Are incentive schemes effective in changing young people's behaviour? A systematic review
Josephine Kavanagh, Ann Oakley, Angela Harden, Alex Trouton and Chloe Powell
Health Education Journal 2011 70: 192 originally published online 1 September 2010
DOI: 10.1177/0017896910375878

The online version of this article can be found at:
http://hej.sagepub.com/content/70/2/192
Are incentive schemes effective in changing young people’s behaviour? A systematic review

Josephine Kavanagh, Ann Oakley, Angela Harden, Alex Trouton and Chloe Powell

Abstract

Objective: To examine the impact of single or dual component incentive schemes on health and social behaviours, in young people.
Design: A systematic review.
Method: Systematic and comprehensive cross-disciplinary searches were conducted to identify research. Following screening for relevance, included studies were quality assessed and data extracted. Both outcome and process evaluation studies were included in either a statistical meta-analysis or narrative synthesis.
Results: Sixteen trials and seven process evaluations were included in the review. There is some evidence to show that incentives are effective in improving single health behaviours, but not complex health behaviours. Incentives had no impact on levels of reported effort, or attendance in education studies. Whilst viewed favourably by young people, incentives did not necessarily translate into improvements in targeted behaviours.
Conclusion: Evidence suggests that incentives schemes do not provide policy makers or practitioners with a simple route to improving young people’s health or other behaviours. However, there is evidence that incentives can be useful in encouraging positive health behaviour change where a simple or single action is required.

Keywords

behaviour change, health promotion, incentives, systematic review, young people

Objective

This paper reports the methods and findings of a systematic review evaluating the effectiveness of direct, behaviour-linked incentives to improve the health-related behaviours of young people. Health-related behaviours in childhood and young adulthood are important in shaping many aspects of adult health. The factors that shape health-related behaviours and their improvement are complex. The use of direct incentives is an increasingly popular strategy for helping young people

Corresponding author:
Josephine Kavanagh, Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre), Social Science Research Unit (SSRU), Institute of Education, University of London, 18 Woburn Square, London WC1H 0NR, UK.
Email: j.kavanagh@ioe.ac.uk
to make positive health choices. In an earlier review of incentive schemes ongoing in the UK we found 37 such schemes spanning health, education and other social behaviours. This approach to behaviour change draws on a well-established tradition of experimental research in psychology grounded in behaviour modification theory. However, employing incentives as an intervention, and particularly with young people, raises complex questions. How do recipients interpret the meaning of incentives in relation to their own feelings of self-determination and competence? Does the paternalism of the incentives approach interfere with effectiveness? If incentives work, how do they work? Is universal, or targeted provision most effective? Incentives are commonly offered as part of multi-component interventions, but are they effective as a single component in a simple intervention? Are incentives best used to generate short-run effects for relatively simple goals? Are there differences in acceptability for different social groups; is there a dose effect, and does the setting in which incentives are offered matter? Importantly, incentives may increase participation in a programme but have no direct impact on the target behaviour.

A number of systematic reviews of incentives in health care contexts have been conducted, but none have focussed on the use of incentives with young people in a range of contexts. The case for a systematic review to examine the effectiveness of incentives in improving young people’s health is made in the UK government’s Public Health White Paper *Choosing health*. Our review was commissioned by the Department of Health (England) to fill this gap; it was preceded by a scoping exercise which located a considerable body of potentially relevant evidence. An important objective of the review was to examine the transferability to the public health domain of evidence from incentive schemes in non-health areas. The review is distinctive in that it assesses the impact of incentive schemes across a wide range of evidence, and employs methods for pooling data from cluster trials, and process evaluations.

**Methods**

The review used standard systematic review methods, and was conducted in two stages: a broad descriptive map of the available research evidence, followed by an in-depth review focussed on a narrower question. The in-depth review contained a synthesis of both effectiveness and process evaluation data. Full details of the review methods are available elsewhere. In this paper we focus on the methods and findings of the in-depth review.

The question for the in-depth review, chosen with the help of a multi-disciplinary consultation group, was:

> What is the best available evidence of the effectiveness of single or dual component interventions to improve health, educational and other social behaviours in young people?

We defined ‘incentives’ as any tangible benefit externally provided with the explicit intention of promoting positive health, educational or social behavioural change. Academic achievement alone was not defined as a positive behaviour unless accompanied by an analysis of the time and/or effort expended to achieve.

**Identification and selection of studies**

Searching across different subject domains required the use of a wide range of sources. This included research databases and registers; indexes of key journals; the reference lists of key papers; websearches; personal contacts; and direct requests to key informants. We developed highly sensitive
search strategies using controlled vocabulary and free-text terms for ‘incentives’, combined with terms for young people, health promotion/care, and relevant behavioural outcomes from the disciplines of education, social sciences, psychology and criminology.

Studies included in the in-depth review had to:

- focus on incentives as a central component;
- be targeted at young people aged 11–19 years;
- be published in English from 1985 onwards;
- be a report of an evaluation of an incentives intervention measuring the effect on one or more outcomes, or the report of a related process evaluation;
- and be concerned with either single or dual component interventions.

All included studies underwent data extraction and quality assessment using a standardized tool. Studies were considered to be methodologically sound if they met four core methodological criteria developed in previous EPPI-Centre health promotion reviews. These were: findings reported for each outcome measure listed in the aims of the study; a control/comparison group equivalent to the intervention group on sociodemographic and outcome variables, or selected using randomization; and pre-intervention and post-intervention data reported for each study group. As these criteria only capture some of the known sources of possible bias and do not distinguish between quality of method and quality of reporting, we also included studies which we considered ‘sound despite’ not meeting all four criteria (e.g., studies in which full pre-intervention data were not reported but the authors stated that there were no baseline differences). In studies where there was more than one incentive group, we analysed the group with the most intensive intervention (e.g., incentive plus peer support rather than incentive alone). Where there were more than two follow-up time periods, we used the first and last only.

Data from outcome evaluations were entered into a meta-analysis using EPPI-Reviewer software. Standardized mean differences (SMDs) accompanied with standard errors were calculated as the standard effect size. We used Hedge’s adjusted g formula for continuous data and when combining continuous and dichotomous data. For dichotomous data, risk ratios (RR) using a random effects model were calculated. The approach taken used methods for analysing cluster trials described by White and Thomas. When calculating the standard deviation with this type of study, the design effect of the study needs to be taken into account. Methods for computing this require both the cluster size and the intra-class correlation (ICC). In our review only one study reported an ICC: we therefore imputed an ICC of 0.02 for the remaining cluster trials. A detailed description of the methods for calculating and pooling effect sizes in this review is available elsewhere.

When interpreting the results, a RR with a value bigger than 1.0 favours the experimental group (e.g., a RR of 1.25 means that the experimental group is 25 per cent more likely to have the outcome of interest compared to the control group). The SMD is the percentage of the control group’s average score that is exceeded by the average score of the experimental group (e.g., an SMD of 0.8 means that the score of the average person in the experimental group is higher than the scores of 80 per cent of the control group).

When the review was conducted methods for assessing the quality of process evaluations, were in the early stages of development. Process evaluation data relating to methodologically sound or ‘sound despite’ studies were included without methodological assessment. Process data were categorized according to six factors which may have affected the implementation or impact of the intervention: acceptability, implementation/delivery; accessibility; intervention content; human
resource issues and, finally, costs. Common themes were identified across these headings and the findings combined in a narrative synthesis.

Results

Figure 1 describes the flow of literature through the review. Sixteen controlled trials met the inclusion criteria and were judged to be methodologically sound or ‘sound despite’. Seven of these included formal process evaluations.

Nine trials were conducted in the USA, two in the UK and one each in Canada, Finland, Germany and the Netherlands. They fell into three groups: nine were concerned with health behaviours, six with educational behaviours, and one study looked at other social outcomes. Below we consider each of the three groups of studies and the contribution made by the process data.

Details of studies included in the meta-analyses are summarized in Table 1.

Health behaviours

Three of the nine health studies looked at interventions provided to young mothers. Two of these evaluated the use of gifts to encourage early post-partum clinic attendance. The third examined the capacity of incentives plus peer support to reduce repeat teenage pregnancy. A
**Table 1.** Studies included in meta-analysis

<table>
<thead>
<tr>
<th>Study design (Author, year)</th>
<th>Intervention details</th>
<th>Population</th>
<th>Outcomes</th>
<th>Effect (Risk Ratio/RR, Standardised Mean Difference/SMD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health related studies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RCT (Smith et al., 1990)</td>
<td>Setting: USA, family planning and teen health clinic in a county general hospital. Intervention: Incentive only – either vouchers for baby milk or an item of costume jewellery.</td>
<td>N = 534 Female teenage parents, authors describe as ‘indigent’, mean age 15.7 years +/- 1.6</td>
<td>Attendance at post-partum clinic</td>
<td>RR 1.34 (95% CI, 0.94, 1.91)</td>
</tr>
<tr>
<td>RCT (Stevens-Simon et al., 1994)</td>
<td>Setting: USA, adolescent maternity clinic. Intervention: Incentive alone – ‘Gerry Cuddler’ (baby sling).</td>
<td>N = 240 Pregnant teenagers, low SES, mean age 17.2 years +/- 1.2</td>
<td>Attendance at post-partum clinic</td>
<td>RR 1.38 (95% CI, 1.13, 1.70)</td>
</tr>
<tr>
<td>RCT (Stevens-Simon et al., 1997)</td>
<td>Setting: USA. Intervention: Peer support, plus incentive – a dollar a day given for every day participants not pregnant at a monthly pregnancy test.</td>
<td>N = 179 Teenage mothers</td>
<td>Repeat teenage pregnancies</td>
<td>SMD –0.11 (95% CI, –0.47, 0.24)</td>
</tr>
<tr>
<td>Cluster trial (non-random) (Vartiainen et al., 1996)</td>
<td>Setting: Finland, secondary schools (7th and 8th grades). Intervention: Smokefree Class Competition, if whole class is successful in not smoking they are entered into a lottery for financial prizes.</td>
<td>N = 97 classes (N = 1693 individuals) Average age 14 years</td>
<td>Daily smoking</td>
<td>RR 1.06 (95% CI, 1.01, 1.12)</td>
</tr>
<tr>
<td>Cluster trial (non-random) and process evaluation (Wiborg and Hanewinkel, 2002)</td>
<td>Setting: Germany, secondary schools. Intervention: Smokefree Class Competition, successful classes are entered into lottery with substantial prizes (eg, class trip abroad).</td>
<td>N = 131 classes (N = 2142 students) Aged 11–14 years</td>
<td>Daily smoking</td>
<td>RR 1.06 (95% CI, 1.03, 1.09)</td>
</tr>
<tr>
<td>RCT (Morisky et al., 2001)</td>
<td>Setting: USA, two tuberculosis clinics. Intervention: Peer counselling and parent-participant contingency contract (incentive agreed between young person and parent).</td>
<td>N = 794 Mean age 15.2 years +/- 1.9</td>
<td>Tuberculosis treatment adherence</td>
<td>SMD 0.18 (95% CI, –0.02, 0.38)</td>
</tr>
</tbody>
</table>

(Continued)
Table 1. (Continued)

<table>
<thead>
<tr>
<th>Study design (Author, year)</th>
<th>Intervention details</th>
<th>Population</th>
<th>Outcomes</th>
<th>Effect (Risk Ratio/RR, Standardised Mean Difference/SMD)</th>
</tr>
</thead>
</table>
| Cluster RCT and process evaluation (Unti et al., 1997) | Setting: USA secondary schools (7th grade)  
Intervention: Education about hepatitis B vaccination, and peer incentives (eg, class given ice cream or pizza) and individual incentives (scholastic credits) | $N = 4$ schools  
$(N = 1429$ students)  
Age 13–14 years | Return of parental consent forms for hepatitis B vaccination | RR 1.31 (95% CI, 1.02, 1.25) |
| Trial (non-random) (Richter et al., 1998) | Setting: USA, orthodontic offices  
Intervention: Report card and incentive – range of rewards for short and long term compliance | $N = 144$  
Age between 9.5 and 17.5 years (High and low compliance with separate control groups) | Orthodontic treatment compliance | SMD 0.26 (95% CI, −0.31, 0.83)  
SMD 0.28 (95% CI, 0.29, 0.85) |
| Education related studies | | | | |
| RCT and process evaluation (Baumert and Demmrich, 2001) | Setting: Germany, secondary school  
Intervention: Incentive alone – financial reward (DM 10) for scoring more in national mathematics test than predicted | $N = 307$  
Age 15 years | Effort expended on test achievement | SMD –0.19 (95% CI, −0.51, 0.12) |
| RCT (O’Neil et al., 1996) | Setting: USA, secondary school (grade 8)  
Intervention: Incentive alone – financial reward ($1) for each correct item in national mathematics test | $N = 648$  
Mixed sex  
Age 13–18 years.  
(8th and 12th grade with separate control groups) | Effort expended on test achievement | SMD 0.22 (95% CI, 0.01, 0.43)  
SMD 0.14 (95% CI, −0.09, 0.37) |
| RCT and process evaluation (Leuven et al., 2003) | Setting: The Netherlands, university (first year)  
Intervention: Large (681 Euros) v small (277 Euros) financial reward for passing first year course | $N = 165$  
Mixed sex  
Age assumed to average between 18 and 19 years | Effort expended on exam achievement | SMD –0.05 (95% CI, −0.36, 0.25) |

(Continued)
further three of the health studies focussed on anti-smoking interventions. Hovell and colleagues evaluated an intervention conducted in orthodontist practices, which provided orthodontists with 50¢ per ‘anti-smoking prescription’ provided to young patients. The other two smoking studies evaluated competitions to encourage school classes to remain smoke free. The final three health studies focused on incentives and peer support to encourage TB treatment; class incentives to encourage participation in a school-based hepatitis B vaccination programme; and gifts and tokens to ensure completion of orthodontic treatment.

When outcome data from all nine studies were combined, incentives were shown to have a statistically significant positive impact (SMD 0.17 (CI 0.07, 0.27)). However, given the range of interventions and contexts of the included studies, it is unsurprising that we found considerable statistical heterogeneity with this result, and as such the results should be interpreted with caution.

We analysed separately three studies which measured single health behaviours, three that measured multiple health behaviours, and three studies concerned with smoking.

Two of the three studies in the single health behaviour group used gifts to encourage postpartum clinic attendance among young mothers. Smith and colleagues randomized women to either a no-incentive control group or to one of two incentive-based intervention groups and examined the effect on post-partum clinic attendance within four to six weeks of giving birth (for the meta-analysis, we combined the two intervention groups). In a study by Stevens-Simon et al., women were randomized either to a no-incentive control group or to a group offered a baby sling for attendance within eight weeks of giving birth. The third study targeted vaccination levels. Four schools
were randomized to a no-incentive control group or to individual or group incentives for returning signed forms agreeing to hepatitis B vaccination\textsuperscript{30}.

Incentives significantly increased the rate of positive single event health behaviours (RR 1.23 (CI 1.06, 1.43)) (see Figure 2). When data from the highly homogenous interventions measuring the impact of incentives on post-partum clinic attendance were combined in a meta-analysis, the positive effect increased and remained statistically significant (RR 1.37 (CI 1.15, 1.64)).

Three studies measured more than one health behaviour or more complex behavioural outcomes. Morisky et al randomized young people who receiving treatment for latent tuberculosis to a control group or one of three intervention groups: peer support; contingency contract with their parents (an incentives intervention); or a combination of the two (data from the combined intervention group were used in our analysis)\textsuperscript{31}. In a non-randomized controlled trial, Richter et al evaluated the impact of two interventions: gifts or vouchers exchangeable for gifts – the ‘incentives’ group – versus a report card on adherence to orthodontic treatment\textsuperscript{32}. Stevens-Simon et al evaluated ‘The Dollar a Day Program’ which aimed to prevent repeat teenage pregnancy\textsuperscript{33}. Teenage mothers were randomized to one of four groups: an incentive group; a weekly peer support group; incentives plus peer support; or a usual post-partum care group (data from the incentive plus peer support group were used).

When the results of these three studies were pooled, incentives had no overall effect (SMD 0.13 (CI –0.02, 0.29)). See Figure 3.

Three studies evaluated the use of incentives to either delay the onset of, or reduce levels of, smoking. Hovell and colleagues paid orthodontic practitioners 50¢ for each anti-smoking prescription they handed out\textsuperscript{34}. Outcome measures were reported initiation of tobacco use and smoking on more than 100 occasions (the latter outcome was entered into the meta-analysis). Two studies evaluated class-based no-smoking competitions. ‘The No Smoking Class Competition’ was evaluated in a controlled cluster trial\textsuperscript{35}. The target is for the class to remain smoke-free for the duration of the competition. The international ‘Smokefree Class Competition’ where classes sign a class contract agreeing to remain smoke free for 6 months was evaluated in a controlled cluster trial\textsuperscript{36}. In both studies successful classes are entered into a prize draw.

\begin{table}
\centering
\begin{tabular}{|l|l|l|l|}
\hline
Item & Effect (CI) & Weight % & Size \\
\hline
Single health behaviour changes & & & 0.50 & 1 & 2.01 \\
\hline
Smith et al (1990) & 1.34(0.94, 1.91) & 14.2 & 363 & & \\
Stevens-Simon et al (1994) & 1.38(1.13, 1.70) & 30.9 & 240 & & \\
Unti et al (1997) & 1.13(1.02, 1.25) & 54.9 & 1429 & & \\
1.23(1.06, 1.43) & & & & & \\
\hline
\end{tabular}
\caption{Impact of incentives on single health behaviour changes}
\end{table}
When the results of these studies were pooled, incentives were shown to have no effect (RR 1.04 (CI 1.00, 1.08)) at either the first or second follow up period (RR 1.03 (CI 1.00, 1.06)). However, there was a high level of statistical heterogeneity in these analyses. This was not present when data taken from the two school-based anti-smoking competitions were pooled. Meta-analysis showed a statistically significant positive impact on reported daily smoking rates at both first follow up (RR 1.06 (CI 1.03, 1.09)) and one year follow up (RR 1.05 (CI 1.02, 1.08)). Whilst potentially impressive in terms of the global public health agenda, these findings should be interpreted cautiously. They are based on only two studies reliant upon self-reports of smoking behaviour. The reliability of these measures may have been affected by ‘social desirability bias’, and a potentially greater ‘incentive’ for the intervention groups to under-report their levels of smoking.

**Educational behaviours**

Six studies evaluated interventions with educational outcomes. These examined the impact of incentives on attendance or effort applied to school/college work. One study, an evaluation of the Educational Maintenance Allowance (EMA) scheme was not included in a meta-analysis with the other studies, as it did not measure comparable outcomes. The overall effect for the educational studies showed incentives to have no impact (SMD 0.07 (CI -0.09, 0.23)). We also considered separately those studies which measured effort applied to work, and school attendance outcomes.

Three studies reported levels of effort or time spent on school work. Baumert and Demmrich evaluated the use of financial incentives in raising effort and achievement in a German national mathematical literacy test. The experimental group were offered DM10 for correctly answering more than would be expected on the basis of previous grades. A similar randomized controlled trial was conducted in the USA by O’Neil and colleagues. A three-arm trial at the University of Amsterdam examined the impact of large (€681) or small (€227) financial rewards on effort and achievement in first year students’ exams.
Meta-analysis showed financial incentives to be ineffective for increasing levels of effort applied to tests or exams (SMD 0.06 (CI –0.12, 0.23)).

Two studies looked at school attendance. Licht and colleagues evaluated the use of a social reinforcement and points-based incentive scheme (points being exchangeable for gifts) for improving class attendance and punctuality. Reid and colleagues investigated the use of financial incentives to improve grades and attendance among teenage girls considered to be at risk of school failure. Girls were offered either monetary incentives or a case-management programme in which they, their teachers, parents and social workers devised strategies to help the girls improve.

When data from these studies were pooled, incentives were shown to have no impact on attendance levels (SMD 0.23 (CI -0.43, 0.89)).

The Educational Maintenance Allowance (EMA) is a large UK government initiative providing means-tested weekly payments directly to young people who stay on beyond compulsory education. The main quantitative evaluation of the EMA by Middleton and colleagues, showed that EMA significantly increased the proportion of urban young people in full-time education at age 18 years (3.5 per cent more in intervention than control areas). A significant reduction was seen in the percentage of urban young people in full-time work with training (−5.1 per cent) and in full-time work without training (−5.4 per cent), but little difference was seen in the percentage who were not in employment, education or training. This effect did not remain when followed up at age 19 years. No evidence of effect was demonstrated in rural areas.

**Social behaviours**

A Canadian study evaluated the impact of an anti-poverty initiative targeting single parent welfare recipients (mainly mothers). The Self-Sufficiency Project (SSP) offered a financial supplement to increase parents’ earnings, so that work paid better than welfare. A wide range of family outcomes was measured, and the findings have been published in a number of reports. Our analysis included behavioural and emotional well-being outcomes for children (aged 14–20 years). There were no differences between the intervention and control groups on any health measures. Small but significant unfavourable effects were found in some measures of behaviour and emotional well-being at the first follow up (36 months). Young people in the SSP group reported higher levels of alcohol intake (effect size 0.20, \( p < 0.05 \)) and drug use (effect size 0.12, \( p < 0.01 \)). In young people aged 15 to 18 years the frequency of minor ‘delinquent’ behaviour significantly increased (0.21, \( p < 0.05 \)). None of these unfavourable effects remained significant at the final (54-month) follow up.

**Process evaluation findings**

As noted earlier, seven of the 16 trials included process evaluations. All of these presented data on the acceptability of incentives to providers, young people and their parents. Most studies investigated process issues regarding facilitators and barriers to implementation, and the accessibility and reach of the programme. Coverage of other process issues relating to intervention content, human resource issues and cost-effectiveness was scanty.

In all cases incentives were perceived favourably, particularly when used in a straightforward way to reward a single behaviour. However, whilst some young people said that incentives increased self-motivation, this did not necessarily translate into improvements in targeted behaviours. Young people stressed the importance of an achievable target, and in relation to education studies they emphasized that additional help and support to develop the skills required would have been appreciated. Some young people who failed to reach targets despite their efforts had negative reactions, including lowered self-esteem.
Conclusion

Changing health-related behaviours is complex. Offering material incentives appeals to a certain logic, but robust evidence is needed before incorporating this approach into health promotion policy, particularly since the values underlying the incentives approach (that people need to be rewarded for behaving ‘well’) have considerable public health and social policy implications. A theme in the ongoing debate about the impact of incentive schemes is whether the use of extrinsic rewards discourages the development of the intrinsic motivation that is needed for sustained behaviour change, especially perhaps for complex health behaviours. Resolving such issues is made more difficult because in the research literature incentives are often ill-defined and poorly documented, periods of follow up are short, and attempts at evaluation are sketchy. For example, few of the 37 ongoing incentives schemes in the UK identified in our earlier study incorporated a rigorous evaluation plan. Where evaluations have been done, there are methodological challenges for systematic reviewers. Different methods for quality appraisal and data synthesis of individual or cluster randomized or non-randomized trials, and process evaluations are required, and some of these methods are emerging techniques. Since conducting this review newer methods for quality appraising process evaluations have been reported.

Our review was driven by important policy questions about whether any areas of public health might benefit from single or dual component incentives schemes. Within the health domain we found that non-financial incentives were more effective than financial incentives. We found evidence that suggests that incentives are most successful in encouraging non-complex single health behaviour changes. This has potentially important public health consequences where a single behaviour has a long-term impact on health (eg, immunization). None of the health studies evaluated higher- versus lower-value incentives. Data taken from education studies showed no impact of incentives on either attendance or effort. Sustained behaviour changes relating to effort and attendance in education may require more complex multi-component schemes providing pupils with additional support in order to achieve the required behaviour.

In designing incentive-based interventions, it is important to recognize the potential for harm, such as undesirable kinds of peer pressure and reduced self-esteem. Target behaviours need to be achievable, logged and rewarded consistently. Large-scale incentive-based schemes in particular require staff with the necessary skills and commitment to support young people through a scheme, and in turn such schemes require sound systems in place to support them.

Our findings are not dissimilar to those of the five systematic reviews of incentive-based interventions in the health domain we identified. These reviews addressed somewhat different research questions with different populations, and only one was similar to ours in its focus on single or dual component interventions. Our overall finding that incentives have a beneficial effect is consistent with three of the reviews. Giuffrida and Torgerson considered the use of incentives to enhance ‘patient compliance’. They included eleven reports of randomized controlled trials, ten of which showed improvements in patient compliance with treatment. A systematic review of the effect of incentives on ‘consumers’ preventive behaviour’ reached a similar conclusion. Kane and colleagues included 47 randomized controlled trials; they found that incentives worked 73% per cent of the time, and were most effective ‘in the short-run for simple preventive care’ (p.327). Achat and colleagues evaluated the use of incentives in childhood immunizations. They included eight studies and concluded that ‘groups receiving the incentives were up to three times more likely to be immunized and had overall immunization rates up to 17% higher than comparison groups’. Our finding of a positive effect on smoking behaviours in young people is in keeping with one of two systematic reviews. One review of competitions and incentives for smoking cessation found no
evidence of effect\textsuperscript{10}, while the other which evaluated ‘Quit and Win’ contests found significantly higher quit rates for the intervention group, although the authors noted that the population impact of the contests was relatively low\textsuperscript{13}.

The review described in this paper systematically identified and synthesized research on the effectiveness of single or dual component incentives schemes to encourage positive behaviour changes in young people. A striking finding for health promotion and public health policy in the UK is that only two of the included studies were carried out in the UK. The international evidence suggests that incentive schemes do not provide policy makers with a simple route to improving young people’s health behaviours. However, there is evidence that incentives can be useful in encouraging positive health behaviour change where a simple or single action is required.

Acknowledgements

The authors are, or were, employed at the EPPI-Centre which was established in 1993 to address the need for a systematic approach to the organization and review of evidence-based work on social interventions. Through a series of reviews funded by the Department of Health (England), the team has been developing methods to synthesize different types of studies in a systematic and rigorous way.

Funding

The EPPI-Centre receives funding from the Department of Health (England) to provide a Health Promotion and Public Health Reviews Facility. The opinions expressed in this paper are not necessarily those of the EPPI-Centre or the funders. Responsibility for the views expressed remains solely with the authors.

References


