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Short Report

Better health at work? An evaluation of the effects and cost–benefits of a structured workplace health improvement programme in reducing sickness absence

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ABSTRACT

Background This paper presents the results of an evaluation of the *Better Health at Work Award*—a structured regional workplace health programme which combined changes to the work environment with lifestyle interventions.

Methods Baseline and follow-up data on sickness-absence rates and programme costs were collected retrospectively via a web survey of all participating organizations. Changes over time were calculated using 95% confidence intervals of the mean, supplemented by hypothesis testing using a *t*-test. The indicative cost–benefits of the intervention were also calculated.

Results Participation was associated with a mean reduction in sickness absence of 0.26–1.6 days per employee per year depending on the length and level of participation in the programme. The estimated cost for the programme was £3 per sickness-absence day saved.

Conclusions These results suggest that the *Better Health at Work Award* could be a cost-effective way of improving health and reducing sickness absence particularly in the public sector. However, controlled evaluations of future interventions are needed.

Keywords health improvement, health promotion, intervention, occupational, sickness absence

Introduction

In the UK, around 131 million working days were lost through sickness absence or injury in 2011. Musculoskeletal problems such as back pain caused the greatest number of days lost, while stress, depression and anxiety accounted for around 10% of sickness-absence days.[1] The cost of ill health in the workplace is also high and so there is a strong case for the creation of healthier workplaces to prevent sickness absence.[2] Certainly, previous research into sickness-absence management interventions have found that preventative workplace programmes can be effective in reducing sickness absence.[3,4] In this context, the focus of the discourse on workplace health in the UK has moved towards a more active approach to reducing sickness absence with, for example, both the 2008 Black review of the health of the working age population and the 2011 Black and Frost Independent Review of Sickness Absence, emphasizing the economic benefit of health and wellbeing programmes for businesses and the importance of addressing and reducing sickness absence comprehensively.[5,6]

This paper adds to this important discussion by presenting the results of an evaluation of the effects and cost–benefits of the North East England Better Health at Work Award

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(BHWA). The BHWA evolved in 2009 from several smaller local awards and offers a structured programme which combines changes to the work environment with lifestyle interventions in three consecutive levels: Bronze, Silver and Gold (see Box 1). The award programme was coordinated regionally through Public Health North East at the Strategic Health Authority/Department of Health, funded by the 12 Primary Care Trusts in the North East of England and delivered locally through workplace health promotion specialists.

Methods

Sickness-absence and intervention cost data were requested from all 232 participating workplaces of which 63 (27%)

Box 1

Bronze Award

- Conduct health needs assessment,
- Raising health awareness, participation in three health campaigns or events,
- Mental health and wellbeing promotion,
- Enable healthy food choices,
- Support smoke-free legislation and stop smoking programmes for workforce
- Collection and monitoring of absence rates and causes
- General awareness on health impact of work activities and risk assessment
- On-going staff consultation and communication
- Welfare-drinking water, washing facilities, clean toilets, eating facilities
- Workplace environment conducive to health

Silver Award

- Development and implementation of three health-related policies
- Raising health awareness-participation in four or more health campaigns or events
- Systems in place to monitor and review healthy activities
- Encourage physical activity
- Healthy food choices and healthy eating policy
- Address equality and diversity including the needs of workers with disabilities, carers, pregnant and breastfeeding workers
- Provide health risk reduction strategies for identified risks
- Report and investigate cases of ill health
- Provide information on health risk to contractors and visitors

Gold Award

- Develop three-year health strategy and one-year action plan
- Raising health awareness – participation in five or more health campaigns or events, including one ongoing campaign
- Promote health to families of workforce and in the wider community
- Encourage regular health checks.
- Policies on bullying and harassment including monitoring
- Share good practice and encourage others to participate in the BHWA.
- Raise awareness of and support staff with long-term conditions.
- Annual internal or external audits/inspections of the workplace and systems
- Environmental management systems in place
- Demonstrate innovative ways of addressing workplace health and wellbeing.

Continuing Excellence Award

- Raising health awareness – participation in five health campaigns or events, including more sustainable campaigns
- Provide mentoring to at least one other participation organization
- Promote programme to other organizations
- Compile case study on organization's achievements

provided complete data. Each organization was asked to provide information on company size and sickness absence in the year preceding their involvement in the Bronze award. All companies that had taken part in Bronze, Silver or Gold award schemes were then asked to provide (sickness-absence follow-up) data for the period of that award. Forty-one companies provided baseline and Bronze data, 16 baseline, Bronze and Silver, and six organizations provided baseline, Bronze, Silver and Gold award data. Data were analysed for all workplaces and then stratified by business sector (public compared with private sectors). Ninety-five per cent confidence intervals of the mean were used to assess statistical significance at the 5% level. This was supplemented by hypothesis testing using a *t*-test.

Indicative cost estimates and cost–benefit analysis for sickness absence were also carried out for participating workplaces and the BHWA programme. For participating organizations, the cost–benefit was calculated as the average reduction in sickness-absence days multiplied by the total number of staff and divided by the estimated cost of running each award level. The cost–benefit analysis for the commissioning organization was based on figures for the cost of coordinating and delivering the BHWA programme in 2011. From this figure, it was possible to construct a very approximate estimate of the cost–benefit of the scheme in terms of average number of pounds spent per day gained per staff member. Weights (average days saved per staff member per year) were calculated for each award level and public and private sector organizations separately. Public and private sector organizations were examined separately as the former often has higher rates of sickness absence. Only weights (mean values) of values greater than zero were used under the assumption that the programme cannot causally lead to an increase in sickness absence. The estimate of cost–benefit was made by multiplying the appropriate weight by the number of staff in a particular organization.

Results

Two hundred and thirty-two organizations participated in the programme covering 209 319 employees or 21.4% of the regional workforce, with 49% of the participating organizations from the private sector.

The majority of organizations (>60%) reported an improvement in sickness absence across all the award levels. Figure 1 illustrates the mean reduction in sickness-absence days per full-time equivalent employee per year, across the three award levels, with 95% confidence intervals. Mean reduction values were as follows: Bronze–0.26 [−1.67, 2.20], Silver–1.6 [0.07, 3.13], Gold–1.38 [−0.61, 3.37]. Statistically,

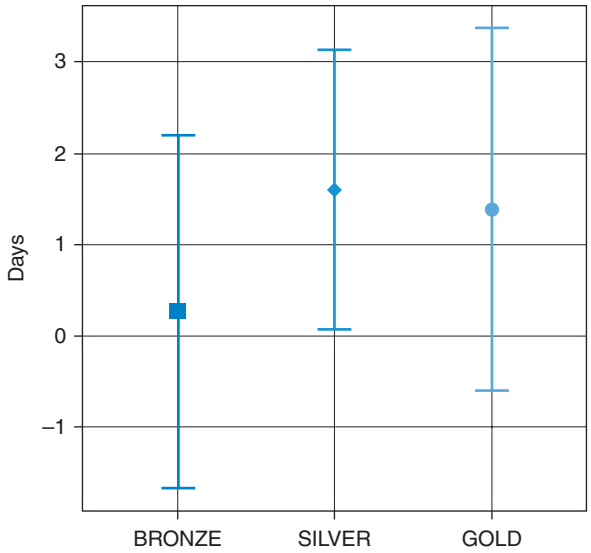

Fig. 1 Mean reduction in days of sickness absence by programme level (mean number of sickness-absence days per full-time equivalent employee with 95% confidence interval).

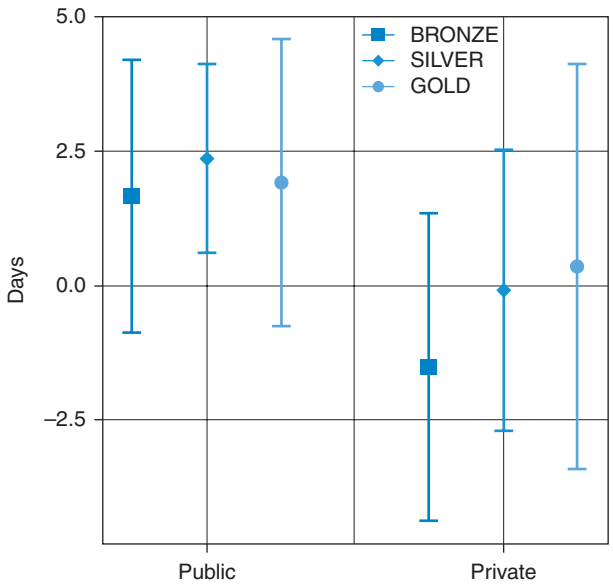

Fig. 2 Mean reduction of days of sickness absence by programme level and employment sector (mean number of sickness-absence days per full-time equivalent employee with 95% confidence interval).

only the Silver award scheme led to a significant decrease in days of sickness absence.

Stratified analysis of public and private sector organizations (Fig. 2) showed that the intervention was only effective in reducing sickness absence in public sector organizations, there was no significant effect on sickness absence in private sector organizations. Within the public sector, again only the

Silver scheme had a statistically significant impact ($t = 2.454$, df = 10, $P = 0.034$) (Table 1).

The average financial cost to organizations operating the Bronze award at the time of the survey was £359, with values of £1808 and £3606 for Silver and Gold, respectively. The cost-per day reduction in sickness absence for organizations was estimated to be £0.90 (Bronze), £3.10 (Silver) and £125 (Gold). Only five organizations contributed sufficient information on the Gold award level calculation and the latter figure in particular is therefore a very tentative estimate. In terms of benefit per unit of financial investment, the estimated values are 1.1, 0.3 and 0.007 days of reduction in sickness absence per pound invested for Bronze, Silver and Gold award levels, respectively. This suggests that the Bronze award level offers the best value for money. For the NHS, the BHWA programme cost a total of £625 141 and the scheme covered 155 543 employees. The average cost of the scheme to the NHS commissioner for 1 day of sickness absence reduced is ~£3 (Table 2).

Discussion

Main findings of this study

The North East *Better Health at Work Award* reached 21.4% of the regional workforce. Across the public and private sectors, there were clear reductions in days lost to sickness absence after participation in the award (Silver award level only) and an indication that benefits (for all award levels) were greater in the public sector. The scheme offered value for money to both employers (at an average cost of £0.90–£125 per day reduction in absence) and the BHWA programme (at a cost of £3 per day reduction in absence).

What is known of this subject

Previous evaluations of the sort of workplace interventions contained within the BHWA-to improve individual lifestyles such as diet, physical activity smoking and alcohol consumption as well as stress and musculoskeletal problems-have also shown that these can be effective in workplaces[7] and that workplace health promotion is effective in preventing and reducing sickness absence.[2–4]

What this study adds

This study adds to the workplace health literature by presenting the results of an evaluation of the effects and cost-benefits of a structured workplace health award. It is consistent with previous research in this area[2–4] and indicates that holistic workplace interventions can be effective in reducing sickness absence–especially in public sector organizations (Table 1).

Study limitations

The low response rate for full data (27%) is a clear limitation to the generalizability of the analysis. Reminder requests were sent to organizations to try to increase the response rate. Causality cannot be established as there was no comparison group of organizations that had not undertaken the BHWA. This is particularly important as contextual factors, such as the concurrent economic recession, could not be taken into account in the analysis. The retrospective nature of the data collection is also a limitation. Further, the accuracy of the data on sickness absence may be limited as large organizations are generally better at collating this information than smaller businesses. To fully determine whether there is a benefit for investing public health resources in schemes like this, a controlled study is required. Only the Silver award achieved a statistically significant effect and this may have reflected the

Table 1 Mean reductions in sickness-absence days by sector and award level.

	Bronze	*Silver*	*Gold*
All (days)	0.26 [−1.67, 2.20]	1.60 [0.07, 3.13][a]	1.38 [−0.61, 3.37]
Public (days)	1.66 [−0.87, 4.19]	2.36 [0.61, 4.12][a]	1.90 [−0.75, 4.56]
Private (days)	−1.52 [−4.38, 1.34]	−0.07 [−2.68, 2.53]	0.34 [−3.42, 4.10]

[a]Significant at 5% level.

Table 2 Cost–benefit analysis of the workplace health programme.

Total employees in responding organizations (n)	*Total cost to the programme (£)*	*Cost per employee (£)*	*Total days of sickness-absence saved (n)*	*Cost to programme per day saved (£)*
155 543	625 141	4.00	215 412	3.00

content of this award level or it may of course be simply a matter of sample size. A repeat study with a larger population and higher response would be required to determine which of these is the case. Finally, sickness absence is only one outcome measure, future studies should also look at effects on health and health behaviours.

Conclusion

Given these limitations, the results should only be taken as indicative. However, the relatively low cost per day of sickness-absence prevention suggests that the scheme has the potential to be highly cost-beneficial, as the Chartered Institute for Personnel and Development estimated that the cost to employers of sickness absence in 2009 was in excess of £90 per day per employee. However, controlled evaluations of future interventions are needed.

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Authors' contributions

T.B. and C.B. drafted the paper with input from M.B., A.K. and E.M. T.B. designed the study and oversaw data collection. C.B. oversaw the analysis conducted by A.K. and M.B.

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