Helping schools to become health-promoting environments—an evaluation of the Wessex Healthy Schools Award

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SUMMARY
The concept of the health-promoting school embodies a holistic, whole school approach to personal and community health promotion. Healthy school award schemes, which are increasing, are seen as one way of helping schools to become health promoting. Many are based on the Wessex Healthy Schools Award scheme (WHSA) which was established in 1993. This paper outlines a 3-year evaluation study of the effectiveness of the WHSA intervention in changing health promotion policy and practice in school, and in influencing health-related knowledge, attitudes and behaviour of pupils. The study design was quasi-experimental, and was conducted in 11 intervention secondary and five control schools. It involved pupils, teachers, support staff, parents, school governors, health promotion officers and education advisers, using a range of quantitative and qualitative tools. The Award process, which is linked to nine key areas of health, lasted 15 months. Changes in school health promotion were assessed by audit; pupils’ health-related knowledge, attitudes and behaviour through self-administered questionnaires; and attitudes and perceptions of staff, parents and governors from semi-structured interviews. The results showed that audit scores for all areas, except physical activity and taking responsibility for health, increased in intervention schools, indicating positive Award-related changes. There was little improvement in healthy food choices, smoke-free environment and developing community links. Pupils’ knowledge, high at the baseline, remained unchanged. Positive effects on smoking uptake and drug use were seen, but little change in healthy eating and physical activity. Older girls made greater progress in all areas. Parents and non-teaching staff strongly supported school health promotion, perceived many benefits of the Award, and wished to be more actively involved. The Award positively influenced the development of a health-promoting school, perceived as an important component of education. Further research is needed into ways of improving pupils’ diet and activity levels, how schools can implement a smoke-free environment, the development of community links, and ways in which a whole school approach can be achieved.

Key words: controlled; evaluation; healthy; schools

BACKGROUND
The health-promoting school
In recent years, in the UK, there has been increasing recognition of the role and importance of school-based health education in providing accurate health-related information for young people and training in skills to make healthy choices. Yet, while studies of the effectiveness of school topic-based health education have proliferated, there is little evidence to show that a traditional, knowledge-based approach works. The negative findings of so many with regard to long-, or even medium-term, health gain (Kishchuk, 1990; Bellew and Wayne, 1991; Klepp
et al., 1994) have confirmed that knowledge alone, which so often has been the end point of much health education activity, is insufficient to empower people to make healthy choices and change behaviours.

Factors which, together, will facilitate effective school health education identified from such research include the following.

- The need to involve parents and families in their children’s health education (Seffrin, 1990; Young, 1993; Denman, 1994).
- The involvement of the wider community (Aaro et al., 1983; Tambini, 1985).
- The importance of a comprehensive, co-ordinated, cross-curricular programme throughout the school career (Denman, 1994).
- The need to combine health education with other health-promoting initiatives in school (Tannahill and Young, 1993).
- The need for a variety of teaching methods and strategies which actively involve students in their learning, focusing on them as individuals and their present needs (Bremberg, 1991).
- The need to develop a role for young people in all decision-making processes relating to health (WHO, 1993; Thomas et al., 1998).

The concept of the health-promoting school embraces all these elements (WHO, 1986; Young and Williams, 1989). It embodies a holistic, whole school approach to personal and community health promotion within a school setting (Parsons et al., 1996). It is not simply concerned with preventing ill health, but also with promoting well-being. It necessarily involves pupils, all staff (teaching and support), regular visitors to the school, parents and governors, and is concerned with curriculum, environment and community (Curriculum Council for Wales, 1994).

Promoting the health of children through schools has been an important global goal of the World Health Organization (WHO) since the 1950s (WHO, 1996, 1997). They have recognized that the link between a child’s health and education is a powerful one, and state that ‘School health programmes that co-ordinate the delivery of education and health services and promote a healthy environment could become one of the most efficient means available for almost every nation in the world to improve significantly the well-being of its people. Consequently, such programmes could become a critical means of improving the condition of humankind globally’ (WHO, 1997: 9). The WHO has further endorsed health-promoting schools by currently supporting their development worldwide, and in Europe through the European Network of Health-Promoting Schools (ENHPS), of which the UK is a member.

Healthy School Award schemes, which provide structured frameworks, health-related targets and external support, represent one way of helping schools become health promoting, a factor identified in the UK Health of the Nation Government White Paper (1992) as facilitating the achievements of stated targets for prevention. The number of UK schemes is growing (BMRB, 1997; Rogers et al., 1998), but there has been no detailed evaluation of their effectiveness in changing the health promotion process and practice, and the health-related attitudes and behaviour of pupils.

Wessex Healthy Schools Award

The Wessex Healthy Schools Award (WHSA) scheme, launched in 1992, has had 306 participating schools. The scheme covers nine key areas—the curriculum, links with the wider community, a smoke-free school, healthy food choices, physical activity, responsibility for health, health-promoting workplace, environment, and equal opportunities and access to health (Rogers et al., 1993). Each key area has a number of statements or targets relating to it which schools work to achieve. The targets may concern school-based changes and initiatives, e.g. provision of health-related information for all staff or healthier choices in the dining room, and those which will incorporate community involvement, e.g. the provision of opportunities for physical activity for regular visitors to the school or a school/community focus on smoking prevention. All the key areas incorporate elements that relate to school management and practice, and to the provision of health-related initiatives and activities.

Schools identify a co-ordinator and select two areas, in addition to the health education curriculum, to develop for three–four terms, supported by local Health Authority or Local Education Authority (LEA) representatives. This support includes a preliminary visit to carry out an audit, help with identifying weak areas and selecting targets for change, and regular contact to ensure that any difficulties are sorted out and that the school remains motivated to achieve the Award. Sometimes supporters also supply health education resources and in-service
(training for staff. The amount of support given varies from area to area according to the needs of the schools. Validation of the Award is performed by OFSTED (Office for Standards in Education) inspectors and is based on how far a school has achieved its targets. Schools are granted an extension of time, where necessary.

The WHSA has grown and developed since its inception, and has become a blueprint for other schemes in the UK. While there is much anecdotal evidence of its success in, e.g. raising the profile of health promotion in schools, the pressure on local resources and the drive towards evidence-based practice made evaluation of the scheme’s effectiveness imperative.

Funding for a detailed, independent evaluation of the WHSA scheme was obtained and the project began in March 1995. This paper describes a 15-month evaluation of the effectiveness of the WHSA in secondary schools, and focuses on the results of an audit of process and policy change in school, questionnaire-based assessment of pupils’ knowledge, attitudes and behaviour, and semi-structured interviews exploring attitudes to and involvement in health promotion of support staff, parents and governors. Other aspects of the study have been written up elsewhere.

THE RESEARCH PROJECT

Early in the evaluation, we undertook a national survey of healthy schools award schemes in 157 health promotion units in the UK, which revealed that 51% already had healthy school awards in their areas (Rogers et al., 1998). This had risen to 73% by 1997 (BMRB, 1997). The study also confirmed the lack of rigorous, independent evaluation of different schemes’ effectiveness.

The overall aim of the project was to evaluate the impact of the WHSA on levels of health promotion activity, organization and functioning of participating schools, and all staff, and to determine the effects on pupils’ health-related knowledge, attitudes and behaviour.

Research design and recruitment of sample

The design of the research was quasi-experimental, and it was hoped to match an Award school with a control school. Random allocation was impossible because of the voluntary participant nature of the Award. Schools joining the scheme were not prepared to be randomized to the control group.

We decided to use secondary schools because the 11–16-year-old age group is an important one, during which early health-related beliefs and attitudes consolidate and dictate future behaviour, and the organization of secondary schools provides opportunity to follow a group in the same school prospectively over time.

The intervention group was recruited from the 15 schools joining the WHSA in autumn 1995. All were invited to participate in the research and 11 became the intervention sample. We approached suitable schools for controls, matched on area and socio-economic factors, but experienced difficulties in recruitment because of internal pressures in schools and possibly because we offered no financial incentives. Five agreed to take part.

Pupil numbers ranged from 440 to 1486, and the percentage of free school meals from 4 to 49%. Staff numbered 27 in the smallest school and 96 in the largest. The pupil sample was mostly white, with between 1 and 20% Asian in a school, and 1 and 2% of Afro-Caribbean origin. These characteristics were represented in both intervention and control groups.

One of the intervention schools withdrew following the baseline because of changes in school senior management.

Methods

This was a pragmatic evaluation, based on the number of schools coming into the Award, which needed to take account of the diversity of school life. We were interested in a range of process and outcome measures, and developed and used quantitative and qualitative tools, linked with the nine key areas. These included school audit; pupil questionnaire and focus group interviews; semi-structured interviews with teaching and support staff, parents and governors; curriculum and policy review; and observations of the school environment and a health education lesson. Only the findings from the audit, pupil questionnaire and semi-structured interviews are dealt with in this paper.

Audit and pupil questionnaires were administered in intervention and control schools, and semi-structured interviews in intervention only. Some of the respondents involved in the semi-structured interviews were different at the follow-up from those at the baseline. All schedules
were piloted in three different schools and amended as necessary. The same researcher carried out all the interviews, apart from focus groups, to ensure consistency and eliminate bias. The structure of the assessments is shown in Figure 1.

### The audit

The use of an audit reflected the practice for LEA or Health Authority supporters to visit participating schools to assess states of health education and promotion, identify weaknesses, select areas for development within the Award and set targets. We expanded and extended the criteria for each key area by including a number of additional questions so that issues were explored in greater depth.

The tool’s content and validity were appraised by an independent group of health education/promotion specialists who also weighted each question within each section, according to perceived importance. Each question was allotted a maximum of 5 points, and sections were given equal weight, enabling scores to be calculated for key areas, and in total.

Three copies were sent to schools for completion by a senior manager and the co-ordinators of Physical Education (PE) and Personal, Social and Health Education (PSHE). The pilot revealed that head teachers were unable to answer all the questions without reference to these

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![Diagram of WHSA Evaluation Plan](image_url)

**Fig. 1:** Diagram of WHSA Evaluation Plan.
colleagues and, when they were involved, there was sometimes a difference in perception amongst the three. The researcher visited schools approximately a fortnight later to facilitate a discussion and produce an agreed master copy. The same process was followed both at the baseline and follow-up.

**Health-related pupil questionnaire**

The questionnaire, based on standard formats (Welsh Heart Programme Directorate, 1986; Balding, 1995), was designed to explore pupils’ knowledge, attitudes and behaviour, and their perceptions of their school environment as a healthy one. It covered the nine key areas, with the inclusion of questions on alcohol and drugs because of government requirements for drug prevention in schools (Department for Education, 1995). We used closed or multiple-choice questions where possible, with Likert scales to explore attitudes, and the questionnaire took between 30 and 45 min to complete. It was self-administered, under teacher supervision, in classroom settings and completed confidentially.

Key marker questions, selected for their importance in demonstrating change, were identified in each section prior to analysis.

Year group 7 (11–12-year-olds) was surveyed at the baseline to capture information about the new entrants and again at follow-up (now Year 8) to allow us to compare findings from the same group over a 15-month period. Year 11 (15–16-year-olds) were surveyed at both the baseline and follow-up to provide a cross-sectional sample of those about to leave school. All respondents in the control schools, 1206 at baseline and 1344 at follow-up, and a random sample (one in three pupils from each school in each year group, selecting a minimum of 30 pupils per year group) of 887 at baseline and 942 at follow-up comprised the group.

**Semi-structured interviews**

Semi-structured interviews (SSI) were developed for use with key staff in intervention schools only—health education co-ordinators, a teacher not involved in health education, governor, parent and members of non-teaching staff, e.g. caretaker, caterer, school nurse.

The interview schedule explored:

- perceptions of school health education and what constitutes a healthy school;
- the degree of consultation with and involvement of support staff and parents in health-related initiatives and policy making;
- knowledge about and active involvement in the WHSA process;
- constraining and facilitating factors in achieving the school’s objectives for the Award;
- the impact of the WHSA at follow-up on the school's organization and management.

Schools selected respondents and arranged confidential interviews which lasted approximately 30 min. The researcher used a ‘tick box’ schedule, which had been developed during the pilot, following a decision not to tape-record the interviews because of some concern amongst support staff and the implications for costs for the project. Participants were not shown the schedule. Seventy interviews were carried out at baseline and 67 at follow-up.

**DATA PROCESSING AND ANALYSES**

All data were analysed using SPSS for Windows (1993). When analysing the responses to the student questionnaires, the unit of analysis was the school. Thus, e.g. the percentage of current smokers (defined as smoking 1+ cigarette a week) was calculated for each individual school. The mean percentage of current smokers for intervention schools, e.g. was then calculated as the mean of the percentage of current smokers for the 10 intervention schools.

When determining the change from baseline to follow-up, the follow-up measure (be it audit score or student characteristic) was subtracted from the baseline. The mean change in scores was then calculated for the intervention and control schools. Tables 1 and 2 display the baseline and change in measures for audit scores and students’ responses, respectively. Figures 2 and 3 compare the changes from baseline to follow-up between the intervention and control schools, for audit scores and students’ responses, respectively. They show the mean difference in changes between intervention and control schools, with a 95% CI (Confidence Interval) for this difference. The position of the mean difference, relative to the vertical line at zero, indicates whether the intervention schools performed better or worse, on average, than the control schools. It should also be noted that both intervention and control schools may have deteriorated from the baseline.
to follow-up, but intervention schools would be considered to have performed better than controls if the deterioration had, on average, been smaller in the intervention schools.

RESULTS

Audit

Intervention and control schools were comparable at the baseline, with average total audit scores of 58.9 (SD = 7.5) and 58.6 (SD = 13.7), respectively. There appears to be some imbalance between the two groups in the areas of a smoke-free environment, taking responsibility for self and equal opportunities and access to health. Scores for taking responsibility for self were already high. Control schools had greater variation in total scores, but it appears that both groups had been well matched regarding the status and practice of health promotion.

The intervention schools made more progress than the controls in all areas apart from physical activities and taking responsibility for oneself, in which there was little change in either group (see Table 1 and Figure 2).

Table 1 also shows that, while total mean scores in the control schools changed little (mean difference = 0.5; SD = 18.6), those in the intervention schools rose (mean difference = 10.8; SD = 7.4). The difference in mean totals (10.3) failed to reach statistical significance ($t = 1.19, p = 0.29, 95\% \text{ CI} = –12.4–32.9$). There was, however, evidence of a differential change in intervention schools in the areas of curriculum, wider community, healthy eating, the environment, and equal opportunities and access to health. It should be noted that healthy eating scores were low at the baseline.

All schools responded positively to the audit and made progress in most key areas. Performance was measured across all areas, even those not targeted for the Award. The two areas where, on average, schools scored poorly were ‘a smoke-free environment’ and ‘healthy food choices’.

Pupil questionnaire

Response rates for Years 7 and 11 at the baseline were 80 and 66\%, respectively, and 76\% for both Years 8 and 11 at follow-up. A major flu epidemic in the autumn of 1995 accounted for the reduced number in Year 11 at the baseline.

Overall, the results reveal few changes in pupils’ health-related knowledge scores between intervention and control schools, but these were generally high at the baseline.

Table 2 and Figure 3 show key measures selected for their importance in demonstrating change. There is little consistency in the results between the four groups of males and females, except in current smoking behaviour, the use of low-risk drugs and the attitude ‘using drugs is
Table 2: A selection of pupil results comparing intervention and control schools at baseline and follow-up

<table>
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<tr>
<td></td>
<td>Intervention</td>
<td>Control</td>
<td>Intervention</td>
<td>Control</td>
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<tr>
<td>% Current smokers</td>
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<tr>
<td>Baseline</td>
<td>16</td>
<td>18</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Change (1997–1995)</td>
<td>6.9 (7.5)</td>
<td>6.2 (2.2)</td>
<td>5.0 (7.8)</td>
<td>3.6 (5.1)</td>
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<tr>
<td>% Probably/definitely smoke when 20</td>
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<tr>
<td>Baseline</td>
<td>17</td>
<td>19</td>
<td>9</td>
<td>14</td>
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<tr>
<td>Change (1997–1995)</td>
<td>8.1 (7.7)</td>
<td>7.4 (6.8)</td>
<td>6.2 (7.8)</td>
<td>4.9 (3.8)</td>
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<td>% Drink alcohol once or &gt; once a week</td>
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<tr>
<td>Baseline</td>
<td>20</td>
<td>49</td>
<td>11</td>
<td>17</td>
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<tr>
<td>Change (1997–1995)</td>
<td>9.1 (8.3)</td>
<td>17.7 (7.9)</td>
<td>6.3 (5.2)</td>
<td>5.1 (2.1)</td>
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<tr>
<td>% Agreeing it is easy to buy healthy meals in canteen</td>
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<tr>
<td>Baseline</td>
<td>105</td>
<td>178</td>
<td>88</td>
<td>155</td>
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<tr>
<td>Change (1997–1995)</td>
<td>43.4 (10.3)</td>
<td>55.2 (7.9)</td>
<td>43.8 (12.7)</td>
<td>48.6 (3.6)</td>
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<tr>
<td>% Having less healthy snacks at breaktime</td>
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<tr>
<td>Baseline</td>
<td>181</td>
<td>248</td>
<td>162</td>
<td>251</td>
</tr>
<tr>
<td>Change (1997–1995)</td>
<td>71.3 (10.2)</td>
<td>76.2 (10.1)</td>
<td>69.9 (11.1)</td>
<td>78.1 (8.8)</td>
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<tr>
<td>% Chose fruit and vegetables as healthy</td>
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<tr>
<td>Baseline</td>
<td>145</td>
<td>199</td>
<td>179</td>
<td>253</td>
</tr>
<tr>
<td>Change (1997–1995)</td>
<td>58.2 (11.9)</td>
<td>59.9 (6.8)</td>
<td>79.8 (9.8)</td>
<td>77.4 (13.6)</td>
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<tr>
<td>% Tried low-risk drugs</td>
<td>3</td>
<td>9</td>
<td>3</td>
<td>5</td>
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<tr>
<td>Change (1997–1995)</td>
<td>1.7 (3.0)</td>
<td>3.1 (3.3)</td>
<td>2.2 (4.6)</td>
<td>1.7 (1.1)</td>
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<tr>
<td>% Agreeing using drugs is exciting</td>
<td></td>
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<td>Baseline</td>
<td>12</td>
<td>23</td>
<td>4</td>
<td>10</td>
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<tr>
<td>Change (1997–1995)</td>
<td>5.0 (5.2)</td>
<td>8.1 (3.7)</td>
<td>2.0 (3.7)</td>
<td>4.0 (4.7)</td>
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<tr>
<td>% Taking part in sports at school once a week or more (not PE)</td>
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<td>Baseline</td>
<td>157</td>
<td>159</td>
<td>113</td>
<td>162</td>
</tr>
<tr>
<td>Change (1997–1995)</td>
<td>62.6 (9.5)</td>
<td>47.4 (12.7)</td>
<td>51.8 (10.3)</td>
<td>51.7 (8.4)</td>
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<tr>
<td>% Change in mean knowledge scores</td>
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<tr>
<td>Baseline</td>
<td>232</td>
<td>297</td>
<td>207</td>
<td>301</td>
</tr>
<tr>
<td>Change (1997–1995)</td>
<td>7.1 (0.8)</td>
<td>7.1 (0.8)</td>
<td>7.7 (0.9)</td>
<td>7.9 (0.6)</td>
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</table>

Helping schools to become health-promoting environments

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where intervention schools consistently performed better than controls across all groups. There is a significant difference, albeit small, in smoking uptake amongst young males in intervention schools compared with those in control schools. Furthermore, there was consistent evidence that older females (Year 11) in intervention schools performed better in every area.

**Semi-structured interviews**

The interviews revealed strong support for health promotion in school, with 98% at the baseline and follow-up stating that it is important. They highlighted the positive contribution that participants felt they could make, when, and if they were actively consulted and involved. Forty-three percent at the baseline, rising to 47% at follow-up—mostly parents and support staff—stated that they had never been consulted about health promotion policies and practice.

The content of health education was seen mostly in terms of healthy lifestyles—diet, smoking, exercise, drugs and sex education. There was a rise during the project, however, in those supporting relationships (from 36 to 46%) and a 2% increase in interest in mental health.

The main components of a healthy school were identified as a clean environment (71%), caring ethos (51%), healthy eating (56%), health awareness (44%) and good manners on display (39%). There were increases in those identifying positive

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**Fig. 2:** Performance of intervention schools in comparison to control schools. ♦ = mean difference in change (from baseline to follow-up) of audit scores with its 95% CI (horizontal line).
Fig. 3: Performance of intervention schools in comparison to control schools. ◆ = mean difference in change (from baseline to follow-up) of pupil responses with its 95% CI (horizontal line).
attitudes (by 32%), good relationships (by 19%), welcoming (by 5%) and good role models (by 14%).

Only 50% of the teachers had received any preparation for teaching health education at initial teacher-training level and, while all of the health education co-ordinators had opportunities for further training through school and locally based in-service training, little was provided for support staff. The provision of drug prevention training increased by 10% during the project.

Respondents were asked about barriers to achieving a healthy school and what facilitated the process. The main barriers were identified as lack of time (35%) and resources (20%), poor facilities (18%) and the catering in school (14%). Facilitating factors included staff commitment (89%), senior management support (41%), staff concern for pupils’ health (59%) and pupil awareness about health (27%).

Although the Award process in the schools lasted for four terms and is marketed as a whole school approach to health, only 23% of all the respondents felt that they were well informed about it at the baseline, rising by 10% at follow-up. There were still 11% at the end who stated that they knew nothing about the Award, even though their school had just received it!

On completion, all respondents, despite the lack of consultation, stated that they believed that the WHSA had had a positive, health-related impact on the schools. Typical comments included, ‘A good preparation for leaving school—a grounding in health’ and ‘There have been great benefits. It has drawn pupils together with a common aim’.

DISCUSSION

This study was carried out against a background of increasing interest in healthy school awards and their effectiveness in advancing positive health-related change in schools. In the UK, the government Green Paper ‘Our Healthier Nation’ has highlighted the importance of healthy school award schemes for improving health in school settings and indicated government intention to establish a national healthy school award.

The strengths of the study lie in it being an evaluation of an existing programme and its controlled design. We employed a range of methods and constructed original tools that enabled us to explore most aspects of school life. The pupil questionnaire response rate was good and using the same researcher largely eliminated observer variability, although it was not possible to undertake blind assessments.

Recruiting control schools was difficult, resulting in a small selection and low power to detect statistically significant results. There is no other similar controlled observation study with which to compare. There were difficulties in accounting for uncontrollable external influences, e.g. media focus on drugs, major staff changes, which may have had a differential effect on our results.

We are also aware that the research did not specifically explore the extent to which the intervention schools achieved a whole school approach to health promotion. The lack of consultation with support staff, parents and governors revealed in the semi-structured interviews, and the number who still knew little or nothing about the scheme, even when their schools had achieved the Award, indicate that it is highly unlikely that a truly whole school approach was accomplished. Although not reported in this paper, the focus group interviews with young people confirmed a lack of awareness amongst the pupils about the WHSA and their own school’s involvement in it.

In addition, we recognize the limitations of the study in assessing the impact of the Award on the school environment. While the audit and policy review revealed some key environmental developments during the 15-month period, the observational tool did not prove to be a reliable indicator of change and highlighted the need for further investigation of evaluation methodology issues for healthy environments (Moon et al., 1999).

Nonetheless, the overall outcomes are encouraging. Intervention schools made progress in all key areas of the audit, except taking responsibility for health and physical activity. Two areas which schools found difficult were working towards a smoke-free environment and healthy eating—despite the fact that the LEAs involved state that schools should be smoke free and catering managers insist that they provide healthy options. It is interesting to note that the Award process had an impact on pupil smoking, even though schools find the area difficult.

The short time for the Award process—four school terms—made it highly unlikely that we would detect sustainable change in pupil health-related outcomes. Low numbers in, e.g. smokers in Years 7 and 8 (ages 11–12) suggest that changes
CONCLUSIONS

While no one aspect of the research has demonstrated conclusively that healthy school awards are effective and that changes have resulted solely from the intervention, the results, when considered together, indicate positive outcomes and benefits for participating schools. More research is needed to see if the changes are robust over a longer time frame and not just dependent on local factors, e.g. school staff and management issues.

This study has highlighted the need for further research into ways of improving pupils’ diet and activity levels, how to target older males in schools effectively in preventive health, and how to involve parents and support staff actively.

It seems likely that a carefully structured and fully supported healthy schools award scheme can influence the development of a health-promoting school, and result in health gain for pupils and members of the school community.

It should be remembered, however, that many pupils and staff were unaware of or knew little about the WHSA in their school, either at the start of the project or at the end. The intervention did not appear to achieve a truly whole school approach to the development of a health-promoting school, and further investigation is needed into ways in which this much proclaimed concept, in which everyone is involved, can be accomplished.

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