

# **Cost-effectiveness of universal interventions which aim to promote emotional and social wellbeing in secondary schools.**

## **EXECUTIVE SUMMARY**

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.

