

Public health intervention guidance on promoting the social and emotional wellbeing of young people in secondary education

Synopsis of the evidence and economic modelling

Introduction

This synopsis aims to provide an overview of the conceptual rationale for the promotion of social and emotional wellbeing among young people in secondary education (using whole school approaches); and also the methodological approach to reviewing the evidence. The executive summaries of a review of effectiveness¹ and a cost effectiveness review² are included in appendix A and B respectively.

Overall this work sought to identify which 'whole-school' approaches and activities are effective and cost effective in promoting young people's emotional, social and psychological wellbeing and preventing bullying and violent behaviour? In particular we were interested to collect evidence which identified:

What are the key features of an effective and cost-effective 'whole-school' approach?

What types of lessons (scope, content, frequency, length, method) are most effective and cost effective?

What are the most effective and cost-effective ways of protecting young people who are vulnerable to poor social and emotional health during key transition stages?

What is the best (and most cost effective) way to ensure 'whole-school' approaches are sensitive to specific cultural, religious and ethnic needs?

¹ Blank L et al (2008). Systematic review of the effectiveness of universal interventions which aim to promote emotional and social wellbeing in secondary schools University of Sheffield

² Hummel S et al (2008) Cost-effectiveness of universal interventions which aim to promote emotional and social wellbeing in secondary schools.

What is the role of teachers, other school-based practitioners and specialists (such as educational psychologists, counsellors, therapists or school nurses) and other professionals (such as youth workers) in ensuring young people's social and emotional wellbeing?

What role should young people play in the design, delivery and assessment of 'whole-school' approaches? What are the most effective ways of involving them in decision-making?

What is the role of governors and parents?

How can schools effectively engage with parents living in disadvantaged circumstances?

What mechanisms ensure effective links with external agencies (including youth services)?

What is the role of voluntary and community agencies?

What is the best way of evaluating the impact of different approaches?

What are the barriers to – and facilitators of – effective implementation?

Conceptual Approach

This guidance is the second in a 'suite' of intervention guidance on the promotion of the social and emotional wellbeing of children and young people. Guidance on the promoting the social and emotional wellbeing in primary education was published 2007 (<http://www.nice.org.uk/Guidance/PH12/Guidance/pdf/English>). Recent referrals aim to cover the promotion of social and emotional wellbeing in pre-school children and in the home.

A common conceptual framework needs to inform the development of this suite of guidance. There is also opportunity to advance methodologies for review of evidence in the light of the revised public health guidance manuals.

Definitions

For the purposes of guidance development, a positive definition of mental wellbeing has been adopted. The term social and emotional wellbeing is used, comprising three dimensions (below) with associated indicators:

- emotional wellbeing (including happiness and confidence, and the opposite of depression)
- psychological wellbeing (including autonomy, problem solving, resilience, attentiveness/involvement)
- social wellbeing (good relationships with others, and the opposite of conduct disorder, delinquency, interpersonal violence and bullying).

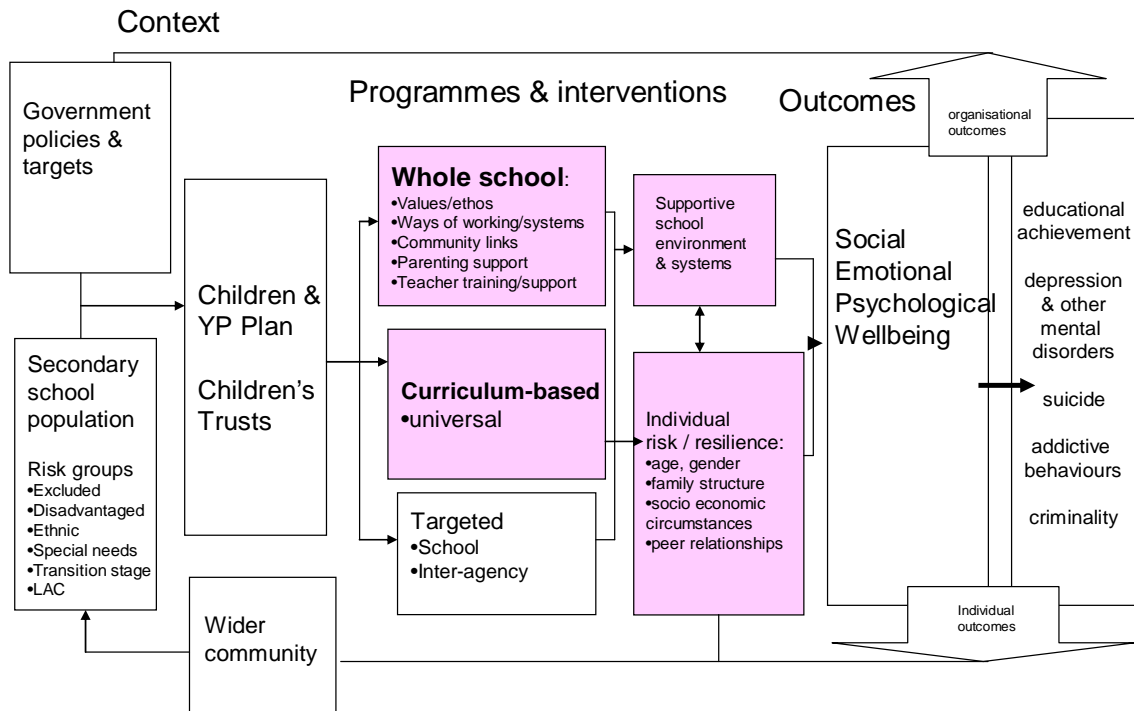
This definition is consistent with education policies and language.

The conceptual rationale for the guidance is based on the life course perspective.

Essentially good social, emotional and psychological health helps protect children against emotional and behavioural problems, violence and crime, teenage pregnancy and the misuse of drugs and alcohol (Adi et al. 2007). It influences future trajectories of educational attainment, employment and social position, and consequently impacts on patterns of health inequalities in adulthood (Graham & Power 2004).

The logic model below maps the conceptual links between local governance mechanisms, interventions and outcomes.

Framework: Young people's wellbeing & secondary education



Source: Killoran 2008

Review of the evidence –methodological approach

The experience of development of the guidance on social and emotional wellbeing in primary education has informed the review process for secondary education. In particular, previous review work demonstrated the dearth of high quality evaluation studies of whole school approaches in this area. There is a lack of UK studies, with much of the evidence drawn from the US. Also economic modelling must acknowledge the consequences for education and criminal justice, ie the costs and benefits beyond the health sector. We have consequently extended the types of evidence to be considered in order to address more fully the scope questions and maximise relevance to the English context. The list below summarises these different types of evidence from research and practice to inform the guidance.

Types of Evidence

Systematic review of effectiveness (see appendix A)	Trial studies of whole school approaches (universal)
Cost effectiveness (see appendix B)	Review of literature
	Modelling: multi sectoral perspective

Selected case studies

Demonstration of effective approaches identified in effectiveness review in English context

Mapping review of current policy, practice and evaluation

Identifies relevant English policies and programmes and related evaluations-context of guidance

References

Adi Y, Killoran A, Janmohamed K, Stewart Brown S. (2007) *Systematic review of the effectiveness of interventions to promote mental wellbeing in primary education*. Report 1: universal approaches which do not focus on violence and bullying. London: National Institute for Health and Clinical Excellence

Graham H, Power C (2003) *Childhood disadvantage and adult health: a lifecourse framework*. London: Health Development Agency

APPENDIX A: EXECUTIVE SUMMARY – REVIEW OF EFFECTIVENESS

Objectives

This review was undertaken to support the development of NICE guidance on promoting emotional and social wellbeing in secondary schools. It provides a systematic review of the published literature on the effectiveness of school based interventions, which aim to promote emotional and social wellbeing among young people in secondary education, which take a universal (non-targeted) approach.

This review was preceded by a mapping review to describe the available literature in the full range of interventions which aim to promote emotional and social wellbeing in secondary schools. The aim of the mapping review was to identify key areas within the literature on which to focus this effectiveness review. The mapping review identified four key groups of studies according to the focus of interventions as follows:

- interventions that aimed to promote prosocial skills and behaviours,
- interventions to reduce bullying and disruptive behaviours.
- interventions to improve mental wellbeing , and
- interventions designed to meet objectives related to healthy schools and school safety policy.

The first two groups of studies directly addressed the scope questions, and were included in the critical appraisal. Interventions with specific mental wellbeing objectives was excluded as there was a strong focus on targeted interventions. Studies of healthy schools/school safety were excluded as the literature was strongly focused on theory and policy implications.

Background

There are many ways to define wellbeing. The review was based on the definition of social and emotional wellbeing as stated in the scope. This definition encompasses three domains:

- Emotional wellbeing (including happiness and confidence, and the opposite of depression/anxiety)
- Psychological wellbeing (including resilience, mastery, confidence, autonomy, attentiveness/involvement, and the capacity to manage others and to problem solve)
- Social wellbeing (good relationships with others, and the opposite of conduct disorder, delinquency, interpersonal violence and bullying).

In order to focus on universal approaches (in line with the scope) this review focuses on a subset of the literature on emotional and social wellbeing in secondary schools by focusing on interventions which aim to promote prosocial skills and behaviour or to prevent bullying and disruptive behaviours. This reflects the differentiation between promotion (of prosocial behaviour) and prevention (of problematic behaviour) which is prominent in the literature. Studies were categorised in terms of their overall primary aim and focus, although several studies had outcome measures which represented change in several types of behaviours.

Interventions to prevent further bullying and disruptive behaviours addressed levels of: bullying, violence, aggression, victimisation, and delinquency, where these were related to wellbeing outcomes. Interventions to promote prosocial behaviours and skills included interventions to promote: positive behaviour change, conflict resolution, social competency, resilience, peer support, coping with change, and successful school transit. Although this is not an exhaustive list, these terms were largely selected through an analysis of terms used by the papers identified through the mapping review which preceded this effectiveness review and were augmented following advice from topic specialists. For the purpose of this review, papers were initially categorised according to the stated focus of the intervention (ie defined by author) and the outcomes measures used. They were then categorised in terms of their methodological quality, results obtained and relevance to the UK context.

Methods

The challenges in searching for evidence to inform public health guidance are widely recognised (Spring 2008 and Pawson 2005). In order to address these challenges, the review team built upon the existing search methods (CPHE Methods Manual) to allow for a process in which the scope of relevance was explored and informed by the search process. A targeted approach to the identification of evidence was taken. Instead of aiming to identify the relevant literature for a specific question using one search, we adopted an iterative (i.e. a number of different searches) and emergent approach (i.e. the understanding of the scope of relevance develops throughout the process), to attempt to identify evidence to inform understanding of the problem area. This evidence was then explored in order to inform further retrieval by the identification of useful search terms and keywords/index terms.

The quality of studies was assessed according to the criteria set out by NICE in the CPHE Methods Manual and graded as [+] or [-] (no studies were graded as [++] as is discussed below). Studies were also categorised in terms of their study design, effectiveness and applicability. These categorisations were taken from the previous NICE commissioned reviews into wellbeing in primary schools in order to allow the results of this report to be comparable. The categories were defined as follows:

- Study design: random controlled trial (RCT), controlled before and after study (CBA), interrupted time series (ITS), other study designs (other).

- Impact:
 - A. Positive impact - all or most measures provided significantly positive in favour of intervention
 - B. Possible positive impact - less than half of the measures provided significantly positive in favour of the intervention
 - C. Impact unlikely - no statistically significant findings in favour of the intervention

D. Negative impact - the intervention was harmful compared to the control

- Applicability (to the UK context):
 - a. Intervention has been delivered in UK settings
 - b. Intervention has been delivered in similar populations but might need adaptation
 - c. Intervention has been delivered in specific cultural groups represented in the UK population but might need adaptation
 - d. Intervention has been delivered in an entirely different population to that of the UK

Results

The searches identified 37 studies which met the inclusion criteria. The majority of these focused on tackling bullying and disruptive behaviours (30 studies) with significantly fewer papers focusing on promoting prosocial behaviours and skills (seven studies). The majority of the evidence comes from the USA (twenty two studies) with three studies from the UK and additional evidence from Canada, Australia, Germany, Italy, Netherlands, Norway, Finland, and Japan. In terms of study design, there were 16 RCTs, nine controlled before and after (CBA), nine interrupted time series (ITS) and three of other designs. Based on the NICE quality criteria, most of the RCT studies scored [+] (12 of 16 studies), along with most of the CBA studies (eight of nine studies), and around half of the ITS studies (five of nine studies). The three studies of other design all scored [-]. Due to limitations in study design in these settings, no included studies scored [++] for quality.

Evidence statements

1. Whole school approaches.

What key features of a whole school approach are most effective? What curriculum approaches (scope, context, frequency, length, mode of delivery) are most effective?

Evidence statement 1a.

We identified strong evidence from three good quality papers (two RCT and one CBA study) of effective interventions to support curriculum approaches to whole school interventions, which aim to promote prosocial behaviours and skills: Stevahn et al (1996) RCT+; Stevahn et al (2002) RCT+; Smith et al (2002) CBA+. The three interventions included here were conducted in the USA/Canada in populations with some similarity to the UK, and therefore can be considered to be potentially applicable in English schools.

This evidence suggests that conflict resolution training is successful in promoting prosocial behaviours in the short term and that the use of peer mediators may be effective for longer term outcomes.

Two studies of by the same author (Stevahn et al 1996/2002) both looked at conflict resolution training programmes in the USA/Canada. Stevahn's first conflict resolution study (Stevahn et al 1996) was conducted in a Canadian private school and involved 111 children in 7th and 8th grade classes for six hours over six weeks. Students took part in the conflict resolution training programme as part of two curricula described as co-operative (where children were encouraged to work together to achieve group aims) and individualistic (where children were encouraged to work independently to achieve group aims). The presence of the conflict resolution training was shown to increase negotiation skills and "academic performance". Children in the co-operative learning environment improved more on these measures. However the measure of improvement in "academic performance" was in fact a measure of retention of the conflict resolution programme taught, not improvement in over all academic standards. In their second study (Stevahn et al 2002) a second conflict resolution programme was run over 5 weeks (17.5 hours) with 92, 9th grade students in a Californian High School, as part of the school social studies curriculum, and again showed improvement in ability to

negotiate and academic achievement (in relation to the training programme). However, no longer term outcomes were considered for either of these studies, therefore these studies can only show improvement in negotiation skills in the short term. Positive outcomes may not be sustained over a longer period.

A third study, also of a conflict resolution intervention trained peer mediators to deliver the intervention over the longer term. Smith et al 2002 conducted their programme of 5 conflict resolution lessons in 3 middle schools (780-1110 students per school) and also trained 25 to 30 peer mediators per school. Here the peer mediators scored highly on the conflict resolution scores and the number of disciplinary incidents in the school was shown to decline (over 4 years). However, no significant changes school wide in pupil or teacher attitudes to conflict were seen. The impact of this study was measured over a much longer time scale and suggests that training peer mediators may be an effective way of improving conflict resolution at the whole school level, but a lack of visibility of the project to the whole school may result in little attitude change towards conflict.

Evidence statement 1b.

We identified mixed evidence from a total of seven RCT studies regarding curriculum approaches to whole school interventions, which aim to prevent bullying and disruptive behaviours: Five good quality RCT papers discussed interventions which were effective, particularly in association with a community based project: Evers et al (2007) RCT+; O'Donnell et al (1999) RCT+; Flay et al (2004) RCT+; Komro et al (2004) RCT+; Baldry and Farrington (2004) RCT+. The majority of these studies were conducted in the USA; three in populations similar to the UK (majority white): (Evers et al 2007; O'Donnell et al 1999; Komro et al 2004). These studies, along with a fourth conducted in Italy (Baldry and Farrington 2004) are potentially applicable in the UK. A further two papers were conducted in the USA in populations which were predominantly African American Flay et al (2004) Flay et al (2004) so they may be less applicable in a typical English school.

However, there were also two good quality papers that showed that curriculum based interventions were not effective in preventing bullying and disruptive behaviours (again with some community element to the intervention): Orpinas et al 2000 RCT+; Stevens et al 2000 RCT+. These studies were conducted in the USA and Netherlands respectively and therefore may have limited applicability in the UK context.

This evidence therefore is mixed and unclear whether curriculum based interventions for tackling bullying and disruptive behaviour are effective. However, on balance the evidence suggests that certain interventions can be effective. It is possible that including community elements in these type of interventions may be beneficial.

Evers et al (2007) delivered a computer based anti-bullying curriculum of three half hour sessions in twelve middle and thirteen high schools (483 children aged 11 to 17) in the USA. The school population had higher than average (for the USA) percentage of Hispanic students (but the percentage was not stated). In a self reported questionnaire completed immediately after

the intervention, those who had completed the programme were four times less likely to state they would participate in bullying than those in the control group. This suggests that the intervention was responsible for a decline in bullying (or intention to bully) over the short term but as this was not followed up after the intervention the longer term effects are not known.

The study by O'Donnell et al (1999) to reduce violent behaviour was conducted in the USA and involved 7th and 8th grade students in two large urban middle schools (972 children in 23 intervention and 28 control classes). The intervention implemented the "Reach for Health" programme which consisted of 35 lessons on violence prevention with or without an additional community youth programme (3 hours per week) which half the students participated in. The intervention was run over 6 months in total as part of the "general health curriculum" of the school. A decline in violent episodes was seen for 8th graders only (with and without the community element). There may therefore be questions regarding the applicability of specific interventions to different year groups.

Flay et al (2004) introduced a three year (21 lessons per year) social development curriculum (the Aban Aya youth project) with/without an additional parent and community based programme, to African American children of low socio-economic status in 12 inner city schools (grades 5 to 8). The social development curriculum was designed to teach cognitive behavioural skills, build self esteem and empathy, manage stress and anxiety, develop interpersonal relationships, resist peer pressure, and develop decision making, problem solving, conflict resolution and goal setting skills. The parent programme reinforced skills and promoted child-parent communication. The community programme forged links among parents, schools and local businesses. This was implemented as part of the "general health programme" within the school - the general programme received by the control groups focused on promoting healthy behaviours through nutritional, physical activity and general health care. The arm of their study which included the parental and community programme showed a greater effect on violence levels, but this effect was only seen for boys. It is suggested that

target behaviours may be harder to reduce in girls as they are already occurring at a much lower level.

Komro conducted a similar programme to reduce bullying in American 7th graders in 24 schools defined as urban, suburban and rural. The school population was "mostly white" and of lower than average socioeconomic status. The DARE programme aimed to reduce bullying and victimisation as well as drug misuse and was taught by police officers in ten sessions within the school. A second arm of the study also included parental and community involvement. Positive changes in self reported violence were seen here but they very small (effect size ~ 0.1), no changes in self reported victimisation was seen.

In the study by Farrell and Meyer (1997) "specialists" delivered 18, 45 minute violence prevention sessions to African American students (n=978) of low socioeconomic status in six middle schools (USA). The intervention consisted of eighteen, forty five minute sessions and follow up at the end of the school year showed a reduction in violent behaviour for boys only over one school year.

Baldry and Farrington (2004) used video sessions and an information booklet to increase the understanding of the negative consequences of violent behaviour in 10 to 16 year olds in an Italian school, and saw some positive changes in self reported bullying and victimisation. This demonstrates the potential use of multi-media sessions in reducing bullying and violent behaviour.

A further two papers of good quality discussed curriculum approaches which were not shown to be effective (Orpinas et al 2000; Stevens et al 2000). Orpinas et al 2000) conducted a violence prevention programme with 8th grade students of low socioeconomic status in eight middle schools in the USA. The intervention curriculum was based on empathy, conflict resolution and anger management training. Peer mediators were also trained and each had a teacher "sponsor" to assist them. The intervention received yearly follow up over three years but no intervention affect was seen. The

intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this. (Stevens et al (2000) conducted a bullying/victimisation intervention involving 10 to 16 year olds in 18 primary and secondary schools in the Netherlands (n=1104). The two intervention arms of this study involved input into the school policy and curriculum and included support for both bullies and victims. The intervention included three modules consisting of video, information sessions, role play and class activities. They also included a large element of teacher training (25 hours). In one arm of the trial teachers received continued support from the research team during the one year delivery of the intervention, in the other no further support was received. However, the intervention showed improvements in bullying, victimisation and positive interaction for primary school children only.

2. The role of teachers

What are the roles of teachers, other school based practitioners, and specialists (such as an education psychologist, therapist or school nurse) and other professionals (such as youth workers)?

Evidence statement 2

We identified mixed evidence from a total of seven studies regarding the role of teachers in interventions to prevent bullying and disruptive behaviours.

Four studies of varying methodological quality support teacher involvement: Botvin et al (2006) RCT-; Van Schoiack-Edstrom et al 2002 CBA+; Farrell et al 2003 ITS+; Warren et al 2006 ITS+. These studies were all conducted in the USA in populations which were majority African American. This may limit applicability to a typical English school.

Three further studies (including two good quality RCTs) were identified which involved teachers in interventions were not effective in preventing bullying and disruptive behaviours: Orpinas et al 2000 RCT+: Stevens et al (2000) RCT+: Peterson and Rigby 1999 ITS+.

This evidence is unclear on the beneficial role of teacher involvement and training in universal interventions to prevent bullying and disruptive behaviour. It is important to acknowledge that it is likely that many other interventions did rely heavily on teacher involvement and training without explicitly stating so, this evidence should be treated with caution.

The involvement of teachers in these interventions was as follows: Botvin et al (2006) conducted an RCT study of an aggression/violence reduction intervention which consisted of 15 life skills training sessions which were taught by teachers who were responsible for planning and delivering the

lessons. Teachers were provided with detailed lesson plans and student guides although it is not clear if they received any formal training to administer these lessons (which were based on decision making, managing stress, communicating effectively, healthy relationships, anger management, and conflict resolution taught via modelling, role play and homework assignments). The intervention was conducted in 41 New York High Schools (n=2484) in populations high in African Americans and with low socioeconomic status. Reductions in violence and delinquency were seen in the intervention groups over 3 months.

Van Schoiack-Edstrom et al 2002 implemented the "Second Step" Curriculum in the 6th, 7th and 8th grades of five schools in the USA (with two intervention and two control classes in each school). Second Step is similar to the well known PATHS curriculum and focuses on empathy, perspective taking, problem solving and anger management. Sixteen educators received training (one day) to deliver the commercially available programme which consists of 31 lessons with full scripts which the teachers follow. The results of this intervention varied (follow up was immediately after the intervention) with 6th and 7th graders showing decreased endorsement of social exclusion and 7th graders also showing less tolerance of physical and verbal aggression.

In the study by Farrell et al (2003) in the USA (mixed ethnicities, 4 intervention and 4 control middle schools) each school was assigned a member of staff as a "prevention facilitator" who received a total of 11 days training, they were also provided with a "detailed training manual). The "Responding in Peaceful and Positive Ways" curriculum (which was based on problem solving and skills building) was then delivered by the "homeroom" teachers (presumably with support from the facilitator). Over two years significant differences in frequency of aggression were seen.

The intervention administered by Warren et al (2006) to reduce aggression and violence in an inner city American middle school (n=737, grades 6 to 8, large proportion African American), included two sessions of 2.5 hours teacher training plus an additional two days involving administrators, teachers

and parents. The intervention reinforced a new code of conduct with lessons to highlight individual issues. Over one year the school saw a significant reduction in disciplinary outcomes and subjective reports to indicate improvements in the school climate. However these gains were not sustained at 1 year follow up suggesting that the code of conduct needs to be continually reinforced to be effective.

Three studies showed interventions that involved /trained teachers were not effective. Orpinas et al (2000) conducted a violence prevention programme with 8th grade students of low socioeconomic status in 8 middle schools in the USA. The intervention curriculum was based on empathy, conflict resolution and anger management training. Peer mediators were also trained and each had a teacher "sponsor" to assist them. The intervention received yearly follow up over three years but no intervention affect was seen. The intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this.

Stevens et al (2000) conducted a bullying/victimisation intervention involving 10 to 16 year olds in 18 primary and secondary schools in the Netherlands (n=1104). The two intervention arms of this study involved input into the school policy and curriculum and included support for both bullies and victims. The intervention included 3 modules consisting of video, information sessions, role play and class activities. They also included a large element of teacher training (25 hours). In one arm of the trial teachers received continued support from the research team during the 1 year delivery of the intervention, in the other no further support was received. However, the intervention showed improvements in bullying, victimisation and positive interaction for primary school children only.

Peterson and Rigby (1999) develop a range of anti-bullying school policies in a large Australian senior school (which was compared with one control school). They trained peer mediators (50 students from year 7 to 11) who were supported by staff trained in the method of "shared concern" to whom they could go to report incidents or discuss concerns. No details of "share concern" training are given. Their two year programme which also included

an anti bullying commission, public speaking group, posters and dance sessions showed no overall reduction in reported victimisation.

3. The role of young people

What is the role of young people?

What are the most effective ways of involving young people in decision-making processes (including their involvement in planning, delivery and assessment of approaches)?

Evidence statement 3a.

We identified three papers of varying quality and study design to support the role of young people as peer educators/mediators in interventions to promote prosocial behaviours and skills: Stevahn et al (2002) RCT+; Smith et al (2002) CBA +; Dillon and Swinbourne (2007) ITS -. The first two of these studies were conducted in the USA, the third in Australia, they may therefore have some applicability in English schools.

This evidence suggests that peer mediation is an effective way of promoting prosocial and behavioural skills in the long term.

Stevahn et al (2002) was a conflict resolution programme which involved young people in five weeks (17.5 hours) of conflict resolution and peer mediation training in social studies classes (92, 9th grade students in a Californian High School). Improvements were demonstrated in ability to negotiate and academic achievement (in relation to the training programme). The young people were passive recipients of the programme and were not involved in its planning or delivery.

Smith et al 2002 conducted their programme of 5 conflict resolution lessons in 3 middle schools (780-1110 students per school) and also trained 25 to 30 peer mediators per school. Here the peer mediators scored highly on the

conflict resolution scores and the number of disciplinary incidents in the school was shown to decline (over 4 years). However, no significant changes school wide in pupil or teacher attitudes to conflict were seen.

Dillon and Swinbourne (2007) delivered the "Helping Friends peer support programme in 22 Australian secondary schools (no demographic details given). Students rated themselves on elements of the "social provision scale" and showed improvements in worth, attachment and nurture over 4 years of the programme.

Evidence statement 3b.

We identified mixed evidence of varying quality regarding the role of young people as peer educators/mediators, in interventions to prevent bullying and disruptive behaviours,

Four studies (including 2 RCTs) supported the role of peer mediators in preventing bullying and disruptive behaviour: Orpinas et al (1995) RCT+; Menesini et al (2003) RCT-; Salmivalli (2007) ITS -; Madhavi and Smith (2002) Other - . The study by Madhavi and Smith (2002) was conducted in the UK so will be applicable in English schools (although the study quality was poor). The other studies conducted in the USA, Italy and Finland may have some applicability in this context.

However a further two studies described peer mediation interventions which were not effective in reducing bullying and disruptive behaviours: Orpinas et al (2000) RCT+; Peterson and Rigby (1999) ITS+. These studies were conducted in the USA and Australia respectively although the USA study had a high majority of African Americans which may limit it's applicability.

This evidence shows that although peer mediation can be effective in reducing bullying and disruptive behaviour it is not always successful. There are no clear patterns to define interventions which were effective or those which were not.

Orpinas et al (1995) trained peer leaders in the Second Step curriculum consisting of fifteen, 50 minute sessions (one per week) and saw a reduction in violent behaviour as well as increased knowledge about violence and attitude change at three month follow up. The intervention was conducted with the 6th grade of four American high schools whose populations had varied ethnicity.

Menesini et al (2003) delivered a year intervention to reduce bullying to 2 middle schools (11 to 14 year olds, 9 classes, 203 children) in Italy. A curriculum of peer support awareness activities supported the nomination and subsequent training of peer supporters (no details given). The effects of this intervention are difficult to judge as no effect on bullying and pro-bullying behaviours was seen in the intervention group, however, levels in the control group increase suggesting that the intervention may be of beneficial effect.

Salmivalli (2007) trained 8 peer counsellors as part of a one week peer led intervention to reduce bullying (in 12 classes in a Finnish high school) which also included a school campaign of discussion, posters and new broadcasts. At five week follow up some reduction in self and peer reported bullying was seen for girls only.

Madhavi and Smith (2002) introduced a bully court run by year 12 peer mentors in a large UK secondary school. The court included 28 bullies, 4 witnesses and 3 counsellors. There was high support for the bullying court from both teachers and students, and no recurrence of bullying from those who appeared in the court. This study is a qualitative case study.

Orpinas 2000 conducted a violence prevention programme with 8th grade students of low socioeconomic status in 8 middle schools in the USA. The intervention curriculum was based on empathy, conflict resolution and anger management training. Peer mediators were also trained and each had a teacher "sponsor" to assist them. The intervention received yearly follow up over three years but no intervention affect was seen. The intervention

experience considerable drop out over the three years (36%) and the authors attribute the poor results to this.

Peterson and Rigby (1999) develop a range of anti-bullying school policies in a large Australian senior school (which was compared with one control school). They trained peer mediators (50 students from year 7 to 11) as part of a two year programme which also included an anti bullying commission, public speaking group, posters and dance sessions. Their results showed no overall reduction in reported victimisation.

4. The role of external agencies

What mechanisms are required for effective links with external agencies (including youth services)?

What is the role of voluntary and community agencies? What are effective methods for evaluation of the impact of approaches?

Evidence statement 4

We identified mixed evidence of varying quality in relation to the role of external agencies.

Two studies supported the effectiveness of involving professionals in the delivery of interventions to prevent bullying and disruptive behaviours. Farrell and Meyer (1997) RCT+; De Anda (1999) ITS-. Both these studies (USA) had high African American and/or Latino populations which may limit their applicability in English schools.

However a further two studies which did not support this were also identified: Ando et al (2007) RCT+: Palumbo and Ferguson (1995) ITS - (conducted in Japan and the USA respectively).

This evidence suggest that it is more beneficial to involve agencies whose primary role is to address disruptive behaviours (e.g. youth and family violence centre staff) rather than generic agencies such as the police.

The role of external agencies was discussed only in interventions which were delivered by specialists. These were all programmes to reduce aggression and violence (bullying and disruptive behaviours). The delivery agents in studies of effective interventions were youth and family violence centre staff (De Anda 1999) in 10 sessions(1 American high school, 157 students) , and "specialists" (Farrell and Meyer 1997) in 18, 45 minute lectures (6 American middle schools, 978 students).

Studies of interventions delivered by a clinical psychologist (Ando et al 2007; and by police officers (Palumbo and Ferguson 1995), were not shown to be effective.

5. The role of parents

What is the role of parents?

Evidence statement 5

We identified strong evidence of good quality, the majority of which (three papers including two RCTs) supports parent training/education in the implementation of interventions to reduce bullying and disruptive behaviours; Evers et al 2007 RCT+; Flay et al 2004 RCT+; Warren et al 2006 ITS+. Again high the proportion of African Americans included in the studies in the USA may limit their applicability in English schools.

One additional RCT study did not support parent training/education, in the implementation of interventions to reduce bullying and disruptive behaviours, Orpinas et al 2000 RCT+ and was also conducted in the USA.

From this evidence it is difficult to judge the effectiveness of parental involvement as none of these studies placed any emphasis on adult related outcomes or perceptions of the programme. However some positive outcomes for the children were seen, suggesting that parental involvement can be beneficial.

Flay et al (2004) included a parent/community programme in the effective arm of their trial. The three year (21 lessons per year) social development curriculum (the Aban Aya youth project) was conducted with/without an additional parent and community based programme, and delivered to African American children of low socio-economic status in 12 inner city schools (grades 5 to 8). The parent programme reinforced skills and promoted child-parent communication. The arm of their study which included the parental programme showed a greater effect on violence levels, but this effect was only seen for boys. It is suggested that target behaviours may be harder to reduce in girls as they are already occurring at a much lower level.

Evers et al (2007) delivered a computer based anti-bullying curriculum of three half hour sessions in twelve middle and thirteen high schools (483 children aged 11 to 17) in the USA. Evers et al (2007) mailed a "family guide" to parents. In a self reported questionnaire completed immediately after the intervention, those who had completed the programme were 4 times less likely to state they would participate in bullying than those in the control group however, the impact of the parental involvement was not independently assessed.

Warren et al 2006 included two full days of parent training in their intervention to reduce aggression and violence in an inner city American middle school (n=737, grades 6 to 8, large proportion African American) The intervention included two sessions of 2.5 hours teacher training plus an additional two days involving administrators, teachers and parents. Over one year the school saw a significant reduction in disciplinary outcomes and subjective reports to indicate improvements in the school climate (but these gains were not sustained at 1 year follow).

In an additional study Orpinas et al (2000) involved a parental education component in an intervention to reduce problem behaviour to reduce violence (with 8th grade students of low socioeconomic status in 8 middle schools in the USA). Parents received a monthly newsletter with descriptions of how both parents and children avoided or prevented violence. The news letters

encouraged parents to use positive conflict resolution "tactics" and reduce their own modelling and praise of aggressive behaviour. However, the parental component was not analysed separately and overall the intervention was not effective. The intervention experience considerable drop out over the three years (36%) and the authors attribute the poor results to this.

Research questions for which no evidence was identified

There were several research questions for which this review did not identify any papers. These include the questions relating to:

- key transitional stages.
- the role of governors.
- engaging parents coping with circumstances of disadvantage.
- the role of voluntary and community agencies.
- ensuring universal programmes are sensitive to issues relating to diversity (including specific cultural, religious and ethnic needs)

Although several studies were conducted in populations described as having low socio-economic status and/or within locations where the majority of children were from particular population subgroups, none of these studies made particular reference to these demographic variables in their results. In this context the studies focus on particular sub populations in areas where they are the majority, rather than mixed populations. This may reflect the make up of individual schools, particularly in the USA.

In addition, there were several research questions where only evidence relating to preventing bullying and disruptive behaviours was identified (that is, no evidence relating to promoting prosocial behaviours and skills was identified). These areas include:

- the role of teachers
- the role of external agencies
- the role of parents

Implications of the review findings

The literature to support whole school interventions in general is not well developed, especially in terms of good quality effectiveness studies (and particularly those conducted in the UK). The literature has a substantial bias towards interventions conducted in the USA and the number of studies conducted in populations with high numbers of African Americans (and other ethnic groups not frequently represented in the UK) will have further implications for applicability in English schools. Although the evidence relating to prosocial behaviours and skills in particular was sparse, it does suggest that conflict resolution training is successful in promoting prosocial behaviours in the short term, and that the use of peer mediators may be effective for longer term outcomes. The evidence relating to preventing bullying and disruptive behaviour at the level of universal interventions is more varied with evidence of mixed effectiveness being identified for the roles of the community, teachers, young people, external agencies and parents. However this may reflect that fact that a greater volume of evidence relating to bullying and disruptive behaviour was identified.

In terms of the UK policy context it is interesting to note that the vast majority of the interventions we identified in the review are based in the classroom and take a curriculum approach. The approach of Secondary SEAL however is not primarily curriculum based. This reflects its strong grounding in the theoretical literature and the paucity of empirical evidence to address the effectiveness of similar programmes. The current evaluation of SEAL should provide a more robust empirical evidence base for the future.

The trials included in this review

Prosocial behaviours and skills papers:

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Metzler CW et al (2001). Evaluation of a Comprehensive Behaviour Management Program to Improve School-Wide Positive Behaviour Support. *Education and Treatment of Children* 24(4): 448-479.

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Bullying and disruptive behaviours papers

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Orpinas P et al (2000). Outcome evaluation of a multi-component violence-prevention program for middle schools: the Students for Peace project. *Health Education Research* 15 (1):45-58.

Palumbo D and Ferguson J (1995). Evaluating gang resistance education and training (GREAT). *Evaluation Review* 19(6):597-619.

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APPENDIX B: EXECUTIVE SUMMARY - COST EFFECTIVENESS ANALYSIS

An economic model was developed in order to estimate the cost-effectiveness of whole school interventions to promote emotional and social well-being in secondary schools. More specifically, due to the evidence available and its relevance to UK schools, a model was developed which provides a framework for assessing the impact of interventions to prevent bullying victimisation. The model incorporates evidence that bullying victimisation has a negative effect on both educational outcomes and, independently of educational attainment, also on adult wages. The effect of educational attainment and income on mortality are estimated. The model also uses evidence of the effect of childhood abuse on adult health-related quality of life.

The evidence for the effectiveness of interventions is poor for several reasons. It is very heterogenous in terms of the objectives of the interventions, the types of intervention and the outcomes measured. The interventions are not well defined and the evidence is of mixed quality (see systematic review). It was therefore not possible to synthesise the study results. Only better quality positive impact studies were considered for evidence of effect size for the economic model. Of these only one reported results from which it was possible to infer the effectiveness of an intervention in reducing the proportion of children victimised (Evers et al. 2007). Thus the baseline model results may be interpreted as illustrating what the cost-effectiveness of an intervention might be, *if effective*.

In common with most studies the outcomes in the Evers study were measured shortly after the intervention. The results suggest the intervention reduced the proportion of children victimised by 21-22%. For the model baseline it has been assumed that a reduction of 15% might be sustained, assuming an ongoing intervention programme.

Several other assumptions have been made in developing the economic model. Critical amongst these are that the results of the study used as the

basis of the relationship between victimisation and adult outcomes (based on a population born in 1958) are generalisable to modern cohorts, in schools with varying prevalences of bullying, and that changing victimisation levels will result in the estimated change in outcomes i.e that the study results are unbiased estimates of the direct relationship between victimisation and adult outcomes.

Interventions aimed at bullying or conflict resolution were either a limited number of classroom sessions and/or a peer mediation programme. It has been assumed for the costing of the intervention that in order to achieve a sustained reduction in victimisation an ongoing programme consisting of both a classroom intervention and training of a small group of peer mediators is required. A small time saving for teachers resulting from a reduced number of incidents requiring their intervention has also been included.

The estimated net total cost for a school with 600 pupils aged 11-16 is £9,300 per year, or £15.50 per pupil per year. The model results show that *if* the intervention is effective in delivering a sustained reduction of victimisation of 15%, the ICER is £9,600 per QALY. At a threshold of £20,000 it is 82% probable that the intervention is cost-effective, and at a threshold of £30,000, 92% probable.

The estimation of the effectiveness of an anti-bullying intervention is based on very limited evidence, and estimates of victimisation prevalence are highly variable. A sensitivity analysis on these two key parameters show that for a cost-effectiveness threshold of £20,000 an intervention which is 5% effective in reducing victimisation is only cost-effective if initial victimisation prevalence is greater than 35%, whereas an intervention that is 20% effective is cost-effective with victimisation prevalence greater than 10%. This relationship is illustrated in Figure 3, Section 4.2.2.

Given the uncertainty around effectiveness of an intervention it is recommended that schools monitor victimisation to establish initial levels and whether any interventions they introduce are effective.

