'Future Changes in Diagnostics, Treatment and the NHS: Challenges for the Health Insurance Marketplace', Association of British Insurers: 19.

[27] Health and Safety Executive Website: <www.hse.gov.uk>.

As well as having the tools to intervene, a relevant question is whether stakeholders have an incentive to intervene to reduce the costs associated with absence. Each stakeholder, be it employers, the NHS, or DWP, would benefit if the burden of absence, and hence its consequences, were reduced. But individually, their incentives may be relatively weak given that their focus is on the direct costs and benefits they would face. The aggregate social costs of absence are far higher than these individual components. Hence, there is a case for suggesting that it may be optimal to strengthen incentives and encourage individual stakeholders to invest more in reducing the burden of absence than they otherwise would.

This is an issue we return in Section 4, where we discuss the case for encouraging the take-up of workplace health initiatives.

3. The Benefits of Early Intervention

In this Section, we present evidence about the benefits of intervening early to treat MSDs and stress/mental illness. We have focused on these conditions because they are a significant cause of long-term absence. The intention is to demonstrate that:

- Early intervention can be effective in reducing the burden of illness from these conditions; and
- Employers can have a significant role to play in supporting early intervention.

We focus on two types of evidence. We provide examples from the scientific literature to demonstrate the benefits of early intervention. We then provide examples of case studies where employers in the UK have proactively engaged in programmes with employees to manage stress and MSDs. First, we start with a general review of survey data on the way in which absence is managed by employers. There is little information on how they attempt to deal with reduced productivity due to ill-health. The case studies suggest the policies are broadly the same.

3.1. Approaches to managing absence

The CBI estimates that if the worst performing organisations reduced their absence levels to that of the best performers, it would lead to 54 million fewer days lost and cost savings of £5.4 billion for the UK economy.[28]

Table 3.1 lists the most regularly used and most effective absence management tools, for both long and short term absence, cited by respondents to the CIPD survey – the results are very similar for the CBI survey. Responses suggest that it is relatively common for employers to make use of administrative tools such as return to work interviews and disciplinary procedures. Particularly for long-term absence, responses indicate that the most effective interventions are those that are proactive, such as providing access to occupational health and rehabilitation services as well as adapting the work environment.

[28] *Absence Minded: Absence and Labour Turnover 2006,* CBI; 10.

Table 3.1.1
Tools Used by Employers to Manage Absence

	Short-Term		Long-Term	
Rank	**Regularly used**	**Perceived as most effective**	**Regularly used**	**Perceived as most effective**
1	Return to work interviews	Return to work interviews	Return to work interviews	Access to occupational health
2	Disciplinary measures	Absence review trigger mechanisms	Sickness absence info to managers	Rehabilitation programmes
3	Sickness absence info to managers	Disciplinary measures	Access to occupational health	Changes to working pattern or environment
4	Absence review trigger mechanisms	Restricting sick pay	Risk assessments	Return to work interviews
5	Providing leave for family circumstances	Responsibility to line managers	Absence review trigger mechanisms	Flexible working opportunities
6	Responsibility to line managers	Sickness absence info to managers	Flexible working opportunities	Restricting sick pay

Source: *Absence Management: Survey Report July 2006*, Chartered Institute of Personnel and Development; 28-33.

One feature that emerges from both surveys is the discrepancy between (a) what companies say they do, (b) what they think are the most effective policies, and (c) what the figures show about the relative levels of absence for companies that do or do not adopt certain policies. Among the points worth noting are:[29]

- More than 90% of employers report that they use disciplinary procedures and/or return to work interviews to manage absence. Yet, the CBI survey reports that average levels of absence are higher for companies with such policies than for those without them. This is explained as a consequence of the difference between large organisations, which have higher rates of absence and more formal policies, and smaller ones, which have lower rates of absence and less formal policies. Even so, the result is intriguing and suggests the causality of links between policies and absence is far from clear.

- Organisations that operate a system of "waiting days" before paying sick pay – in effect requiring that employees bear the cost of short periods of absence – have lower rates of absence than those that do not operate such a system. From an economic perspective such policies are likely to polarise periods of absence – i.e. someone will either not call in sick or will extend the period of

[29] *Absence Minded: Absence and Labour Turnover 2006*, CBI; 21-25

sickness to the minimum required to receive sick pay (thereby requiring a sick note and increasing the burden on NHS GP services). Again, it is not clear the total cost of ill-health will actually be reduced by these policies, though they will discourage people from taking sick days as a form of holiday. The policy is perceived as quite effective for manual workers, though less so for non-manual workers. Even so, only 50% of employers operate the policy for manual workers.

- A similar effect can be observed for the payment of attendance bonuses to employees with zero and very low absence rates. However, this policy is not seen as being effective and is used by less than 50% of employers.

- The policy that has the strongest association with lower absence rates is the provision of private medical insurance, which is offered by 60% of non-manual employers and 40% of manual employers.

- The policy of offering access to medical care or treatment, as part of general assistance for rehabilitation and to assist employees to return to work, seems to have a significant impact on reducing average levels of absence, but it is only used by 30% of employers.

The picture that seems to emerge is one of two distinct perspectives on the management of absence. One group of employers sees the problem as primarily a disciplinary problem that should be addressed by formal procedures, perhaps backed up by incentives such as attendance bonuses and waiting days for sick pay. A second group of employers, while not discarding the options of disciplinary measures, takes a more positive approach by providing some combination of private medical insurance, access to treatment and medical care, support for rehabilitation, etc. It seems that the average levels of absence for these employers is 15-20% lower than for those which do not follow this approach.[30]

The cost of implementing the more positive approach seems to be an issue for small and medium employers, whereas larger employers appear to be more concerned about the lack of coordination between their efforts and the services provided by GPs. While the underlying cause is not discussed in the survey, it seems likely that the problem reflects the differing priorities and resource pressures for employers, who want to get employees back to work quickly, and GPs who are used to working within a system in which the cost of lost time is not the highest consideration and queuing for access to rehabilitation services is regarded as routine.

3.2. Scientific evidence

Several studies analyse the effectiveness of intervening early to actively tackle conditions such as MSDs and depression. Table 3.1 shows examples collected from the scientific literature.

[30] *Absence Minded: Absence and Labour Turnover 2006*, CBI; 23

The first five studies establish whether an intervention other than the "care as usual" is effective in reducing the symptoms of MSDs and depression, but the effects are not necessarily quantified. The last three studies more directly assess the costs of intervening to manage disease against the benefits.

The types of intervention vary according to the study and the type of illness. In two cases (study 1 and 7) the intervention consisted of identifying the patient at risk and administering a consequent treatment. In the first analysis the treatment focused on the psychological aspects of the pain associated with MSDs. In study 7, the intervention programme implied a period of transitional work for employees at risk of developing MSDs in the workplace. A similar "prevention" logic is applied in study 2, where stress management is used to avoid depression (the relation between stress and depression is well documented in the literature). In study 4 the intervention is not given in the workplace, but in the primary care. However, the results show that the consequences of more actively addressing depression can significantly reduce workplace conflicts, hence increasing the overall productivity. In study 8, the treatment group received constant follow-up by specially trained physicians, who reviewed the monthly summaries of patient symptoms.

A number of conclusions come out of the studies. For instance:

- Study 6 indicates that the direct (medical costs) associated with MSDs are dwarfed by the costs to employers (the number of sick days multiplied by the average daily wage). Indirect costs are between five to eight times bigger than the direct ones. Patients included in clinical programme for workers with MSDs showed significantly fewer episodes of MSD-related work disability.
- Studies 7 and 8 demonstrate that early intervention to treat disease can have long-term impacts on workplace productivity. Study 8 in particular calculates costs and benefits for a hypothetical employer with 1000 employees, 5% of whom are assumed to have sought primary care during a depression episode. The study calculates a return on investment to the employer of 300%.

Overall, the scientific literature gives a clear indication about the possible role of employers in reducing the productivity costs associated to employees' poor health. Intervening actively, identifying the risk-factors and helping workers at risk can generate large benefits.

Table 3.1
Costs and Benefits of Early Intervention: Evidence from the Scientific Literature

N	Type	Sample	Year	Condition	Journal	Country	Objective	Results
1	E	Three Randomized Controlled Trial.	2002	MSD	Am J Ind Med	Sweden	To assess the utility of a cognitive-behavioural intervention that focuses on coping strategies as prevention	It is feasible to identify the high-risk patient and subsequently lower the risk of work disability by administering a cognitive-behavioural intervention focusing on psychological aspects of the pain problem.
2	E	Randomized Controlled Trial.	2006	Depression	Psychother Psychosom	Netherlands	To assess the effectiveness of a stress management programme at the workplace to prevent depression. The programme was carried out for three months.	In the stress-management group, a significant improvement in the depressive symptoms (evaluated using specific questionnaires) is observed, compared with the control group. A stress-management programme may have potentials for the prevention in depression.
3	E	Cluster Randomised Controlled Design.	2003	Adjustment disorders	Occup Environ Med	Japan	To compare an activating intervention with a "care as usual" group on patients on first sickness leave for an adjustment disorder	The experimental intervention for adjustment disorders was successful in shortening sick leave duration and long-term absenteeism.
4	E	Non-random	2002	Depression	J Ment Health Policy Econ	US	To assess the impact of a primary care depression intervention on subsequent employment and workplace conflict outcomes.	The intervention significantly improved employment outcomes and reduced workplace conflict in depressed employed people.
5	E	Random Trial	2004	Depression	Med Care	US	To test whether an intervention to improve primary care depression management significantly improves productivity at work and absenteeism.	Among employed subjects the intervention improved productivity by 8.2% over 2 years and reduced absenteeism by 28.4%.

N	Type	Sample	Year	Condition	Journal	Country	Objective	Results
6	C/E	Randomized Controlled analysis	2005	MSD	Ann Int Med	Spain	To evaluate the cost-effectiveness of a population-based clinical programme offered to 10,077 patients with work disability by MSDs.	The treated group showed less episodes of MSD-related work disability than the controlled group. The episodes were significantly shorter in the treated group. Fewer patients received long-term disability compensation in the treated group. In the best scenario, $5 invested save 1 day of temporary work disability.
7	C/B	Case study	1999	MSD	J Occup Environ Med	US	To asses the cost effectiveness of a risk-management programme implemented by an aircraft manufacturer. The programme was designed to evaluate each new employer for their individual risk.	Workers' compensation costs decreases between 3% and 24% per year in the following four years. Work hours increased by 56%. Employer-estimated savings in direct workers' compensation costs per year were between $470,000 (first year) and $1,936,105 (last year)
8	C/B	Randomized Controlled Trial	2006	Depression	Med Care	US	To assess the cost-benefit of depression treatment under different workplace assumptions. An enhanced treatment intervention is compared with the usual care	Enhanced depression treatment resulted in an average net benefit of $30 per participant in the first year and $257 in the second year, for an estimated ROI in the first 2 years of 302%.

Note: Under study type, C/B= cost benefit analysis, C/E = cost effectiveness analysis, and E= an effectiveness analysis

Sources:

1:Linton, SJ (2002): *Early identification and intervention in the prevention of musculoskeletal pain*, Am J Ind Med; 41(5):433-42

2: Mino, Y et al (2006): *Can stress management at the workplace prevent depression? A randomized controlled trial*, Psychother Psychosom; 75(3): 177-82

3: van der Kink, JJ et al (2003): *Reducing long term sickness absence by an activating intervention in adjustment disorders: a cluster randomized controlled design*, Occup Environ Med; 60(6):429-37

4: Smith, JL et al (2002): *Impact of primary care depression intervention on employment and workplace conflict outcomes: is value added?*, J Ment Health Policy Econ; 5(1):43-49

5: Rost , K et al (2004): *The effect of improving primary care depression management on employee absenteeism and productivity. A randomized trial.* Med Care; 42(12):1202-10

6: Abasolo, L et al (2005): *A health system program to reduce work disability related to musculoskeletal disorders*, Ann Intern Med; 143(6): 404-14

7: Melhorn, JM et al (1999): *An outcomes study of an occupational medicine intervention program for the reduction of musculoskeletal disorders and cumulative trauma disorders in the workplace*, JOEM; 41(10);833-46

8: Lo Sasso, AT et al (2006): *Modelling the impact of enhanced depression treatment on workplace functioning and costs. A cost-benefit approach*, Med Care; 44(4); 352-58

3.3. Case studies in the UK

In addition to studies reported in the scientific literature, there are a number of examples where employers have pursued early intervention programmes in the UK. Below we list a number of case studies outlining recent experience.

3.3.1. Centrica (British Gas)[31]

Centrica is a UK-based multinational company involved in a wide range of activities, from energy supply to telecommunications. Given the nature of the work, Centrica's workforce are potentially vulnerable to musculoskeletal problems, and the skilled and experienced workers are difficult to replace. In 1998, British Gas, which is part of Centrica, decided to integrate its normal health management programme with company-funded medical interventions, with the aim of reducing absenteeism and helping a more rapid return to work after a sickness period.

After either the Centrica Occupational Health or, more frequently, the line manager makes the initial referral, the case is analysed in order to understand whether early medical intervention would increase the likelihood of the employee remaining at work. If this is the case, Centrica will consider funding further orthopaedic interventions and physiotherapy. The program also includes 6 weeks gym membership and back pain workshops.

Centrica reports that sickness absence in British Gas was reduced by 39% in the first 3 years. The costs of the intervention are estimated by Centrica to be around £600,000 annually. The program was considered a success by the managers and was lately extended to cover other employees in the group and to include rehabilitation services.

3.3.2. British Polythene Industries[32]

British Polythene Industries (BPI) is the largest manufacturer of polythene film, bags and sacks in Europe. In the late 90's BPI found that an average of 26 days were being lost for each MSD absence.

Together with "Osteopaths for Industry", BPI set up a "Musculoskeletal Injury Management System" (MIMS). Once an employee is injured (by either work or leisure), a therapist completes an assessment that indicates whether the worker is fit for normal duties. The report is sent to BPI, which can choose to intervene through one of the 3000 specialists included in the MIMS. Prompt treatment of injuries is part of the system and every injured person is visited within 24-48 hours after the accident.

BPI reports spending an average cost of £16,000 on each of more than 400 treatments in 2001. However, the reduction in absenteeism and in civil compensation claims was substantial. The overall program is calculated to have saved around £12 in return to every £1 invested in the scheme. The MIMS was also popular among the workforce and their representatives.

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31 www.hse.gov.uk/sicknessabsence/casestudies/centrica.htm

32 www.hse.gov.uk/sicknessabsence/casestudies/bpi.htm

3.3.3. AstraZeneca[33]

AstraZeneca (AZ) is a leading pharmaceutical company with 58,000 employees around the world, 10,000 of which are in the UK. AZ wanted to reduce the impact of ill-health on the productivity of the employers.

Different programmes have been offered since early 2000: the "Health and Wellbeing in AstraZeneca" (HWAZ), the Counselling and Life Management (CALM) programme and the Rehabilitation/Return to Work programme (RRW). The HWAZ offers a range of health promotion activities relating to musculoskeletal disorders, heart disease, smoking cessation support, encouragement to take exercise, and stress management. CALM addresses well being in the workplace, while RRW follows sick absence in order to reduce the discomfort related to the return to work after an injury.

AZ believes that the scheme has delivered important savings including: £220k pa savings in psychological treatments, £700k pa improved productivity because counselling is available, £600k in reduced time-off, 59% fewer occupational illness cases in 3 years. Absence rates are around 7 days per year (lower than averages reported across industry by the CBI) and in 2004 an 8.5% reduction in sickness absence was achieved over the previous year. Employees showed satisfaction for the way AZ has demonstrated commitment to their health and safety conditions.

3.3.4. Southampton Community Health Service[34]

In 1997 Southampton Community Health Service (SCHS) noted that staff who had sustained MSD injuries were waiting up to 20 weeks for NHS physiotherapy treatment. Employees that managed to keep working were not fully functioning, imposing costs on the organisation. SCHS decided to fund a 9 month physiotherapy pilot for staff who had sustained MSD injuries.

The service targeted those staff at an early stage of MSD injury. Where the injury happened was irrelevant. After an initial referral, staff were referred to a physiotherapist within 48/72 hours from the accident. A Back Care Programme was also set up to support those staff in work with chronic back problems who needed help to cope with pain and disability. This last programme ran for 7 weeks (2 hours per week), involving up to 8 individuals.

Final costs were estimated to be around £100 for each person treated. In the majority of cases the cost of the physiotherapy treatment was less than one fifth the cost of replacing a basic nurse for one week.

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[33] www.bitc.org.uk/resources/case_studies/astz_hwb_0605.html

[34] www.hse.gov.uk/sicknessabsence/casestudies/pct.htm

3.3.5. Somerset County Council[35]

In 2001/02, Somerset County Council (SCC) noted that the costs of sickness absence to the council were around £3.7million. SCC was also worried about the increasing significance of stress litigation with regards to the developments in legislation and case law.

The SCC commissioned an independent consultant to conduct a psychosocial risk assessment in order to identify the sources and severity of stress across different staff groups. The intervention that followed the assessment targeted individuals and teams. In particular, training was provided at all levels, helping the employees to manage the stress and the stress of the members of their team.

As a result, sickness absence levels fell from 10.75 days per year in 2001/02 to 8.29 in 2003/04, with a total saving in monetary terms of £1.9milion over two years. The net benefit was estimated to be £1.13milion.

3.4. Summary

There is strong evidence to suggest that early intervention to treat illnesses such as MSDs and mental illness can deliver meaningful benefits. Studies from the academic literature have demonstrated both that benefits are delivered and that they more than outweigh the costs.

Case studies from a number of UK companies also suggest that intervention to manage illness early brings benefits to employers in terms of getting individuals back to work. In many cases, the benefits to employers are multiples of the costs of establishing and running programmes. It is interesting to note that in many cases, employers are not interested in whether an illness has been caused by a work-place accident or by factors beyond the workplace. What matters is getting individuals back to work.

As well as providing a direct pay-back to employers, the evidence indicates that there will be significant benefits to other stakeholders. Studies suggest that long-term sickness falls, generating potential savings on incapacity benefit, whilst the direct health costs borne by the NHS will also fall (either because early intervention reduces the overall level of costs, or because employers will be bearing some portion of the costs).

[35] http://www.hse.gov.uk/research/rrpdf/rr295.pdf

4. Encouraging the Take-Up of Employee-Health Initiatives

4.1. Market failure: The costs and benefits of investing in workplace health initiatives

Data presented in Chapter 2 indicated both that the costs of workplace absence are high, and that they are spread over a number of stakeholders including individuals, employers, the NHS, DWP and society more broadly. Section 3 used case studies of MSDs and mental illness to illustrate that early intervention to manage absence and treat illness can generate long-term benefits and reduce the costs associated with workplace absence. Whilst such interventions are not particularly well-defined or visible in the UK at the moment, we use the term *workplace health initiative* in the following discussion as short-hand for employer-led early intervention.

A characteristic of the potential market for workplace health initiatives is that no one stakeholder has an over-riding incentive to invest in programmes because of the nature of how the costs and benefits accrue. As well as being spread across different stakeholders, there is also uncertainty over when and how the benefits accrue. As an example, employees are mobile, so investment in workforce will not always generate a return to the investing employer. Benefits will also accrue over time—the pay-back from investment may be five or ten years down the line—which increases both the uncertainty about the scale of benefits and about to whom they will accrue.

Similarly, the NHS may have little incentive to prioritise workplace health interventions because of other priorities they face, or because of infrastructure and workforce barriers. The benefits to DWP, for instance by reducing the future flow of incapacity benefit claimants, is also a long-term gain rather than immediate win.

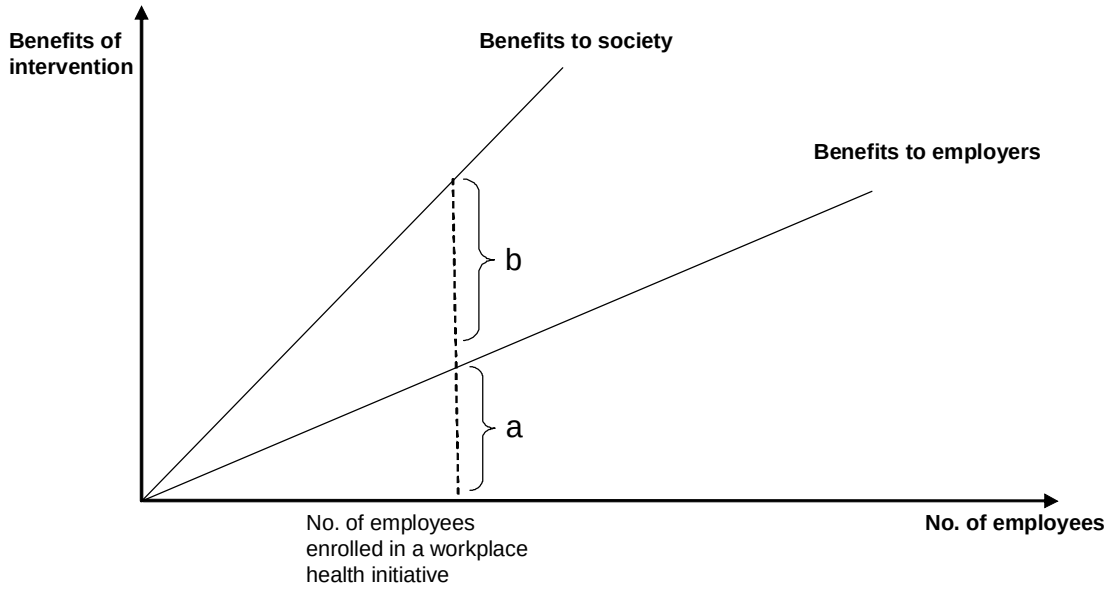
Table 4.1 summarises the potential nature of the benefits from workplace intervention and their timing.

The distribution and timing of the benefits gives rise to a failure in the market for workplace health initiatives. From society's perspective, no one stakeholder has an incentive to invest in programmes from a socially optimal perspective because each stakeholder considers the private costs and benefits rather than the social costs and benefits. Figure 4.1 providers an illustration of how the benefits of workplace health initiatives might accrue. The precise shape and scale of the graph is less important. The key message is that as the number of employees being offered workplace health intervention grows, the benefits will grow but there is a distinction between the benefit to employers and the benefits to society more broadly. For any given level of enrolment, the benefits to employers (labelled as "a" on the Figure) will be smaller than the cumulative benefits to all stakeholders ("a"+"b" in the Figure)

Table 4.1
The Benefits of Investing in Workplace Health Programmes

Nature of Benefit	Timing of the effect	Beneficiary
Reduced workplace absence	Potential to be immediate and long-lasting	Direct benefit to employers. Indirect benefits to Exchequer and the economy if productivity (and profitability is improved).
Health and social care benefits	Immediate, but real benefit is cumulative over the medium to long-term	The NHS would be the prime beneficiary. Early intervention to manage absence should reduce use of health care services.
Social security savings	Cumulative over the long-term	Early intervention can prevent long-term absence and reduce the flow of individuals onto incapacity benefit (benefit to DWP).
Improved quality of life	Medium to long-term	Individuals (and their families and carers) benefit from improved quality of life and reduced long term absence. Reduces the broader costs of absence to society.

Figure 4.1
The gap between private and social benefits

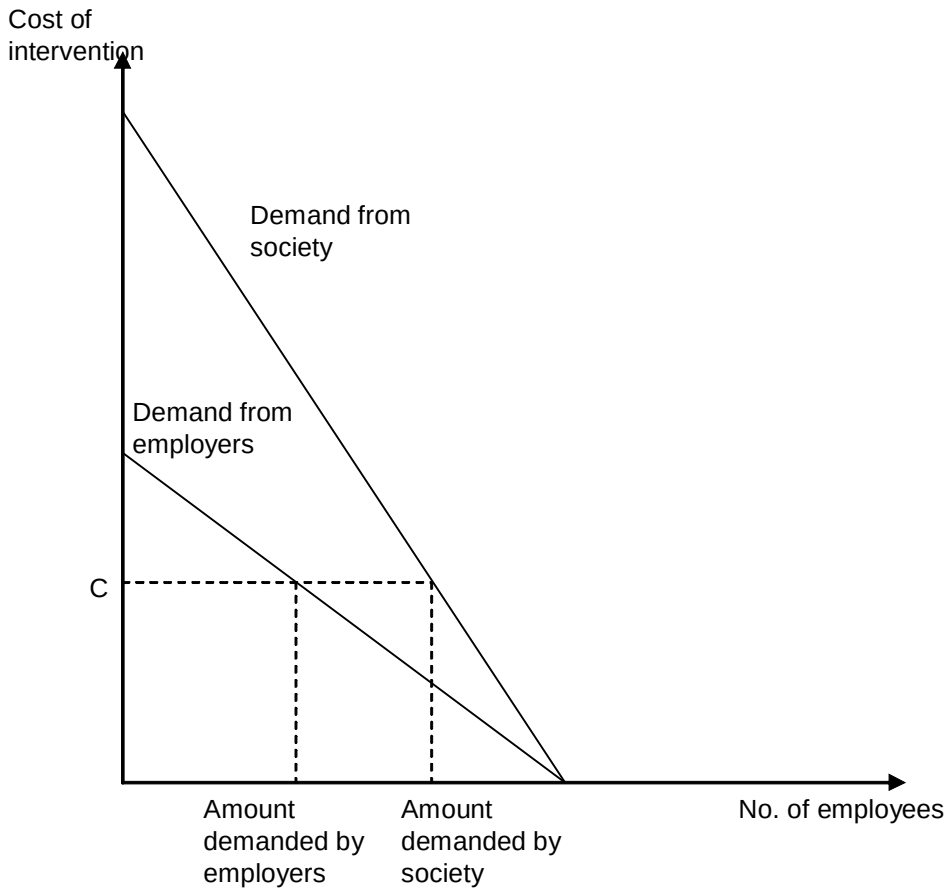


Source: NERA

The consequence of this distinction is that when employers demand workplace health intervention, they will under-invest from society's perspective because they focus on the private benefits rather than the social benefits. Figure 4.2 provides an illustration of this. The Figure shows two hypothetical demand curves for workplace health intervention – one for employers and one for society. For any cost of intervention (c), society would choose to

invest more in employee health initiatives than employers would. The return on that investment is always higher to society than the private return to employers.

Figure 4.2
Demand curves based upon private and social benefits



Source: NERA

So far we have a standard example of a beneficial externality created by the actions of employers who choose to invest in workplace health interventions. What it demonstrates is that the simple self-interested decisions of market participants will lead to a lower level of expenditure on such interventions than would be efficient from a broader social point of view. However, the argument is not sufficient, as it stands, to conclude that public support for private workplace health schemes is desirable. There are two factors that must be considered:

- First, it might be argued that it would be more efficient to fund alternative ways of mitigating the ill-health that leads to absence and reduced productivity. Since the range of such alternatives is limited, the obvious route would be to encourage or reward GPs for taking a more active role in addressing the problems of ill-health among the working population.

- Second, providing support for workplace health interventions may give rise to deadweight costs that outweigh the external benefits that may be created. Funds must

> be diverted from other public purposes or taxes increased to provide the revenue required, so that there is an opportunity cost to using public funds for this purpose. Further, the manner in which support is provided may distort incentives or lead to support being provided for activities that would have been undertaken without any assistance.

The second of these concerns depends upon the level and manner of fiscal support that is provided for workplace interventions. We will return to consider it after examining the range of fiscal tools that might be used.

The first concern is important but easier to address. Despite repeated attempts to target the way in which healthcare spending is allocated, the government has very limited control over the ways in which resources allocated for primary health care and GP services is distributed. It attempts to set targets for certain activities – childhood immunisation, monitoring of heart conditions, etc – which are reflected in payments to GP practices. It is not clear how the general goal of reducing the costs of absence and workplace ill-health could be translated into any kind of sensible target(s).

GP services operate within an environment of constant and conflicting pressure on resources. Currently the whole structure of primary health care services in the UK tends to operate against the notion of rapid intervention to address the type of problems that keep people away from work. It seems inevitable that acute illness and long-term chronic conditions associated with an ageing population and social problems will have priority in the competition for primary care resources over back pain, stress-related illnesses, and other mental health conditions, however widespread these may be.

There is a further consideration. One major conclusion of the studies cited in the previous section is the importance of early intervention to stop the costs of absence and reduced productivity escalating. While employees may seek advice and treatment from their GPs in the first instance, queuing and rationing is a reality in the NHS and is a bar to rapid access to many services. It is important not to antagonise GPs by appearing to trespass on their role, but equally they will realise that employers have a much more direct incentive to find ways of helping employees to get back to work. This may be irrelevant for someone injured in a car crash or recovering from a heart attack, but GPs are fully aware that they are not able to deliver prompt and effective assistance for musculoskeletal diseases and many mental health conditions. Support for additional services through employer-sponsored programs provides an opportunity for the public and private sectors to work together and it should free-up resources within the primary health care system for the elderly and other non-working sufferers.

Thus, the answer to the first point is that employer-sponsored interventions can and should supplement existing resources in a way that is more efficient than just allocating more money to GP and other primary care services. The only qualification must be that such interventions should not "crowd out" the supply of services to the rest of the population if the supply of doctors, physiotherapists and other skilled staff is a constraint.

4.2. Fiscal tools

In this section we analyse two sets of fiscal tools that could be used to encourage greater take-up of certain types of employee health intervention. We focus on tax incentives and the use of matching funds.

It has been argued that the current tax arrangements for the treatment of employee health interventions act as a disincentive to investment and that the rules are complex and unclear. For instance, if an employer provides treatment to get an employee back to work following a non-work injury, this is treated as a benefit in kind for tax purposes. It therefore attracts income tax and employer national insurance contributions, despite the potential economic and public spending benefits of an early return to work. For an employer, the cause of an injury is irrelevant and the objective is for a faster return to work.

In the discussion that follows, our assumption is that the tax treatment of an intervention is consistent with a need to intervene promptly and therefore depends more on the purpose of the intervention (e.g. to speed return to work) than on the cause of the initial injury. We suggest that interventions that are (a) funded by employers for all employees, and (b) focused on a specific set of health care interventions related to early intervention and return to work, would not count as a benefit in kind. This would then imply that any fiscal incentive operates through the treatment of such expenditures for corporation tax purposes, or other taxes on employers, and that there are no implications for the income taxes paid by individuals. As well as providing consistent incentives for early intervention and return to work, employers would also be able to compel employees to be covered by programmes, as intervention would not have any tax implications for the individual.

4.2.1. Tax incentives

Tax Deductions

Company expenditures on workplace health interventions would normally be treated on a par with other personnel expense. The expenditures would be included with all other expenses in calculating the company's taxable profit. Such a system is purely neutral and provides no special incentive for spending on such interventions by comparison with paying higher wages or contributing to a company pension scheme. To provide a targeted incentive it would be necessary to allow companies to deduct, say, 150% of their expenditure on approved workplace interventions from revenues in arriving at taxable profit.

For a company with a marginal tax rate of 30% this arrangement would reduce its corporation tax bill by 15% of its expenditure on workplace health interventions. Thus, if the company were to choose between increasing its total personnel expenses by (a) hiring additional staff at a cost of £10 million per year, or (b) reducing the cost of absence and lower productivity by spending the same amount on health interventions, then holding all other factors constant Option (a) would lead to a reduction in after tax profits of £7 million per year, while Option (b) would lead to a reduction in after tax profits of £5.5 million. This is a quite powerful incentive to allocate funds to such programs, so long as they generate results that match the effect of hiring more staff.

The disadvantage of this incentive is that it is only effective for organisations that pay corporation tax. Companies that do not make profits would not benefit, except to the extent that they are able to carry forward losses to set against future profits. More importantly, the public sector and non-profit organisations would not have incentive to institute such programs, even though the evidence suggests that they may suffer more from the costs of absence than do private sector organisations. This is a general problem with any incentive that relies upon tax deductions that affect the computation of corporation tax liabilities.

Tax Credits

An alternative incentive that would extend to public sector and non-profit organisations would be to allow a tax credit for a part – or all – of spending on approved workplace health interventions with respect to the payment of employer national insurance contributions (NICs). The amount of the credit would be capped by the amount of NICs payable, but at 12% of wages and salaries this is unlikely to constrain the incentive to any significant degree.

In this case, the benefit would be greater for public sector bodies than for private sector ones because of the interaction with corporation tax liability. The reason is that employer NICs are a deductible expense in the computation of corporation tax, so that the effect of the deduction on after tax profits is only 70% of the amount of the deduction from employer NICs that is permitted.

This prompts a question about whether public sector organisations should receive assistance for implementing workplace health programs. The purist argument would be that if such programs are desirable it should not be necessary to provide specific incentives to encourage public sector entities to adopt them. Providing them with specific support would simply be an exercise in transferring resources from one public pocket to another but with all of the attendant costs of administration. However, this relies upon a Platonic view of the basis on which such organisations operate – i.e. that they seek to enhance public welfare in whatever might be the most effective ways. In practice, of course, most public sector organisations are little different from private sector companies except in respect of their ultimate ownership and incentives. They operate within a narrow interpretation of their responsibilities and are no more likely to promote public welfare in the general sense than are private companies of equivalent size and scope. Thus, if there are significant beneficial externalities of workplace health programs that warrant external support, such support should be available to both private and public sector organisations.

4.2.2. Matching funds

Matching funds would involve government providing grants to employers that were proportional to the funds that employers put into workplace health programmes. As an example, for every £1 an employer invested, government might contribute another £1, for example. A different ratio could be used.

Matching funds are broadly a compromise between a tax incentive and a direct subsidy. Like in a tax incentive, the amount and the basic typology of the investment is decided by the

company; like in a subsidy, the incentive is not represented by a reduction in costs, but by an actual increase in the income of the company.

From a purely theoretical point of view, there should be no difference between a matching fund and a tax incentive. As long as the total costs of the investment are reduced, it should not matter how this reduction is obtained. However, there are some differences at the margin, which we discuss below. Another consideration is that the task of administering grants or matching funds is likely to be much larger than that of monitoring tax deductions or tax credits – for both the government and the recipient. To the extent that the government may wish to scrutinise who takes advantage of the program and how the funds are used, the additional administrative costs may be an unavoidable consequence of ensuring that the assistance is targeted to the purposes for which it was intended.

4.3. Experience with the application of fiscal tools

In this section, we outline some examples of how the different fiscal options have been applied in other contexts, both in the UK and overseas.

4.3.1. Tax incentives: investing in apprentice training

Evidence suggests that an effective diffusion of technology is a key factor in firms' success when combined with effective education, training and organizational change[36]. According to the OECD, the combination of skills and technology significantly improves productivity performance. [37] On the other hand, the same studies note that education and organizational effectiveness are long-term contributors to productivity gains. The temporal lag and the uncertainty related to an investment in training are a core reason why tax incentives have been used to encourage corporate training. This has some parallels with the lags that may be experienced in workplace health interventions, where the most substantial pay-off may accrue over the long-term.

Tax incentives for corporate training are applied in most European countries—a mix of subsidies and incentive-based payroll levies are used. In Austria and the Netherlands, an investment in training for technology is related to a 20 percent tax allowance. France has two exemption schemes, the apprenticeship tax (0.5 per cent of payroll) for initial training, and the training tax (1.5 per cent of payroll among enterprises having 10 or more employees; 0.15 per cent among those having less), used primarily to finance lifelong learning of enterprise staff. Outside Europe, Japan, Korea and Canada (Ontario and Quebec) use tax credits. In the United States there is no fiscal incentive at Federal level, but many states have various tax credit/deduction schemes, especially in specific areas.

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[36] Dearden L et al (2005)*The impact of training on productivity and wages: evidence from British panel data*. IFS Working Papers, W05/16

[37] OECD, *Information Technology Outlook*, Paris, 2004

In the UK, tax incentives for corporate training have been considered but they have not been adopted.[38] Instead, the government has relied upon a combination of state funded training arrangements plus exhortation and a requirement that companies make training opportunities available to young workers. Funds for training are primarily routed through government funded bodies which have representation from employers' organisations as well as trade unions. The bodies may provide grants to employers who organise training programs, but their main instrument is joint funding - in effect a form of matching grant – of training programs provided by educational institutions and training organisations. Employers pay subsidised fees to enrol staff for specific courses or longer term programs. This arrangement can work as a way of expanding training opportunities available to the employees of small and medium sized companies. On the other hand, it may be less highly valued by larger companies that would prefer to exercise more control over the content and structure of training programs for their staff.

4.3.2. Tax Incentives: the benchmark for R&D investments

Tax incentives are commonly used to promote commodities (for example electric cars), to attract investments (for example in education or in foreign investments) or to incentivise savings. One successful case in which tax incentives have been used in the UK, and in many other countries, is to address a problem of underinvestment in Research and Development (R&D).

As in our example of underinvestment in workplace health programmes, there is theoretical and empirical evidence that R&D is subject to market failure (although of a different nature). In response, most countries provide assistance for R&D in the form of tax incentives. Different types of tax incentives have been used. In Australia, 125% of R&D capital expenditures can be written off over three years on a straight-line basis. In Canada, R&D capital expenditures are fully deductible from taxable income in the year they are incurred. In France, Germany and Italy, capital can be depreciated at various speeds.

Investment tax credits are also widely used. In the US a tax credit is earned at a rate of 20% on the amount by which eligible R&D current spending in a year exceeds a base amount. Sometimes tax credits and deductions are used together. In Canada, in addition to the deductions described above, a tax credit is allowed and calculated at a general rate of 20% and, for certain small businesses, an enhanced rate of 35% on up to $2 million of eligible expenditures.

In the UK an R&D tax credit for SMEs was introduced in 2000, and a large company credit was introduced in 2002. The UK R&D tax credit allows companies to claim 125% of eligible R&D expenditures in the calculation of profits subject to corporation tax (or 150% for SME companies), thus reducing the corporation tax bill and in effect reducing the overall cost of R&D carried out.[39] To date, over 17,000 claims have been made for R&D tax credits and over £1.3bn of support has been claimed through the scheme. In 2003-04, over 5,500

[38] Warda J (2005): *Incentives for ICT adoption: Canada and major competitor*. ITAC paper.

[39] According to the definitions given above, the system is actually based on tax deductions rather than on tax credits.

companies claimed the credit – approximately 4,500 SME companies and almost 1,000 large companies. In 2003-04, just under £550m of support was claimed through R&D tax credits.[40]

The effectiveness of tax incentives in tackling the problem of underinvestment is well documented. For example, looking at a panel of companies in the period 1979-1997, the Institute of Fiscal Studies estimates that a 10 per cent fall in the cost of R&D increases the level of R&D by 1 per cent in the short-run and 10 per cent the long-term.[41] Similarly Hall in 1993 estimated a price elasticity for spending on R&D of greater than one, indicating that companies increase R&D by more than 1% in response to a 1% drop in the cost of R&D.[42]

4.3.3. Matching funds: an effective mechanism to raise funds and increase savings

Matching funds are used in a variety of contexts. In the US, for example, the Medicaid programme regulates the flow of funds from the Federal government to the states according to a variety of matching mechanisms. Many grants for specific projects are funded through matching funds in which the government, or an organisation, is ready to match the funds collected by the applicant. Matching funds can be also found in the housing market, for example in employer-assisted housing (EAH) programmes, where a company could leverage a dollar-for-dollar match from a Housing Development Office or any government related authority.

Although the empirical evidence is still at an early stage, evidence suggests that they can be an effective way of directing individual investment. In charity, for example, Eckel and Grossman find experimental evidence that people react differently to tax deductions and matching funds and that the amount of charitable giving increases more with matching funds.[43] Other experimental evidence suggests that matching funds can represent an effective way to tackle the under-saving in the US. In 2005 the Brooking Institution, with the aid of the Pew Charitable Trusts and H&R Block, studied whether low- and moderate-income taxpayers would be more likely to divert at least a portion of their tax refunds into an Individual Retirement Account (IRA) if they were offered a matching contribution of some amount. Using real money provided by H&R Block, they arranged to offer varying matches to a random sample of Block clients who were getting refunds and looked at how they responded. While only about 3 percent of taxpayers were willing to divert refund money into

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40 From the HM & Revenues website: http://www.hmrc.gov.uk/consult_new/rd-taxcredit.pdf

41 Bloom N, Griffith R, Van Reenen J (2000): *Do R&D tax credits work? Evidence from an international panel of countries 1979-1994*. Journal of Public Economics, 85, 1-31

42 Hall, Bronwyn H. (1993): *R&D Tax Policy During the 1980s: Success or Failure?*, Tax Policy &The Economy 7

43 Eckel CC, Grossman PJ (2003): *Rebate versus matching: does how we subsidize charitable giving matter?*, Journal of Public Economics, 87, 681-701

an IRA if they received no match, 10 percent of taxpayers contributed if given a 20 percent match, and 17 percent did so if given a 50 percent match.[44]

Matching funds have also been suggested as an option for strengthening social care funding in England, as part of the Wanless Social Care Review.[45] In the main report, a partnership model is proposed in which a free-of-charge minimum guaranteed amount of care is supplemented with individual contributions matched by the state on a 1 to 1 basis. Comparing this system with an hypothesis of "free personal care" (where a full package of personal care is provided without charges) and a limited liability system (a means-testing system for the first three or four years and a free personal care thereafter), the report finds that the funding system based on matched contributions would add more value for money and, more importantly, would actually incentivise people to save more for their health.

4.4. Assessing alternative arrangements

There are pros and cons to the use of different sorts of fiscal incentive. Targeted incentives of all kinds can be administratively complex and, thus, expensive to manage for both the government and the recipient. This has been clearly illustrated by the difficulties that the government has experienced in ensuring that the system of tax credits for low income workers functions in the way intended. There is a choice that has to be made between (a) attempting to specify very precise eligibility rules for access to tax credits or matching funds, but then discouraging potential beneficiaries because of the effort required to demonstrate that a program meets the requirements for support, and (b) providing (perhaps a lower level of) support with fewer strings attached, in which case the spill-over of public spending for peripheral purposes or existing programmes will be larger.

It may be thought that reliance upon matching funds will provide government with greater control over exactly where funding is directed in comparison with the use of tax incentives. On the other hand, tax relief, if rationally evaluated, may represent a more immediate and direct way for the employer to exploit the incentive, as they do not require the active intermediation of the government.

One way of addressing the issue of administrative costs is to rely upon a structure of authorised providers who offer a menu of pre-approved programmes to employers that can be adapted within certain limits. The obvious advantage of this approach is that it could take advantage of economies of scale in setting up and providing workplace health services that would not be available to any but the largest employers running their own schemes. Another important feature for the government would be that it would be easier to implement provisions designed to ensure that funding for such programs does not have a significant impact in drawing staff away from the NHS. For example, one condition for approval might be that the provider has to invest in organising its own training programs for staff in areas such as physiotherapy where NHS provision is constrained by shortages of skilled staff.

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[44] Duflo E, Gale W, Liebman J, Orzrag P, Saez E (2006): *Saving incentives for low and middle income families: evidence from a field experiment with H&R Block.* NBER wp 11680

[45] Downlodable from the King's fund website: http://www.kingsfund.org.uk/resources/publications/securing_good.html

Under this structure the choice of fiscal instrument for supporting workplace health programs is less important than when the initiative is left to employers. Still, there is one lesson that has been learned from the reliance on matching grants to fund training programs. This has resulted – both in the UK and the US – in the emergence of training providers whose incentives are shaped by the funding available. In some cases, their efforts to recruit students on to their programs have been less than scrupulous, while other programs have been funded despite limited interest and almost no take-up. Again, there is a balance that has to be maintained. The activities of such training providers have often been effective vehicles for promoting the value of training both to companies and to individuals who might not have been reached by more limited programs. Further, the worst problems have affected two types of programs – (a) training that is targeted at individuals who are offered subsidised loans, and (b) supplier-driven training programs financed by grants with minimal evidence of employer demand. In this case, it is relatively straightforward to adopt eligibility conditions and to structure incentives so as to avoid such problems. Provided that employers bear the major part of the cost of funding the programs they will have a large incentive to ensure that any complementary public resources are used in a reasonably efficient manner.

Theoretically, there should be no difference between tax incentives and matching funds. In both cases, the employer should rationally evaluate the benefits and the costs of the intervention. The way returns from the investment are increased should not affect employers' decision. However, in practice the difference between the two mechanisms may be relevant. In particular, while any form of tax relief works as an actual offset of costs, the matching funds might be perceived as a form of subsidization and, as such, as a lump increase in income. Employers might perceive matching funds as being more concrete and the benefits are seen in-year.[46]

Under a system of pre-approval of providers and plans, there is relatively little difference between tax credits and matching funds. In economic terms, matching funds are more likely to be neutral between public and private organisations. However, the process of obtaining matching funds might be expected to be more cumbersome than arranging tax deductions or tax credits, so that the benefits of neutrality might be offset by an increase in administrative burdens on both sides. For the government, explicit authorisation of public spending is often more difficult than foregoing tax revenues. These considerations underpin the use of tax credits for R&D rather than the system of grants that it replaced. The same concerns would point to the adoption of tax credits for workplace health programs as well.

One argument that is sometimes made in setting up programs that support activities which generate external benefits is that any assistance should be transitional. In effect, the suggestion is that once the recipients of support understand and value the full benefits of, in this case, workplace health programs, they will continue to undertake them without long-term support. Assistance would, then, only be required for a transitional period. The argument has some validity if the major barrier to implementing such programs is the cost of setting them up. But externalities of the type discussed in this paper are not purely transitional. They are persistent and long-term in nature, so that measures to correct the under-provision

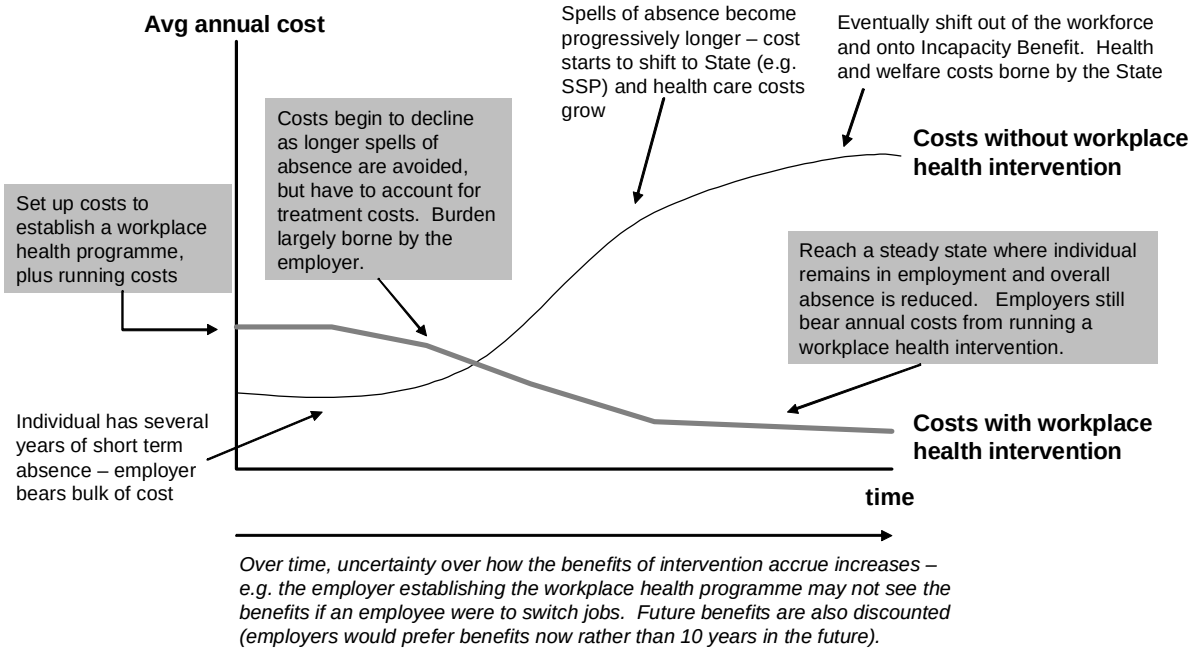
[46] Consistently, the economic literature shows that, for low income individual, tax deductions are interpreted as an increase in wage and tend to increase consumption, while rebates or subsidies, being considered as an additional source of income, mainly affect the level of savings.

of workplace health programs on the basis of private incentives alone would need to be equally long-term. That does not rule out adopting a limited initial period for the provision of support, but the time frame should reflect the need to evaluate whether the nature and level of support is appropriate in the light of the benefits that are generated.

4.5. The costs and benefits of providing fiscal support

The correct way to assess the costs and benefits of fiscal incentives in this context would be to develop a model that accounts for the start-up costs of a scheme as well as ongoing administration costs, and that examines how the benefits accrue over time. Whilst there may be some initial benefit, the real benefits of early intervention will be felt over the longer-term as the flow of employees into long-term sickness and then onto Incapacity Benefit is reduced. Figure 4.3 illustrates how the costs and benefits might vary with and without early intervention.

Figure 4.3
The Costs and Benefits of Workplace Intervention Accrue Over Time



Source: NERA

Data to make such a detailed evaluation is not currently available within the public domain. It is, however, possible to make some crude "steady-state" assessment of the aggregate costs and benefits of providing fiscal support. We refer to it as a steady-state because it reflects a situation where programmes have been in place for some time and are having an impact on the long-term flow of patients into long-term absence, which may take some years to fully materialise.

The detail of the estimate is summarised in Appendix A. In summary, we have assumed:

- All employers who offer a pension scheme to their employees would offer a workplace health intervention;

- That such schemes cost the employer £100;
- That 50 per cent of that cost would be met by the Treasury via an offset against employer National Insurance Contributions; and
- That the impact on long-term absence is to reduce it by 25 per cent.

We have suggested that relief be offered via employer National Insurance Contributions because it then incentivises public and private sector employers (incentives targeted at corporation tax would miss public sector employers). Table 4.2 suggests that for private sector employers, tax relief would be required to encourage them to invest in workplace health interventions (without it, the private benefits to employers are smaller than the cost of intervention). Because longer-term absence rates for MSDs and mental illness/stress are higher in the public sector, we estimate that there is a net benefit to public sector employers with or without fiscal incentives.

Table 4.2
Estimated Cost-Benefit Ratio of Workplace Health Interventions

	Employer Size				
	<25	**25-99**	**100-999**	**1,000+**	**Total**
Cost-benefit ratio for private employers with tax credits	163%	98%	117%	124%	**120%**
Cost-benefit ratio for private employers without tax credits	82%	49%	59%	62%	**60%**
Cost-benefit ratio for public services with tax credits	178%	178%	305%	331%	**314%**
Cost-benefit ratio for public services without tax credits	89%	89%	152%	165%	**157%**

Source: NERA calculation

These estimates reflect the employer's perspective. On the basis of these assumptions, such an incentive would cost the Treasury an estimated £857m a year. The core question for policymakers is whether the public pay-back from such incentives would outweigh the costs of tax relief. Section 2 outlined a number of sources of data showing costs to society, to the NHS and to DWP for MSDs and mental illness. This suggested that the ratio of the social costs of absence were far larger than the employers' private costs. On that basis, the pay-back from society should be greater than the pay-back to employers, suggesting the fiscal relief would provide a significant net benefit to society.

5. Conclusions

The data presented in this report suggest that workplace absence can be a significant cost on employers, the NHS, other forms of social security support, and on individuals and their carers. In addition to the explicit costs of being absent from work, research evidence suggests that ill-health can also lead to low productivity whilst at work ("presenteeism"), which in turn is a large contributor to the overall cost of illness to employers.

Survey data suggest that two conditions account for a large portion of long-term absence from the workplace: musculoskeletal disease (MSDs) and mental illness. These are both conditions that often develop and become more serious over time. Research indicates that early intervention can help to reduce the progression of these conditions, speed return to work and reduce long-term costs. These are also, arguably, conditions that are not particularly well managed through the NHS in the early stages of illness, either because when individuals present in primary care illness has already progressed, or because early/moderate cases are not high priority for intervention.

One feature of the costs of workplace absence is that they are spread over a large number of stakeholders and over a significant period of time. These features go some way to explaining why, currently, employers or other stakeholders are not engaging more in managing the burden of workplace absence. For example:

- Employers have some incentive to invest in workplace health programmes, but in making their decisions they will tend to focus on the pay-back to them rather than to society more generally. The same holds for other stakeholders, such as the NHS, the DWP and individuals themselves. From society's perspective any one stakeholder left to their own devices will under-invest in workplace health intervention.
- The benefits of early intervention accrue over a long time period. Benefits accrue by stopping or slowing the flow of individuals through short term absence, to longer absence and eventually out of the workforce. Given the time horizon involved, employees may well have moved jobs before an employer sees significant benefit from a workplace health programme.

One way to correct for these failures in the market for workplace intervention is to use fiscal incentives to encourage investment in this area. We have argued that employers are the obvious stakeholder to lead investment in this area, primarily because they have the means to identify workplace absence early and offer appropriate intervention. We envisage that such intervention would be rather different to existing Private Medical Insurance schemes and have suggested that fiscal incentives could be applied to programmes focused on return to work.

Our preliminary modelling work has indicated that:

- Fiscal incentives are required to encourage many types of private sector employers to invest in early health intervention. On their own, the private benefits to employers from doing so do not always offset the cost, but from society's perspective the cost of a fiscal incentive is likely to make this worthwhile.

- For many public sector employers, there is a net benefit to investment in this area without a fiscal incentive (primarily because rates of long-term absence from MSDs and mental illness are higher in the public sector and hence the benefit of early intervention is larger). However, the benefits to a specific employer will be reduced as employees switch between employers, reducing incentives to invest.

The case for a specific set of fiscal incentives clearly needs careful consideration. For instance, further work is required to define a set of products that such incentives could be applied to. We have suggested that they could apply to interventions focused on return to work, be targeted at MSDs and mental illness, to schemes that are approved as meeting qualifying criteria. We have also suggested that the most appropriate fiscal incentives would in the first instance be provided through offsets against employer National Insurance Contributions. Such offsets would be relevant to both public and private sector employers. Matching funds may also be viable, albeit administratively more complex.

In making our assessment, we have noted that data in this area is relatively sparse. Information that is available suggests that workplace absence is a real cost to employers, and there is a large knock-on cost to society more broadly (including the NHS and DWP). The difference between the social cost and the private cost seems to be large, at least in the case of MSDs and mental illness. This suggests that a pay-back to society from a fiscal incentive would be large. Further work in this area, perhaps based on detailed case studies with employers already offering workplace health intervention, would help to substantiate the case for fiscal incentives and give an indication of how the benefits of early intervention accrue over time.

Appendix A. Summary of Calculation of the Costs and Benefits of Tax Relief

The following Table summarises the main steps of the calculation used to estimate the "steady state" cost-benefit ratio to employers from workplace health intervention, with and without tax incentives.

		Firm Size (No of Employees)					Source
		< 25	**25 - 99**	**100 - 999**	**1000 +**	**Total**	
No of FT employees in private sector	000s	4,371	4,702	5,492	1,813	**16,378**	GHS 2003
No of employees in public services	000s	10	15	122	4,982	**5,129**	SME Statistics 2005
No of FT employees in education & health in private sector	000s	379	392	161	278	**1,210**	SME Statistics 2005
No of FT employees excl education & health in private sector	000s	3,992	4,310	5,331	1,535	**15,168**	Calculated
No of FT employees in public services	000s	389	407	283	5,260	**6,339**	Calculated
% covered by pension schemes in private sector	%	44%	74%	90%	97%		GHS 2003
% take-up for MS & MH programs excl public services	%	45%	75%	90%	95%		NERA
% take-up for MS & MH programs in public services	%	75%	75%	90%	95%		NERA

Total cost of health programs in private sector	£ million	180	323	480	146	**1,129**	Calculated
Total cost of health programs in public services	£ million	29	31	25	500	**585**	Calculated
Tax credit against National Insurance Contributions in private sector	£ million	90	162	240	73	**564**	Calculated
Tax credit against National Insurance Contributions in public services	£ million	15	15	13	250	**292**	Calculated
Net cost to employers of health programs in private sector	£ million	90	162	240	73	**564**	Calculated
Net cost to employers of health programs in public services	£ million	15	15	13	250	**292**	Calculated

% of working time lost to absence in private sector	%	2.5%	2.5%	3.6%	4.0%		CIPD 2006
% of working time lost to absence in public services	%	2.0%	2.0%	4.1%	4.7%		CIPD 2006
% of absence due to long-term absence in private sector	%	30%	30%	30%	30%		CIPD 2006
% of absence due to long-term absence in public services	%	45%	45%	45%	45%		CIPD 2006
% of long-term absence due to MS & MH causes in private sector	%	45%	45%	45%	45%		CIPD 2006
% of long-term absence due to MS & MH causes in public services	%	72%	72%	72%	72%		CIPD 2006

% of working time lost to MS & MH long-term causes in private sector	%	0.3%	0.3%	0.5%	0.5%		Calculated
% of working time lost to MS & MH long-term causes in public services	%	0.6%	0.6%	1.3%	1.5%		Calculated
Direct cost of time lost to MS & MH long-term causes in private sector	£ million	586	633	1,127	360	**2,706**	Calculated
Direct cost of time lost to MS & MH long-term causes in public services	£ million	104	109	155	3,306	**3,674**	Calculated
Employer benefits from MS & MH health programs for private sector	£ million	146	158	282	90	**676**	Calculated
Employer benefits from MS & MH health programs for public sector	£ million	26	27	39	827	**919**	Calculated
Public benefits from MS & MH health programs for private sector	£ million	105	113	201	64	**483**	Calculated
Public benefits from MS & MH health programs for public services	£ million	19	19	28	590	**656**	Calculated
Total benefits from MS & MH health programs for private sector	£ million	251	271	483	154	**1,160**	Calculated
Total benefits from MS & MH health programs for public services	£ million	45	47	67	1,417	**1,575**	Calculated
Cost-benefit ratio for private employers with tax		163%	98%	117%	124%	**120%**	Calculated

credits							
Cost-benefit ratio for private employers without tax credits		82%	49%	59%	62%	**60%**	Calculated
Cost-benefit ratio for public services with tax credits		178%	178%	305%	331%	**314%**	Calculated
Cost-benefit ratio for public services without tax credits		89%	89%	152%	165%	**157%**	Calculated
Ratio of public benefit to tax credits for all employers		118%	75%	91%	203%	**133%**	Calculated

Parameters & Assumptions							
Annual unit cost of MS & MH programs	£/employee	100	100	100	100		NU
% tax credit against NICs	%	50%	50%	50%	50%		NERA assumption
Marginal rate of corporation tax	%	20%	25%	30%	30%		NERA assumption
Average weekly wages in private sector	£ per week	477.9	477.9	477.9	477.9		NES 2003
Average weekly wages in public services	£ per week	453.6	453.6	453.6	453.6		NES 2003
Average weekly hours in private sector	hours	39.6	39.6	39.6	39.6		NES 2003

Average weekly hours in public services	hours	37.7	37.7	37.7	37.7	NES 2003
Direct employer wage costs or lost output due to absence as % of weekly wages	%	75%	75%	75%	75%	NERA assumption
Multiplier for improved productivity at work		2.00	2.00	2.00	2.00	NERA assumption
Direct cost to employer of ill-health as % of weekly wages	%	175%	175%	175%	175%	NERA assumption
External costs of MS & MH absence as % of direct costs	%	50%	50%	50%	50%	NERA assumption
Total costs of MS & MH absence as % of weekly costs	%	300%	300%	300%	300%	NERA assumption
% of MS & MH long-term absence costs saved by health programs	%	25%	25%	25%	25%	NERA assumption

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