A review of community-based interventions to reduce substance misuse among vulnerable and disadvantaged young people

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August 2006

Acknowledgements

We wish to thank Mark Pearson (University of Plymouth), Lynne Wilkinson (NCCDP) and Sarah Lake (Centre for Public Health, Liverpool JMU) for their contribution to the review. In particular, thank you to Mark for his contribution to the study selection, data extraction and quality assessment stages of the review and to Lynne and Sarah for their assistance in locating and retrieving references.

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Glossary

Before and After studies	Intervention groups are tested and data collected before and after the intervention has been administered.
Children	People under the age of 18 years, in accordance with the Children Act [1989], and the United Nations Convention on the Rights of the Child [1989].
Cluster randomisation	A trial where the unit of randomisation is a cluster of participants (e.g. a school).
Completeness of delivery	Refers to the degree to which a replicated programme model or strategy was implemented in its entirety according to the specifications of the original.
Controlled Before and After study	As before and after studies, but with the inclusion of a non-randomised control group. They differ from controlled non-randomised trials in that participants are not allocated to intervention or control groups, but rather a 'convenience' control sample is used.
Controlled non-Randomised Trial	These are trials were participants or clusters are allocated between intervention and control groups but the allocation is not randomised or quasi-randomised (e.g. alternate allocation).
Drug dependency	A compulsion to take a drug on a continuous or periodic basis in order to experience psychic effects and sometimes to avoid discomfort in its absence. Both physical and psychological dependency can occur.
Drug misuse	Illegal or illicit drug taking which leads a person to experience social, psychological, physical or legal problems related to intoxication or regular excessive consumption and/or dependence. Drug misuse is therefore drug taking that causes harm to the individual, their significant others or the wider community.
Effect size	Effect size (ES) is a term used for a family of indices that measure the magnitude of the relationship between variables or treatment effect. Effect sizes are commonly used in meta-analyses as unlike significance tests these indices are independent of sample size.

Fidelity	Refers to the degree to which a replicated programme model or strategy was implemented as planned according to the specifications of the original.
	Interrupted time series (ITS)
Meta-analysis	The combination of quantitative evidence from a number of studies.
Poly drug use	The simultaneous, sequential, or concurrent use of more than one drug, often with the intention of enhancing or countering the effects of another drug, or to substitute for the effects of an unavailable drug.
Randomised Controlled Trial (RCT)	Individuals or, defined groups of individuals (clusters) are randomised to either an intervention or a control group. If well implemented, randomisation should ensure that intervention and control groups only differ in their exposure to treatment.
Substance misuse	As drug misuse, but also including alcohol, tobacco and volatile substances.
Systematic review	A method of locating, appraising and synthesising evidence from primary studies, which adheres to a scientific methodology.
Young people	People under the age of 25 [in line with the Drug Strategy definition]. Some data sources used, however, had alternative definitions. This is noted where relevant.

Abbreviations

ADACPP	ADEPT Drug and Alcohol Community Prevention Project
AGT	Adolescent Group Therapy
AOD	Alcohol or Other Drug
APSI	Adolescent Problem Situation Inventory
ASAP	Adolescent Substance Abuse Program
ATODA	Alcohol, Tobacco and Other Drug Abuse
ATP	Adolescent Transitions Program
BA	Before and After study
BDI	Beck Depression Inventory
BME	Black And Minority Ethnic
BRIDGE	Bold, Ready, Intelligent, Dedicated, Guided, Equipped
BSFT	Brief Strategic Family Therapy
CAR	Children At Risk
CBA	Controlled Before and After study
CBCL	Child Behaviour Checklist
CBT	Cognitive Behavioural Therapy
CC	Classroom Centred
CFI	Culturally Focussed Intervention
CI	Confidence Interval
CNRT	Controlled Non-Randomised Trial
CPPRG	Conduct Problems Prevention Research Group
CSAP	Centre for Substance Abuse Prevention
DARE	Drug Abuse Resistance Education
DfES	Department for Education And Skills
DH	Department of Health
EU	European Union
ES	Effect Size
ESOL	English for Speakers of Other Languages
FANS	Family And Neighbourhood Services
FAST	Family And Schools Together
FDE	Family Drug Education
FSN	Family Support Network
FSP	Family Centred Partnership
FST	Family Systems Therapy
GPA	Grade Point Average
GSC	Guided Self Change
HIV	Human immunodeficiency virus
HSP	Healthy Start Programme
HSS	High Sensation Seekers
IDS	Index Of Drug Severity
IPR	Interpersonal Relations
ITT	Intention to treat
KICK	Kids In Cooperation with Kids
LIFT	Linking the Interests of Families and Teachers
LST	Life Skills Training
LSS	Low Sensation Seekers

MDP	Missouri Delinquency Project
MDFT	Multidimensional Family Therapy
MET	Motivational Enhancement Treatment
MI	Motivational Interviewing
MPP	Midwest Prevention Programme
MST	Multi-Systemic Therapy
NICE	National Institute for Health and Clinical Excellence
NIDA	National Institute On Drug Abuse
CNRT	Non-Randomised Controlled Trial
PACT	Positive Adolescent Choices Training
PALS	Positive Adolescent Life Skills
PANDA	Preventing the Abuse of tobacco Narcotics, Drug and Alcohol
PBFT	Purdue Brief Family Therapy
PDFY	Preparing for the Drug Free Years
RCT	Randomised Controlled Trial
REAL	Refuse, Explain, Avoid and Leave
RSAP	Residential Student Assistance Program
SAAF	Strong African American Families
SD	Standard Deviation
SE	Standard Error
SENTAR	Sensation Seeking Targeting
SHIP	Schools and Homes In Partnership
SMART	Skills Mastery and Resistance Training
SUSI	Substance Use Screening Instrument
SR	Systematic review
STAR	Students Taught Awareness and Resistance
STARS	Start Taking Alcohol Risks Seriously
STI	Sexually Transmitted Infection
TACCLE	Teen Activists for Community Change and Leadership Education
TCDP	Truancy Court Diversion Program
TND	Towards No Drug abuse

EXECUTIVE SUMMARY

COMMUNITY-BASED INTERVENTIONS FOR THE REDUCTION OF SUBSTANCE MISUSE AMONG VULNERABLE AND DISADVANTAGED YOUNG PEOPLE

Background

Young people aged between 16 and 24 years show the highest prevalence of drug use in the UK. Within this group, those vulnerable groups of young people report higher levels of drug use than their non-vulnerable peers and account for a disproportionate percentage of drug users. Government policy has set targets to reduce use of all Class A drugs and the frequency of use of any illicit drugs among all young people under the age of 25, especially by the most vulnerable. The National Institute for Health and Clinical Excellence (NICE) has been asked by the Department of Health to develop public health intervention guidance on the most effective and cost-effective community-based interventions for the reduction of substance misuse in vulnerable and disadvantaged young people.

Objectives

- To review the evidence of effectiveness of community-based interventions at reducing substance misuse among vulnerable and disadvantaged young people.
- To review the evidence of effectiveness of community-based interventions at reducing the risk factors among vulnerable and disadvantaged young people that may affect their propensity to misuse substances.

Methods

Selection criteria

Literature included systematic reviews, randomised controlled trials, controlled non-randomised trials, controlled before and after studies and before and after studies of

selective or indicated community-based interventions[1] that aimed to prevent or delay the initiation of substance use among vulnerable and disadvantaged young people, or which aimed to reduce or stop their substance use. These included such intervention approaches as programmed and infused school curricula, school and community environmental change, individual and group counselling, peer support, inclusionary/diversionary activities, skills training, motivational interviewing, community mobilisation, and case management. Primary outcomes extracted from studies were changes in the number of participants who use substances, changes in the use or frequency of substance misuse or changes in the time before initiation of substance use. In addition a range of secondary outcomes were also extracted, such as substance-related knowledge and attitudes (including skills); family functioning and parenting outcomes; educational achievement and engagement; psychopathology and behavioural outcomes.

Data sources

The following databases were searched; ASSIA, CINAHL, Cochrane CENTRAL, Cochrane database of systematic reviews, DARE, EMBASE, ERIC, Medline, PsychINFO, and Sociological abstracts. Studies considered for inclusion had to be published between 1990 and April 2006, and editorials, non-systematic reviews, and letters were excluded.

Data extraction and quality assessment

Two reviewers independently screened electronic records, extracted data and assessed study quality using specially designed forms. Study quality was assessed using the NICE quality assessment checklists and each study was assigned a quality rating of ++ (best quality), + or – (poorest quality)[2].

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[1] Defined as: those micro-interventions or small-scale programmes delivered in community settings that seek to elicit changes in the risk behaviour of the targeted population. Universal interventions or programmes targeting the entire population were excluded, as were studies that were focused on preventing or reducing adverse physiological and psychological affects of substance use. See: Potvin L, Richard L (2001). Evaluating community health promotion programmes. In: *Evaluation in health promotion: principles and perspectives.* WHO regional publications. European Series 92:214

[2] See NICE (2006). Methods for development of NICE public health guidance. Version 1.

Data synthesis

Owing to the wide scope of the overarching research question, and the heterogeneity in interventions, target populations, follow up, and outcomes, an overall meta-analysis was not considered to be appropriate. Full data for each study is presented in detailed evidence tables (see Appendix 4) and summary tables within the findings sections. Results are presented by vulnerable or disadvantaged population group: general at risk (young people with multiple risk factors), black and minority ethnic populations, young people in families with substance using members, young substance users, young people with behavioural and aggressive problems, young offenders, school dropouts, truants and underachievers and other populations (including high sensation seekers, the homeless, children of divorce, institutionalised youth, abused females and latchkey students). As the majority of studies were conducted outside the UK, evidence statements were assigned an Applicability Rating in order to provide an indication of the relevance of the finding for UK settings: A, Likely to be applicable across a broad range of settings and populations; B, Likely to be applicable across a broad range of settings and populations, assuming appropriately adapted; C, Applicable only to populations or settings included in the studies, and broader applicability is uncertain; D, Applicable only to settings or populations included in the studies.

Results

A total of 222 studies met the inclusion criteria. Of these, 14 were systematic reviews (SRs), 103 were randomised controlled trials (RCT), 52 were controlled non-randomised trials (CNRT), 18 were controlled before and after studies (CBA) and 35 were before and after studies (BA).

Young people with multiple risk factors (general at risk)

A total of 4 systematic reviews and 96 primary studies evaluated community-based interventions (defined as those interventions that provided support based within a community setting) which targeted a range of risk factors for the reduction of substance misuse in young people with multiple risk factors. A wide range of community-based interventions (including agency based (non) statutory services)

were identified including: youth programmes; case management interventions; employment skills programmes; counselling and therapy-based programmes; community mobilisation programmes; family therapy-based interventions (including parental and whole family approaches); multicomponent interventions and school-based interventions (comprising both educational/skills-based interventions and counselling and therapy-based interventions).

Comparison of interventions delivered in different settings

One systematic review and five primary studies compared the effectiveness of interventions for preventing, delaying, or reducing substance use in vulnerable or disadvantaged young people across different settings.

Evidence Statement 1

There is evidence from one SR ++ to suggest that multicomponent community-based approaches are more effective for high-risk youth at preventing, delaying, or reducing drug use than school and community projects alone. Compared with low risk youth, this population may respond more favourably to comprehensive interventions targeting alcohol, cannabis, tobacco, and generic substance use (Streke, 2004). Applicability Rating B.

Evidence Statement 2

There is evidence from five CNRT - of large multi-site evaluations of community based interventions targeting high-risk youth (comprising behavioural skills programmes, informational focused programmes, recreational focused programmes, and affective programmes) conducted in either Switzerland or the USA to suggest that there are no overall effects of these programmes on use of illicit drugs, tobacco or alcohol in the immediate to long term (Hermann et al., 2002; Hulser et al., 2005; Sambrano et al., 2005; Springer et al., 2002a; Springer et al., 2002b). Applicability Rating B.

Evidence Statement 3

There is evidence from two CNRT – of a multi-site evaluation of community-based interventions targeting high-risk youth (comprising behavioural skills programmes, informational focused programmes, recreational focused programmes, and affective programmes) conducted in Switzerland (2 CNRT -) to suggest that these types of programmes have no overall effects on mental health outcomes in the short to long term (Hulser et al., 2005a; Hulser et al., 2005b). Applicability Rating B.

Community-based interventions

Community based interventions were defined by one systematic review as programmes delivered outside of schools that worked with young people in their own social, familial, and healthcare environments.

Evidence Statement 4

There is insufficient evidence from one SR ++ to determine whether family, educational or multi-component community interventions *per se* are effective in reducing drug use behaviour in vulnerable or disadvantaged young people (Gates et al., 2006).

Youth programmes

Community-based youth programmes were defined as programmes delivered outside of school that sought to engage young people at-risk of substance use in alternative activities. A total of 10 primary studies were identified.

Evidence Statement 5

There is inconsistent evidence from 4 CNRT – about the effectiveness of community-based youth programmes for young people at-risk of substance use in reducing substance use outcomes:

5.1 There is evidence from three CNRT – to suggest that community-based youth programmes for young people at-risk of substance use can reduce the use of illicit drugs, cannabis, and tobacco in the short to long term (Baker et al., 1995; Beamer et al., 1991; St Pierre et al., 1992). However 1 CNRT – suggested that a community-based youth programme increased last month use of a variety of substances, particularly amongst girls. Applicability Rating C.

Evidence Statement 6

There is evidence from two CNRT – to suggest that educational and skills focused interventions delivered in out of school youth work settings may produce short to long-term increases in drug related knowledge and attitudes (Lam et al., 2005; St Pierre et al). Applicability Rating C.

Evidence Statement 7.1

There is evidence from one CNRT – to suggest that after school programmes for high-risk youth can produce long-term reductions in serious and minor delinquent behaviours (Baker et al., 1995). Applicability Rating C.

Evidence statement 7.2

There is evidence from one CBA + to suggest that skills training delivered through residential summer camps has little effect on behavioural indicators of resilience (Grayson, 2001). Applicability Rating C.

Case management interventions

Case management interventions were defined as interventions that involved case workers or other specialist health professionals working individually with young people and/or their families in order to reduce risk factors related to substance use. Three RCTs were identified.

Evidence Statement 8

There is evidence from three RCTs (1 + and 2 -) to suggest that a community based case management approach (Creating Lasting Connections) has no medium- to long-term effects on substance use (Halmi & Golik-Gruber, 2002; Johnson et al., 1996; Johnson et al., 1998). Applicability Rating C.

Evidence Statement 9

There is evidence from three RCTs (1 + and 2 -) to suggest that a community-based, case management intervention (Creating Lasting Connections) can produce a short to medium term increase in substance use knowledge but have little effect on family management relating to substance use (Halmi & Golik-Gruber, 2002; Johnson et al., 1996; Johnson et al., 1998). Applicability Rating C.

Evidence Statement 10.1

There is evidence from two RCTs (1 + and 1 -) to suggest that a community-based, case management intervention for youth and their parents (Creating Lasting Connections) has no effect on family functioning (Halmi & Golik-Gruber, 2002; Johnson et al., 1998). Applicability Rating C.

Evidence statement 10.2

There is evidence from one RCT + to suggest that a community-based, family case management intervention can increase positive parenting skills in families with young children considered at risk (Baydar et al., 2003). Applicability Rating B.

Employment skills programmes

Community-based employment skills programmes included interventions that targeted factors related to employment and training, such as those that provided access to employment and vocational training. One RCT was identified.

Evidence Statement 11

There is evidence from one RCT + to suggest that a comprehensive employment programme (comprising outreach and admissions; basic education; vocational training; residential living; health care and education; counselling; and job placement assistance) is not effective in reducing substance use in the long term (Schochet et al 2001). Applicability Rating B.

Evidence Statement 12

There is evidence from one RCT + to suggest that a comprehensive employment programme can have long-term positive effects on participation in employment and training, arrest and conviction rates, and reduce the amount of time spent in jail (Schochet et al., 2004). Applicability Rating B

Community-based counselling and therapy

Three primary studies (one RCT, one CNRT and one BA) assessed the effectiveness of community-based counselling and therapy interventions.

Evidence Statement 13

There is insufficient evidence to determine whether individual counselling is effective in reducing substance use in the long term in young people with multiple vulnerabilities.

Evidence Statement 14.1

There is evidence from one RCT + to suggest that motivational interviewing with video feedback has no effect upon delinquent, home or school behaviours and decreased perception of control over the consequences of individual actions (Knopes et al., 2004). Applicability Rating B.

Evidence Statement 14.2

There is evidence from one CNRT – to suggest that individual counselling can produce a significant medium term reduction in delinquent and criminal behaviour (Hanlon et al., 2002). Applicability Rating C.

Community mobilisation programmes

Community mobilisation programmes were defined as programmes that consisted of a locally organised and planned, community wide intervention and included collaboration between individual stakeholders and relevant agencies such as the police, health services, drug agencies and local businesses. One RCT was identified.

Evidence Statement 15

There is evidence from one RCT – to suggest that a community mobilisation and youth development programme has no effect on neighbourhood co-operation or pride, indicators of community mobilisation, or generic youth risk behaviours (Cheadle et al., 2001). Applicability Rating C.

Family-based interventions

Family-based interventions were defined as those interventions that targeted the families of children judged to be at risk of future substance use either because of external factors (e.g. families with a low income) or because the child had exhibited risk behaviours linked to later substance use (e.g. behavioural problems). Interventions could include parent and child components, or target families as a whole. Fifteen primary studies (10 RCT, 2 CNRT and 3 BA) were identified.

Evidence Statement 16

There is evidence from four RCT +, one CNRT + and one BA – to suggest that family based interventions may be effective in producing long term reductions in substance use, except for tobacco and alcohol:

16.1 There is evidence from two RCT + and one CNRT + to suggest that the Adolescent Transitions Programme can produce long-term increases in overall substance use abstention (although tobacco smoking may increase) (Dishion et al. 2002; Dishion and Andrews, 1995; Poulin et al., 2001). Applicability rating B.

16.2 There is evidence from one RCT + to suggest that the Family Check Up intervention can produce long-term reductions in substance use (Dishion et al. 2003). Applicability rating B.

16.3 There is evidence from one RCT + to suggest that the Preparing for the Drug Free Years programme may result in a long-term trend towards a reduction in alcohol and cannabis initiation, but an increase in tobacco smoking and alcohol consumption (although the rise in alcohol may be less in pre-existing alcohol users) (Park et al., 2000). Applicability Rating B.

Evidence Statement 17

There is evidence from seven RCT + to suggest that family based interventions can be effective in producing long term improvements in parenting skills:

17.1 There is evidence from one RCT + to suggest that the early intervention HSP has no effects on child developmental status, perceived parental competence, parents' stress levels or mother-child interaction in the medium term, or on use of physical assault as discipline and child developmental status in the long-term, but that the intervention can produce improvements in non-violent discipline in the long term (Duggan, 1999). Applicability Rating B.

17.2 There is evidence from four RCT + to suggest that PDFY may lead to long term improvements in parenting skills and family responses to substance use but not family conflict or adolescent refusal skills compared with no intervention or information leaflets alone (Kosterman et al., 1997; 2001; Spoth et al., 1998; Park et al., 2000). Applicability Rating B.

17.3 There is evidence from one RCT + to suggest that a non-programmed multicomponent family based approach, may increase some parenting skills, and parental self-efficacy and self-esteem in the long term, compared to no intervention, but have no effects on parenting stress (Miller-Heyl, 1998). Applicability Rating B.

17.4 There is evidence from one RCT + to suggest that a programmed multicomponent family based approach, the Family Check Up, can produce long term increases in parental monitoring of child activities (Dishion et al., 2003). Applicability Rating B.

Evidence Statement 18

There is inconsistent evidence from two RCTs + about the long term effectiveness of family based interventions on child development:

18.1 There is evidence from one RCT + to suggest that a comprehensive early intervention in at risk families does not lead to long-term changes in ratings of child development (Duggan, 1999). Applicability Rating B.

18.2 There is evidence from one RCT + to suggest that non programmed multicomponent interventions may be effective at producing improvements in child development and oppositional behaviours in the long term and problem behaviours in the medium term (Miller-Heyl, 1998). Applicability Rating B.

18.3 There is evidence from one CNRT + to suggest that participation in the peer support component of ATP produces a long-term increase in ratings of delinquency. This appears to be greatest in those participants expressing low levels of baseline delinquency (Poulin et al., 2001). Applicability Rating B

Multicomponent interventions

Multicomponent interventions were defined as those interventions that comprised multiple components (eg case management, educational services and support) often delivered in more than one setting. For example, programmes including an intervention component delivered in school (e.g. drug education lessons) combined with community components (e.g. counselling service) were included in this category. One systematic review and seven primary studies (5 RCTs and 2 BA) were identified.

Evidence Statement 19

There is evidence from one RCT + to suggest that multicomponent interventions can be effective in reducing substance use in the short term (LoSciuto et al., 1999), however there is inconsistent evidence from one SR + and two RCTs (1 + and 1 -) about their effectiveness in the long-term, with studies either indicating no change, or a reduction in patterns of alcohol use (Roe and Becker, 2005; Harmon, 1995; Eddy, 2003). Applicability Rating B.

Evidence Statement 20

There is inconsistent evidence about the effectiveness of multicomponent interventions in affecting different secondary outcomes relating to substance misuse in vulnerable or disadvantaged young people:

20.1 There is evidence from one RCT + to suggest that a multicomponent intervention involving school and families activities is not effective in producing long-term changes in willingness or intent to use substances, has no effects on family functioning or absences and suspensions from school, and increases negative behaviours (Hostetler and Fisher, 1997). Applicability Rating B.

20.2 There is evidence from 1 RCT – and 1 CNRT – to suggest that adding family advocacy or additional youth activities to an existing community-based prevention programme can produce long term increases in substance knowledge but not refusal skills or attitudes to substance use (St Pierre et al., 1997; St Pierre et al., 2001). Applicability Rating C.

20.3 There is inconsistent evidence about the effectiveness of multicomponent interventions on school and education related outcomes. There is evidence from one RCT + to suggest an immediate positive intervention effect on school attendance (LoSciuto et al., 1999), whilst evidence from another RCT + suggests no long-term effects of intervention on educational attainment or aspirations (Harmon, 1995). Applicability Rating B.

20.4 There is evidence from two RCT – to suggest that a multicomponent intervention offered in addition to usual school prevention services may produce an immediate decrease in problem behaviours and a long term decrease in association with deviant peers and involvement in criminal activity (Eddy et al., 2000; 2003). Applicability Rating B.

20.5 There is evidence from one RCT – to suggest that multicomponent interventions delivered across several communities do not have an effect on wider health outcomes such as diet, accidental injury, and teenage pregnancy (Wagner, 2000) Applicability Rating D.

School-based interventions

A range of school based interventions were broadly categorised into either educational and skills-based interventions or counselling and therapy interventions.

a) Educational and skills-based school interventions

School-based educational and skills-based interventions were defined as interventions that were implemented in the classroom or a setting associated with the school (e.g. after school club). A total of 31 studies were identified; six studies specifically referred to life skills or Life Skills Training (LST).

Evidence Statement 21

There is evidence to suggest that schools-based LST or generic life skills, on their own or in combination with other approaches, are not effective in reducing substance misuse in the long term:

21.1 There is evidence from three RCT + to suggest that when delivered as a stand alone intervention, LST or generic life skills may produce medium, but not short or long term, reductions in substance use (Griffin et al., 2003; Smith et al., 2004; Vicary et al., 2004). There is evidence from one RCT + to suggest that this effect on substance use may be strongest in girls (Smith et al., 2004). Applicability Rating B.

21.2 There is evidence from one RCT +, four RCT –, one CNRT +, and one CNRT – to suggest that school-based LST or generic life skills in combination with other approaches, including parent workshops, staff training or mentoring, has no effects on substance use outcomes in the short, medium or long term compared to no intervention (Brown et al., 2005; Demers, 2000; Forman et al., 1990; Losciuto et al., 1996; Palinkas et al., 1996; Rentschler, 1997; Richards-Colocino, 1996). However, there is evidence from two CNRT – to suggest that delivering generic life skills with family components can produce both immediate and medium term reductions in

alcohol use and frequency, but only immediate effects on the frequency of cannabis use (DeWit et al., 1998; 2000). Applicability Rating B.

21.3 There is evidence from one RCT + to suggest that female-targeted peer support can be effective at producing medium term reductions in substance use in younger participants, but not older students (Weiss and Nicholson, 1998). Applicability Rating C.

21.4 There is evidence from one RCT + and one CNRT – to suggest that curricula addressing other risky behaviours (e.g. violence, sexual activity) have no indirect immediate or medium term effects on substance use outcomes (Farrell et al., 2003; Donelly et al., 2001). Applicability Rating B.

Evidence Statement 22

There is inconsistent evidence about the effectiveness of life skills approaches at changing attitudes and knowledge relating to substance abuse:

22.1 There is evidence from one RCT - and one CBA – to suggest an immediate improvement in reactions to situations involving drug use with an intervention comprising community service, parent workshops and mentoring (LoSciuto et al., 1996; Gilham et al., 1997). There is evidence from one RCT + that suggests both positive and negative medium term effects of the Friendly PEERsuasion intervention (Weiss and Nicholson, 1998), and a further RCT + that suggests long term effects of LST when delivered either as a discreet stand alone intervention or throughout the school year infused within the regular curriculum compared with no intervention (Vicary et al., 2004). Applicability Rating C.

22.2 There was evidence from one RCT – to suggest that LST can produce long term decreases in young people's association with substance using peers (Gottfredson et al., 1996). Applicability Rating B

22.3 There was evidence from one RCT – to suggest no long term effects of generic life skills with family and diversionary components on intentions to use substances, although evidence from two CNRT – suggested that with the addition of either mentoring or outreach with generic skills training may produce short and medium term decreases in favourable attitudes towards substance use (DeWit et al., 1998; DeWit 2000; Rentschler, 1997). Applicability Rating B

22.4 There is evidence from one CNRT – to suggest that specialised teacher training, in the context of a skills development approach, has no long term effects on substance use norms (O'Donnell et al., 1995). Applicability Rating B

Evidence Statement 23

There is evidence to suggest that some school based educational/skills interventions can improve young peoples' educational skills and positive behaviours, and parents' family based care giving.

23.1 There is evidence from two CNRT + to suggest that early, pre-school intervention, delivered by specially trained teachers can produce immediate and long term effects (up to 6 years) on behaviours promoting education, risk reduction, and social inclusion (Dubas et al., 1998; Hawkins et al., 1999). Applicability Rating C.

23.2 There is evidence from one RCT + to suggest that a tiered classroom based intervention with parental training (Project STAR) can produce improvements in family based care giving and school bonding when compared with no intervention or the classroom intervention alone in the medium and long term (Kaminski et al., 2002) Applicability Rating C.

23.3 There is evidence from one CNRT – to suggest that specialised teacher training, in the context of a cognitive skills development approach, may be associated with long term improvements in educational skills and other classroom behaviours (O'Donnell et al., 1995). Applicability Rating B.

23.4 There is evidence from one RCT +, one CNRT + and one CBA + to suggest that cognitive problem solving skills sessions or a violence prevention curriculum (with substance use components) can produce immediate and medium term improvements in social behaviours (DeMar, 1997; Farrell et al., 2003; Gainer et al., 1993). Applicability Rating C.

23.5 There is evidence from 2 RCT - and 2 CNRT – to suggest that life skills curricula with parental, mentoring and/or social support components can produce both short and long term increases in mood, anxiety, community engagement, positive school based outcomes, and family bonding (De Wit et al., 1998; De Wit et al., 2000; Forman et al., 1990; LoSciuto et al., 1996). However, there is evidence

from one CNRT – to suggest that a weakly implemented LST programme may be associated with long-term iatrogenic effects, and decreases in positive, school-based outcomes (Gottfredson et al., 1996). Applicability Rating B.

b) School-based counselling and therapy

School-based counselling or therapy interventions were examined in 11 studies.

Evidence Statement 24.1

There is evidence from one RCT ++ to suggest that brief, single substance interventions can be more effective at producing short term reductions in alcohol use, than interventions targeting multiple substances (including alcohol) (Werch et al., 2005). Applicability Rating A.

Evidence Statement 24.2

There is evidence from one CNRT – to suggest that in younger children, a group counselling approach can reduce alcohol use. However, in older children a group counselling approach may be associated with an increase in use of both cannabis and alcohol (Valentine et al., 1998). Applicability Rating C.

Evidence Statement 25

There is evidence from one RCT ++ to suggest that a brief, alcohol specific intervention can more effective at changing attitudes to alcohol, than interventions targeting multiple substances (including alcohol). Applicability Rating A.

Evidence Statement 26

There is inconsistent evidence about the effectiveness of school based counselling and therapy on behavioural and social functioning in young people. Some evidence suggests that these interventions can lead to potentially harmful outcomes in young people.

26.1 There is evidence from one RCT – to suggest that a combination of individual and group counselling sessions can produce short and medium term improvements in a range of social behaviours (Reynolds and Cooper, 1995). However, there is

evidence from one CNRT – to suggest that over the course of a 3-year programme such an approach may be associated with an increase in antisocial behaviour and poor educational outcomes in older children (Valentine et al., 1998). Applicability Rating C.

26.2 There is evidence from one CNRT – to suggest that although school based diversionary schemes may produce long term increases in mathematical achievement, participation may also be associated with a decrease in self esteem and school attendance when compared with an academic assistance programme (Flores-Fahs et al., 1997). Applicability Rating C.

26.3 There is evidence from one CBA – to suggest that a multidimensional school wide improvement programme has no long-term effects upon engagement with a wide range of (external) health services (Britto, 2001). Applicability Rating C.

26.4 There is evidence from one CNRT – to suggest that school based social work schemes may produce long term decreases in reported thefts and truanting (Bagley and Pritchard, 1998). Applicability Rating A.

Black and Minority Ethnic populations

A total of 5 systematic reviews and 41 primary studies were identified, all from the USA, which examined interventions targeting populations of specific ethnicities or mixed ethnicities. Interventions were categorised according to whether they were: school-based; community-based; family-based or multicomponent programmes. Four studies examined interventions that not fit within these categories and included interventions delivered across multiple settings, early intervention programmes; brief preventive interventions and mentoring programmes.

School-based interventions

A total of 3 systematic reviews and 11 primary studies (9 RCT, 1 CBA and 1 BA) examining school-based interventions for vulnerable or disadvantaged BME groups were identified.

Evidence Statement 27

There is evidence to suggest that school-based programmes for minority youth can have positive effects on alcohol and cigarette use, however there is inconsistent evidence about their effectiveness in reducing cannabis and other drug use:

27.1 There is evidence from one SR ++ to suggest that school-based interactive programmes (i.e. those involving discussion) can be more effective than non-interactive programmes (e.g. a lecture) in reducing substance use in populations of minority students (Tobler et al., 2000). Applicability Rating C

27.2 There is evidence from four RCT + to suggest that school-based life skills training (LST)/resistance skills interventions may reduce tobacco and alcohol use compared to no intervention in populations of mixed ethnicity in the short, medium and long term (Botvin et al., 1995; Botvin et al., 1997; Botvin et al., 2001; Hecht et al., 2003). Applicability Rating C

27.3 There is inconsistent evidence from four RCT + about the effectiveness of school-based life skills training/resistance skills interventions in reducing cannabis use in populations of mixed ethnicity in the short and long term (Botvin et al., 1995; Botvin 1997; Botvin et al., 2001; Hecht et al., 2003). Applicability Rating C

Evidence Statement 28

There is inconsistent evidence about the effectiveness of school-based programmes for minority youth can have inconsistent effects on risk and protective factors related to substance use:

28.1 There is evidence from two RCT + to suggest that school-based interventions can produce long term increases in smoking and drinking-related knowledge and reduce intentions to use alcohol and tobacco in populations of mixed ethnicity, but did not impact on knowledge or intentions related to cannabis and other drugs (Botvin et al., 1995; Botvin et al., 2001). Applicability Rating C.

28.2 There is inconsistent evidence from three RCT + about the effectiveness of life skills training/resistance skills interventions in improving substance refusal skills in populations of mixed ethnicity in the long term (Botvin et al., 1995; Botvin et al., 2001; Hecht et al., 2003). Applicability Rating C.

28.3 There is evidence from one RCT + that a school-based, peer leadership intervention has no effects on outcomes related to risk and protective factors for drug

use in those trained to be peer leaders in the short term (Colnes et al., 2000). Applicability Rating C.

28.4 There is evidence from one RCT – to suggest that video prevention interventions may have no effect on risk and protective factors related to substance use in groups of Latino/Hispanic students (Polansky et al., 1999). Applicability Rating D.

Community-based interventions

A total of 12 primary studies (3 RCT, 5 CNRT and 4 BA) examining community-based interventions in vulnerable or disadvantaged BME groups were identified.

Evidence Statement 29

29.1 There is evidence from 1 RCT + to suggest that a CD-ROM intervention targeting mixed populations of minority youth can reduce monthly substance use in the long term compared to no intervention. Delivering the intervention in combination with parent workshops does not appear to increase effectiveness with regard to cigarettes and cannabis use; however an additional decrease in monthly alcohol use may be observed (Schinke et al., 2004a). Applicability Rating C.

29.2 There is evidence from one RCT – to suggest that culturally-tailored skills training can produce long term reductions in substance use in a Native American community. Delivering skills training alone appears more effective than delivering the intervention in combination with community mobilisation. Furthermore, evidence from one CNRT – suggests that community activities have no effect on substance use, with the exception of smokeless tobacco use (Schinke et al., 2000; Cheadle et al., 1995). Applicability Rating D.

29.3 There is insufficient and inconsistent evidence from 1 CNRT – and 4 BA studies (2 CBA -; 2 BA -) to determine whether youth group activities are effective in reducing substance use in primarily African American populations and populations of mixed ethnicity (Marcus et al., 2004; Gottfredson et al., 2004; Sutherland et al., 1997; Harrington and Donohew, 1997; Zane et al., 1998). Applicability Rating C.

Evidence Statement 30

There is insufficient and inconsistent evidence to determine whether community-based interventions have effects on risk and protective factors related to substance use in minority populations:

30.1 There is evidence from one RCT – to suggest that substance use prevention messages delivered by role play or by a computer programme produce some positive effects on attitudes to substance use, but not intentions, immediately following intervention, in populations of mixed ethnicity compared to no intervention. There is evidence to suggest that role-play interventions may have more impact on refusal skills than a computer-delivered intervention (Schinke et al., 2004b). Applicability Rating C.

30.2 There is evidence from one RCT – to suggest that a risk and resilience interventions targeting Hispanic females are not effective in increasing substance-related knowledge, attitudes and intentions or self-efficacy and resilience (Lindenberg et al., 2002). Applicability Rating D.

30.3 There is evidence from one RCT + to suggest that a CD-ROM intervention with the addition of parenting workshops is more than the CD-ROM intervention alone or no intervention in improving long-term family involvement. There is evidence that the CD-ROM intervention with and without parent workshops is more effective than no intervention in improving peer influence (Schinke et al., 2004a). Applicability Rating C.

30.4 There is evidence from one CNRT – to suggest that after school programmes delivered to populations of mixed ethnicities have few positive effects on risk factors related to substance in the medium term (Gottfredson et al., 2004). Applicability Rating C.

Family-based interventions

A total 9 primary studies (4 RCT, 1 CBA, 3 BA) examining family-based interventions in vulnerable or disadvantaged BME groups were identified.

Evidence Statement 31

There is inconsistent evidence from one RCT +, one CBA – and one BA – about the effectiveness of family-based interventions in changing substance use behaviours in populations of mixed ethnicities:

31.1 There is evidence from one RCT + to suggest that family-based interventions targeting Hispanic populations are no more effective than programmes targeting other health behaviours in reducing abstinence from or initiation of substance use in the long term (Prado, 2005). Applicability Rating D.

31.2 There is evidence from two BA studies (1 CBA - and 1 BA -) to suggest that family-based interventions can have positive impacts on substance use in the immediate term (Prado, 2005; Aktan et al., 1996; Bruce and Emshoff, 1992). Applicability Rating C.

Evidence Statement 32

There is evidence from three RCT + to suggest that family based interventions can positively impact on some secondary outcomes, including child participation in family meetings, bonding to school, and regulated communication parenting, but not others (number of family meetings and parental monitoring) in predominantly African American families in the immediate short term (Aktan et al., 1996; Brody et al., 2004; 2005; Bruce and Emshoff, 1992; Emshoff et al., 1996; Houge et al., 2002; Spoth et al., 2003; Applicability Rating C.

Multicomponent programmes

A total of 5 primary studies (1 CNRT, 1 CBA, 3 BA) examining multicomponent interventions in vulnerable or disadvantaged BME groups were identified.

Evidence Statement 33

There is insufficient evidence to determine whether multicomponent programmes targeting young minority populations are effective in reducing substance use.

33.1 There is evidence from two BA studies (1 CBA + and 1 BA -) to suggest that multicomponent programmes may not reduce substance use immediately following intervention (Godley and Velasquez, 1998; Stevenson et al., 1998). Applicability Rating C

Evidence Statement 34

There is inconsistent evidence from one CNRT + and four BA studies (1 CBA + and 3 BA –) to determine whether multicomponent interventions are effective in reducing risk factors related to substance use:

34.1 There is evidence from one CNRT + to suggest that multicomponent interventions targeting populations of young African Americans may be no more effective than no intervention in improving substance-related knowledge and attitudes, family functioning and self-esteem (Cherry et al., 1998). Applicability Rating C.

Other interventions

Of those studies examining 'other' interventions delivered to vulnerable or disadvantaged BME groups, two systematic reviews examined interventions delivered across more than one setting; one RCT examined an early intervention programme delivered to preschool children; two RCTs examined mentoring programmes and one RCT examined a brief preventive intervention.

Evidence Statement 35.1

There is evidence from one SR ++ and one SR + to suggest that interventions incorporating cultural values are no more effective in reducing substance misuse than interventions that do not (Bledsoe 2002; Yuen 2004). Applicability Rating B.

Evidence Statement 35.2

There is also evidence from one SR + that drug prevention programmes targeting populations of mixed ethnicities which incorporate refusal skills training are more effective in reducing substance misuse than programmes that do not (Bledsoe 2002). Applicability Rating B.

Evidence Statement 36

There is evidence from 1 RCT + to suggest that specialised, early educational interventions that include participation in a pre-school curriculum may be effective in reducing in cannabis use in the long-term but not other substance use behaviours, in a predominantly African American population, (Campbell et al., 2002). Applicability Rating C.

Evidence Statement 37

There is evidence from one RCT – to suggest that mentoring for longer than 12 months may have long term, beneficial impacts on substance use among African American and minority ethnic populations (Rhodes et al., 2005). Applicability Rating C.

Evidence Statement 38

There is evidence from one SR + to suggest that interventions including refusal skills training can have a greater effect on behavioural outcomes related to substance use than interventions not incorporating this approach (Bledsoe, 2002). Applicability Rating B.

Evidence Statement 39

There is evidence from one RCT + to suggest that specialised, early educational interventions, which include a pre-school curriculum, can positively impact on years of education and engagement in skilled labour in a predominantly African American population in the long term. There is evidence that the intervention may not impact on criminal behaviours (Campbell et al., 2002). Applicability Rating C.

Evidence Statement 40

There is evidence from one RCT + to suggest that a universal intervention can be less effective in improving social skills in a young BME population with a diagnosis of conduct disorder compared to those without the diagnosis (Fishbein et al., 2006). Applicability Rating C.

Evidence Statement 41.1

There is evidence from two RCT – to suggest that mentoring has no immediate effects on attitudes to substance use, self-esteem, grades or school absences and no long term effects on self-worth, peer relations or parental relationships (Rhodes et al., 2005; Royse, 1998). Applicability Rating C.

Evidence Statement 41.2

There is evidence from one RCT – to suggest that mentoring for longer than 12 months can produce long term improvements in parental relationships (Rhodes et al., 2005). Applicability Rating C.

Evidence Statement 41.3

There was evidence from one RCT – to suggest that mentoring may reduce conservative attitudes to substance use in the long term (Royse et al., 1998). Applicability Rating C.

Young people in families with substance using members

A total of 17 studies were identified which examined interventions targeted towards or involving young people with a substance using family member (i.e. parent, sibling or carer). Interventions were categorised according to whether they were: multicomponent programmes; home visitation interventions or behavioural or skills based interventions. Three studies examined interventions that did not fit within these categories and included a child outreach programme; a multicomponent intervention for pregnant or parenting adolescents and an education programme for pregnant adolescents.

Multicomponent interventions

A total of 5 primary studies (two RCT +, one CNRT -, two BA -) were identified that examined multicomponent interventions for young people in families with substance using members.

Evidence Statement 42

There is evidence from two RCT + to suggest that multicomponent interventions targeting parental drug use and parenting practices in combination with drug treatment have no effect on children's drug use in the short, medium or long term compared to treatment only (Catalano et al., 1999; Catalano et al., 2002). Applicability Rating B.

Evidence Statement 43

There is evidence from two RCT + to suggest that multicomponent interventions targeting parental drug use and parenting practices in combination with drug

treatment have no effects on children's behavioural outcomes or school and family factors in short, medium or long term compared to treatment only (Catalano et al., 1999; Catalano et al., 2002). Applicability Rating B.

Evidence Statement 44.1 There is evidence from two RCT + and one CRNT + to suggest that parenting programmes combined with drug treatment can improve parental outcomes in terms of problem-solving, parenting practices and depression although there are few intervention effects on family factors such as bonding and conflict (Catalano et al., 1999; Catalano et al., 2002; Whiteside-Mansell, 1999). Applicability Rating B.

Evidence Statement 44.2

There is evidence from one RCT +, one CNRT – and one BA – which also suggest that parenting programmes may help drug-using parents to stabilise or reduce their own use in the short to medium term (Catalano et al., 1999; Magura et al., 1999; Whiteside-Mansell, 1999). Applicability Rating B.

Home visitation

One SR and four primary studies (3 RCT and 1 CBA) were identified that examined home visitation interventions for families with substance using members.

Evidence Statement 45

There is evidence from one RCT + to suggest that in the long-term there is no difference in substance use between children with drug-using mothers who receive home visitation at birth and those who do not (Olds et al., 1998). Applicability Rating B.

Evidence Statement 46.1

There is evidence from one RCT + to suggest that adolescents who receive home visitation as infants do not have improved outcomes of dysfunctional behaviours. In addition, there is evidence to suggest that although stops by police may be higher, there are fewer arrests and convictions in the long term among children who receive home visitation at birth compared to those who do not (Olds et al., 1998). Applicability Rating B.

Evidence Statement 46.2

There is insufficient evidence[3] from two RCTs (1 + and 1 -) to determine whether home visitation may produce positive effects on children's developmental progress (Black et al., 1994; Nair et al., 2003). Applicability Rating B.

Evidence Statement 47

There is insufficient evidence to determine the effects of home visitation on parental drug use:

47.1 There is evidence from one RCT + to suggest that home visitation does not produce long term increases in the number of mothers who are drug free compared to no visits and from two RCTs (1 +, 1 -) to suggest that there are no effects of home visitation on parenting stress or child abuse potential compared to no visits (Black et al., 1994; Nair et al., 2003). Applicability Rating B.

Behavioural/skills-based interventions

Four primary studies (two RCT, one CNRT, and one BA) were identified that examined behavioural or skills interventions for families with substance using members.

Evidence Statement 48

There is insufficient evidence to determine whether behavioural and skills training interventions for young people with substance using parents or other family members are effective in reducing substance use.

Evidence Statement 49

There is inconsistent evidence to determine whether behavioural and skills training interventions, delivered to young people with substance-using parents or other family members, are effective at reducing or improving risk and protective factors related to substance use:

49.1 There is evidence from one RCT – to suggest that support groups combined with peer mentor training can increase negative attitudes to substance use and from two RCT – to suggest that support group programmes can be effective at improving

[3] Please see Section 6 for a discussion of the limitations of the review.

intervention-targeted outcomes such as emotion-focused coping and self-esteem in the short to medium term. (Horn, 1998; Short et al., 1995). Applicability Rating B.

Other interventions

Of those studies examining 'other' interventions delivered to families with substance using members, one RCT examined a child outreach programme; one CNRT examined a multicomponent intervention for pregnant or parenting adolescents and one CNRT examined an education programme for pregnant adolescents.

Evidence Statement 50

There is insufficient evidence to determine whether interventions targeting young pregnant or parenting adolescents are effectiveness in reducing drug use behaviour:

50.1 There is evidence from one CNRT + to suggest that self-administered drug education programmes for pregnant adolescents do not impact on substance use behaviours in the medium term (Sarvela and Ford, 1993). Applicability Rating B.

50.2 There is evidence from one CNRT + to suggest that multicomponent interventions targeting adolescent mothers, which include drug rehabilitation, may reduce drug use in the medium term compared to no intervention (Field et al., 1998). Applicability Rating C.

Evidence Statement 51.1

There is evidence from one RCT – to suggest that high levels of engagement of mothers in outreach programmes may be linked to improved prosocial behaviour in their children (Nye et al., 1995). Applicability Rating C.

Evidence Statement 51.2

There is insufficient evidence to determine whether interventions targeting young pregnant or parenting adolescents are effectiveness in reducing a range of secondary outcomes related to substance use:

51.2.1 There is evidence from one CNRT + to suggest that self-directed learning improved substance-related knowledge but no effect on attitudes to substance use, immediately following intervention (Sarvela and Ford, 1993). Applicability Rating B.

51.2.2 There is evidence from one CNRT + to suggest that multicomponent interventions including drug rehabilitation and vocational training can decrease self-reported psychopathology (including stress and depression) and improve educational and employment outcomes. Applicability Rating C.

Young substance users

A total of 4 SRs and 18 primary studies were identified that examined interventions targeted specifically at young people who reported substance use but not substance dependence. Interventions were categorised according to whether they comprised: a brief intervention or motivational interviewing; family therapy, or counselling/therapy sessions for adolescents. Four studies examined interventions that did not fit within these categories and included a US-based Midwestern Prevention Programme; a contingency-management based intervention, and a parenting programme.

Brief intervention or motivational interviewing

A total of two SRs and 6 primary studies (4 RCT, 1 CNRT and 1 BA) were identified that examined brief interventions or motivational interviewing for young people who reported substance use but not substance dependence.

Evidence Statement 52.1

There is evidence from one SR +, two RCTs (1 + and 1 -) and one CNRT – to suggest that motivational interviewing and brief intervention can have short term effects on the use of cigarettes, alcohol and cannabis (Tait and Hulse, 2003; McCambridge and Strang 2004; Oliansky et al., 1997; Aubrey, 1998). Applicability Rating A.

Evidence Statement 52.2

There is evidence from one RCT + to suggest that motivational interviewing does not have a medium term impact on the use of cigarettes, alcohol or cannabis (McCambridge and Strang, 2005). Applicability Rating A.

Evidence Statement 53.1

There is evidence from one RCT + to suggest that a single session of motivational interviewing can have a positive impact on attitudes, intentions and behavioural outcomes related to substance use in the short term (McCambridge and Strang,

2004). However, there is evidence from one RCT + to suggest that these positive effects do not last in the medium term (McCambridge and Strang, 2005). Applicability Rating A.

Evidence Statement 53.2

There is evidence from one RCT + to suggest that brief intervention enhanced with additional support has a positive impact on attendance at community treatment agencies and psychological well being compared to usual hospital treatment (Tait et al., 2004). Applicability Rating B.

Family therapy

A total of two SRs and 5 primary studies (5 RCT), were identified that examined family therapy interventions for young people who reported substance use but not substance dependence.

Evidence Statement 54.1

There is evidence from one SR + and three RCTs (2++ and 1+) to suggest that family therapy is more effective at reducing substance use than other types of group therapy interventions immediately following treatment (Austin et al., 2005; Liddle et al., 2001; Liddle et al., 2004; Joanning et al., 1997). Applicability Rating B.

Evidence Statement 54.2

There is evidence from one SR + and one RCT ++ to suggest that multidimensional family therapy is more effective at reducing substance use than other approaches to treatment in the short to medium term (Austin et al., 2005; Liddle et al., 2001). Applicability Rating B.

Evidence Statement 54.3

There is evidence from two RCT – to suggest that brief family therapy interventions are more effective than group therapy in producing immediate reductions in cannabis use (Santisteban et al., 2003) and overall substance use (Lewis et al., 1990). Applicability Rating B.

Evidence Statement 55.1

There is evidence from one SR + and two RCTs (1 ++ and 1 -) to suggest that family therapy interventions may have more positive impacts on social behaviours than group therapy or individual therapy, immediately following treatment (Elliott et al.,

2005; Liddle et al., 2001; Liddle et al., 2004; Santisteban et al., 2003). Applicability Rating C.

Evidence Statement 55.2

There is evidence from three RCTs (2 ++ and 1 +) to suggest that family therapy interventions are no more effective in improving school or family-related factors compared to educational or group therapy approaches in the immediate or medium term (Liddle et al., 2001; Liddle et al., 2004; Joanning et al., 1997). Applicability Rating B.

Counselling or therapy sessions for adolescents

A total of four primary studies (1 RCT, 1 CNRT, 1 CBA and 1 BA), were identified that examined counselling or therapy sessions for young people who reported substance use but not substance dependence.

Evidence Statement 56.1

There is evidence from one RCT + to suggest that motivational enhanced treatment combined with cognitive behavioural therapy is no more effective than other types of approaches in reducing cannabis, alcohol or other drug use in the medium term (Dennis et al., 2004). Applicability Rating C.

Evidence Statement 56.2

There is insufficient evidence from one CBA + and one BA - to determine whether other types of counselling and behaviour therapy interventions targeting young substance users are effective in reducing substance use.

Evidence Statement 57

There is insufficient evidence from one CNRT – and one CBA + to determine whether counselling and behavioural therapy interventions targeting young substance users are effective in reducing risk behaviours related to substance use.

Other Interventions

Of those studies examining 'other' interventions delivered to young people who reported substance use but not substance dependence, one RCT examined a US Midwestern Prevention Programme, one BA study examined a contingency-management based intervention, and one CNRT examined a parenting programme.

Evidence Statement 58

There is evidence from one RCT – to suggest that universal, community-based programmes delivered to existing substance users may produce short and long term decreases in alcohol use, short term decreases in cigarette use but no change in cannabis use (Chou et al., 1998). Applicability Rating C.

Evidence Statement 59

There is preliminary evidence from one RCT + to suggest that skills training for parents of young substance users is effective in producing immediate reductions in cannabis use among young substance users compared to no intervention (McGillcuddy et al., 2001). Applicability Rating B.

Evidence Statement 60

There is insufficient evidence from one BA - to determine whether contingency-based management programmes with parent and child components are effective at reducing substance use in young users.

Evidence Statement 61

There is evidence from one RCT + to suggest that skills training programmes for parents of young substance users can produce an immediate improvement in parent coping but not other measures of parent and family functioning (McGillicuddy et al., 2001). Applicability Rating B.

Evidence Statement 62

There is insufficient evidence from one BA - to determine whether contingency-based management programmes with parent and child components had positive effects on risk factors related to substance use in young users.

Young people with behavioural and aggressive problems

A total of 7 primary studies were identified that targeted young people exhibiting disruptive, defiant, aggressive or disobedient behaviour, or more severe behavioural problems symptomatic of a conduct disorder. Interventions were categorised

according to whether they comprised multicomponent or single component programmes.

Multicomponent programmes

A total of 6 primary studies (6 RCT) were identified that examined multicomponent programmes for young people with behavioural and aggressive problems.

Evidence Statement 63

There is evidence from two RCT + to suggest that a multicomponent parent and child programme, the Coping Power programme, has an immediate and medium term impact on reducing use of alcohol, tobacco and cannabis compared to no intervention in children with aggressive and behavioural problems (Lochman and Wells, 2003; Lochman and Wells, 2004). Applicability Rating C.

Evidence Statement 64.1

There is evidence from six RCTs (1 ++, 4 + and 1 -) to suggest that multicomponent programmes (including child and parent components) targeting children with behavioural and aggressive problem behaviours can have a positive impact in reducing some problem behaviours compared to no intervention (August et al., 2002; Barrera et al., 2002; CPPRG, 2002; Lochman and Wells, 2002; Lochman and Wells 2003; Lochman and Wells 2004). Applicability Rating C.

Evidence Statement 64.2

There is evidence from one RCT ++ to suggest that a multicomponent programme (Early Risers programme) can produce long-term improvements in social skills, academic achievement and parental discipline, but not self-regulation problems, compared to no intervention (August et al., 2002). Applicability Rating C.

Single component programmes

One primary study (RCT) was identified that examined a single component programme for young people with behavioural and aggressive problems.

Evidence Statement 65

There is evidence from one RCT – to suggest that a modified version of LST may be no more effective than no intervention at reducing cigarette and alcohol use in young

people (aged 11 to 12 years) with behavioural and aggressive disorders, immediately following intervention (Vitaro and Dobkin, 2001). Applicability Rating C.

Evidence Statement 66

There is evidence from one RCT – to suggest that a modified version of LST is more effective than no intervention in increasing knowledge and negative attitudes to cigarettes, but not alcohol or cannabis in young people (aged 11 to 12 years) with behavioural and aggressive disorders, immediately following intervention (Vitaro and Dobkin, 2001). Applicability Rating C

Young offenders

A total of ten primary studies were identified which examined drug prevention interventions in populations of young offenders. Interventions were categorised according to whether they comprised: counselling or behavioural therapy, or educational or skills based programmes. Two studies examined interventions that did not fit within these categories and included a multicomponent intervention and a juvenile drug court.

Counselling or behavioural therapy

A total of two primary studies (2 RCT) were identified that examined counselling or behavioural therapy for young offenders.

Evidence Statement 67

There is evidence from one RCT + to suggest that multisystemic therapy may be more effective than “usual services” at reducing “soft” drug use by young offenders in the immediate term (Hengeller et al., 1991). Applicability Rating C.

Evidence Statement 68

There is evidence from one RCT + to suggest that multisystemic therapy may be more effective than individual focused counselling in tackling recidivism in young offenders in the immediate term (Hengeller et al., 1991). Applicability Rating C.

Educational or skills based programmes

A total of six primary studies (3 RCT, 1 CNRT and 2 BA) were identified that examined counselling or behavioural therapy for young offenders.

Evidence Statement 69.1

There is evidence from one RCT – to suggest that neither a modified version of LST or a combined anti-violence and values clarification programme are effective in reducing substance use among young offenders in the short term (Friedman and Utada, 1992). Applicability Rating C.

Evidence Statement 69.2

However, there is evidence from one RCT – to suggest that a combined programme of LST, anti-violence and values clarification can produce short-term reductions in substance use by young offenders compared to no intervention (Friedman et al., 2002). Applicability Rating C.

Evidence Statement 70.1

There is evidence from two RCTs (1 + and 1 -) to suggest that educational and skills based interventions are effective in improving knowledge, attitudes, skills and behaviours related to substance use in young offenders in the immediate to short term (Friedman and Utada, 1992; Hawkins et al., 1991;). Applicability Rating C.

Evidence Statement 70.2

There is evidence from one RCT – to suggest that a combined programme of LST and anti-violence and values clarification may not have an impact on illegal and violent offences or school problems in a population of young offenders, compared to no intervention (Friedman et al., 2002). Applicability Rating C

Other

Of those two studies examining 'other' interventions delivered to young offenders, one BA examined a multicomponent intervention, and one CBA examined a juvenile drug court.

Evidence Statement 71

There is insufficient evidence from one BA - to determine whether multicomponent interventions for young offenders are effective in reducing substance use.

Evidence Statement 72

There is insufficient evidence from one BA - to determine whether multicomponent interventions are effective in reducing risk factors related to substance use in young offenders.

Evidence Statement 73

There is insufficient evidence from one CBA - to determine whether drug courts for young people have positive effects on risk factors related to substance in young offenders.

73.1 There is evidence from one CBA – to suggest that juvenile drug court programmes are no more effective than drug education and treatment in reducing the long-term frequency of being arrested (Sloan et al., 2004). Applicability Rating C.

School dropouts, truants and underachievers

A total of 12 primary studies were identified which examined drug prevention interventions for school dropouts, truants and underachievers. Interventions were categorised according to whether they comprised: educational or skills based programmes or multicomponent interventions.

Educational/skills-based interventions

A total of 10 primary studies (7 RCT and 3 CNRT) were identified that examined educational or skills-based interventions for school dropouts, truants and underachievers.

Evidence Statement 74.1

There is evidence from two RCT + to suggest that a classroom-based social influence intervention (Project TND) has inconsistent long-term effects but positive medium-term effects on “hard drug use” amongst youth in alternative education provision. Medium- and long-term intervention effects on use of other substances (alcohol, tobacco and cannabis) are inconsistent. (Sussman et al., 1998; Sun et al., 2006; Sussman et al., 2002b; Sussman et al., 2003). Applicability Rating D.

Evidence Statement 74.2

There is evidence from two RCT + to suggest that the addition of a community-based component to Project TND does not increase programme effectiveness (Sussman et al., 1998; Sun et al., 2006) and that health-educator delivered interventions are more effective than a self-instruction programme in reducing subsyance use (Sussman et al., 2002b; Sussman et al., 2003). Applicability Rating D.

Evidence Statement 74.3

There is inconsistent evidence from one RCT + and two CNRT – about the effectiveness of skills based interventions in preventing or reducing substance use in students identified as at risk of school dropout (Cho et al., 2005; Eggert et al., 1994; Thompson et al., 1997). Applicability Rating C.

Evidence Statement 75.1

There is evidence from two RCT - to suggest that a social influence intervention (Project TND) is effective in producing very short-term improvements in substance-related attitudes and knowledge within youth in alternative education provision (Sussman et al., 1995; Sussman et al., 2002a). There is evidence to suggest that the programme is more effective when delivered actively rather than passively (Sussman et al., 1995). Applicability Rating D.

Evidence Statement 75.2

There is evidence from two CNRT – to suggest that skills based interventions are effective at improving grades in the immediate and short term in students identified as at risk of school dropout, although effects on school absences are less clear (Eggert et al., 1990; Eggert et al., 1994). Applicability Rating C.

Evidence Statement 75.3

There is evidence from one RCT + to suggest that a programmed intervention approach (Reconnecting Youth) has no effects on grades, school connectedness or anger. In addition, there is evidence to suggest that intervention may decrease conventional peer bonding and increase peer high-risk behaviours in the short term (Cho et al., 2005). Applicability Rating C.

Multicomponent interventions

A total of two primary studies (2 BA) were identified that examined educational or skills-based interventions for school dropouts, truants and underachievers.

Evidence Statement 76

There is insufficient evidence from one BA - to determine whether multicomponent interventions are effective in preventing or reducing substance use in students identified as at risk of school dropout, truants or students in alternative education provision.

Evidence Statement 77

There is insufficient evidence from two BA - to determine whether multicomponent interventions have positive effects on risk factors related to substance use in young people identified as at risk of school dropout, truants or students in alternative education provision.

Other populations

Nine studies were identified which covered specific vulnerable or disadvantaged populations of young people at risk of substance misuse not captured by the preceding population groups. These include: high sensation seekers; homeless young people; children of divorce; institutionalised youth; abused females and latchkey[4] students.

High sensation seekers

Two primary studies (2 CNRT) were identified that examined the SENTAR (Sensation Seeking Targeting) intervention, which consisted of an anti-cannabis television campaign targeted at high sensation seeking individuals.

Evidence Statement 78

There is insufficient evidence from one CNRT - to determine whether television campaigns targeting high sensation seeking adolescents are effective at reducing self-reported cannabis use (Palmgreen et al., 2001). Applicability Rating C.

[4] Young people who lack parental supervision (e.g. parent is out at work) when they return home from school.

Evidence Statement 79

There is insufficient evidence from one CNRT - to determine whether television campaigns targeting high sensation seekers have effects on substance use knowledge, attitudes, and intentions to use (Stephenson et al., 1999). Applicability Rating C.

Homeless young people

Two primary studies (2 CNRT) were identified that examined peer led interventions for substance use prevention in young runaway and homeless people.

Evidence Statement 80

There is insufficient evidence from one CNRT - to determine whether substance use prevention interventions targeting young homeless people are effective in reducing their substance use.

80.1 There is evidence from one CNRT – to suggest that peer led interventions targeting young runaways and homeless people do not significantly impact on drug use (heroin and cocaine) in the short term (Booth et al., 1999). Applicability Rating C.

Evidence Statement 81

There is insufficient evidence from two CNRT - to determine whether substance use prevention interventions targeting young homeless people have any effect on risk and protective factors related to substance use.

81.1 There is evidence from one CNRT to suggest that peer led interventions are more effective than no intervention in increasing knowledge related to HIV but not high risk sex in the short term (Booth et al., 1999). Applicability Rating C.

81.2 There is evidence from two CNRT – to suggest that peer led interventions may encourage young runaways and young homeless people to reduce some risk-taking behaviours related to HIV and drug use in the short term (Booth et al., 1999; Fors and Jarvis, 1995). Applicability Rating C.

Children of divorce

Two primary studies (1 RCT and 1 CNRT) were identified that examined classroom-based interventions that targeted children of divorced parents.

Evidence Statement 82

There is evidence from one RCT + and one CNRT – to suggest that classroom-based interventions for children of divorced parents can have positive effects on some measures of psychological wellbeing (e.g. anxiety, self-esteem, composite mental health) at immediate post-test (Wolchik et al., 1993; Short, 1998). Applicability Rating C.

Institutionalised youth

One CBA was identified that examined a multi-component intervention for institutionalised youth.

Evidence Statement 83

There is insufficient evidence from one CBA - to determine whether multicomponent interventions targeting institutionalised youth are effective in preventing or reducing substance use Morehouse & Tobler (2000). Applicability Rating C.

Abused females

One RCT was identified that examined 'Project Chrysalis', a multicomponent school based intervention for youth identified as a victim of sexual, physical or emotional abuse.

Evidence Statement 84

There is inconsistent evidence from one RCT – about the effectiveness of multicomponent programmes in reducing substance use among abused females.

84.1 There is evidence from one RCT – to suggest that multicomponent school based intervention (comprising support groups, case management services, skill-building workshops and knowledge acquisition sessions) for young women identified as victims of sexual, physical or emotional abuse may be effective at reducing cannabis use in the long term but no have no effects on the initiation of alcohol or cigarette use (Brown and Block 2001). Applicability Rating C.

Evidence Statement 85

There is inconsistent evidence from one RCT – about the effectiveness of multicomponent programmes on secondary outcomes related to substance use in abused females.

85.1 There is evidence from one RCT – to suggest that multicomponent school based interventions (comprising support groups, case management services, skill-building workshops and knowledge acquisition sessions) for young women identified as victims of sexual, physical or emotional abuse may be effective at reducing suicide risk behaviour. (Brown and Block 2001). Applicability Rating C

Latchkey students

One CNRT was identified that examined the ADEPT Drug and Alcohol Community Prevention Project (ADACPP), a skills based programme for children between kindergarten and sixth grade.

Evidence Statement 86

There is insufficient evidence from one CNRT - to determine whether interventions targeting latchkey students have positive effects on risk factors related to substance use.

Conclusions

Despite a wide variety of approaches producing improvements in substance use knowledge and attitudes, regardless of the type of population targeted, few interventions resulted in a reduction of use behaviours that lasted beyond the immediate post-intervention assessment phase. It is therefore difficult to draw conclusions from the studies reviewed. Those approaches that demonstrated success tended address a wide variety of risk factors and problem behaviours rather than having an exclusive substance use focus. However, even for these types of approaches there was not a broad evidence base.

In general, for young people exhibiting multiple risk factors, family focused work showed most potential for success. Many parent and family focused interventions also produced significant improvements in some secondary outcomes of family

functioning (including positive parenting styles and child behaviour). This type of approach was also considered to have high applicability, after suitable adaptation, to UK settings. School based interventions were the most popular type of intervention, and skills training the most frequently evaluated model (whether programmed or generic). There was mixed evidence with regards to the success of this type of approach, with the balance of evidence suggesting that life skills approaches were associated with immediate and medium term reductions in substance use. However, a note of caution is warranted, as across relevant studies there was a heterogeneous population, and a high rate of attrition. Furthermore, there was often inconsistent effects of school-based skills training on substance use attitudes and norms, meaning more work is needed to identify underlying determinants of success (e.g. was success due to the attention paid, and support given, to vulnerable young people rather than to the content of the programme delivered?).

In BME populations there was evidence to suggest that school based interactive programmes could produce long term reductions in alcohol and tobacco use, but there was a general lack of effect upon cannabis and other illegal drugs. Cultural tailoring of interventions did not seem to be a pre-requisite for success. No studies addressed engagement of BME populations with interventions, something which has been highlighted to be a problem in the UK[5].

In children of substance users, the evidence suggested that whilst a range of family based programmes (e.g. home visitations, drug treatment) could have a significant impact upon parental outcomes, there was little evidence for effects upon the drug use or behaviour of the child.

In young substance users themselves, brief intervention and motivational interviewing only produced a short term reduction in the use of alcohol, cigarettes, and cannabis, although the longevity of effect was greater for community and family based work. Family based interventions were also associated with immediate improvements in family function.

In young people with aggressive and behavioural disorders one two year multicomponent family based programme, Coping Power (targeted at 9-11 year olds), was effective in reducing use of alcohol, tobacco, and cannabis and this was

[5] Fountain J, Bashford J, Winters M, Patel K (2003) Black and minority ethic communities in England: a review of the literature on drug use and related service provision. London, National Treatment Agency

associated with a reduction in problem behaviours. In contrast, a single component approach, LST, had no effect on substance use behaviours.

Despite extensive statutory services in most western countries, there was little research identified that examined drug use in young offenders. Multisystemic Family Therapy, a programme that targets the interaction of individual, family, peer, school, and environmental factors was more effective than usual criminal justice services at reducing both immediate drug use and criminal behaviour.

In individuals at risk of school dropout or exclusion there was research investigating substance use prevention, but the results of this was generally inconsistent. Furthermore, no studies were identified that attempted to intervene with substance use in non educational settings. Unless in contact with pupil referral units, school excludees and truants in the UK are unlikely to be in contact with specialist drug services.

Limitations of the review and evidence

Due to the rapid nature of this review it was not possible to fully explore the data and produce summaries such as effect sizes, confidence intervals, forest plots, odds ratios, and risk ratios. This would have been helpful in providing more general overall assessments of the data obtained. There was also great heterogeneity in some of the populations studied. The largest group of studies identified concerned young people with multiple risk factors. However, author definitions of ‘risk’ and ‘vulnerability’ were not consistent, and whilst some interventions targeted young people by using strict criteria (e.g. validated assessment scale), others relied on self report or the observations of (non-professional) observers such as teachers or carers. This means that findings from this population reported in this review should be considered very carefully in order to determine appropriateness for a supposed similar population group.

Evidence statements were generated on the basis of statistically significant outcomes ($p < 0.05$). This criterion was used in order to maintain consistency across studies. However, intervention approaches that were associated with outcomes that approached significance, perhaps indicating a trend towards success, would have been reported in the review as having no effect. Lack of statistical significance may

therefore have been due to the nature of the study design (e.g. insufficient power), and promising programme approaches would have been obscured.

The reader should also bear in mind that it is the nature of rapid reviews such as this that some sources of evidence will be overlooked. Whereas the literature search strategy used provided confidence that all interventions with substance-related foci were included, relevant approaches that may not have been documented with explicit reference to substance use will have been overlooked. Examples of this might include home visitation for young families or specialist psychological interventions for children with mental health concerns. Such interventions will be indirectly relevant to the populations studied here, even though addressing substance use was not a primary objective of the work. This is because of the complex interaction between a range of risk behaviours, including substance use.

This review identified a number of weaknesses in the evidence base, and these are discussed fully in the relevant sections of the main report. The most pertinent of these was the lack of good quality prevention initiatives originating from the UK. Only four such studies were identified (1.8% of the total number reviewed). The unprecedented increase in Government spending on initiatives addressing substance use since the introduction of the National Drugs Strategy in 1998 has not apparently been matched by research examining the effectiveness of interventions for vulnerable young people. As such, process, rather than outcome evaluation predominates. This may provide an overview of mechanisms of working in the UK, but nothing about whether the work has any impact upon the lives of the young people concerned.

Barriers to implementation

Because of the lack of UK research, evidence based drug prevention practice in the UK must therefore be drawn from the findings of international literature, predominantly the USA. Although this would pose less of a problem if the interventions described were standardised and clinically based, or concerned pharmacological, technological, or (manualised) psychotherapeutic interventions, public health interventions require additional considerations. Although both the USA and UK adhere to international protocol (e.g. United Nations International Drug Control Programme), responses to drug use are led by national policy and objectives (e.g. Stopping Use Before It Starts element of the National Drug control Strategy in

the USA, Be Healthy element of Every Child Matters in the UK) and are tailored accordingly. Hence USA based interventions primarily focussed on substance abstention and cessation of use. Whilst these are still important objectives they may not necessarily reflect the focus on wider risks and vulnerabilities in UK practice.

There are also more practical barriers to implementation. Although several individual, population, community and societal factors that modify risk and protection for substance use are shared between members of different countries and cultures, many others are not. Evidence indicating the success of an intervention targeting a particular factor, or adhering to a particular model therefore needs to be tested in local contexts.

Although school based interventions are the most popular type of prevention approach, the requirements of the UK National Curriculum means that specially programmed curricula, which are common in the USA, will not be implemented if they fall outside the objectives of PHSE.

Structural and political barriers to implementation have been discussed in an earlier document written by the review team and published by NICE[6]. These discussions are relevant to the current review and the reader is referred to this earlier work. They include:

- National and local strategy
- Current evidence
- Examples of 'best practice' and conflict/agreement with the evidence base
- Gaps in service provision
- Local strategies
- Local partner organisations
- Local champions
- Resources
- Cultural, organisational, and individual barriers to change
- Workforce issues
- Implications of other services if new evidence is put into practice

[6] Sumnall HR, McGrath YT, McVeigh J, Burrell K, Wilkinson L, Bellis MA (2006) Drug use prevention among young people. Evidence into practice briefing. London, NICE

Recommendations for future research

There is a clear need for more research into prevention approaches in the UK. Perhaps a major difference between the UK and the USA is in the existence of national bodies dedicated to substance use research. The National Institute on Drug Abuse, and Center for Substance Abuse Prevention have no precedents in the UK. Whilst initiatives such as the Young People Substance Misuse Partnership Grant supports local delivery of the young people aims of the UK National Drug Strategy, funding provision is not dependent upon the evaluation of outcomes. Initial work could focus on prevention research into key vulnerable groups (e.g. school excludees). As prevention practice is often determined by local needs, there will be great variation in ways of working and outcomes. A multisite evaluation of projects engaging with a particular population in different ways may therefore be useful.

The review identified major gaps in research for most of the groups identified. In particular; Young people who are (or have been) looked after by local authorities or in foster care; Young people who are (or have been) homeless or who move frequently; School excludees and truants; Young people involved in commercial sex work; Young people with behavioural conduct disorders; Young people with mental health problems. For some of these populations there is adequate substance use service provision, and research is therefore needed into the effectiveness of existing approaches. However, for most populations, basic levels of specialist substance use service are required before evaluation research can proceed.

Additional work is also needed to address the gaps in evidence for the majority of secondary outcomes. In particular; identification of characteristics of effective intervention facilitator; engagement of young people in interventions; implementation of interventions; wider health inequalities; stigmatisation of substance users; and community cohesion.

1 INTRODUCTION

1.1 Aims and objectives

This review was undertaken to support the development of guidance by the National Institute for Health and Clinical Excellence (NICE) on community-based interventions to reduce substance misuse among the most vulnerable and disadvantaged young people[7]. As such, it sought to examine what interventions are effective in reducing substance use or impact on the factors associated with the propensity to use substances in populations of disadvantaged and vulnerable young people.

1.2 Research questions

The following question was addressed:

- What interventions are effective in reducing substance misuse among the most vulnerable and disadvantaged children and young people, compared with one another or no intervention?

Each intervention was considered further by asking a number of additional questions (see below). Answering these sub questions was dependent upon the research design and data reported in the included studies. For example, it was not possible to draw conclusions about the influence of delivery (e.g. peer led, teacher lead, combination) upon effectiveness unless a study design had been used that specifically assigned participants to different delivery conditions and statistically compared them.

- What factors or determinants does it aim to influence? (For example, does it aim to modulate a particular risk factor such as promote resilience/protection.)
- How valid and appropriate are the outcome measures used to assess effectiveness? (For example, self-report versus biologically validated measures of substance misuse.)
- How does the content influence effectiveness?
- How does delivery influence effectiveness?

[7] see http://www.nice.org.uk/SubstanceMisuseInt

- Does the effectiveness of the intervention depend on the job title/position/characteristics of the person leading the intervention (for example, their age, gender, sexuality or ethnicity)? What makes someone effective?
- How does the site/setting influence effectiveness?
- How does the intervention's intensity or length influence effectiveness – or duration of effect?
- How does its impact vary according to the target population? (For example, in terms of their age, gender, sexuality, ethnicity, nature of vulnerability/disadvantage.)
- What are the most effective ways of engaging vulnerable and disadvantaged children and young people? (For example, what factors lead them to access, drop out or disengage from substance misuse prevention programmes?)
- Does the intervention have any impact on inequalities in health within and between different vulnerable and disadvantaged groups?
- How does the level and nature of substance misuse influence the intervention's effectiveness? (For example, does the type of user, substance/s used or length of use have an impact?)
- How much does it cost (in terms of money, people and time)?
- What are the barriers/facilitators to implementation? (For example, resistance from young people, policy drivers, funding and staff.)
- How acceptable is it to the target audience and their parents/carers?
- What are the adverse or unintended outcomes? (For example, stigmatisation or disruption of community cohesion)

2 BACKGROUND

2.1 Drug use

Young people aged between 16 and 24 years show the highest prevalence of drug use in the UK; Approximately 26% report having used at least one illicit drug in the previous year (Roe, 2005). The most frequently reported drug is cannabis followed by cocaine, and ecstasy, around 8% report using Class A drugs. Recent surveys of drug use in pupils aged 11 to 15 years show that although figures are down from the previous year, approximately 18% have taken drugs within the last year and 10% within the last month (Department of Health, 2005). Around 4% report use of Class A drugs. School pupils in the UK (aged 15-16 years) report some of the highest prevalence of drug use in the EU (Hibbell et al., 2004)

2.2 Overview of drug prevention

A new framework for classifying prevention, based on the groups they are aimed at, was proposed by The Institute of Medicine (Mrazek & Haggerty, 1994). It described three distinct types of approaches to prevention: universal, selective and indicated[8]. This approach replaced existing classification of interventions as primary (prevention targeted towards drug naïve individuals), secondary (prevention targeted towards existing drug users) and tertiary (relapse prevention in stabilised (ex) users). The new framework is more appropriate to the public health field as within populations more than one approach might be suitable

2.2.1 Universal prevention

Universal prevention programmes are designed to reach the general population or sub-sections of the general population such as individual communities or schools, regardless of the perceived risk of initiating drug use (Kumpfer, 2001). Children and young people are usually the focus of such universal programmes, with the emphasis on the prevention of precursors of drug use or the initiation of use. Universal prevention activities may include schools-based prevention programmes or mass media campaigns, or they may target whole communities, or parents and families.

[8] Targeted prevention encompasses selective and indicated prevention.

2.2.2 Selective prevention

Selective prevention programmes target groups or subsets of the population who may have already started to use drugs, or are at an increased risk of developing substance use problems compared to the general population, or both (Edmonds et al., 2005). Children excluded from school and the children of drug users are examples of groups that may be particularly vulnerable to drug use and misuse. Selective prevention programmes are generally longer and more intense than universal programmes (Kumpfer, 2001) and may directly target identified risk factors.

2.2.3 Indicated prevention

Indicated prevention programmes target individuals who may already have started to use drugs or exhibit behaviours that make problematic drug use more likely, but who do not yet meet DSM-IV[9] criteria for substance dependence. Indicated prevention activities are aimed at preventing or reducing continued use, and preventing problematic and harmful use. Interventions delivered may include assistance programmes, peer counselling programmes, parent-peer groups for troubled youth, telephone helplines, and crisis intervention (Kumpfer, 2001).

2.3 Vulnerable and disadvantaged young people

There are a number of characteristics of young people that have been identified as risk and protective factors for substance misuse. Those who are, or are likely to start, misusing drugs are also very likely to have other health and social problems, and problems at home and school (Department of Health & Drugscope, 2000). Figure 2.3.1 shows how substance use cannot be viewed in isolation. This model suggests that interventions which address one aspect of the risk profile may have indirect effects upon others.

There are some identifiable groups of young people who are more likely than others to experience multiple risk factors, and hence are more vulnerable to substance misuse. However, it should be noted that inclusion within one or more of the indicated groups is not an antecedent to problematic use. In addition, many young people will be part of multiple groups or transfer between groups, and there may be sub-sets of particularly vulnerable young people within these groups. Key groups identified include:

- Young offenders;

[9] Diagnostic and Statistical Manual of Mental Disorders [DSM-IV]

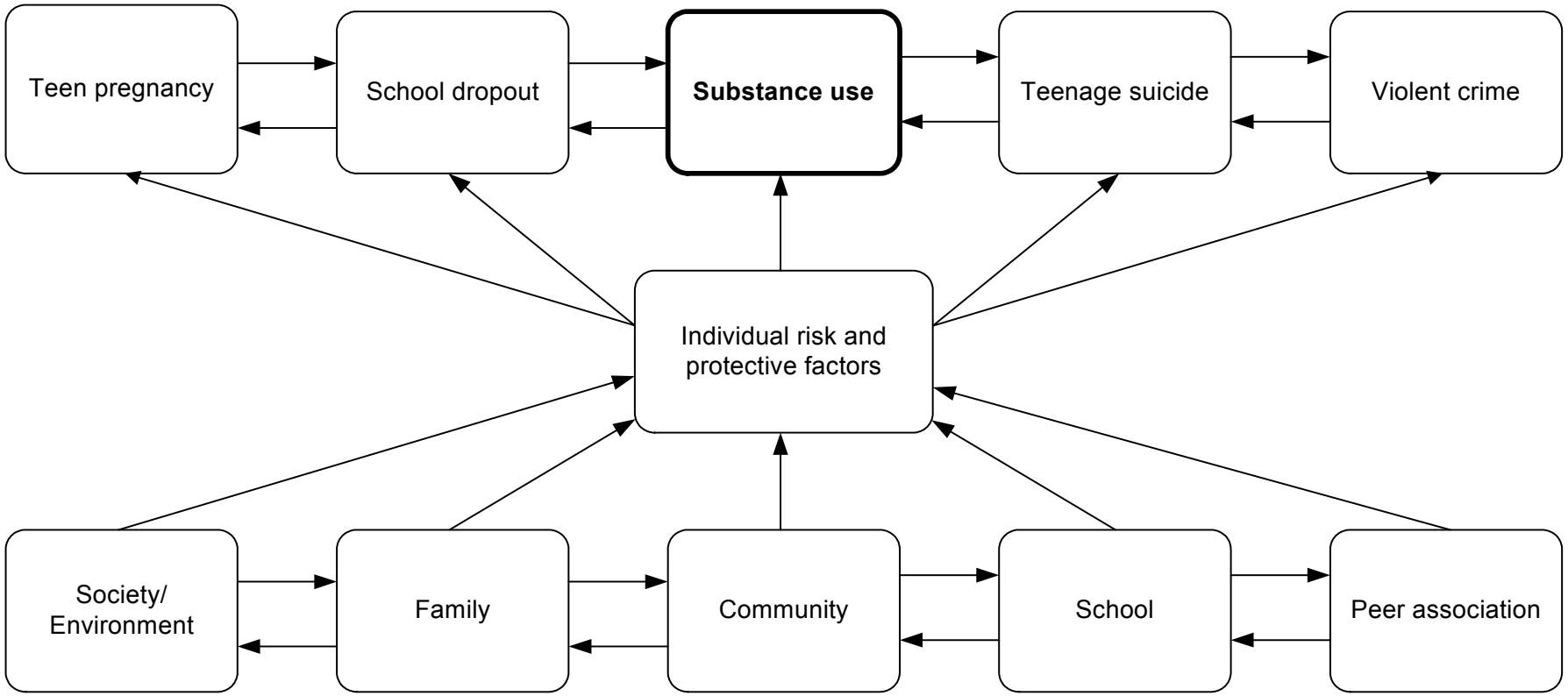
- Looked after children;
- Young homeless;
- Children whose parents or other family members misuse substances;
- Truants and school excludees; and
- Young sex workers (sometimes considered as sexually abused young people).

Young people from black and minority ethnic (BME) communities are also considered vulnerable because of the lack of needs assessment and relevant service provision. Social exclusion and deprivation are high in some of these communities and young people may face barriers to service access. Prevalence data indicates that, although rates are lower than their white counterparts, drug use is significant and increasing in these communities.

Data from the 2003 Crime Justice Survey (Becker & Roe, 2005) indicated that vulnerable groups of young people (aged 10 to 24 years) reported higher levels of drug use than their non-vulnerable peers and that they accounted for a disproportionate percentage of drug users. 24% of those identified as being vulnerable reported using drugs more than once a month in the past year compared to 5% of those who were not vulnerable; 16% reported using Class A drugs. Those in multiple vulnerable groups had higher levels of drug use than those in one group only. The Youth Lifestyle Survey 1998/99 (Goulden & Sondhi, 2003) also found that levels of use and ease of access to drugs were consistently higher.

Some young women have been found to have particularly complex and serious drug use problems (Department of Health & Drugscope, 2000). For example, the Youth Lifestyle Survey 1998/99 (Goulden & Sondhi, 2003) found that rates of drug use were higher among female excludees compared to their male counterparts, and in a survey of substance use by young offenders, women were found to account for a disproportionate number of drug injectors (Hammersley et al., 2003).

Figure 2.3.1 Diagram showing the interaction of risk and protective factors



3 METHODOLOGY

3.1 Literature search

The following databases were searched for primary studies and reviews:

- ASSIA
- CINAHL
- Cochrane CENTRAL
- Cochrane Database of Systematic Reviews (CDSR)
- Database of Abstracts of Reviews of Effects (DARE)
- Embase
- ERIC
- Medline
- PsycINFO
- Sociological Abstracts

Full details of the search strategies are given in Appendix 1. Studies published after 1990 were eligible for inclusion. The results of the searches were imported into a Reference Manager library and deduplicated. Because of the large volume of articles identified by the searches it was not possible to check the reference lists of retrieved articles, however, the reference lists of relevant reviews and book chapters were checked for relevant studies.

3.2 Selection of studies for inclusion

A large number of records were identified through the database searches (see Section 4.1) so initially one reviewer screened all titles, excluding those that were clearly not about drug use or drug prevention.

Following this initial screening process, two reviewers screened all of the remaining titles and abstracts. Full paper manuscripts of any titles/abstracts that were considered relevant by either reviewer were obtained where possible. Bibliographic details of studies that were not retrieved before the cut off date (31st May 2006) or were unavailable are reported in Appendix 7.

The relevance of each study was assessed according to the criteria set out below using a screening form in Microsoft Access (see Appendix 2). Studies that did not

meet the criteria were excluded and their bibliographic details listed with reasons for exclusion. Any discrepancies were resolved by consensus and if necessary a third reviewer was consulted.

3.2.1 Population

Eligible population included vulnerable and disadvantaged young people up to the age of 25 years old. Groups considered relevant included, but were not limited to:

- Young people whose parents or other family members misuse drugs
- Young offenders (including those who are incarcerated)
- Young people with behavioural conduct disorders[10]
- Young people with mental health problems
- Young people who are (or have been) looked after by local authorities or in foster care
- Young people who are (or have been) homeless or who move frequently
- School excludees and truants
- Young people involved in commercial sex work
- Members of some black and minority ethnic (BME) communities
- Members of some socio-economically deprived groups

Interventions delivered to the wider population of young people regardless of their level of risk for substance misuse (*universal interventions)* were excluded, unless they included a specific indicated or selective component (e.g. tiered interventions).

3.2.2 Intervention

All selective or indicated, community-based interventions that aimed to prevent or delay the initiation of substance use among vulnerable and disadvantaged young people, or which aimed to reduce or stop their substance use were eligible for inclusion. Community-based interventions were defined according to Potvin & Richard (2001) as: those micro-interventions or small-scale programmes delivered in community settings that seek to elicit changes in the risk behaviour of the targeted population. Universal interventions or programmes targeting the entire population were excluded, as were studies that were focused on preventing or reducing adverse physiological and psychological affects of substance use.

[10] NICE scope for technology appraisal guidance on 'Parent-training/education programmes for children with conduct disorders'. www.nice.org.uk/appraisals.inprogress.conductdisorder

The definition of substance use covered: any drugs (illicit or prescription), volatile substances and poly-substance use (all the above and including alcohol and tobacco). Interventions for the prevention and/or reduction of alcohol or tobacco use alone were not included unless these interventions were delivered as part of a broader strategy to reduce the use of poly-substances.

Treatment of drug or substance dependence or overdose and psychosocial treatment of drugs or substance dependence were not included as these topics are covered by separate NICE guidance and guidelines, currently under development.

3.2.3 Comparator(s)

Interventions were eligible if they were compared against no intervention or against each other.

3.2.4 Outcomes

The following primary outcomes were included in the review:

- A change in the number of participants who stop using substances;
- Changes in the use or frequency of substance use;
- Changes in the number of participants who start using substances;
- Changes in the time before initiation of substance use.

Measures included both self-report and validated measures of substance use.

Secondary outcomes:

- Changes in pattern of drug or volatile substance use. For example, changes in the method of use (e.g. injection to inhalation), the range of substances used (e.g. moving to or from poly-drug use), or type of substance used (e.g. moving from ‘class A’ to ‘class B’ drugs);
- Changes in risk or protective factors that are likely to affect a young person’s propensity to use substances. These might include those at an individual or family level (e.g. knowledge, intentions and attitudes toward drug-taking, school attendance, homelessness, family cohesion, social exclusion etc), and also those relating to community or process aspects (e.g. access to services, social capital, community cohesion);

- The 'Be Healthy Outcomes' outlined in 'Every child matters: change for children' delivery programme (DfES, the Home Office, and the DH) (for example, physical, mental, emotional and sexual health, and adoption of a healthy lifestyle).
- The engagement of communities, or vulnerable or disadvantaged young people, in an intervention or strategy
- Drug-related hospitalisation or death.
- Outcomes related to the criminal justice system. These included prosecutions or incarcerations as well as those outcomes identified in the 'Every child matters: change for children' delivery programme (DfES, the Home Office, and the DH), such as changes in anti-social or offending behaviour.

Outcomes were grouped according to five timeframes:

- Immediate term: up to and including 7 days
- Very short term: 8 days up to and including 31 days;
- Short term: > 1 month up to and including 6 months;
- Medium term: > 6 months up to and including 1 year;
- Long term: > 1 year

3.2.5 Study design

Editorials, non-systematic review articles and letters were excluded. Qualitative studies were not excluded *per se* but only considered for review if they reported on relevant primary or secondary outcomes. Furthermore, if a qualitative study reported relevant secondary outcomes (e.g. engagement) but did not explore how these outcomes influenced programme success then it was not considered for inclusion. For example, if a qualitative study examined perceived pathways to service engagement, without exploring whether these beliefs were upheld (in terms of actual engagement), then it was excluded.

3.3 Data extraction

One reviewer extracted data into an Access database form. An example of the form is presented in Appendix 2. Briefly, data from primary studies were extracted on: publication details, study objective, setting, participants, selection criteria, interventions, analyses and results. Data was extracted on both primary and secondary outcomes of interest (see Section 3.2.4). Systematic reviews were extracted into another form (see Appendix 2). Data were extracted on: publication

details, review parameters, outcomes, results and conclusions. If the review covered a range of intervention and populations, only data on those outcomes relevant to this review were extracted.

3.4 Quality appraisal

The quality of studies meeting the inclusion criteria for the review were assessed by one reviewer and checked for accuracy by a second. A random sample of 10% of the retrieved articles were independently checked by two reviewers and the intraclass correlation coefficient calculated.

The quality of the studies was determined by use of an appropriate checklist depending on the design of the study. Checklists used were those outlined in the NICE Centre for Public Health Excellence Methods Manual (version 1, 2006). The Randomised Controlled Trials methodology checklist was used to assess the quality of RCTs and controlled non-randomised studies. Whilst controlled non-randomised trials scored worse on items relating to randomisation and allocation concealment, they were not routinely downgraded because of non-randomisation. The controlled before and after studies methodology checklist was used to assess before and after studies (with and without a control group).

Each study was graded using a code, '++', '+' or '–', based on the extent to which the potential sources of bias have been minimised:

++ All or most of the criteria have been fulfilled. Where they have not been fulfilled the conclusions are thought very unlikely to alter.

+ Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately described are thought unlikely to alter the conclusions.

– Few or no criteria have been fulfilled. The conclusions of the study are thought likely or very likely to alter.

The results of the quality assessment for each systematic review and primary study were presented in structured tables (see Appendix 5) and discussed within the text.

3.5 Study categorisation

Studies were primarily categorised according to the population targeted, rather than intervention type, because the range of vulnerabilities across the included studies was heterogeneous. Many UK drugs services specialise their practice towards a particular group (e.g. young offenders) and utilise a wide variety of approaches. In addition, across the literature identified, interventions were often designed according to the needs of the targeted population. After population, studies were broadly categorised according to the type of intervention delivered, based on setting or content, and then by the outcomes reported (primary or secondary).

3.6 Assessing applicability

Applicability of the included studies to UK populations and settings was assessed using the following statements (NICE Methods Manual, version 1, 2006):

A Likely to be applicable across a broad range of settings and populations;

B Likely to be applicable across a broad range of settings and populations, assuming appropriately adapted;

C Applicable only to populations or settings included in the studies, and broader applicability is uncertain;

D Applicable only to settings or populations included in the studies.

Applicability was assessed across interventions and not individual studies because of time constraints and the large number of studies identified. The applicability rating was determined by referring to the population, intervention, policy, and structural similarities and differences between each of these factors. For example, an international intervention that described a classroom curriculum delivered in a school located in an area of high unemployment, or a brief intervention delivered in a doctor's surgery, would score A or B as UK drugs policy and the structure of drugs services would make it likely that a similar intervention could be delivered locally. However, interventions scoring C or D were those that were considered unlikely to be applicable in the UK because of a lack of policy priority, a non-equivalent population (e.g. a unique BME group) or setting (e.g. a national community based youth scheme), and/or intervention type (e.g. entirely individually tailored approach). An example might be an enforced intervention for young people convicted of a particular offence (e.g. compulsory drug treatment for cannabis users).

3.7 Synthesis

The full results of the data extraction for each systematic review and primary study are presented in Evidence Tables in Appendix 4. A summary of the data extraction for each study is presented as a summary table to accompany each evidence statement in Section 5. The summary tables presented significant (denoted by ↑ or ↓) and non-significant (⇔) changes in primary and secondary outcomes of the intervention(s) relative to the comparison group (or pre-test if no control was included).

A narrative approach to synthesis was undertaken since despite common primary outcome data (i.e. substance use), there was great variation across primary studies in how this was collected and reported. For example, substance use could be reported over a range of time periods (e.g. last week, month, year, lifetime etc); as binary (e.g. yes/no), continuous (e.g. number of occasions per month), and categorical data (e.g. estimated frequency of use); reported as outcomes for single (e.g. cannabis) or multiple drugs (e.g. 'alcohol, tobacco and other drug use'); be self reported or forensically validated; or collected through validated or researcher generated measures. This would have great implications for the appropriateness of pooling data across studies (eg as in meta-analytical syntheses or in graphical presentations such as Forest Plots) and may have only been suitable for studies sharing common designs and outcomes, such as reports generated from a programmed approach to prevention such as LST or ATP (see limitations of the review, section 6.2).

Evidence statements were derived for each intervention on the basis of the evidence of significant effects on primary or secondary outcomes[11]. It should be noted however, that the vast majority of primary studies included within this review did not report whether or not the study was sufficiently powered to detect a significant intervention effect if one existed (see limitations of the review, section 6.2). Evidence statements were formulated based on discussion and consensus by three reviewers (LJ, HRS, KW), taking into account:

- The strength of the evidence (reflecting the appropriateness of the study design to answer the question, the quality and quantity of evidence), and
- The applicability of the evidence to the target population and setting.

[11] Significance defined as $p < 0.05$

The draft evidence statements were further developed in liaison with the NICE project team to adhere to the following prescribed format:

1. There is evidence from [n studies of type/quality] to suggest that intervention x can be effective in changing outcomes z among population y in the short/ medium/ long term.
2. There is evidence from [n studies of type/quality] to suggest that intervention x is not effective in changing outcomes z among population y in the short/ medium/ long term.
3. There is inconsistent evidence [from n studies of type/quality] about the effectiveness of intervention x in changing outcomes z among population y in the short/ medium/ long term.
4. There is insufficient (ie in terms of quality and/or quantity) /no evidence to determine whether intervention x is effective in changing outcomes z among population y in the short/ medium/ long term.

3.8 Structure of the report

For each of the sections of chapter 5, the range, number, and quality of papers included for each population targeted is presented. Primary and secondary outcomes are then described for each intervention model or approach. For each type of outcome, data is presented according to the follow up time reported (i.e. immediate post intervention, very short, short, medium, long term; see section 3.2.4). Where there were only a few relevant outcomes, subsections are collapsed.

4 SUMMARY OF STUDY IDENTIFICATION

4.1 Summary of studies identified

The database searches located 21,893 references, after deduplication this number fell to 16,621. The initial screen by a single reviewer identified 4,507 references, which were relevant to the review question and of these, 880 were judged eligible for inclusion by two reviewers.

Of the 880 references, 809 were retrieved as full papers and went on to further inclusion assessment. Of the 71 irretrievable references, 47 were foreign language articles and 24 were inter-library loans not available through the British Library. Bibliographic details of these references are presented in Appendix 7.

Figure 2 shows the process of study identification.

4.1.1 Included studies

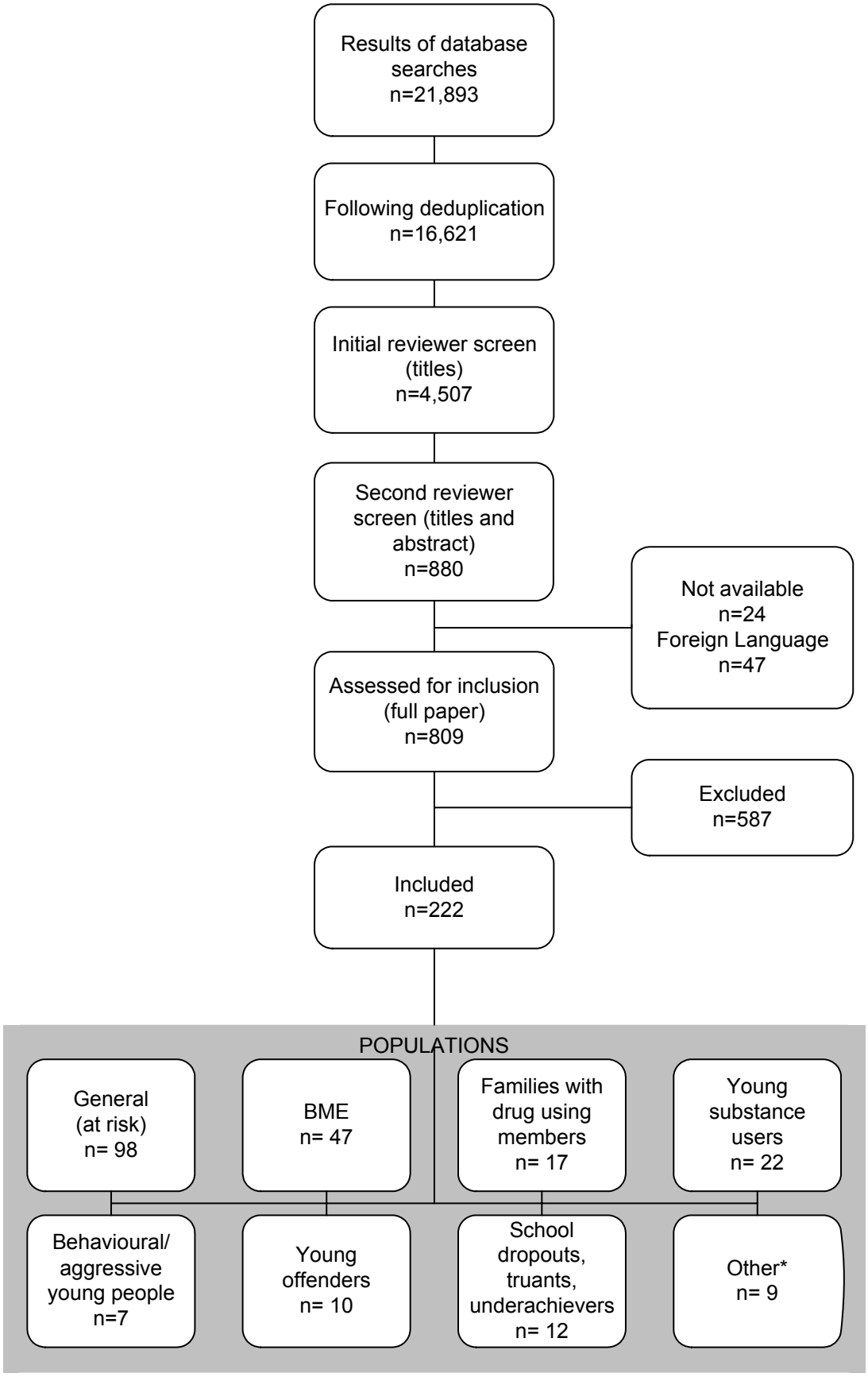
Following assessment by two reviewers, 222 full text articles were found to meet the inclusion criteria for the review. Table 4.1.1 gives an overview of the types of studies identified and their quality rating.

Table 4.1.1 Overview of study designs identified

Study design	N identified	Quality rating**		
		++	+	-
Systematic reviews*	14	4	9	1
RCTs (individual)	68	4	41	23
RCTs (cluster)	35	1	21	12
Controlled non-randomised trials	52	0	7	46
Controlled before and after studies	18	0	4	14
Before and after studies	35	0	2	33
Total	222	-	-	-

*All of the reviews identified included at least one RCT; ** See Section 3.4 for details

The studies identified covered a broad range of vulnerable and disadvantaged populations. The largest proportion (44%) of studies targeted young people with multiple risk factors and were categorised as General (high risk). Table 4.1.2 provides an overview of the different populations of young people covered and the number of studies identified.



*Other populations identified were high sensation seekers, homeless youth and runaways, children of divorce, institutionalised youth, abused females and latchkey students.

Figure 4.1.1 Flowchart showing the process of study identification

Table 4.1.2 Overview of populations identified

Population	Number of studies identified
General (high risk)	98
Black and Minority Ethnic (BME)	47
Young substance users	22
Families with drug using members	17
School dropouts, truants and underachievers	12
Young offenders	10
Behavioural/Aggressive problems	7
High sensation seekers	2
Homeless/runaways	2
Children of divorce	2
Institutionalised youth	1
Abused females	1
Latchkey students	1

A number of different intervention types and approaches were examined across the included studies. Broadly, the majority could be described as school-based, community-based, family-based, or multicomponent interventions. More detailed descriptions of the intervention types identified across each of the populations are reported in Section 5.

4.1.2 Excluded studies

A total of 587 articles were excluded because they did not meet the inclusion criteria. The majority of articles were excluded because they examined a universal intervention (n=185) or because they were non-systematic review articles, editorials or commentaries (n=170). Bibliographic details of the excluded studies and reasons for exclusion are presented in Appendix 6.

4.2 Quality of the included studies

The results of the quality assessment for each systematic review and primary study are presented in Appendix 5 and discussed briefly within the text. The results of the interclass correlation revealed good reliability between reviewers in terms of quality assessment. Using a two way mixed model to assess consistency between reviewers, a correlation coefficient of 0.8 was obtained.

4.2.1 Systematic reviews

A total of 14 systematic reviews were identified which covered populations and interventions relevant to the review. All of the reviews identified included at least one RCT. On the whole the methodological quality of the systematic reviews identified was good and methodological details were well reported in the majority of the

studies. Four systematic reviews were rated ++ (29%) and nine were rated + (64%). The majority of the reviews rated + did not report sufficient details about the process of quality assessment. There was some overlap in the primary studies included in the identified systematic reviews and meta-analyses and those that were identified for this review. A total of 49 studies were included in the identified systematic reviews, in addition to being identified and included in this review (see Table 4.2.1). Of these studies, 18 were included across more than one systematic review.

Table 4.2.1 Overlap between systematic reviews and primary studies

Review	Studies included	Overlapping studies	References
Austin (2005)	5 studies	2 studies	Azrin et al. (1994); Liddle et al. (2001)
Bledsoe (2002)	36 studies	14 studies	Botvin et al. (1995)*; Bruce and Emshoff (1992); Cherry et al. (1998)*; Emshoff et al. (1996); Flores-Fah et al. (1997); Gross and McCaul (1992); Harrington and Donohew (1997); LoSciuto et al. (1999)*; St Pierre et al. (1992)*; Schinke et al. (1994)*; Sussman et al. (1998)*; Valentine et al. (1998)*; Weiss and Nicholson (1998)*; Zane et al. (1998)
Bowie (2004)	10 studies	3 studies	Black et al. (1994); Camp and Finkelstein (1997); Field et al. (1998)
Dunn et al. (2001)	17 substance related	1 study	Aubrey (1998)*
Elliott et al. (2005)	7 reviews; 9 studies	1 review, 2 studies	Tobler et al. (2000); Botvin et al. (1997); Morehouse and Tobler (2000)*
Gates et al. (2006)	17 studies	8 studies	Catalano et al. (1999)*; Lindenberg et al. (2002); Lochman and Wells (2002)*; McCambridge and Strang (2004); McGillicuddy et al. (2001); Oliansky et al. (1997)*; Palinkas et al. (1996)*; Schinke et al. (2000)*
Gottfredson and Wilson (2003)	94 studies	Not clear	Individual study details not reported
Roe and Becker (2005)	16 studies	15 studies	Griffin et al. (2003); Lochman and Wells (2002)*; Chou et al. (1998)*; DeWit et al. (1998); Godley and Velasquez (1998); Valentine et al (1998)*; Weiss and Nicholson (1998)*; O'Donnell et al. (1995)*; Eggert et al. (1994); Hanlon et al. (2002); Schochet et al. (2001); Booth et al. (1999); St. Pierre et al. (1997)*; Morehouse and Tobler (2000)*; Catalano et al. (1999)*
Streke (2004)	65 studies	10 studies	Baker et al. (1995); Chou et al. (1998)*; LoSciuto et al. (1999)*; LoSciuto et al. (1996); Olds et al. (1998); Palinkas et al. (1996)*; Schinke et al. (2000)*; St. Pierre et al. (1992)*; St. Pierre et al. (1997)*; Sussman et al. (1998)*
Tait & Hulse (2003)	11 studies	2 studies	Aubrey (1998)*; Oliansky et al (1997)*
Tobler & Stratton (1997); Tobler (1997)	120 studies	0 studies	
Tobler et al. (2000)	207 studies	2 studies	Botvin et al. (1995)*; O'Donnell et al. (1995)*
Yuen (2004)	87 studies	8 studies	Aktan et al. (1996); Barrera et al. (2002); Cherry et al. (1998)*; Hogue et al. (2002); Royse (1998); Schinke et al. (1994)*; Schinke et al. (2000)*; Stevenson et al. (1996)

* Primary study included in more than one systematic review or meta-analysis

4.2.2 RCTs and non-randomised controlled trials

Overall there were 102 RCTs identified. Of these, 35 were cluster randomised controlled trials. The most common unit of randomisation in these studies was schools. A total of 59 non-randomised studies were identified.

Overall, the quality of the identified RCTs was fairly poor and only five of the included RCTs were graded ++ quality (5%). On the whole, the majority of the trials reported that participants had been randomised to intervention or control but reported no details about the method of randomisation or whether allocation had been concealed. In addition, although the majority of studies reported on attrition of the sample it was not always clear whether an intention to treat (ITT) analysis had been undertaken, accounting for the participants lost to follow-up.

A total of 52 CNRTs were identified. As the RCT checklist was used to appraise CNRTs, all studies failed the assessment of the method of randomisation and allocation concealment. Only 7 (14%) studies were judged to be of sufficiently good quality to be rated +. Many studies were methodologically poor and intervention and control were not matched on important confounders in a number of studies. In addition, because intervention participants were self selected some studies may have potentially missed the most vulnerable young people.

4.2.3 Before and after studies

A total of 53 before and after studies were identified, 18 (34%) of which included a control group (i.e. CBA). Of the 18 CBAs, four (22%) were rated +. Criticism of these types of studies included incomplete details of how the comparison population was chosen or dissimilarity to intervention subjects, differences in follow up times between groups, and uncertainty over exposure to other prevention interventions.

4.3 Applicability of evidence

A total of 195 (94%) of the 208 included primary studies were set in the USA. Of the remaining primary studies, 4 (2%) were set in the UK, 4 (2%) were set in Canada, 2 (1%) were set in Switzerland, and 1 each was set in Hong Kong, Thailand and Croatia. A full discussion of the applicability of identified studies and the implications of deriving evidence statements from non-UK work is included in Section 6: Discussion.

5 KEY QUESTION – WHAT INTERVENTIONS ARE EFFECTIVE IN REDUCING SUBSTANCE MISUSE AMONG THE MOST VULNERABLE AND DISADVANTAGED YOUNG PEOPLE?

Key to Section 5	
Section 5.1	General (at risk)
Section 5.2	Black and Minority Ethnic populations
Section 5.3	Young people in families with substance using members
Section 5.4	Young substance users
Section 5.5	Young people with behavioural and aggressive problems
Section 5.6	Young offenders
Section 5.7	School dropouts, truants and underachievers
Section 5.8	Other populations

5.1 At risk (general)

Key to Section 5.1	
Section 5.1.1	Comparison of interventions delivered in different settings
Section 5.1.2	Community-based interventions
Section 5.1.3	Youth programmes
Section 5.1.4	Case management interventions
Section 5.1.5	Employment skills programmes
Section 5.1.6	Community-based counselling and therapy
Section 5.1.7	Community mobilisation programmes
Section 5.1.8	Family-based interventions
Section 5.1.9	Multicomponent programmes
Section 5.1.10	School-based interventions
Section 5.1.11	School-based educational/skills-based interventions
Section 5.1.12	School-based counselling and therapy

Compared to other populations identified for this review, primary authors' definitions of risk and vulnerability were heterogeneous, hence the evidence statements presented here summarise intervention settings or approaches, rather than focus on the population as a whole. Primary author categorisation of 'at risk' populations was determined on a number of levels, including individual (e.g. poor socialisation skills, performing below educational potential), population (e.g. school in high crime area), and community (e.g. economically deprived and rural areas). Within populations there were differences in classification criteria (e.g. indices of deprivation, teacher report), hence study populations broadly sharing risk descriptors should not be assumed to be homogenous.

A total of 4 systematic reviews and 97 primary studies were identified which targeted a range of risk factors for drug use or wider health problems. Details of the identified studies and their inclusion of primary (n = 62) and secondary (n = 83) sets of outcomes are displayed in Table 5.1.1. The following types of intervention were examined:

- Comparison of interventions delivered in different settings (n=7; 1 SR ++; 6 CNRT -)

- Community based counselling, therapy, and support (including agency based (non) statutory services) (n = 26; 2 SR ++, 1 SR +, 4 RCT +, 2 RCT -, 1 CNRT +, 11 CNRT -, 5 BA -)
    - Youth programmes (n=10; 1 RCT -; 5 CNRT -; 1 CBA +; 1 CBA -; 4 BA -)
    - Case management interventions (n=2; 2 RCT +)
    - Employment skills programmes (n=1; RCT +)
    - Counselling and therapy (n=3; 1 RCT +; 1 CNRT -; 1 BA -)
    - Community mobilisation (n=1; RCT -)
- Family therapy (including parental and whole family approaches) (n = 16; 10 RCT +, 1 RCT -, 1 CNRT +, 1 CNRT -, 3 BA -)
- Multicomponent interventions (n = 11; 1 SR ++; 1 SR +, 3 RCT +, 3 RCT -, 1 CNRT -, 2 BA-)
- School/educational based (n = 48; 1 SR ++; 2 SR +, 1 RCT ++, 8 RCT +, 7 RCT -, 4 CNRT +, 19 CNRT -, 2 CBA -, 1 BA +, 5 BA -)
    - Educational/skills-based interventions (n=32; 8 RCT +, 6 RCT –, 3 CNRT +, 12 CNRT -, 1 CBA +, 2 CBA -, 1 BA -)
    - Counselling/therapy (n=12; 1 RCT ++, 1 RCT -, 3 CNRT -, 2 CBA -, 1 BA +, 3 BA -)

Note: systematic reviews could include more than one type of approach hence the total of individual approaches does not equal the total number of papers identified.

Table 5.1.1.Studies identified: general (at risk)

Author (Year)	Study design and quality rating	Outcomes reported	
		Primary	Secondary
Comparison of interventions delivered in different settings			
Streke (2004)	Systematic review ++	✓	
Hermann (2002)	Controlled non-randomised trial -	✓	
Husler et al. (2005a)	Controlled non-randomised trial -	✓	
Husler et al. (2005a)	Controlled non-randomised trial -	✓	
Sambrano et al. (2005)	Controlled non-randomised trial -	✓	
Springer et al. (2002a)	Controlled non-randomised trial -	✓	
Springer et al. (2002b)	Controlled non-randomised trial -	✓	
Community			
Gates et al. (2006) *	Systematic review ++	✓	
Halmi & Golik-Gruber (2002)	Randomised controlled trial (individual) +	✓	✓
Knopes (2004)	Randomised controlled trial (individual) +		✓
Schochet et al. (2001)	Randomised controlled trial (individual) +	✓	✓
Baydar (2003)	Randomised controlled trial (cluster) +		✓
Cheadle (2001)	Randomised controlled trial (cluster) -		✓
Johnson (1998)	Randomised controlled trial (cluster) -		✓

Baker et al. (1995)	Controlled non-randomised trial -	✓	✓
Beamer et al. (1991)	Controlled non-randomised trial -	✓	
Hanlon et al. (2002)	Controlled non-randomised trial -	✓	✓
Lam et al. (2005)	Controlled non-randomised trial -	✓	✓
St Pierre et al. (1992)	Controlled non-randomised trial -	✓	✓
Grayson (2001)	Controlled before and after study +		✓
Schinke et al. (1992)	Controlled before and after study -		✓
Bryan (1992)	Before and after study -		✓
Collingwood et al. (1994)	Before and after study -	✓	✓
Collingwood et al. (2000)	Before and after study -	✓	✓
DeGuire & Thyrum (1999)	Before and after study -		✓
McAleavy et al. (1996)	Before and after study -	✓	✓
Family			
Dishion (2002)	Randomised controlled trial (individual) +	✓	
Dishion (2003)	Randomised controlled trial (individual) +	✓	✓
Irvine et al. (1999)	Randomised controlled trial (individual) +		✓
Kosterman et al. (1997)	Randomised controlled trial (individual) +		✓
Kosterman et al. (2001)	Randomised controlled trial (individual) +		✓
Spoth et al. (1998)	Randomised controlled trial (individual) +		✓
Dishion & Andrews (1995)	Randomised controlled trial (cluster) +	✓	✓
Duggan (1999)	Randomised controlled trial (cluster) +		✓
Miller-Heyl (1998)	Randomised controlled trial (cluster) +		✓
Park et al. (2000)	Randomised controlled trial (cluster) +	✓	✓
Johnson et al. (1996)	Randomised controlled trial (individual) -		✓
Poulin et al. (2001)	Controlled non-randomised trial +	✓	✓
Ruch-Ross (1992)	Controlled non-randomised trial -		✓
Bry & Krinsley (1992)	Before and after study -	✓	✓
McDonald & Sayger (1998)	Before and after study -		✓
Springer et al. (1997)	Before and after study -		✓
Multi component			
Roe & Becker (2005)	Systematic review +	✓	✓
Harmon (1995)	Randomised controlled trial (individual) +	✓	✓
Hostetler & Fisher (1997)	Randomised controlled trial (individual) +	✓	✓
LoSciuto et al. (1999)	Randomised controlled trial (individual) +	✓	✓
St Pierre et al. (2001)	Randomised controlled trial (individual) -		✓
Eddy (2003)	Randomised controlled trial (cluster) -	✓	✓
Wagner (2000)	Randomised controlled trial (cluster) -	✓	✓
Eddy et al. (2000)	Randomised controlled trial (cluster) -	✓	✓
St Pierre et al. (1997)	Controlled non-randomised trial -		✓
Buncher (1996)	Before and after study -	✓	✓
Danoff (1997)	Before and after study -		✓
School			
Gottfredson & Wilson (2003)	Systematic review +	✓	
Werch et al. (2005)	Randomised controlled trial (individual) ++	✓	✓
DeMar (1997)	Randomised controlled trial (individual) +		✓
Griffin et al. (2003)	Randomised controlled trial (individual) +	✓	
Smith et al. (2004)	Randomised controlled trial (individual) +	✓	
Vicary et al. (2004)	Randomised controlled trial (individual) +	✓	✓
Weiss & Nicholson (1998)	Randomised controlled trial (individual) +	✓	✓
Farrell et al. (2003)	Randomised controlled trial (cluster) +	✓	✓
Kaminski et al. (2002)	Randomised controlled trial (cluster) +		✓
Palinkas et al. (1996)	Randomised controlled trial (cluster) +	✓	

Gosin et al. (2003)	Randomised controlled trial (individual) -	✓	✓
LoSciuto et al. (1996)	Randomised controlled trial (individual) -	✓	✓
Rentschler (1997)	Randomised controlled trial (individual) -	✓	✓
Reynolds & Cooper (1995)	Randomised controlled trial (individual) -		✓
Forman et al. (1990)	Randomised controlled trial (cluster) -	✓	✓
Gottfredson et al. (1996)	Randomised controlled trial (cluster) -		✓
Brown et al. (2005)	Randomised controlled trial (cluster) -	✓	
Demers (2000)	Controlled non-randomised trial +	✓	✓
Dubas et al. (1998)	Controlled non-randomised trial +		✓
Hawkins et al. (1999)	Controlled non-randomised trial +	✓	✓
Bagley & Pritchard (1998)	Controlled non-randomised trial -	✓	✓
Corvo & Persse (1998)	Controlled non-randomised trial -		✓
DeWit et al. (2000)	Controlled non-randomised trial -	✓	✓
DeWitt et al. (1998)	Controlled non-randomised trial -	✓	✓
Donelly et al. (2001)	Controlled non-randomised trial -	✓	✓
Flores-Fahs et al. (1997)	Controlled non-randomised trial -		✓
Hahn et al. (1998)	Controlled non-randomised trial -		✓
McLaughlin et al. (1993)	Controlled non-randomised trial -		✓
Morrison et al. (2000)	Controlled non-randomised trial -		✓
O'Donnell et al. (1995)	Controlled non-randomised trial -	✓	✓
Raynal & Chen (1996)	Controlled non-randomised trial -		✓
Richards-Colocino (1996)	Controlled non-randomised trial -	✓	✓
Valentine et al. (1998)	Controlled non-randomised trial -	✓	✓
Zavela et al. (1997)	Controlled non-randomised trial -	✓	
Zavela et al. (2004)	Controlled non-randomised trial -	✓	✓
Gainer et al. (1993)	Controlled before and after study +		✓
Britto (2001)	Controlled before and after study -		✓
Ambtman et al. (1990)	Controlled before and after study -		✓
Gilham et al. (1997)	Controlled before and after study -	✓	✓
Gittman (1994)	Controlled before and after study -	✓	✓
Springer (2004)	Controlled before and after study -	✓	
Winkleby et al. (2001)	Before and after study +	✓	✓
Tencati (2002)	Before and after study -		✓
Fowler (1991)	Before and after study -		✓
Houck et al. (2002)	Before and after study -	✓	✓
Wassef (1998)	Before and after study -	✓	✓

*also reported on one family therapy study, which is described in section 5.1.2

5.1.1 Comparison of interventions delivered in different settings

5.1.1.1 Overview of evidence identified

Systematic reviews

One systematic review (Streke, 2004; SR ++) included studies that reviewed drug prevention for young people delivered in multiple settings. Although this meta-analysis presented data on community, school, and multicomponent interventions for substance misuse in young people, its main aim was to compare the three different approaches in high and low risk populations. Hence the findings are reported here,

rather than split across subsequent sections, thus providing a useful comparison of different types of community-based approaches.

Primary studies

Five studies reported on the US National Cross-Site Evaluation of high risk youth (Hermann et al. 2002; Sambrano et al., 2005; Springer et al., 2002a; Springer et al., 2002b; Springer et al., 2004 all CNRT -) and two reported on services delivering specialist and generic behavioural skills, information, diversionary activities and affective programming in Switzerland (Husler et al., 2005a; 2005b; both CNRT -)

5.1.1.2 Primary outcomes

Streke (2004; SR ++) conducted a meta analysis of community based interventions in vulnerable young people with the aim of assessing whether they were capable of preventing, delaying, or reducing drug use, and to analyse whether variations in effectiveness were related to the characteristics and settings of the programmes described. A total of 51 English language studies were included. The average weighted effect size (d) across 65 independent samples was small at 0.074, indicating that intervention participants scored one fourteenth of a standard deviation better than control participants on drug use outcomes ($p < 0.001$). Examining high-risk participants in more detail, the overall effect size (d) was 0.06, whilst for those enrolled in community programmes it was d = 0.04; school and community d = 0.06; and comprehensive (i.e. multicomponent) d = 0.42. For different types of drugs, across all substances the average effect size for all programmes was 0.07; d = 0.05 for community based interventions; d = 0.06 for school and community; and d = 0.09 for comprehensive programmes. In a sub analysis of cannabis, Streke reported an average d = 0.07 for all types of intervention; d = 0.01 in community settings; d = 0.06 for school and community interventions; and d = 0.30 for comprehensive approaches.

There were several significant differences in effect sizes when outcomes for high risk individuals were compared with those considered low risk. These depended upon the type of programme studied. After considering comprehensive programmes there were better outcomes for high-risk individual for outcomes related to all types of substances (d = 0.42 for high risk, d = 0.08 for low risk); tobacco (d = 0.49, d = 0.03); alcohol (d = 0.56, d = 0.05); cannabis (d = 0.84, d = 0.22); and all illicit drugs (d = 0.65, d = 0.05). However, low risk population effect sizes were significantly greater

across all types of interventions for tobacco (d = 0.05, d = 0.13); and cannabis (d = 0.04, d = 0.10). No other significant differences were reported.

Within particular types of intervention for high risk youth there were also specific differences in outcomes, which were dependent upon the drug targeted. In community studies the mean difference in effect size between alcohol and cannabis was 0.06; for school and community studies the mean difference was 0.07. For comprehensive interventions, differences lay between alcohol and cannabis (0.23); tobacco and cannabis (0.09); tobacco and all illicit drugs (0.15); cannabis and all illicit drugs (0.24); and alcohol and tobacco (0.14). No other significant differences were reported.

In high-risk individuals, differences were also apparent between intervention approaches and calculated effect sizes for different substances. Comparing comprehensive with community projects there was a significant mean effect size difference of 0.38 for all substances (0.46 for tobacco; 0.49 for alcohol; 0.82 for cannabis; and 0.56 for all illicit drugs). In addition, comparing comprehensive and school based interventions there was a significant mean effect size difference of 0.36 for all substances (0.48 for tobacco; 0.49 for alcohol; 0.79 for cannabis; and 0.54 for all illicit drugs). No other significant differences were reported.

Evidence Statement 1

There is evidence from one SR ++ to suggest that multicomponent community-based approaches are more effective for high-risk youth at preventing, delaying, or reducing drug use than school and community projects alone. Compared with low risk youth, this population may respond more favourably to comprehensive interventions targeting alcohol, cannabis, tobacco, and generic substance use (Streke, 2004). Applicability Rating B.

Long-term outcomes (>1 year)

In the CSAP funded, National Cross Site Evaluation of interventions for high-risk youth (Hermann et al., 2002; Sambrano et al., 2005; Springer et al., 2002a; Springer et al., 2002b; all CNRT -), data was collected from 48 centres (>10,000 individuals), offering a wide range of intervention. As this was a large multisite evaluation, it was not possible to report individual project features but the intervention covered four

main types: behavioural skills programmes, informational focused programmes, recreational focused programmes, and affective programmes. A full pooled analysis of trends for the composite 30-day substance use prevalence (i.e. illicit drugs, tobacco, and alcohol) by programme participants and comparison youth yielded no statistically significant differences at any of the follow up times, but pooled data suggested that in the immediate post intervention testing period, self reported substance use (composite measure) was 10% lower in programmes participants compared with comparisons. Eighteen months later this findings was still significant, and was mainly due to reductions in alcohol (-17% immediate post test, -13% at the 6 month follow up, and -2% at 18 months) and cannabis (-10%; -12%; -11% in the respective time periods versus control participants). Subsequent analyses suggested that comparison group exposure to prevention in some sites suppressed potential findings of programme effectiveness. In those participants who had already initiated substances at programme entry, use was lower at exit and 22 % lower 18 months later, compared with comparison participants who had also already started using at baseline. Specifically, for cigarettes there were reductions of 17%, and 6%; alcohol 13% at both assessment times; and cannabis 18%, at both assessment times. Overall, effect sizes for 30-day substance use ranged from -0.71 to 1.54, indicating that participant youth reduced their use rates relative to comparison youth during the programme period. Most of the effect sizes were small with 19 programmes clustered between an effect size of -0.09 and 0.09. Life skills programmes were the most successful approach in reducing substance use, but the effect size was still less than 0.20. As part of a multisite evaluation for high-risk youth, Springer et al. (2004; CNRT -) examined the relative effectiveness in terms of reducing substance use of the different used across the evaluations. Life skills (d = 0.14) and diversionary/inclusion (d = 0.12) approaches were significantly more successful than affective (d = -0.04) and knowledge focussed interventions (d = -0.05). With respect to delivery, there was no difference in effect size between programmes that were interactive (d = 0.06) compared with those that were not (d = 0.01). However, programmes that included a high emphasis on ‘introspection’ (d = 0.09) or ‘connection-building’ (d = 0.17) (social skills) were more effective than interventions that did not concentrate upon these features (d = 0.01 for both).

In a multi-centred trial in Switzerland by Husler et al. (2005; CNRT -), interventions delivered in a range of settings (e.g. leisure centres, community centres) to young people (aged 11-20) exhibiting a wide range of risk behaviours and vulnerabilities, had no significant effects on substance use. Independent of the intervention status,

cannabis use increased in both intervention and control groups across time (up to 30 months follow up).

Table 5.1.2 Multisite evaluation: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Husler et al. (2005)	CNRT-	Community Based interventions	No intervention	4 & 9 mo 18 & 30 mo	⇔ Substance use ↑ Cannabis use increased in both intervention and control groups
Hermann et al. (2002)	CNRT -	48 CSAP funded prevention programmes	Non-participants	PT	⇔ Composite 30-day use of illicit drugs, tobacco or alcohol
Sambrano et al. (2005)	CNRT -				
Springer et al. (2002a)	CNRT -			6 mo	⇔ Composite 30-day use of illicit drugs, tobacco or alcohol
Springer et al. (2002b)	CNRT -			18 mo	⇔ Composite 30-day use of illicit drugs, tobacco or alcohol
Springer et al. (2004)	CNRT -		Non-participants	NR	For effect sizes see main test

Evidence Statement 2

There is evidence from five CNRT - of large multi-site evaluations of community based interventions targeting high-risk youth (comprising behavioural skills programmes, informational focused programmes, recreational focused programmes, and affective programmes) conducted in either Switzerland or the USA to suggest that there are no overall effects of these programmes on use of illicit drugs, tobacco or alcohol in the immediate to long term (Hermann et al., 2002; Hulser et al., 2005; Sambrano et al., 2005; Springer et al., 2002a; Springer et al., 2002b). Applicability Rating B

5.1.1.3 Secondary outcomes

Husler et al. (2005a; 2005b; both CNRT -) reported on the effects of a national indicated prevention programme. The first analysis (Husler et al., 2005a) examined the centres included in the study according to their structure and the amount of time spent with youth. Across the centres, the intervention had very little effects on mood, relations, coping or self-concept. However, modest improvements were seen in two types of centres; one type offered structured programmes to youth ranging from 15 to 20 years and another provided support and assistance to youth over 16 years in terms of vocational training. The second analysis (Husler et al., 2005b) examined the effects of the programme across all programmes and by programmes grouped according to their main activities (counselling, school/apprenticeships, practical courses, all interventions). Across the programmes, the only positive overall effect

was on delinquency; participants involved in programmes where the main activity was practical courses demonstrated a decrease in delinquency (effect size=0.36, indicating a weak to moderate effect of the intervention). There were no effects of any of the programmes on mood, relations, coping, or self-concept.

Table 5.1.3 Multisite evaluation: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Husler et al. (2005a; 2005b)	CNRT-	Community Based interventions	No intervention	4 & 9 mo 18 & 30 mo	↔ Mood, relations, coping or self-concept Practical courses: ↓ Delinquency

Evidence Statement 3

There is evidence from two CNRT – of a multi-site evaluation of community-based interventions targeting high-risk youth (comprising behavioural skills programmes, informational focused programmes, recreational focused programmes, and affective programmes) conducted in Switzerland (2 CNRT -) to suggest that these types of programmes have no overall effects on mental health outcomes in the short to long term (Hulser et al., 2005a; Hulser et al., 2005b). Applicability Rating B.

5.1.2 Community-based interventions

Community-based interventions were defined by one review as those interventions that provided support based within a community setting to groups of, or individuals identified as at risk of future substance use. A wide range of community-based interventions were identified including out-of-school youth services, case management interventions, employment skills programmes, counselling and therapy-based programmes and community mobilisation programmes.

5.1.2.1 Overview of the evidence identified

Systematic reviews

Gates et al. (2006) carried out a systematic review of randomised trials of non-school based interventions (i.e. community located) to prevent or reduce drug use for young people aged <25 years. This was a comprehensive overview of the literature, warranting a ++ rating, and the authors identified 11 out of the 17 included studies as specifically targeting vulnerable and disadvantaged young people. However, no meta-analytical or other data synthesis techniques were employed because the studies were judged to be heterogeneous. The review was complemented by a

critique of the methodology commonly used in evaluation research in this population. Most notably, the authors highlighted the poor methodological quality of the included RCTs, the relatively large attrition across studies, and the lack of appropriate analysis of cluster trials (e.g. allocation of intervention by cluster, analysis by individual). Eight of the studies identified by Gates et al. (2005) were also identified for inclusion in this review and are reviewed separately.

The meta-analysis of Streke (2004; SR ++) analysed the effectiveness of community compared to other types of intervention, but is reported in Section 5.1.1.

Roe and Becker (2005; SR +) identified two community-based interventions (Hanlon et al., 2002; CNRT -; Schochet et al., 2001; RCT +). Both of these were independently identified in the literature search and so are reviewed below.

Primary studies

A total of 27 primary studies examined community-based interventions, of which seven were RCTs. These studies were further subdivided according to the following intervention approach:

Section 5.1.3	Youth programmes
Section 5.1.4	Case management interventions
Section 5.1.5	Employment skills programmes
Section 5.1.6	Counselling and therapy
Section 5.1.7	Community mobilisation

5.1.2.2 Primary outcomes

A total of 11 of the 17 RCTs, included in the systematic review by Gates et al. (2006; SR ++), targeted vulnerable or disadvantaged groups. The authors considered the included primary studies to be too heterogeneous to be meaningfully combined, hence data for individual studies will be reported separately in this review. However, the authors did present general discussions on research into community based interventions, arguing that there was little robust evidence of effectiveness, and that where it existed, it resulted from interventions where the community component was only one of many delivered. The authors also presented a methodological critique, which is pertinent to the current review. Most trials were affected by their methodological quality, such as incomplete reporting or high levels of attrition. Furthermore, there was often inappropriate analysis of community interventions,

which had been cluster randomised, but analysed as if they were individually randomised, or analysed on a subject rather than community basis. Most of the RCTs evaluating family or educational interventions did not demonstrate clear effects on drug use behaviour. There was little information about the effectiveness of multi-component community interventions. Two included studies (1 universal) may have had an effect on self-reported substance use or cannabis use but the results were of *marginal statistical significance.

Evidence Statement 4

There is insufficient evidence from one SR ++ to determine whether family, educational or multi-component community interventions *per se* are effective in reducing drug use behaviour in vulnerable or disadvantaged young people (Gates et al., 2006).

5.1.3 Community-based youth programmes

Community-based youth programmes were defined as programmes delivered outside of school, which engaged young people at-risk of substance use in alternative activities.

5.1.3.1 Overview of evidence identified

Ten studies were identified which examined community-based youth programmes. Four CNRTs (Baker et al., 1995; Beamer et al., 1994; Lam et al., 2005; St Pierre et al., 1992; all CNRT -) and one CBA (Schinke et al., 1992; CBA -) examined interventions delivered by youth workers in out-of-school youth programmes. Two studies examined interventions delivered in Boys and Girls clubs conducted in US public housing projects (similar to council housing in the UK) (Schinke et al., 1992; CBA -; St Pierre et al., 1992; CNRT -).

Five studies (Grayson et al., 2001; CBA +; Collingwood et al. 1994; 2000; McAleavy et al., 1996; DeGuire and Thyrum, 1999; all BA -) used before and after designs, but only one (Grayson et al., 2001) included a control group for comparison. Grayson et al. (2001; CBA +) reported on the impact of attendance at a wilderness skill focussed summer camp in children from low income and single parent households upon secondary outcomes. Whilst this represented a good example of multiagency working, the evaluation suffered from the lack of randomisation to conditions (the

intervention was offered to all at risk young people in New York and New Jersey), and the authors considered that additional differences in treatment and control group may have been important determinants of the outcomes observed. Collingwood et al. (1994; BA -) examined the impact of fitness programmes, McAleavy et al. (1996) examined community workshops and DeGuire and Thyrum (1999; BA -) examined a support and prevention programme.

5.1.3.2 Primary outcomes

Immediate outcomes (< 1 month)

Lam et al. (2005; CNRT -) reported several significant outcomes from 'Project Astro' (based primarily on a psychosocial primary prevention programme). Two weeks post intervention, compared with participants in the control group, the combined sample self-reported significantly less heroin use in the last 7 days but not in the last 30 days; significantly greater tobacco smoking in last 7 and 30 days; and significantly greater use of illegal drugs in last 30 but not 7 days. Male participants reported significantly greater smoking in last 30 days but not 7 days, and more total illegal drug use in last 7 days, but not 30. In females there was greater use of 'gateway' drugs and greater frequency of smoking in the last 7 days. In those participants who were existing drug users at baseline there was less frequency of smoking in last 7 and 30 days and less heroin in last 7 and 30 days. In existing male drug users there was less ketamine use in the last 7 and 30 days, less ecstasy use in the last 7 days, and less overall drug use in both the last 7 and 30 days. In those participants reporting as drug naïve at baseline there was both less ketamine and overall drug use in the last 30 days.

Grayson (2001; CBA +) found no difference between youth who attended a wilderness skill focussed summer camp and control youth in terms of their alcohol, cigarettes or drug use, at 12 weeks.

Collingwood et al. (1994; 2000; both BA -) examined the impact of the First Choice fitness programme, which combined fitness and exercise training with a parent training module and peer fitness leader training. Participants in both evaluations of the programme reported reductions in drug use. However, because of the omission of a comparison group it is not possible to determine whether this was due to participation in the programme or other outside factors.

Medium term outcomes (> 1 month ≤ 6 months; > 6 months ≤ 1 year)

Beamer et al (1991; CNRT -) reported a reduction of the prevalence of illicit drug use at 8 weeks follow-up in a small (n = 15) 'at risk' population receiving a community delivered skills based educational intervention.

Long term outcomes (>1 year)

Youth considered to be at risk from dysfunctional emotional, behavioural, and psychological development attending an after-school community project, received violence, delinquency, and substance use prevention support concentrating upon youth empowerment and emotional development (Baker et al., 1995; CNRT -). Participants were followed up for a mean of 2.7 years, and it was found that although frequency of alcohol use increased in both experimental and control groups, it was significantly less in experimental participants. Furthermore, the frequency of illicit drug involvement had increased among the comparison youth at follow up but decreased among programme youth. The largest decrease in use occurred among programme youth who were considered by the evaluators to be in a positive peer environment. There was large attrition in this study, 44% in the intervention condition, and 74% in the control group. However, the authors did not analyse differences between participants lost to follow up and completers, and did not acknowledge the effects this may have had on their outcomes in their paper.

St Pierre (1992; CNRT -) also examined participation in community activities. They evaluated the addition of a skills based intervention, Stay SMART with and without booster sessions to usual Boys and Girls club activities. There was significantly less self-reported cigarette (adjusted mean use: SMART 1.46; SMART + boosters 1.48; vs. control 1.63; $p<0.05$), cannabis (adjusted mean use: SMART 1.22; SMART + boosters 1.25; vs. control 1.38; $p<0.05$) and overall drug use (adjusted mean use: SMART 1.46; SMART + boosters 1.46; vs. control 1.56, $p < 0.05$) in intervention participants than control participants two years after the final session.

Table 5.1.4 Youth programmes: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Baker et al. (1995)	CNRT-	After School project	Volunteer students	2.7 yrs	Lower increase in alcohol use vs. control ↓ Illicit drug use
Beamer et al. (1991)	CNRT-	Community Intervention Group	Student volunteers	8 wks	↓ Prevalence of illicit drug use

Lam et al. (2005)	CNRT-	ASTRO Project	No intervention	2 wks to 12 months	↑ 'Gateway' drug use among females Substance use in last 7 days: ↓ Heroin use ⇔ Illegal drug use ↑ Tobacco smoking ↑ Smoking among females Substance use in last 30 days: ⇔ Heroin use ↑ Illegal drug use ↑ Tobacco smoking ↑ Smoking among males
St Pierre et al. (1992)	CNRT-	Stay SMART	Usual Boys and Girls club activities	2.3 yrs	↓ Overall drug use ↓ Cannabis use ↓ Cigarette use ↓ Alcohol use ⇔ Chewing tobacco/snuff
		Stay SMART + booster sessions	Usual Boys and Girls club activities	15 mths	⇔ Last year cannabis use
		Stay SMART + booster sessions	Stay SMART	2.3 yrs	↓ Cannabis use ↓ Cigarette use ⇔ Alcohol use ⇔ Recent cannabis use ⇔ Chewing tobacco/snuff
Collingwood et al. (2000)	BA-	First Choice Fitness Program	None	PT	↓ Substance abuse risk factors
Collingwood et al. (1994)	BA-	First Choice Fitness Program	None	PT	↓ Use of alcohol, inhalants, cannabis, cocaine, hallucinogens and designer drugs

Evidence Statement 5

There is inconsistent evidence from 4 CNRT – about the effectiveness of community-based youth programmes for young people at-risk of substance use in reducing substance use outcomes:

5.1 There is evidence from three CNRT – to suggest that community-based youth programmes for young people at-risk of substance use can reduce the use of illicit drugs, cannabis, and tobacco in the short to long term (Baker et al., 1995; Beamer et al., 1991; St Pierre et al., 1992). However 1 CNRT – suggested that a community-based youth programme increased last month use of a variety of substances, particularly amongst girls (Lam et al., 2005). Applicability Rating C

5.1.3.3 Secondary outcomes

a) Knowledge and attitudes

Immediate outcomes (< 1 week)

Examining the effects of drug use on communities, Schinke et al. (1992; CBA -) investigated the impact of introduction of Boys and Girls Clubs on public housing projects in the USA. They reported that new club locations reported lower presence

of crack compared with established club sites when measured by the observations of on-site evaluators (visible substance use, presence of drug paraphernalia, witnessed drug exchanges). In contrast, sites with no clubs reported the highest indicators of crack use in the community.

Very short term outcomes (≥ 8 days, < 1 month)

Participants in the Project Astro (Lam et al., 2005; CNRT -) intervention group had significantly better scores on the social skills and drugs and sex knowledge scales compared to the control group. Young female participants in the intervention group (aged 10-13) also had a less positive attitude towards methamphetamine than females in the control group. However, overall, participants in the intervention group scored significantly worse on attitudes towards substance use. In particular, young male participants in the intervention group (aged 10-13) had more positive attitudes towards ecstasy, cannabis, all drugs, and smoking. At follow up, participants who reported being drug users at baseline, younger participants (aged 10-13) and all females in the intervention group had significantly better social skills compared to the control group. Existing drug users aged 10-13 years had weaker intentions to use heroin compared to the control group. This was also found for younger male participants in the intervention group for intentions to use ecstasy, ketamine, heroin, and all drugs. However, refusal skills were found to be higher in the control group for male participants with regard to ketamine and alcohol, younger females with regard to methamphetamine, and younger participants with regards to ecstasy, ketamine and alcohol.

Medium term outcomes (> 1 month, ≤ 6 months)

In peer-led community workshops located in Belfast (UK), focussing on health education, and substance use, McAleavy et al. (1996; BA-) reported a significant fall (41% to 51% 1 year later) in 17 year olds disagreeing with the statement “its cool to take drugs”. Furthermore whilst at baseline 70% believed that “drugs make you feel more confident”, only 57% believed this at follow up.

Johnson et al. (1998; RCT -) found significant improvements in parent and child relationships and participants reported more service involvement as a result of youth work delivered by faith-based organisations.

Long term outcomes (> 1 year)

Students who received the Stay SMART intervention reported greater overall drug knowledge over 27 months when the intervention was delivered with booster sessions (St Pierre et al., 1992; CNRT; -). Stay SMART recipients who received booster sessions also perceived fewer benefits from using alcohol and cannabis (assessed 15 and 27 months post baseline) than those receiving Stay SMART only or usual Boys and Girls Club activities.

Table 5.1.5 Youth programmes: knowledge and attitudes outcomes

Study	Rating	Intervention	Comparator	Follow-up	Risk/protective factors
Lam et al. (2005)	CNRT-	ASTRO Project	No intervention	2 wks	↑ Drug knowledge ↓ Positive attitudes toward methamphetamine (among females) ↑ Positive attitudes toward ecstasy cannabis, all drugs and smoking (among males) ↑ Social skills ↑ Sex knowledge
St Pierre et al. (1992)	CNRT-	Stay SMART + booster sessions	Usual activities	15 mths	↓ Benefits of using alcohol or cannabis
				27 mths	↓ Benefits of using alcohol or cannabis ↑ Drug knowledge
		Stay SMART + booster sessions	Stay SMART only	15 mths	⇔ Benefits of using alcohol ↓ Benefits of using cannabis
				27 mths	⇔ Benefits of using alcohol or cannabis ↓ Drug knowledge
		Stay SMART only	Usual activities	15 mths	⇔ Benefits of using alcohol or cannabis
				27 mths	⇔ Benefits of using alcohol or cannabis ↑ Drug knowledge
Schinke et al. (1992)	CBA -	SMART Moves	Traditional Boys and Girls club activities	NR	New clubs reported ↓ presence of crack compared with established club sites. In contrast, sites with no clubs reported the ↑ indicators of crack.
McAleavy et al. (1996)	BA-	Community workshops	None	PT	↓ "It's cool to take drugs" ↓ "Drugs make you feel more confident"

Evidence Statement 6

There is evidence from two CNRT – to suggest that educational and skills focused interventions delivered in out of school youth work settings may produce short to long-term increases in drug related knowledge and attitudes (Lam et al., 2005; St Pierre et al). Applicability Rating C.

b) Behavioural and social function

Immediate outcomes (< 1 week)

Two studies of the same fitness training based intervention (Collingwood et al., 1994; 2000; both BA -), reported outcomes that fall under the "Be Healthy" outcomes of the ECM framework. In two independent studies Collingwood et al. (1994; 2000; both BA -) reported that attendance was associated with significant increases in fitness test scores, and this was accompanied by an increase in self-concept and well-being ratings. The intervention had variable effects on other outcomes at 3 community sites examined by Collingwood et al. (2000; BA -); one site reported significant effects on grades, school attendance and friends' alcohol and drug use. All of the sites reported no effect of the intervention on church attendance, relationship with parents, or friends' cigarette use

Medium outcomes (> 1 month ≤ 6 months)

In younger children (<11 years), a three-week summer camp delivering group-based skills training produced few significant impacts (up to 12 weeks) upon behaviours (Grayson, 2001; CBA +). Compared to control participants, who received no intervention, children in the intervention group self-reported better grades and future sense of self. The intervention had no effects on self-esteem, empathy, positive peer influence, alcohol, cigarettes, drugs, antisocial behaviour, or violence.

Long term outcomes (> 1 year)

Baker et al (1995; CNRT –) reported that the frequency of serious delinquent behaviour and minor delinquency and antisocial behaviour had decreased in a high-risk population receiving after-school counselling (mean follow up 2.67 years). However, overall, the frequency of pro-social behaviour did not change significantly in accordance over time.

Table 5.1.6 Young programmes: behavioural and social function outcomes

Study	Rating	Intervention	Comparator	Follow-up	Risk/protective factors
Baker et al. (1995)	CNRT-	After School project	Volunteer students	2.67 yrs	↓ Decrease in serious and minor delinquent behaviour ⇔ Pro-social behaviour
Grayson (2001)	CBA +	Summer camp for at-risk youth	No intervention	12 weeks	↑ Increase in grades ↑ Future sense of self ⇔ Self-esteem, empathy, positive peer influence, antisocial behaviour, or violence
Collingwood et al. (1994)	BA-	First Choice Fitness Program	None	PT	↑ Activity rating ↑ Self Concept ↑ Well-being ⇔ School grades

Collingwood et al. (2000)	BA-	First Choice Fitness Program	None	PT	↑ Fitness test scores ↑ Self Concept ↑ Well-being

Evidence Statement 7.1

There is evidence from one CNRT – to suggest that after school programmes for high-risk youth can produce long-term reductions in serious and minor delinquent behaviours (Baker et al., 1995). Applicability Rating C

Evidence statement 7.2

There is evidence from one CBA + to suggest that skills training delivered through residential summer camps has little effect on behavioural indicators of resilience (Grayson, 2001). Applicability Rating C

5.1.4 Community-based case management interventions

Case management interventions were defined as interventions that involved case workers or other specialist health professionals working individually with young people and/or their families in order to reduce risk factors related to substance use.

5.1.4.1 Overview of evidence identified

Four RCTs examined case management approaches (Halmi and Golik-Gruber, 2002; Johnson et al., 1996; Johnson et al., 1998; Baydar et al., 2003).

Three studies (Johnson et al., 1996; Johnson et al., 1998; Halmi and Golik-Gruber, 2002) examined the Creating Lasting Connections programme. The RCTs by Johnson et al. (1996; 1998; both RCT -) reported on the same sample. The study was considered methodologically weak because of reporting deficiencies. Johnson et al. (1996; 1998) focused on the delivery of the Creating Lasting Connections programme through faith communities. Halmi and Golik-Gruber (2002; RCT +) examined the intervention delivered in the community by specialist case managers. In both studies, participants received four strategies aimed at strengthening family resilience by improving substance information skills, emotional educational, social competencies and providing alternatives to risky behaviour.

Baydar et al. (2003; RCT +) conducted a clustered RCT across 14 US Head Start Centres (federally funded community intervention centres for the families of pre-

school aged children) to assess the effectiveness of the 'Incredible Years Parenting Training Program' at improving parenting skills in parents with mental health risk factors. (A large proportion of mothers in both intervention and control groups reported clinically relevant depressive symptomatology (45.0% in intervention v 38.3% in control)). The authors reported that this project was successful at attracting both high and low risk families. The program teaches child-directed play skills, positive discipline strategies, effective parenting skills, strategies for coping with stress, and ways to strengthen children's prosocial and social skills.

5.1.4.2 Primary outcomes

Medium term outcomes (> 1 month ≤ 6 months; > 6 months ≤ 1 year)

Halmi and Golik-Gruber (2002; RCT +) reported on the Medium (+ 6 months, 1 year) effects of a community based intervention in a population of young (age 12-14) urban Croatians, considered to be at high risk of future substance use. This programme delivered a series of educational modules addressing emotional development and social competence, as well as providing information about the likely effects of substance use. Whilst the programme had no direct effects on substance use (composite measure) at follow up times, in those individuals who had initiated use in the study phase (1 year follow up), onset was moderated by both knowledge and convictions, i.e. those with less knowledge of drug effects and reporting greater conviction to use, were more likely to report use by the study's end.

Johnson et al. (1996; 1998; RCT -) also found no effect of the Creating Lasting Connections programme on substance use. However, they found the AOD knowledge and beliefs had moderating effects on the onset of AOD use, and that parent reports of increased bonding with mothers had a sustained moderating effect on frequency of alcohol use over 3 months and drug use over 12 months.

Table 5.1.7 Case management: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Halmi & Golik-Gruber (2002)	RCT+	Creating Lasting Connections: Case management	No intervention	6 mths	⇔ Substance use
				1 yr	⇔ Substance use
Johnson et al. (1996; 1998)	RCT -	Church-based community intervention	No intervention	3 mths, 1 yr	⇔ Substance use

Evidence Statement 8

There is evidence from three RCTs (1 + and 2 -) to suggest that a community based case management approach (Creating Lasting Connections) has no medium- to long-term effects on substance use (Halmi & Golik-Gruber, 2002; Johnson et al., 1996; Johnson et al., 1998). Applicability Rating C

5.1.4.3 Secondary outcomes

a) Knowledge and attitudes

Medium term outcomes (> 6 month, ≤ 1 year)

In the absence of direct effects upon actual substance use, the Creating Lasting Connection programme evaluated by Halmi and Golik-Gruber (2002; RCT +) produced medium term, positive effects on substance use knowledge (up to 1 year). The programme also had a positive effect on the inclusion of youths in establishing family rules regarding substance use in the medium term (marginally significance at one year; p=0.06). However, the intervention had no effects on the number of family rules about substance use or the number of family meetings.

Johnson et al. (1998; RCT -) found significant improvements in substance use knowledge, at three months and 1 year following participation in the US church-based Creating Lasting Connections programme.

Table 5.1.8 Case management: knowledge and attitudes outcomes

Study	Rating	Intervention	Comparator	Follow-up	Risk/protective factors
Halmi & Golik-Gruber (2002)	RCT +	Creating Lasting Connections	No intervention	6 mo	↑ AOD knowledge ↑ Inclusion of youths in establishing rules regarding AOD use ⇔ Family rules about substance use ⇔ Family meetings
Johnson et al. (1996; 1998)	RCT-	Church-based community intervention	No intervention	3 mths	↑ Substance use knowledge ↑ Youth involvement in setting AOD rules ⇔ Family rules about ATOD
				1 yr	↑ Substance use knowledge ⇔ Family rules about ATOD ⇔ Youth involvement in setting AOD rules (p=0.06)

Evidence Statement 9

There is evidence from three RCTs (1 + and 2 -) to suggest that a community-based, case management intervention (Creating Lasting Connections) can produce a short to medium term increase in substance use knowledge but have little effect on family management relating to substance use (Halmi & Golik-Gruber, 2002; Johnson et al., 1996; Johnson et al., 1998). Applicability rating C.

b) Behavioural and social function

Medium term outcomes (> 6 month, ≤ 1 year)

Both of the studies that examined the Creating Lasting Connections programme found no effects of the programme on family functioning. Halmi and Golik-Gruber (2002; RCT +) reported no effects on family outcomes in terms of communication, parents' substance use or family bonding at 6-months and 1-year follow-up. Johnson et al. (1998; RCT –) found no effects on communication, parents' substance use or family bonding at 3-months and 1-year follow-up. Intervention youth reported greater use of community services at 1-year ($p<0.001$) and took more action as a result of service contact ($p<0.001$).

Length of follow up not reported

Head Start Centers in the USA offer community interventions for pre-school aged children and their families. Whilst no primary substance use outcomes were reported in the evaluation by Baydar et al. (2003; RCT +) structural equation modelling suggested that for mothers who attended at least three sessions of the Incredible Years Parenting Training Programme (child-directed play skills, positive discipline strategies, effective parenting skills, strategies for coping with stress, and ways to strengthen children's pro-social and social skills) there was a significant reduction in ratings of harsh/negative parenting; an increase in supportive/positive parenting; and a decrease in inconsistent/ineffective parenting when independently assessed at follow up (time not specified).

Table 5.1.9 Case management: behavioural and social function outcomes

Study	Rating	Intervention	Comparator	Follow-up	Risk/protective factors
Baydar et al. (2003)	RCT +	Parenting Training	Regular Headstart curriculum	NR	↓ Harsh/negative parenting ↑ Supportive/positive parenting ↓ Inconsistent/ Ineffective parenting
Halmi & Golik-Gruber (2001)	RCT +	Creating Lasting Connections	No intervention	6 mths, 1 yr	⇔ Family communication, parents; substance use, bonding with mother, father and siblings
Johnson et al. (1998)	RCT -	Creating Lasting Connections: Church-based community intervention	No intervention	3 mths	⇔ Family communication, parents' substance use, bonding with parents and siblings
				1 yr	⇔ Family communication, parents' substance use, bonding with parents and siblings ⇔ Community involvement of parents and youth ↑ Youth's service utilisation ↑ Youth's action

Evidence Statement 10.1

There is evidence from two RCTs (1 + and 1 -) to suggest that a community-based, case management intervention for youth and their parents (Creating Lasting Connections) has no effect on family functioning (Halmi & Golik-Gruber, 2002; Johnson et al., 1998). Applicability Rating C

Evidence statement 10.2

There is evidence from one RCT + to suggest that a community-based, family case management intervention can increase positive parenting skills in families with young children considered at risk (Baydar et al., 2003). Applicability Rating B

5.1.5 Community-based employment skills programmes

Community-based employment skills programmes included interventions that targeted factors related to employment and training, such as those that provided access to employment and vocational training.

5.1.5.1 Overview of evidence identified

The US Department of Labour funded a large (n = 11,313) four-year study investigating the effectiveness of the Job Club programme (comprising basic education, vocational training, residential living, health care and education, counselling and job placement assistance). Students who tested positive for drugs at enrolment were required to attend an Alcohol and Other Drugs of Abuse (AODA) programme, although others were able to participate voluntarily), and included sub

analyses of participants' self-reported substance use (30% of total sample were drug initiates), as well as secondary educational and training outcomes (Schochet et al., 2001; RCT +). At the extended follow up time (+4 years), 20% of participants had been lost.

5.1.5.2 Primary outcomes

Long term outcomes (>1 year)

The Job Corps programme, offered to under 25 year olds living in households receiving social welfare payments or receiving incomes below the poverty level, received a large multisite evaluation (follow up of four years) conducted in partnership with the US Department of Labor (Schochet et al., 2001; RCT +). As part of its activities, substance users (aged 16-19) were identified and enrolled in a prevention intervention programme. The intervention included the following elements; outreach and admissions; basic education; vocational training; residential living; health care and education; counselling; and job placement assistance. The researchers found no differences in self reported use of tobacco, alcohol, or illegal drugs between participants and young people who had enrolled on other training or educational programmes. As control interventions were self-selected and self-determined, it is likely that these may have exerted some prevention effects, making it more difficult to identify specific Job Corps programme effects.

Table 5.1.10 Employment skills programmes: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Schochet et al. (2001)	RCT +	Job corps: Employment programme	No intervention	12 mo	⇔ AOD use
				30 mo	⇔ AOD use
				48 mo	⇔ AOD use

Evidence Statement 11

There is evidence from one RCT + to suggest that a comprehensive employment programme (comprising outreach and admissions; basic education; vocational training; residential living; health care and education; counselling; and job placement assistance) is not effective in reducing substance use in the long term (Schochet et al 2001) Applicability Rating B

5.1.5.3 Secondary outcomes

Long term (>1 year)

Whilst the Job Corps programme had no effects upon substance use behaviours, it achieved a key aim of increasing the educational and training participation received, produced statistically significant impacts on the employment rate and time spent employed, and resulted in significantly reduced arrest and conviction rates compared to control participants over the follow-up period, as well as a reduction in the amount of time spent in jail by year three of the evaluation (Schochet et al., 2001; RCT +).

Table 5.1.11 Employment skills programme: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Schochet et al., 2001	RCT +	Job Corps employment programme	No intervention	48 mo	↑ Employment rate ↑ Time spent in employment ↔ Employment and earnings of Hispanic youth and 18-19 year olds ↓ Arrest and conviction rates ↓ Time spent in jail

Evidence Statement 12

There is evidence from one RCT + to suggest that a comprehensive employment programme can have long-term positive effects on participation in employment and training, arrest and conviction rates, and reduce the amount of time spent in jail (Schochet et al., 2004). Applicability Rating B

5.1.6 Community-based counselling and therapy

5.1.6.1 Overview of evidence identified

Knopes (2004; RCT +) described a motivational interviewing session with video–based feedback with the aim of challenging and modifying deviant peer associations. Despite only making one post intervention assessment 1 week after delivery, 20% of participants were lost to follow up. In addition, two studies (Hanlon et al., 2002; CNRT -; Bryan, 1992; BA -) examined community-based counselling interventions. Hanlon et al. (2002; CNRT -) reported on a counselling and mentoring intervention and Bryan (1992; BA -) examined a group counselling intervention.

5.1.6.2 Primary outcomes

Long term outcomes (>1 year)

Hanlon et al. (2002; CNRT -) reported a long term reduction in alcohol use (modelled by Poisson regression) in young people with conduct or behavioural disorders who had received tailored counselling sessions and mentoring compared to those receiving individual counselling based on standard social work therapy practices (Hanlon et al., 2002; CNRT -). The increase was greatest in younger participants, and effect sizes ranged from –0.15 to 0.03.

Table 5.1.12 Counselling and therapy: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Hanlon et al. (2002)	CNRT-	Individual counselling and mentoring	Individual counselling sessions	1 yr	↓ Alcohol use

Evidence Statement 13

There is insufficient evidence to determine whether individual counselling is effective in reducing substance use in the long term in young people with multiple vulnerabilities.

5.1.6.3 Secondary outcomes

Very short term outcomes (< 1 month)

Despite a focus upon the modification of deviant friendship processes, motivational interviewing (MI) with video based feedback had no effect upon observer rated home, school, and delinquent behaviour in a group of young males (aged 12-17) when assessed 1 week later (Knopes, 2004; RCT +). There was a significant decrease in internal locus of control (the belief that events occur because of the direct action of individual behavioural choices) within intervention students compared with pre-test values. This was in contrast to an increase in this state in control participants, which suggested that spontaneous improvements in determinants of positive behaviour in control participants negated benefits resulting from the intervention.

Medium term outcomes (> 6 months, ≤ 1 year)

Hanlon et al. (2002; CNRT -) reported a significant treatment effect on delinquent–related outcomes at 1-year follow-up in both the number of instances involving delinquent behaviour during the 6 months preceding the assessment and the number

of delinquent activities self-reported in participants receiving tailored counselling and mentoring compared to those receiving standard counselling.

No follow up time reported

In the remaining study rated BA -, Bryan et al. (1992; BA -) reported that the number of socialisation based sessions received by children suspected to be in families where there was substance use was significantly associated with both lower levels of absenteeism and receiving a grade point average of C or more.

Table 5.1.13 Counselling and therapy: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Knopes et al., 2004	RCT+	Motivational Interviewing with video feedback	Counselling with no video feedback	1 week	↔ Delinquent behaviours ↔ Home behaviour ↔ School behaviour ↔ Readiness to change ↓ Internal locus of control
Hanlon et al. (2002)	CNRT-	Tailored, individual counselling and mentoring	Standard individual counselling	1 yr	↓ Delinquent behaviours
Bryan (1992)	BA-	Discussion structured group counselling	None	NR	↓ Absenteeism ↑ Receiving grade point average C or more

Evidence Statement 14.1

There is evidence from one RCT + to suggest that motivational interviewing with video feedback has no effect upon delinquent, home or school behaviours and decreased perception of control over the consequences of individual actions (Knopes et al., 2004). Applicability Rating B

Evidence Statement 14.2

There is evidence from one CNRT – to suggest that individual counselling can produce a significant medium term reduction in delinquent and criminal behaviour (Hanlon et al., 2002). Applicability Rating C

5.1.7 Community mobilisation programmes

Community mobilisation programmes were defined as programmes that consisted of a locally organised and planned, community wide intervention and included collaboration between individual stakeholders and relevant agencies such as the police, health services, drug agencies and local businesses.

5.1.7.1 Overview of evidence identified

One study examined community mobilisation interventions (Cheadle, 2001; RCT -). Although the study randomly allocated participants between treatment and control group, the study was considered methodologically weak because of reporting deficiencies and was rated -.

5.1.7.2 Primary outcomes

No primary outcomes were identified

5.1.7.3 Secondary outcomes

Length of follow-up not specified

Cheadle (2001; RCT -) examined the impact of a community mobilisation programme and youth development strategy designed to prevent drug abuse, violence, and risky sexual activity. The intervention comprised classes, skills development programmes, alcohol and drug-free events and publicity campaigns. The intervention had no effects on neighbourhood cooperation, pride, generic youth risk behaviours (including substance use, risky sexual behaviours, violence), or mobilisation (i.e. community developed/driven activities). Although the exact follow up time was not reported, the author noted that significant findings may have emerged in the future, although it was also reported that the quantitative tools used may not have been appropriate to measure mobilisation effectively.

Table 5.1.14 Community mobilisation: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Risk/protective factors
Cheadle et al. (2001)	RCT -	Community mobilisation	No intervention	NR	↔ Neighbourhood cooperation or pride, ↔ Generic youth risk behaviours ↔ Community mobilisation

Evidence Statement 15

There is evidence from one RCT – to suggest that a community mobilisation and youth development programme has no effect on neighbourhood co-operation or pride, indicators of community mobilisation, or generic youth risk behaviours (Cheadle et al., 2001). Applicability Rating C

5.1.8 Family-based interventions

Family-based interventions were defined as those interventions that targeted the families of children judged to be at risk of future substance use either because of external factors (e.g. families with a low income) or because the child had exhibited risk behaviours linked to later substance use (e.g. behavioural problems). Interventions could include parent and child components, or target families as a whole.

5.1.8.1 Overview of evidence identified

Systematic reviews

No systematic reviews focussed exclusively upon family based interventions in vulnerable young people. Gates et al. (2006; SR ++) included the study by Spoth et al. (1998) in their review, this paper is discussed in more detail below.

Primary studies

Fifteen studies examined family-based interventions for young people displaying a range of vulnerabilities or considered at risk of substance use. This study set comprised 10 RCTs, of which nine were rated +, and one -. Of the remaining studies, two were CNRT, rated + and -, and three were rated BA-.

Four evaluations investigated the Adolescent Transitions Programme (ATP) (Dishion & Andrews, 1995; RCT +; Dishion, 2002; RCT +; Irvine et al., 1999; RCT +; Poulin et al., 2001; CNRT +), which is a tiered, multicomponent intervention with parental and youth elements delivering individual and group work on family and social skills.

Duggan (1999; RCT +) evaluated the effectiveness of the Healthy Start Programme (HSP) in preventing child abuse and neglect through home visitations aimed to promote child health and development in newborns of families at risk for poor outcomes.

Four studies (Spoth et al., 1998; Kosterman et al., 1997; Kosterman et al., 2001, Park et al., 2000; all RCT +) reported upon the Preparing for the Drug Free Years (PDFY) initiative for families in low income neighbourhoods. In the programmes examined by Spoth et al. (1998) and Kosterman et al. (1997; 2001), families participated in a series of workshops, delivered by trained community volunteers, with a focus upon setting family rules and expectations on substance use, and generic family skills promotion. The two RCTs by Kosterman et al. (1997; 2001)

reported on the same sample of families. Evaluating the effectiveness of multimedia delivery of the PDFY programme to families in economically deprived areas was the objective of Park et al. (2000; RCT +). However, it must be noted that in this particular paper despite participants receiving education addressing all types of substances, the authors only reported on alcohol related outcomes.

Miller-Heyl (1998; RCT +) reported on workshops targeted towards young (aged 2-5) children and their families, concentrating upon the development of caregiver-child relationships through self-efficacy, effective decision-making, and developmental norms. Finally, Dishion et al. (2003; RCT +) reported on the effectiveness of the Family Check up scheme, which included motivational interviewing, parent and family behavioural skills workshops, and parent centred support services. Although the intervention sample contained 57% African American participants (control sample was 44%), the intervention was not specifically targeted towards this population, and hence this paper is not included in Section 5.2 (BME).

Ruch-Ross (1992; CNRT -) evaluated the Child and Family Options Project delivered to mothers in public housing projects in the USA, which provided structured group skills work. However, the work was methodologically weak, and the study suffered from poor intervention attendance and 50% attrition of participants. The three BA studies included for review were; Bry and Krinsley (1992; BA -), McDonald and Sayger (1998; BA -) and Springer et al. (1997; BA -), which reported data from family skills therapy, but only four participants were studied in the former paper; and the latter two were poorly reported.

5.1.8.2 Primary outcomes

Immediate term

Bry and Kinsley (1992; BA-) examined the impact of adding six months of booster session to behavioural family therapy with four young people. All participants reported fewer days using substances in the previous month after receiving the intervention (no statistical analysis performed).

Springer et al. (1997; BA -) found that a programme for high risk youth and their families had no effect on self-reported substance use at immediate follow-up.

Long term (>1 year)

Few primary outcomes were reported for ATP. Dishion and Andrews (1995; RCT +) showed that 12 months after delivery, there were significant increases in cigarette smoking reported by the youth-only, and parent and youth focussed conditions of ATP when compared to parent only and no intervention control groups. This finding was supported by Poulin et al. (1998; CNRT +) who indicated that this increase in smoking frequency was sustained for up to 3 years in young people who received ATP. Although Dishion et al. (2002; RCT +) did not provide data on changes in prevalence or patterns of use of particular substances, logistic regression showed that assignment to ATP four years earlier was a statistically significant predictor of substance use abstention (children were studied in the 9th grade of school, aged between 13 and 14). Taken together with findings at earlier follow up times, this suggests that the effects of ATP on substance use may be both temporally and substance specific, and these can occur independently of overall assessments of use.

Dishion et al. (2003; RCT +) examined outcomes for the Family Check-up for three consecutive years. Substance use (maximum monthly frequency of tobacco, alcohol and cannabis combined) was reduced in intervention participants at each time point compared with participants in the control group. Logistic regression analysis confirmed this finding, indicating that high-risk youth in the intervention group were less likely to report substance use compared with other intervention participants across time. Although rates of attrition were not reported, the authors noted that these findings should be interpreted with caution as a relatively small number of families completed all assessment phases, which had the consequence of reducing the statistical power of the analyses.

Preparing for the Drug Free Years was offered to families of all 6th grade students (mean age 11.3) in economically deprived rural areas (Park et al., 2000; RCT +). After delivery of a multimedia version of the programme, the reported means showed a non-significant change in substance use from pre-test to post-test, but substantial growth in alcohol use at the 1 year, 2 years and 3.5 years follow-ups in both intervention and control groups. However, existing drug users in the PDFY group reported significantly less growth in alcohol use over time compared to control participants. At the 3.5 years follow-up, the difference in mean alcohol use between the two groups represented an effect size (d) of 0.22. Data for other substances was not reported.

Table 5.1.15 Family-based: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Dishion, 2002	RCT+	Family based (ATP)	Not reported	4 yrs	Programme participation predicted ↑ Substance abstention
Dishion & Andrews, 1995	RCT+	Family based (ATP), Parent focused	Parent,-teen focused/ teen focused/	PT	↑ Smoking
				1 yr	↑ Smoking
Poulin et al 2001	CNRT+	ATP	No intervention	PT	↑ Tobacco smoking
				1 yr	
				3 yrs	
Dishion, 2003	RCT+	Family Check-up	Not reported	3 yrs	↓ Substance use
Park et al., 2000	RCT+	PDFY	Informational leaflets	1 yr	↑ Tobacco smoking
				2 yrs	↑ Tobacco smoking
				3.5 yrs	↓ Initiation of alcohol use ↓ Initiation of cannabis use Existing users: ↓ Alcohol use Non-users: ↑ Alcohol use
Bry & Krinsley (1992)	BA-	Behavioural Family Therapy + booster sessions	None	PT	↓ Days of substance use

Evidence Statement 16

There is evidence from four RCT +, one CNRT + and one BA – to suggest that family based interventions may be effective in producing long term reductions in substance use, except for tobacco and alcohol:

16.1 There is evidence from two RCT + and one CNRT + to suggest that the Adolescent Transitions Programme can produce long-term increases in overall substance use abstention (although tobacco smoking may increase) (Dishion et al. 2002; Dishion and Andrews, 1995; Poulin et al., 2001). Applicability rating B.

16.2 There is evidence from one RCT + to suggest that the Family Check Up intervention can produce long-term reductions in substance use (Dishion et al. 2003). Applicability rating B.

16.3 There is evidence from one RCT + to suggest that the Preparing for the Drug Free Years programme may result in a long-term trend towards a reduction in alcohol and cannabis initiation, but an increase in tobacco smoking and alcohol consumption (although the rise in alcohol may be less in pre-existing alcohol users) (Park et al., 2000). Applicability rating B.

5.1.8.3 Secondary outcomes

a) Parental outcomes

Immediate (<7 weeks)

Ruch-Ross (1992) found that a group skills intervention delivered to mothers and their children in public housing projects had no effects on any of the measures which assessed outcomes related to locus of control, perceived competency, family coping and parental values.

Medium (> 1 month ≤ 6 months; > 6 months ≤ 1 year) and long term (>1 year) outcomes

In parents receiving ATP (Irvine et al., 1999; RCT +), parental problem solving became significantly more positive at post-test and remained so throughout further assessments (up to 12 months). However, this improvement may have been initially spontaneous as there were no between group differences; problem solving also significantly improved in parents in the waiting list control group, at three months follow-up and remained significantly improved at six months follow-up. However, this improvement was not sustained at the 12 months follow up indicating maintenance of positive outcomes through ATP participation. In both experimental conditions, participation in ATP led to significant reductions in parents' ratings of the tendency to react in negative ways to their children's behaviour. There was a significant relationship between programme attendance and a overreactivity scale, indicating that the more sessions the parents attended, the less they reported overreacting to their child's behaviour. Results also indicated that parents in both groups significantly reduced their 'laxness' in parenting; effects were greater for parents in the Intervention condition than those in the waiting list condition. The programme also significantly improved parents' positive feelings toward their children. These findings were generally supported and expanded by Dishion and Andrews (1995; RCT +). Mothers in the parent only, teen only and parent and teen intervention groups showed significantly less negative engagement in a problem solving task at immediate follow up compared to control participants. There was no significant difference on this measure between mothers in the self-directed intervention group and control participants. Mothers in the parent and teen intervention group also reported significantly less family conflict at immediate post-test compared to control participants. However, there was no difference in family conflict for mothers in the parent only, teen only and self-directed intervention group. Dishion et al. (2003) examined the Family Check Up intervention for high-risk adolescents, in addition to a

reduction in substance use in adolescents, parents reported a sustained increase in parental monitoring compared to control participants ($p<0.05$).

Duggan et al. (1999; RCT +) reported that Healthy Start Programme (HSP) and control group families did not differ in their homes' learning environments, in mother-child interactions, in parenting stress levels, or in the perceived competence of parents at the end of the first year of the programme (immediate follow up). HSP families, however, did report greater use of non-violent approaches to discipline. One year later, HSP mothers increased their use of non-violent strategies to discipline their children, while control mothers did not ($p=0.03$). HSP mothers also experienced less stress related to parenting ($p=0.08$) and reported feeling more competent in their parenting skills ($p=0.03$). According to maternal reports, control group mothers were more likely to engage in neglectful behaviour in the child's first year of life compared to intervention participants ($p=0.05$). This group difference, however, was diminished by year two. There was a shift from moderate to less frequent use of psychological aggression among HSP mothers, at least in the first year of life (not significant compared to controls). HSP and control group mothers were comparable in their use of physical assaults during the first two years of the study.

At nine weeks follow up, the Preparing for the Drug Free Years (PDFY) intervention produced a reduction in observer rated negative interactions between mother and child (interrogating style and antagonistic behaviour) and an increase in quality of relationship between fathers and child during a problem-solving task (Kosterman et al., 1997; RCT +). In a further study of this sample (Kosterman et al., 2001; RCT +), observation of behaviour showed that intervention mothers set more substance use rules than control mothers, were more likely to restrict alcohol, and showed less conflict towards their spouse. Fathers benefited too, establishing more rules pertaining to substance use and also perceiving a greater involvement with the child. However, the effects of the intervention were variable with marginal ($p<0.10$) and non-significant effects on the following: mother's conflict from spouse, mother's conflict from child; mother's involvement together with children, mother's perceived child's refusal to skip school, father's monitoring or reasoning (all $p<0.10$, respectively), fathers' rewards to child, mothers; monitoring and reasoning, fathers' punishment inclination, mothers' and fathers' punishment consistency, fathers' alcohol restrictiveness, fathers' perceived child's refusal to drink beer or skip school, fathers' conflict towards spouse, fathers' conflict from spouse or child, mothers' involvement from child, fathers' involvement towards child, fathers' involvement

together with child. The study by Park et al. (2000; RCT +) suggested moderately better family management practices among PDFY families at immediate post-test, and more improvement in these practices over time (up to 2 years) compared to control families ($p<0.10$). Parents receiving PDFY also showed significantly more improvement than the control group in knowledge of substance use norms. However, there were no intervention effects on family conflict or refusal skills at post-test, or the 1- and 2-year follow-up. Spoth et al. (1998; RCT +) reported positive intervention effects on intervention-targeted parenting behaviours at 6-months follow up, however, the intervention effects on adolescent refusal skills were not significant. All three studies delivered the intervention with the same intensity to similar populations, so the differences in findings may either be related to the facilitators used (community volunteers vs. trained counsellor), temporally specific intervention effects, or outcome specific effects of PDFY.

Parents attending non-programmed generic family skills workshops for 12 weeks, (Miller-Heyl et al., 1998; RCT +) reported significant improvements (compared with control participants and baseline scores) in self efficacy and self esteem at 1- and 2-years follow-up and child rearing practices in terms of limit setting and harsh punishment at 2-years, compared to control participants.

Although methodologically weak, McDonald and Sayger (1998; BA -) reported several positive outcomes for the Family and Schools Together (FAST) intervention in terms of parent reported outcomes. Pre-post assessment of FAST children (n=52 elementary, n=52 middle school aged) showed statistically significant improvement on parent reports on conduct disorder, attention problems, and total behaviour for the elementary school programme and the attention problems, anxiety-withdrawal, and psychotic behaviour scales for the middle school programme. However the programme had no effects on teacher reported outcomes of these measures between pre- and post-test. Scores on the Faces-III Cohesion scale suggested that participation in the FAST programme increased family cohesion from pre- to post-assessment for the elementary school group; differences for the middle school group were not statistically significant. The changes in pre-test, post-test, and follow-up scores for cohesion for the elementary school group were non-significant; the middle school group showed maintenance of pre-test levels of family cohesion.

Table 5.1.16 Family-based: parental outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Irvine et al., 1999	RCT+	Family based (ATP)	Wait list control	PT	↔ Parent problem solving ↔ Participation in family activities with child ↓ Children's total problem score on CBCL Attendance at ≥4 sessions: ↓ Negative behaviours in problematic interactions ↓ Parent-reported anti-social behaviour
				3 mo	↔ Parent problem solving
				6 mo	↔ Parent problem solving
				12 mo	↔ Parent problem solving ↔ Participation in family activities with child
Dishion & Andrews, 1995	RCT+	ATP: Parent only	No intervention	PT	↓ Mothers negative engagement ↔ Mothers' rating of family conflict
		ATP: Teen only	No intervention	PT	↓ Mothers negative engagement ↔ Mothers' rating of family conflict
		ATP: Parent and teen	No intervention	PT	↓ Mothers negative engagement ↓ Mothers' rating of family conflict
		ATP: Self directed	No intervention	PT	↔ Mothers negative engagement ↔ Mothers' rating of family conflict
Duggan et al. (1999)	RCT+	(HSP) Early Identification of risk and home visits	No intervention	1 yr	↔ Mother child interactions ↔ Parenting stress levels ↔ Perceived competence of parents ↑ Non-violent discipline ↔ Childs developmental status ↓ Engagement in neglectful behaviour
				2 yr	↑ Use of non-violent discipline ↔ Use of physical assault ↔ Childs developmental status
Kosterman et al., 1997	RCT+	PDFY: Family based workshops	Waiting list	2-9 wks	↑ Proactive conversation between parent and child ↑ Mother's family interaction ↑ Parents' problem solving ↓ Negative interactions between mother and child ↑ Quality of relationship between father and child during problem solving
Kosterman et al., 2001	RCT+	PDFY	NR		↑ Mothers' setting of substance use rules ↑ Mothers' restriction of alcohol ↓ Mothers' conflict towards spouse ↑ Fathers' setting of substance use rules ↑ Fathers' involvement with child (see text for non-significant findings)
Spoth et al (1998)	RCT+	PDFY	Waiting list	~ 6 mo	↑ Parenting outcomes ↔ Adolescent peer refusal
Park et al., 2000	RCT+	PDFY	Informational leaflets	PT	↑ Family management ↔ Family conflict ↔ Refusal skills
				1 yr	↔ Family conflict ↔ Refusal skills
				2 yrs	↑ Norms against AOD use ↑ Family management ↔ Family conflict ↔ Refusal skills

Miller-Heyl, 1998	RCT +	Non programmed multicomponent family intervention	No intervention	1 yr	↑ Parental self efficacy and self esteem ↔ Locus of control ↔ Parents reasoning skills ↔ Stress ↑ Child rearing practices in terms of limit setting, communication, harsh punishment, and vignettes ↔ Child rearing practices in terms of autonomy and rational guidance
				2 yrs	↑ Parental self efficacy and self esteem ↔ Locus of control ↑ Parents reasoning skills (↓ lack of ability, lack of effort and child blame; ↔ situational) ↔ Stress ↑ Child rearing practices in terms of limit setting, harsh punishment, and vignettes ↔ Child rearing practices in terms of autonomy, communication and rational guidance
Dishion et al. (2003)	RCT+	Family Check Up intervention	No intervention	3 yrs	↑ Parental monitoring
Ruch-Ross (1992)	CNRT -	Child and Family Options programme	No intervention	PT	↔ Locus of control, perceived competency, family coping and parental values
McDonald & Saygar (1998)	BA -	Families and Schools Together intervention	None		Elementary school programme: ↓ Parent-reported conduct disorder, attention problems and total problem behaviours ↔ Parent-reported socialised aggression, anxiety/withdrawal, psychotic behaviour or motor excesses ↔ Teacher-reported Revised Behaviour Problem Checklist measures ↑ Family cohesion Middle school programme: ↓ Parent-reported attention problems, anxiety-withdrawal and psychotic behaviour scales ↔ Parent-reported conduct disorder, socialised aggression, motor excess and total behaviour

Evidence Statement 17

There is evidence from seven RCT + to suggest that family based interventions can be effective in producing long term improvements in parenting skills:

17.1 There is evidence from one RCT + to suggest that the early intervention HSP has no effects on child developmental status, perceived parental competence, parents' stress levels or mother-child interaction in the medium term, or on use of physical assault as discipline and child developmental status in the long-term, but that the intervention can produce improvements in non-violent discipline in the long term (Duggan, 1999). Applicability Rating B.

17.2 There is evidence from four RCT + to suggest that PDFY may lead to long term improvements in parenting skills and family responses to substance use but not family conflict or adolescent refusal skills compared with no intervention or information leaflets alone (Kosterman et al., 1997; 2001; Spoth et al., 1998; Park et al., 2000). Applicability Rating B.

17.3 There is evidence from one RCT + to suggest that a non-programmed multicomponent family based approach, may increase some parenting skills, and parental self-efficacy and self-esteem in the long term, compared to no intervention, but have no effects on parenting stress (Miller-Heyl, 1998). Applicability Rating B.

17.4 There is evidence from one RCT + to suggest that a programmed multicomponent family based approach, the Family Check Up, can produce long term increases in parental monitoring of child activities (Dishion et al., 2003). Applicability Rating B.

b) Young person outcomes

Immediate outcomes (< 1 week)

Springer et al. (1997; BA -) reported that children (aged 8+) in low income families living in housing associations receiving a series of educational and skills building sessions from trained family facilitators in their own homes reported positive change in perception of family cohesion and exhibited positive changes in family bonding. However, there were no intervention effects on other resilience measures including school bonding, pro-social norms, self-concept, self-control, self-efficacy, positive outlook, assertiveness, confidence, cooperation, family supervision, family interaction, and substance use acceptance and intentions.

Medium term (> 6 month, ≤ 12 months)

Despite significant improvements in parental skills, there was no evidence that ATP affected participation in family activities with the child when assessed immediately post-intervention, or for up to one year after (Irvine et al., 1998; RCT +). However, the intervention did produce a significant post-treatment improvement in children's' total problem score on the CBCL (Children's Behaviour Checklist) compared with a wait list control group. Surprisingly, this effect was not replicated in the wait list group when they received the intervention. Treatment effects were analysed for a subset of families who attended four or more sessions (n=138, 91.4% of intervention sample). Results indicated that these parents reported that their children significantly

decreased the level of negative behaviour in problematic interactions and there was also a clear and moderate-sized effect of treatment on parent-reported antisocial behaviour.

There was no difference between intervention and control participants at immediate post-test or 1-year follow-up in terms of mothers' ratings on the CBCL Externalising Scale (aggressive and delinquent behaviour) across any of the intervention groups examined by Dishion and Andrews (1995; RCT +). Teachers' ratings on the CBCL indicated a reduction in problem behaviours in the parent only group, but only at post-test. At 1-year follow-up, teachers' rating of aggressive and delinquent behaviours indicated significantly worse behaviours, compared to controls, in the teen only group and marginally worse behaviours in the parent and teen group ($p<0.10$). There was no difference in teacher rated behaviours between control participants and participants in parent only self-directed intervention groups at either follow-up.

Long term (>1 year)

Miller-Heyl et al. (1998; RCT +) reported that children attending parent-child workshops showed significant improvements in assessments of developmental level, problem behaviours, and oppositional behaviour at 1-year follow-up compared to control children. At the 2-year follow-up, compared to control children, intervention children had significantly greater levels of development and lower levels of oppositional behaviours. However there was no difference in problem behaviours.

However, at both one and two year follow-ups, there was no difference in the developmental status of Healthy Start Programme and control group children as measured by the Bayley Scales of Infant Development (Duggan, 1999; RCT +).

Poulin et al. (2001; CNRT +) reported a significant increase in composite measures of delinquency at 3 years in young people receiving ATP. This was most notable in participants with low baseline levels of reporting.

Table 5.1.17 Family based: young person outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Dishion & Andrews (1995)	RCT +	ATP: Parent only	No intervention	PT	↔ Mother rated behaviour ↑ Teacher rated behaviour
				1 yr	↔ Mother rated behaviour ↔ Teacher rated behaviour
		ATP: Teen only	No intervention	PT	↔ Mother rated behaviour ↔ Teacher rated behaviour
				1 yr	↔ Mother rated behaviour ↓ Teacher rated behaviour
		ATP: Parent and teen	No intervention	PT	↔ Mother rated behaviour ↔ Teacher rated behaviour
				1 yr	↔ Mother rated behaviour ↔ Teacher rated behaviour
		ATP: Self directed	No intervention	PT	↔ Mother rated behaviour ↔ Teacher rated behaviour
				1 yr	↔ Mother rated behaviour ↔ Teacher rated behaviour
Duggan 1999	RCT+	(HSP) Early Identification of risk and home visits	No intervention	1 yr	↔ Child developmental status
				2 yrs	↔ Child developmental status
Miller-Heyl, 1998	RCT +	Non programmed multicomponent family intervention	No intervention	1 yr	↑ Child development level ↓ Child problem behaviour ↓ Child oppositional behaviour
				2 yrs	↑ Child development level ↔ Child problem behaviour ↓ Child oppositional behaviour
Poulin et al., 2001	CNRT+	ATP	No intervention	PT	↑ Teacher rated delinquency
				1 yr	
				3 yrs	
Springer et al. (1997)	BA -	High-risk youth programme	None	PT	↑ Perception of family cohesion ↑ Family bonding ↔ Individual protective factors including school bonding, pro-social norms, self-concept, self-control, self-efficacy, positive outlook, assertiveness, confidence, cooperation, family supervision, family interaction, substance use acceptance and intentions

Evidence Statement 18

There is inconsistent evidence from two RCTs + about the long term effectiveness of family based interventions on child development:

18.1 There is evidence from one RCT + to suggest that a comprehensive early intervention in at risk families does not lead to long-term changes in ratings of child development (Duggan, 1999). Applicability Rating B.

18.2 There is evidence from one RCT + to suggest that non programmed multicomponent interventions may be effective at producing improvements in child development and oppositional behaviours in the long term and problem behaviours in

the medium term (Miller-Heyl, 1998). Applicability Rating B.

18.3 There is evidence from one CNRT + to suggest that participation in the peer support component of ATP produces a long-term increase in ratings of delinquency. This appears to be greatest in those participants expressing low levels of baseline delinquency (Poulin et al., 2001). Applicability Rating B.

5.1.9 Multicomponent interventions

Multicomponent interventions were defined as those interventions that comprised multiple components (eg case management, educational services and support) often delivered in more than one setting. For example, programmes including an intervention component delivered in school (e.g. drug education lessons) combined with community components (e.g. counselling service) were included in this category.

5.1.9.1 Overview of evidence identified

Systematic reviews

Roe and Becker (2005; SR +) identified one multicomponent intervention in their review of sixteen studies of prevention programmes for high-risk youth. In this, Harrell et al. (1999) evaluated the Children at Risk (CAR) programme, which was delivered in five US cities and offered integrated services coordinated by a case manager and included parenting support, educational services, after-school community activities, and community policing. Follow up assessment was conducted one year after the programme's end. Roe and Becker assigned this study a Maryland ranking of 5 (highest possible rating). This primary study was not independently selected for inclusion in this review.

The meta-analysis by Streke (2004; SR ++) also analysed multicomponent interventions, but is reported in Section 5.1.1

Primary studies

Seven primary studies reported data from multicomponent interventions. This total included two studies rated RCT +, three rated RCT -, and 2 BA-.

Harmon (1995; RCT +) examined the effectiveness of the Open Doors drug education programme for pregnant and parenting teens and young adults residing in rural areas in the USA. Participants received individual counselling sessions, peer

leadership sessions, and social skills training, drug education, and mentoring. Project CARE was a multicomponent programme delivered to socio-economically deprived third grade children and their families identified as being particularly high risk (Hostetler and Fisher, 1997; RCT +). The intervention comprised individual and group student discussion groups, field trips, in-home family meetings, parent meetings, summer camps, and family activity days. The Woodrock Youth Development Project aimed to improve family, school and community supports available to at risk youth, develop general and interpersonal skills, and offered training in drug resistance and knowledge (LoSciuto et al., 1999; RCT +). Youth advocates and peer mentors delivered the intervention, both in school and community clubs, and on weekend retreats.

The Linking the Interests of Families and Teachers (LIFT) programme was a multicomponent package of interventions that included classroom-based social and problem-solving skills training, a playground behavioural intervention, a parent management training programme, and ongoing access to a telephone support system (Eddy et al., 2000; RCT -; 2003; RCT -). Parents were kept updated about programme activities through weekly newsletters. One confounding factor in this evaluation was that students (aged around 10.5 years) in both the control and the intervention schools also had access to regular drug prevention services provided by their school, such as psychological testing, counselling, universal prevention programmes (e.g. DARE), and special education services.

Wagner et al. (2000; RCT -) summarised the outcomes of community-based interventions funded by Henry J. Kaiser Family Foundation's Community Health Promotion Grants Programme. Specific activities varied between communities, but generally included parent and family skills training, school activities, and community awareness projects. Fourteen communities in total were studied but results were only presented for individual communities, and no data combination was performed. The evaluation was limited in some communities by the relatively small number of young people studied, and the lack of suitable comparison communities.

Two studies by St Pierre et al. (1997; CNRT - 2001; RCT -) examined the addition of the SMART programme to usual Boys and Girls club activities (see Section 5.1.1). St Pierre et al. (2001; RCT -) also examined the effects of a 2-year programme that consisted of three components: a youth component (SMART Kids), a school component (SMART Teachers) and a parent component (SMART Parents). The RCT

was rated – because it was not clear whether an ITT analysis had been undertaken and insufficient results were reported with regards to the method of randomisation. Pierre et al. (1997; CNRT -) examined the addition of a parent involvement programme (the Family Advocacy Network) and monthly youth activities to a 3-year drug prevention programme (3 sequential programmes, Start SMART, Stay SMART and SMART Leaders). Sites were chosen to implement the intervention programme based on their organisational capacities and so this CNRT was given a – rating.

In the first of the two BA studies included in this section, Buncher (1996; BA -) examined the replicability, transferability and effectiveness of Project KICK, a life-, education-, and employability-skills programme for young people (aged between 6-18). However, the quality of the study was hampered by non-randomisation, poor attendance in those children considered most at risk, and the existence of competing programmes. Finally, Danoff (1997; BA -) evaluated the efficacy of a multicomponent prevention programme for at risk children in improving drug and alcohol knowledge. The author reported that there were differences in programme length, content, and follow up time between study sites, hence the BA - rating.

5.1.9.2 Primary outcomes

Immediate (< 1 week)

LoSciuto et al. (1999; RCT +) reported that in 10 year olds, there was significantly less lifetime (d = 0.19) and last month (d = 0.19) drug use in Woodrock Youth Development participants compared to control participants. Only post intervention measures were taken so there is no indication as to the longevity of this effect.

There was a small increase in the percentage of Project KICK participants reporting lifetime use of substances at immediate follow-up (from 12 to 19%), although this change was not statistically tested (Buncher, 1996; BA -).

Medium (> 1 month ≤ 6 months; > 6 months ≤ 1 year)

Roe and Becker (2005; SR +) only reported on one multicomponent intervention, hence no data synthesis was performed. Children at Risk programme participants were significantly less likely to report use of substances in the previous month compared with control participants at one year follow up (Harrell et al., 1999). It was not possible, however, to identify which components were responsible for this finding.

Across all Opening Doors participants (Harmon, 1995; RCT +) (assessed 23-637 days from enrolment (mean 70 days), depending upon time to completion of the programme) there was a non-significant change in drug use since attending the project, and last month frequency of alcohol or other drug use, or cigarettes. Reasons for this apparent lack of effect included weak programme implementation, and a flawed randomisation process. The author reported that those who dropped out were more likely to be substance users, older, less likely to be single, and had parents who were more likely to be substance users.

Long term (>1 year)

Eddy et al. (2003; RCT -) reported that Project LIFT failed to impact upon substance use outcomes at three year follow up. There was no difference between intervention and control students in terms of first self-reported tobacco or cannabis use during middle school. However, the results of the survival analysis showed that control students were 1.49 times more likely than intervention students to report patterned alcohol use (at least every 2 to 3 months) during middle school.

Between two and four years after introduction of the Henry J. Kaiser Family Foundation's Community Health Promotion Grants Program community programmes, Wagner (2000; RCT -) found no significant impact upon substance use outcomes in any of the communities studied.

Table 5.1.18 Multicomponent programmes: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Harmon (1995)	RCT+	Open Doors	Non-participation	23-637 days from enrolment	⇔ ATOD use ⇔ Last month frequency of alcohol or other drug use and cigarettes
LoSciuto et al. (1999)	RCT+	Woodrock youth development project	No intervention	PT	↓ Last month drug use ↓ Lifetime drug use
Eddy et al. (2003)	RCT-	Project LIFT	Usual services	3 yrs	⇔ First report of tobacco or cannabis use ↓ Patterned alcohol use
Wagner et al. (2000)	RCT -	CHPGP	No intervention	2 yrs, 4 yrs	⇔ AOD use outcomes
Buncher (1996)	BA-	Project KICK	None	PT	Small ↑ in lifetime use of substances (Not statistically tested)

Evidence Statement 19

There is evidence from one RCT + to suggest that multicomponent interventions can be effective in reducing substance use in the short term (LoSciuto et al., 1999), however there is inconsistent evidence from one SR + and two RCTs (1 + and 1 -) about their effectiveness in the long-term, with studies either indicating no change in substance use, or a reduction in patterns of alcohol use (Roe and Becker, 2005; Harmon, 1995; Eddy, 2003). Applicability Rating B

5.1.9.3 Secondary outcomes

Immediate (< 1 month)

At immediate post-test, compared to participants in the control group, Project CARE participants reported a greater mean willingness to use substances (composite measure), cigarettes, chewing tobacco, beer, liquor, and 'wine coolers' (Hostetler and Fisher, 1997; RCT +). The authors believed that lower risk individuals' association with higher risk participants may have reinforced negative behaviours. This conclusion was partly upheld, because at both one and two years follow up there were no significant differences in declared intentions to use any of these substances.

Immediately after the 15-week, Project Kick intervention (Buncher, 1996; BA-) participants reported an increase in admiration for dealers (a rise from 6 to 31%), and more reported that they would try drugs if offered (a rise from 6 to 18%) (no statistical tests were performed for either outcome). Furthermore, there were significant decreases in scores on assessments of life management skills and changes in attitudes towards drug use. However, participants did not demonstrate significant changes on the Smart Moves test, which also assessed drug knowledge, life skills and decision-making, and attitudes towards substance use. In addition, no significant changes were reported for social skills (54.58 at baseline → 56.83 at post-test) or scores on the Piers-Harris self-concept assessment.

Danoff (1997; BA -) examined the impact of an alcohol and other drugs programme, Young Designers, on drug and alcohol knowledge and behaviour. Overall, the intervention had no effect on knowledge towards substances, self-esteem, substance behaviour or prosocial behaviour. However, when the impact of the intervention was examined across different types of educational establishments, the intervention had a

significant positive effect on middle school honours participants in terms of prosocial and antisocial behaviours.

Long term (>1 year)

Open Doors (Harmon, 1995; RCT +), an intervention for pregnant and parenting young people, was only associated with weak changes in secondary outcomes. Participants reported increased self-esteem, negative attitudes to drug use in pregnancy, and more positive job skills. In contrast, compared with control participants they reported fewer positive job attitudes, and there was no change in educational attainment or aspirations, association with 'deviant' peers (authors' description), no change in parenting skills, and no change in family management skills. These positive results were less than robust as follow up of participants ranged from 23-637 days post intervention, and there were significant differences in time till follow up between experimental groups.

Short-term changes resulting from Project CARE were reported by Hostetler and Fisher (1997; RCT +). Intervention students reported significantly more negative behaviours than control students ($p<0.05$) at immediate post-test. Participation in alternative and community activities increased in intervention students, and across the two-year period of delivery there were fewer school suspensions (intervention was delivered to third grade students, aged between 8 and 9, and their parents), however, these findings were not significantly different compared to control students at the 1- or 2-year follow-up. These results depended upon the level of participation; with individuals with lower levels of participation reporting higher negative behaviours than control participants, and in accordance with this, high participation was associated with greater involvement with community activities. As reported in section 5.1.3.1, willingness to try drugs increased at this assessment point, so it appeared that these two sets of behaviours were unrelated. These effects had dissipated at one-year follow up with no differences between groups, and at two years the intervention group were significantly more likely to report negative behaviours. Attrition was high at these two time points (40.4% and 75.4% respectively), so the exclusion of these participants from the analysis would have affected outcomes. Positive effects on school attendance were also reported by LoSciuto et al. (1999; RCT +) in their evaluation of the Woodrock Youth Development Project. Post intervention, there was significantly greater self-reported school attendance among participants in the intervention group (author reported $d = 0.26$). However, the intervention did not have effects on aggression ($p=0.09$), self-esteem ($p=0.08$) or

prosocial attitudes to substance use (non-significant), although there was a trend towards higher scores on the former outcomes in the intervention group compared to the control group.

In contrast to the lack of effect of LIFT upon primary substance related outcomes reported by Eddy et al. (2003; RCT -), an earlier trial of the programme (Eddy et al., 2000; RCT -) reported that the intervention produced significant immediate changes on behavioural outcomes. Intervention participants reported significantly fewer problem behaviours (young people in first and fifth grades, ages approximately 6 and 10) and displayed less physical aggression toward classmates on the school playground. In addition, compared to control participants, intervention parents demonstrated significantly less aversive behaviour during family problem-solving discussions, and teachers' impressions of child positive behaviours with classmates were significantly better (Eddy et al., 2000; RCT -). The authors reported that the positive effects of LIFT appeared to be strongest in those children who exhibited the highest level of behavioural problems prior to the intervention. Attrition at the third year follow up was very low (3%). In both first and fifth graders, there was a delay in the frequency and time until intervention participants' first association with problematic peers, and in the time to first police arrest. Eddy et al. (2003; RCT -) examined the effect of LIFT on arrest rates. The results of the survival analysis showed that students in the control group were 1.55 times more likely to be arrested during middle school than students receiving the LIFT intervention.

In the cluster RCT of the Henry J. Kaiser Family Foundation's Community Health Promotion Grants Programme (Wagner et al., 2000; RCT -) there were no programme effects at 2 or 4 years in any of the studied communities on composite measures of adolescent health, diet programmes, injury prevention, teen pregnancy, or an overall measure of all four.

Students who received the SMART prevention programme in combination with family advocacy work and monthly youth activities (St Pierre et al., 1997; CNRT; -) reported greater overall drug knowledge over 27 months compared to control participants. Drug knowledge was also higher in students receiving the programme plus monthly youth activities and the prevention only intervention. In addition, when the prevention programme was delivered with the family advocacy network (FAN group), alcohol refusal skills were increased compared with control participants at 28 and 35 months (St Pierre et al., 1997; CNRT -). However, although FAN group participants showed

an increase in the reported ability to refuse cannabis and cigarettes across time, the difference was not significant compared to the other intervention groups or control participants. There was also no difference between groups in terms of cannabis alcohol or cigarette attitudes, alcohol, cannabis or chewing tobacco behaviours, or social skills. St Pierre et al. (2001; CNRT -) found that there were significant decreases in the control group but not the SMART intervention group in terms of teacher-rated refusal skills, teacher-rated problem solving, teacher-assessed skills at the 2-year follow-up. However significant increases were seen in the intervention group in terms of child rated positive feelings about school and spelling grades in two out of the 3 programme sites included in the evaluation.

Table 5.1.19 Multicomponent programmes: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Harmon 1995	RCT+	Open Doors programme	Non-participation	23-637 days	↔ Educational attainment or aspirations ↔ Association with deviant others ↑ Self esteem ↑ Negative attitude towards drug use in pregnancy ↔ Parenting skills ↑ Positive job skills ↓ Positive job attitudes ↔ Family management skills
Hostetler & Fisher 1997	RCT+	School and family activities	No intervention	PT	↑ Willingness to use substances ↑ Time spent in alternative activities ↔ Suspensions ↑ Participation in community activities
				1 yr	↔ Willingness to use substances ↔ Suspensions ↔ Negative behaviours ↔ Alternative acts ↔ Intent to use substances ↔ Communication with mother or father ↔ Number of absences
				2 yrs	↔ Willingness to use substances ↑ Negative behaviours ↔ Suspensions ↔ Alternative acts ↔ Intent to use substances ↔ Communication with mother or father ↔ Number of absences
LoSciuto et al., 1999	RCT+	Woodrock youth development project	No intervention	PT	↑ School attendance ↔ Aggression ↔ Self esteem ↔ Prosocial attitudes towards substance use
Eddy et al. (2000)	RCT-	LIFT programme	Usual services	PT	↓ Problem behaviour (ages 6 & 10) ↓ Physical aggression toward classmates ↓ Parent aversive behaviours during family problem-solving discussions ↑ Teachers impressions of child positive behaviours with classmates
				3 yrs	↓ Frequency and time until association with problematic peers
Eddy et al. (2003)	RCT-	LIFT programme	Usual services	30-42 mths	↓ Time to first police arrest

Wagner et al. (2000)	RCT-	Community Health Promotion Grants Programme	No intervention	2 yrs, 4 yrs	↔ Adolescent health ↔ Diet programmes ↔ Injury prevention ↔ Teen pregnancy
St Pierre et al. (2001)	RCT-	SMART intervention	No intervention	2 yrs	↔ Teacher-rated refusal skills, problem solving, teacher-assessed skills ↑ Positive feelings about school ↑ Spelling grades
St Pierre et al. (1997)	CNRT-	SMART + Family Advocacy Network + youth activities	Usual Boys and Girls club activities	27 mths	↑ Ability to refuse alcohol ↔ Ability to refuse cannabis or cigarettes ↔ Attitudes to alcohol, cannabis or cigarettes ↑ Drug knowledge ↔ Social skills
		SMART + youth activities	Usual Boys and Girls club activities		↑ Drug knowledge ↔ Ability to refuse alcohol, cannabis or cigarettes ↔ Attitudes to alcohol, cannabis or cigarettes ↔ Social skills
		SMART only	Usual Boys and Girls club activities		↑ Drug knowledge ↔ Ability to refuse alcohol, cannabis or cigarettes ↔ Attitudes to alcohol, cannabis or cigarettes ↔ Social skills
Buncher (1996)	BA-	Project KICK	None	PT	↓ Life management and attitudes towards drug ↔ Drug knowledge, life skills and decision-making, attitudes towards substance use ↔ Social skills ↔ Self-concept ↑ Admiration for dealers ↑ Would try drugs if offered
Danoff (1997)	BA-	Young Designers (AOD Community program)	None	PT	↔ Knowledge towards substances, self esteem, substance behaviour, pro-social behaviour Middle school honours students: ↑ Pro-social behaviour ↓ Anti-social behaviour

Evidence Statement 20

There is inconsistent evidence about the effectiveness of multicomponent interventions in affecting different secondary outcomes relating to substance misuse in vulnerable or disadvantaged young people:

20.1 There is evidence from one RCT + to suggest that a multicomponent intervention involving school and families activities is not effective in producing long-term changes in willingness or intent to use substances, has no effects on family functioning or absences and suspensions from school, and increases negative behaviours (Hostetler and Fisher, 1997). Applicability Rating B

20.2 There is evidence from 1 RCT – and 1 CNRT – to suggest that adding family advocacy or additional youth activities to an existing community-based prevention programme can produce long term increases in substance knowledge but not refusal skills or attitudes to substance use (St Pierre et al., 1997; St Pierre et al., 2001).

Applicability Rating C.

20.3 There is inconsistent evidence about the effectiveness of multicomponent interventions on school and education related outcomes. There is evidence from one RCT + to suggest an immediate positive intervention effect on school attendance (LoSciuto et al., 1999), whilst evidence from another RCT + suggests no long-term effects of intervention on educational attainment or aspirations (Harmon, 1995). Applicability Rating B

20.4 There is evidence from two RCT – to suggest that a multicomponent intervention offered in addition to usual school prevention services may produce an immediate decrease in problem behaviours and a long term decrease in association with deviant peers and involvement in criminal activity (Eddy et al., 2000; 2003). Applicability Rating B

20.5 There is evidence from one RCT – to suggest that multicomponent interventions delivered across several communities do not have an effect on wider health outcomes such as diet, accidental injury, and teenage pregnancy (Wagner, 2000) Applicability Rating D

5.1.10 School-based interventions

5.1.10.1 Overview of evidence identified

Systematic reviews

Gottfredson and Wilson (2003; SR +) included five cognitive-behavioural intervention orientated studies targeted towards high-risk student samples in their meta-analysis. Not enough information was provided in this publication to determine whether this analysis included any of the primary studies reviewed below.

Roe and Becker (2005; SR +) included five school-based interventions in their systematic review (Griffin et al., 2003; RCT +; De Wit et al., 1998; CNRT -; Valentine et al., 1998; CNRT -; Weiss and Nicholson, 1998; RCT +; O'Donnell et al., 1995; CNRT -). All these were independently identified in the literature search and are reviewed in the sections below.

Primary studies

A total of 45 studies were identified, of which one was rated RCT ++ (refer to Table 5.1.1 for references), eight RCT +, seven RCT -, four CNRT +, 19 CNRT -, one CBA

-, one BA +, and four BA -. These were subdivided according to the intervention approach:

Section 5.1.10 Educational and skills-based interventions
Section 5.1.11 Counselling and therapy interventions

5.1.10.2 Primary outcomes

Gottfredson and Wilson (2003; SR +) calculated an effect size of 0.20 for five studies that examined cognitive and behavioural approaches to prevention in vulnerable youth. This compared with an effect size of 0.05 for the general school population, indicating a significantly greater effect of this type of approach in high-risk young people. No meta-regression was performed to examine the association between time till follow up and effect size.

The meta-analysis by Streke (2004; SR ++) compared the effects of school-based interventions with other settings, and is reported fully in Section 5.1.1.

5.1.11 School-based educational/skills-based interventions

School-based educational/skills-based interventions were defined as interventions that were implemented in the classroom or a setting associated with the school (e.g. after school club). A total of 31 studies were identified; six studies specifically referred to life skills or Life Skills Training (LST). Details of the studies and the interventions examined are summarised in Table 5.1.20.

Table 5.1.20 Description of school based educational/skills-based interventions

Study	Rating	Intervention description
DeMar, (1997)	RCT +	Social skills training and cognitive problem solving; parent support group
Griffin et al. (2003)	RCT +	LST
Smith et al. (2004)	RCT +	'Infused' LST (integrated into school curriculum rather than independent learning units)
Vicary et al. (2004)	RCT +	'Infused' LST
Weiss and Nicholson, (1998)	RCT +	Peer and adult delivery of drug education in the classroom
Farrell et al. (2003)	RCT +	Classroom based violence prevention curriculum
Kaminski et al. (2002)	RCT +	Project STAR with parent support and home visiting
Palinkas et al. (1996)	RCT +	School based skills and counselling programme, Positive Adolescent Life Skills (PALS)
Gosin et al. (2003)	RCT -	Keepin' it real culturally sensitive curriculum
LoSciuto et al. (1996)	RCT -	LST; community service; parent workshops
Rentschler, (1997)	RCT -	Prevention curriculum; family meetings; school trips
Forman et al. (1990)	RCT -	LST with additional staff training
Gottfredson et al. (1996)	RCT -	LST; social problem solving skills course

Brown et al. (2005)	RCT -	Prevention curriculum; peer intervention; family support
Demers, (2000)	CNRT +	PALS
Dubas et al. (1998)	CNRT +	Teacher training; resilience based pre-school curriculum
Hawkins et al. (1999)	CNRT +	Cognitive and social skills and interpersonal cognitive problem solving skills; parental training
Corvo & Persse, (1998)	CNRT -	Arts and play activities
DeWit et al. (1998)	CNRT -	Peer support; parental management
DeWit et al. (2000)	CNRT -	Social competence skill training, Opening Doors Programme.
Donelly et al. (2001)	CNRT -	Sexual abstinence curriculum, *Sex Can Wait* and *Abstinence: Pick and Choose Activities* book
Hahn et al. (1998)	CNRT -	Generic life skills training delivered through puppetry
McLaughlin et al. (1993)	CNRT -	LST
Morrison et al. (2000)	CNRT -	After school skills curriculum, with parental participation
O'Donnell et al. (1995)	CNRT -	Cognitive and social skills curriculum
Raynal & Chen, (1996)	CNRT -	Generic life skills training, New Track Programme
Richards-Colocino, (1996)	CNRT -	Project STAR and DARE
Zavela et al. (1997)	CNRT -	Health education curriculum; diversionary activities; parent programme
Zavela et al. (2004)	CNRT -	Say Yes First prevention curriculum
Gainer et al. (1993)	CBA +	Classroom based violence prevention curriculum
Ambtman et al. (1990)	CBA -	Tuning in to health: drug and alcohol education programme
Gilham et al. (1997)	CBA -	Curriculum; outreach and after school activities
Fowler, (1991)	BA -	Health education curriculum

5.1.11.1 Primary outcomes

Immediate (< 1 week) and short term (> 1 month ≤ 6 months)

Whilst no participant age range was reported, a generic curriculum intervention produced immediate positive effects (Gilham et al., 1997; CBA -). Significantly larger portions of participants changed from being pre-programme drug users to post-programme abstainers, than changed from abstainers to users. Again, longevity of effect was not assessed. Evaluation of Say Yes First, a health education programme delivered to rural US youth considered to be at risk, revealed mixed effects at immediate follow up (Zavela et al., 1997; CNRT -).

Two papers assessed the impact of the PALS programme. In teenage girls who were pregnant or already parenting (aged 14-19, mean 16), at 3 months, there was a significant trend for increased use of all substances (composite measure) (Palinkas et al., 1996; RCT +). Robustness of the design was improved by the utilisation of a bogus pipeline technique to improve the accuracy of self-report. Analysis of those individuals who were substance naïve at baseline showed that within the PALS group there was a significant trend of increase initiation, relative to control, of alcohol cannabis, tobacco, and other 'illicit' drugs. Furthermore, the rate of increase of

cannabis initiation was greater in PALS participants than in control participants. However, analysis of those individuals who reported substance use at baseline showed a significant decrease in last three-month prevalence of alcohol, cannabis, or any drug use. Within participants there was a significant trend in the increase of reports of use of 'other' illicit drugs and tobacco, but this decline was not significantly different when compared with control subjects. In the second study, PALS was delivered to young people in grades 9-12 with 'special educational needs' (Demers, 2000; CNRT +). Post intervention, there were no significant differences in terms of self-reported lifetime or last month use of alcohol, tobacco, or other drugs.

The Opening Doors programme was offered to young people in Canada as they transferred from primary to secondary school (DeWit et al., 1998; 2000; CNRT -). The programme included a social competence skill training approach and incorporated additional parental and peer support elements. Six months after delivery there was significant effect of condition on risky drinking behaviour, and frequency of alcohol use in the previous month, which both remained after adjustment for design effects. A significant group-by-time interaction effect was also found on the frequency of cannabis use and a marginally significant effect for frequency of non-prescribed tranquilisers/sedative use. However, this latter effect disappeared after adjusting for design effects.

LoSciuto et al. (1999; RCT -) reported no immediate significant effects of LST, either when delivered alone to a self-selected group of 12 year olds, or in combination with mentoring.

Medium (> 6 months ≤ 1 year) and long term (>1 year)

Two years after delivery of a cognitive and social skills curriculum to 1st and 6th grade children there were no significant differences in alcohol and cannabis, but significantly less cigarette use was reported in intervention group girls (no effect in boys) (O'Donnell et al., 1995; CNRT -). Skills based curricula with family components also had no long-term (+4 years) effects on substance use when delivered to fourth grade children (aged 8-9) (Rentschler, 1997; RCT -). In a similar type of intervention, Raising Healthy Children, between groups analysis indicated no significant differences between intervention and control groups (Brown et al., 2005; RCT -). However, a two-part latent growth model of alcohol use frequency showed a significant intervention effect, indicating a greater rate of decline in the frequency of alcohol use during Grades 8-10 (aged 13-15) for the intervention group relative to

participants in the control group. The corresponding effect size (d) was 0.40, which indicates a small effect. No significant differences were found in cannabis use growth rates between intervention students and control students. However, for frequency of cannabis use, there was a significant intervention effect in existing drug users with students in the intervention group exhibiting greater decline in the frequency of cannabis use than students in the control group (d=0.57 (large effect size) for the adjusted mean difference in frequency of use rates at Grade 10).

Hawkins et al. (1999; CNRT +) investigated the long-term (assessment at age 18) impact of a primary school cognitive, social skills and interpersonal cognitive problem solving skills curriculum comparing full (grade 1 to 6) and late (grade 5 to 6) programme intervention groups to a no intervention control. Despite the long-term follow up, attrition was very low (7%). Whilst participants reported significantly fewer reports of heavy alcohol drinking, no other substance use variables were affected; there was no difference between either the full programme intervention group or the late programme intervention group in terms of lifetime prevalence of cigarette, alcohol, cannabis or other drug use.

In high school aged youth, Griffin et al. (2003; RCT +) showed that after controlling for gender, race, programme dosage, and substance use at baseline, delivery of LST was associated with significant decreases in composite use scores for smoking, drinking, inhalants, and polydrug use, at one year follow up. No significant effect upon cannabis was reported. In contrast, no significant effects were reported by Forman et al. (1990; RCT -) who examined LST in combination with staff training, with and without parent workshops. Whilst Smith et al. (2004; RCT +) reported no mean values for substance use, they reported that after 'infused' LST (I-LST), whereby the programme was delivered as part of the normal curriculum, there were no effects upon any substance use parameters in males at both immediate and one year follow ups. In contrast, participation by females in the standard LST programme was associated with post intervention reductions in alcohol; binge drinking; cannabis; and inhalants. For I-LST, participation was associated with significant reductions in cigarettes; binge drinking; and cannabis. At 1 year follow up, most of these significant programme gains had disappeared, although the reduction in cigarette use in infused participations was maintained. In another comparison between these two types of delivery of LST (Vicary et al., 2004; RCT +) high-risk females in rural schools receiving LST were less likely to use alcohol, cannabis and inhalants at the end of the school year compared with baseline. However, by the end of the second year

these effects had disappeared. In the I-LST group, high-risk females showed a significant treatment effect for drinking, binge drinking and cannabis at the end of the first year. Some of these changes were maintained; I-LST was associated with a significant reduction in cigarette use, frequency of drunkenness, binge drinking and cannabis use in the last month at the end of year 2. In middle school students, combined delivery of two other universal programmes, Projects STAR and DARE, had no effects upon alcohol, cannabis, or other drug use in a population considered at high risk of drug use, when assessed at the end of the school year (Richards-Colocino et al., 1996; CNRT -).

Longer follow-up of the Say Yes First programme (Zavela et al., 2004; CNRT -) found that at three years, the intervention had no impact on substance use outcomes including cannabis use and the number of illicit drugs used.

In girls aged 11-12, participation in female targeted peer support and education was associated with significantly less overall substance use; even at nine month follow-up when both intervention groups had participated in the programme (Weiss and Nicholson, 1998; RCT +). No effects were reported in other age groups (13-15 or combined 11-15)

Farrell et al. (2003; RCT +) examined the indirect impact of a violence prevention curriculum on young people in the 7th grade (mean age 12.8). No significant intervention effects on combined drug use frequency were reported at post-test (d = 0.00), 6 (d = 0.08), or 12-month (d = 0.09) follow-ups. There were also few indirect effects on drug use of a sexual abstinence programme delivered to 6-8 grade children (Donnelly et al., 2001; CNRT -). Whilst there was no impact upon alcohol, tobacco, cannabis, inhalants, cocaine, and heroin, self reported use of methamphetamine had increased significantly in both intervention groups; from 1.4% to 5.1% in control participants, and from 0.5% to 2.3% in intervention participants.

Table 5.1.21 Educational/skills-based interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes	
Griffin et al., 2003	RCT+	LST	Regular drug prevention curriculum	1 yr	↓ Smoking, drinking, inhalant use and polydrug use ↔ Cannabis use	
Smith et al., 2004	RCT+	LST	No intervention	PT	Male:	↔ Cigarette and alcohol use, drunkenness, binge drinking, cannabis use, inhalant use, and smokeless tobacco use

					Female:	↓ Alcohol use, binge drinking, cannabis use and inhalant use ↔ Cigarette use
				1 yr	↔ Cigarette and alcohol use, drunkenness, binge drinking, cannabis use, inhalant use, and smokeless tobacco use	
		LST-I	No intervention	PT	Male:	↔ Cigarette and alcohol use, drunkenness, binge drinking, cannabis use, inhalant use, and smokeless tobacco use
					Female:	↓ Cigarette use, binge drinking and cannabis use ↔ Alcohol use, drunkenness and inhalant use
				1 yr	Male:	↔ Cigarette and alcohol use, drunkenness, binge drinking, cannabis use, inhalant use, and smokeless tobacco use
					Female:	↓ Cigarette use ↔ Alcohol use, drunkenness, binge drinking, cannabis use, inhalant use, and smokeless tobacco use
Vicary et al (2004)	RCT+	LST	Pre-test	1 yr	↓ Alcohol, cannabis and inhalant use in high risk females.	
				2 yrs	↔ Alcohol, cannabis and inhalant use in high risk females.	
		I-LST	No treatment	1 yr	↓ Alcohol and cannabis use, and binge in high-risk students.	
				2 yrs	↓ Cigarette and cannabis use, drunkenness and binge drinking in high-risk students.	
Weiss & Nicholson, 1998	RCT+	Friendly PEERsuasion programme	Wait list	3 mths	↔ Overall substance use	
				6 mths	↔Overall substance use	
				9 mths	↓ Overall substance use for 11-12 yr olds ↔ Overall substance use for 13-15 yr olds or combined 11-15 group	
Farrell et al., 2003	RCT+	RIPP-6	No intervention	PT	↔ Drug use frequency	
				6 mths	↔ Drug use frequency	
				12 mths	↔ Drug use frequency	
Palinkas et al., 1996	RCT +	PALS	Normative education intervention	3 mths	↔ Use of illicit drugs ↔ Use of tobacco ↓ Last three month AOD use ↑ Initiation of alcohol, cannabis, tobacco and other illicit drugs	
LoSciuto et al., 1996	RCT-	1) Parent workshops 2) Parent workshops + mentoring	No intervention or treatment	PT	↔ Frequency of substance use	
Rentschler, 1997	RCT-	Project CARE	No intervention	4 yrs	↔ Substance use	
Forman et al., 1990	RCT -	1) LST + staff training 2) LST + staff training and parent workshops	General drug prevention curriculum	PT, 12 months	↔ Frequency of cigarette use ↔ Frequency of alcohol use	
Brown et al., 2005	RCT-	Raising Healthy Children	No intervention	NR	↔ Alcohol use (↑ Rate of decline in frequency of alcohol use for those aged13-15) ↔ Cannabis use (↑ Rate of decline in frequency of cannabis use amongst existing users)	
Demers, 2000	CNRT+	PALS programme	No intervention	NR	↔ ATOD use	

Hawkins et al., 1999	CNRT+	Teacher training	Teachers of control participants did not receive training	6 years	↓ Heavy alcohol drinking ↔ Cigarette, alcohol, cannabis or other drug use
DeWit et al (1998)	CNRT-	Opening Doors Programme		6 months	↓ Drinking ↔ Cannabis ↔ Sedative/tranquillisers
DeWit et al. (2000)	CNRT-	Opening Doors Programme	Usual school curriculum	PT	↓ Risky drinking behaviour ↓ Frequency of Cannabis use ↓ Non-prescribed sedative/tranquillisers
				6 months	↓ Risky drinking behaviour ↓ Frequency of alcohol use in previous month
Donnelly et al. (2001)	CNRT-	Sex Can Wait & Abstinence intervention		PT	↔ Alcohol, tobacco, cannabis, inhalant, cocaine or heroin use ↑ Methamphetamine use in both groups
O'Donnell et al. (1995)	CNRT-	Seattle Social Development Project		2 years	↔ Alcohol or cannabis use ↓ Cigarette use (girls)
Richards-Colocino (1996)	CNRT-	STAR & DARE		End of School year	↔ Cannabis, alcohol or other drug use
Zavela et al (1997)	CNRT-	Say Yes First	No intervention	PT	Lifetime substance use: ↑ Chewing tobacco, cannabis, inhalant, and cocaine/crack use ↔ Steroid, prescription medicine and OTC medicine use ↓ Alcohol and cigarette use Last month substance use: ↓ Chewing tobacco, alcohol, cocaine/crack, steroid, prescription medicine and OTC medication use ↔ Cigarette, cannabis and inhalant use
Zavela et al (2004)	CNRT-	Say Yes First	No intervention	3 years	↔ Lifetime cannabis use (near significance for lower use) ↔ 30 day cannabis use ↔ Amount of cannabis used ↔ Number of illicit drugs used in last 30 days ↔ Frequency of using drugs before or during school
Gilham et al. (1997)	CBA -	1) Outreach + Counselling 2) Classroom based Education	Community samples	PT	↑ Changed from being pre-programme drug users to post programme abstainers.

Evidence Statement 21

There is evidence to suggest that schools-based LST or generic life skills, on their own or in combination with other approaches, are not effective in reducing substance misuse in the long term:

21.1 There is evidence from three RCT + to suggest that when delivered as a stand alone intervention, LST or generic life skills may produce medium, but not short or long term, reductions in substance use (Griffin et al., 2003; Smith et al., 2004; Vicary et al., 2004). There is evidence from one RCT + to suggest that this effect on substance use may be strongest in girls (Smith et al., 2004) . Applicability Rating B.

21.2 There is evidence from one RCT +, four RCT –, one CNRT +, and one CNRT – to suggest that school-based LST or generic life skills in combination with other approaches, including parent workshops, staff training or mentoring, has no effects on substance use outcomes in the short, medium or long term compared to no intervention (Brown et al., 2005; Demers, 2000; Forman et al., 1990; Losciuto et al., 1996; Palinkas et al., 1996; Rentschler, 1997; Richards-Colocino, 1996). However, there is evidence from two CNRT – to suggest that delivering generic life skills with family components can produce both immediate and medium term reductions in alcohol use and frequency, but only immediate effects on the frequency of cannabis use (DeWit et al., 1998; 2000). Applicability Rating B.

21.3 There is evidence from one RCT + to suggest that female-targeted peer support can be effective at producing medium term reductions in substance use in younger participants, but not older students (Weiss and Nicholson, 1998). Applicability Rating C.

21.4 There is evidence from one RCT + and one CNRT – to suggest that curricula addressing other risky behaviours (e.g. violence, sexual activity) have no indirect immediate or medium term effects on substance use outcomes (Farrell et al., 2003; Donelly et al., 2001). Applicability Rating B.

5.1.11.2 Secondary outcomes

a) Knowledge and attitudes

Immediate (< 1 month)

Gilham et al. (1997; CBA -) reported that participants who received generic skills programming showed significantly higher levels of prohibitive attitudes towards use of illicit drugs compared to local population samples. In addition, participants reported fewer days absent from school in the past month. These were not accompanied by any primary changes in levels of actual substance use, and there were no significant improvements on attitudes towards use of alcohol or cigarettes, self-esteem, assertiveness, or peer character.

Raynal and Chen (1996; CNRT -) found that participants showed significant increases in drug knowledge and positive attitudes towards drug free lifestyles, but in the absence of any assessment of actual use.

Corvo and Persse (1998; CNRT -) found that a preschool drug programme did not have a significant effect on alcohol expectancies at post-test. Intervention participants reported marginally greater scores on the CARE questionnaire compared to control participants (p=0.06), indicating greater expectancies regarding alcohol's effects.

Ambtman et al. (1990; CBA -) examined a drug education programme for children in rural and urban schools. Significant gains in knowledge were reported for rural elementary school students in grades 3 and 4 compared to control participants. There was no difference in knowledge gains for intervention and control students in grades 2, 5 and 6.

Short term (> 1 month ≤ 6 months), medium (> 6 months, ≤ 1 year) and long term (>1 year)

In the Opening Doors Programme (DeWit et al., 1998; 2000; both CNRT -) significant programme effects were observed for attitudes towards the use of alcohol, cannabis and cigarette use (all maintained after adjustments for design effects). That is, participants in the intervention group reported less favourable attitudes to these substances. Post hoc comparisons of adjusted means revealed statistically significant group differences at post-test and six month follow up for attitudes to alcohol use, cannabis use and cigarette use. As detailed in section 5.1.4.1 above, self reported use of alcohol and cannabis (but not cigarettes) were reduced by the intervention.

In accordance with Weiss and Nicholson's finding (1998; RCT +) that peer support resulted in reduced substance use in 11-12 year olds girls, at 6 months follow up they also self reported increased success in leaving a situation in which peers were using harmful substances ($p<0.10$ vs. comparison group). However, by nine months this effect had disappeared with a four fold increase in self reported failures (from 4% to 17%). The same pattern was apparent in the combined ages group (11-15 year olds); at 6 months, intervention participants were significantly more likely to leave compared to control participants (17% vs. 28%, $p<0.05$). However, at 9 months there was no difference. There was no difference between intervention and control participants in the older age group at any follow-up on this measure.

Two years after delivery of a cognitive and social skills curriculum to 1st and 6th grade children (O'Donnell et al., 1995; CNRT -) (behavioural outcomes reported above) no significant differences were found on variables pertaining to norms on substance abuse between the intervention and control group for either boys or girls.

Vicary et al. (2004; RCT +) examined two LST approaches (LST vs. LST-I) for middle school females classified at low or high risk for initiation or increased use of substances compared to no intervention. High-risk females receiving the traditional LST intervention reported fewer pro-drug attitudes and normative belief, and more substance knowledge at the end of year two, compared to control females. In addition, females receiving the infused LST approach (LST-I) reported fewer normative beliefs than control females; there were no effects of the LST-I intervention on attitudes or knowledge. However, by the end of year three, these intervention effects had largely disappeared. For the high-risk females in the LST group, positive treatment effects were also found for assertiveness and refusal skills. Assertiveness effect remained but refusal effect disappeared by the second assessment. However, I-LST showed significant treatment effects for attitudes towards substances and refusal skills at this follow up point. LoSciuto et al. (1996; RCT -) found that participants receiving mentoring in addition to LST and parent workshops reported more positive attitudes towards situations involving drugs (indicating increased ability to respond to substance related situations) following 3 year of intervention compared to a no intervention control group.

Forman et al. (1990; RCT -) reported that substance abuse knowledge increased significantly across time for groups receiving LST or LST with parent workshops in terms of smoking, alcohol and cannabis use. However, there was no difference between the intervention and control groups in terms of attitudes to these three substances. Iatrogenic effects of LST were reported by Gottfredson et al. (1996; RCT -) in high risk 13 year olds. After two to three years of intervention delivery, students in experimental schools reported fewer drug using peers, but also lower parental supervision, lower school commitment, lower self esteem, greater conduct disorder, and a greater number of days absent from school. Furthermore, in 14 – 20 year olds, LST with the addition of social support, resulted in significantly less reduction in immediate depression, perceived stress, anger, and increased self esteem and personal control compared with a wait list control group (Thompson et al., 1997; CNRT -).

In an analysis of secondary outcomes of the PALS project in pupils with educational needs, Demers et al. (2000; CNRT +) reported no significant effects of the intervention on intentions to use alcohol or other drugs in future, perception of substance-related harms, peer pressure regarding substances, self-image, or portrayal of best friends' substance use.

Skills based curricula with (secondary) family components had no long-term (4 years) effects on intentions to use substances in fourth grade children (aged 8-9) (Rentschler, 1997; RCT -). A similar programme delivering after school activities (Morrison et al., 2000; CNRT -) decreased 'acting out behaviour' and increased parental participation in school activities, but participants also reported a decrease in perceived self control, academic self concept (self perception of academic abilities), reduced class participation, lower rate of homework completion, and lower maths grades.

Table 5.1.22 Educational/skills-based: knowledge and attitudes outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Weiss & Nicholson, 1998	RCT+	Friendly PEERsuasion programme: Combined ages	Wait list	3 mths	⇔ Failure to leave a situation in which peers were using harmful substances
				6 mths	↓ Failure to leave a situation in which peers were using harmful substances
				9 mths	⇔ Failure to leave a situation in which peers were using harmful substances
Vicary et al (2004)	RCT+	LST: high-risk	No treatment	1 yr	↑ Negative attitudes ↑ Norms ↑ Knowledge ↑ Refusal skills ↑ Assertiveness
				2 yrs	⇔ Negative attitudes ⇔ Norms ⇔ Knowledge ⇔ Refusal skills ↑ Assertiveness
		I-LST: high-risk	No treatment	1 yr	⇔ Negative attitudes ↑ Norms ⇔ Knowledge ⇔ Assertiveness ⇔ Refusal skills
				2 yrs	↑ Negative attitudes ⇔ Norms ⇔ Knowledge ⇔ Assertiveness ↑ Refusal skills
Forman et al. (1990)	RCT -	Coping Skills School intervention with and without parent workshops	No intervention	1 yr	↑ Smoking, alcohol and cannabis knowledge ⇔ Smoking, alcohol and cannabis attitudes
Gottfredson et al., 1996	RCT-	LST	Not reported	2-3 yrs	↓ Drug using peers

LoSciuto et al., 1996	RCT-	Community service, parent workshops + mentoring	No intervention	3 yrs	↑ Reactions to situations involving drug use
Rentschler, 1997	RCT-	Project CARE	Not reported	4 years	↔ Intent to use substances
Demers et al. (2000)	CNRT+	PALS programme	No intervention	Not reported	↔ Intention to use ATOD ↔ Perception of substance-related harms ↔ Peer pressure regarding substances ↔ Self-image ↔ Portrayal of best friends' substance use.
Corvo & Persse (1998)	CNRT -	Pre-school prevention programme	No intervention	PT	↔ Alcohol expectancies
DeWit et al (1998)	CNRT-	Opening Doors Programme		6 mths	↓ Attitudes towards alcohol ↓ Attitudes towards cannabis ↓ Attitudes towards cigarettes
DeWit et al. (2000)	CNRT-	Opening Doors Programme		6 mths	↓ Attitudes towards alcohol ↓ Attitudes towards cannabis
O'Donnell et al. (1995)	CNRT-	Seattle Social Development Project.		2 yrs	↔ Substance use norms
Raynal & Chen (1996)	CNRT-	After-school programme	Non-participants	PT	↑ Drug knowledge ↑ Positive attitudes towards drug free lifestyles
Ambtman et al. (1990)	CBA -	Tuning in to Health: Rural population	No intervention	PT	↑ Drug and alcohol knowledge for grades 3 and 4 ↔ Drug and alcohol knowledge for grades 2, 5 and 6
Gilham et al. (1997)	CBA -	1) Outreach and Counselling 2) Classroom based Education		PT	↑ Prohibitive attitudes towards drugs following generic skills programme ↔ Attitudes towards use of alcohol or cigarettes, self-esteem, assertiveness, or peer character

Evidence Statement 22

There is inconsistent evidence about the effectiveness of life skills approaches at changing attitudes and knowledge relating to substance abuse:

22.1 There is evidence from one RCT - and one CBA – to suggest an immediate improvement in reactions to situations involving drug use with an intervention comprising community service, parent workshops and mentoring (LoSciuto et al., 1996; Gilham et al., 1997). There is evidence from one RCT + that suggests both positive and negative medium term effects of the Friendly PEERsuasion intervention (Weiss and Nicholson, 1998), and a further RCT + that suggests long term effects of LST when delivered either as a discreet stand alone intervention or throughout the

school year infused within the regular curriculum compared with no intervention (Vicary et al., 2004). Applicability Rating C.

22.2 There was evidence from one RCT – to suggest that LST can produce long term decreases in young people's association with substance using peers (Gottfredson et al., 1996). Applicability Rating B.

22.3 There was evidence from one RCT – to suggest no long term effects of generic life skills with family and diversionary components on intentions to use substances, although evidence from two CNRT – suggested that with the addition of either mentoring or outreach with generic skills training may produce short and medium term decreases in favourable attitudes towards substance use (DeWit et al., 1998; DeWit 2000; Rentschler, 1997). Applicability Rating B.

22.4 There is evidence from one CNRT – to suggest that specialised teacher training, in the context of a skills development approach, has no long term effects on substance use norms (O'Donnell et al., 1995). Applicability Rating B.

b) Behavioural and social function

Immediate (< 1 week)

Immediately after delivery of group social skills training and cognitive problem solving sessions to 8 to 12 year olds, DeMar (1997; CNRT +) reported a significant improvement in internal locus of control in the intervention group compared to the control group. In terms of teacher-rated problematic behaviours, intervention participants reported significant improvements in acting out behaviours, frustration tolerance and assertive social skills compared to control participants. There was no significant difference between groups in terms of shy-anxious behaviour, problematic learning skills, task orientation, and peer social skills. There were also no differences in improvements on a composite self-concept scale or its subscales (including self-esteem, family cohesiveness, student-teacher affinity, basic social values and advanced social values).

Hahn et al. (1998; CNRT -) found that generic life skills training which included a parent-child interaction component had no effect on parent or child risk factors for substance use. Risk factors examined included parental substance use, self-esteem, depressive symptoms, family functioning and parenting attitudes, and child adjustment.

Raynal and Chen (1996; CNRT -) found that high-risk students participating in an after school programme showed improvements in classroom behaviour compared to high-risk non-participants at immediate post-test ($p<0.05$).

Fowler (1991; BA -) assessed a number of health related outcomes, immediately after delivery of a seven-week school nurse facilitated health education to 14 – 17 year olds. Overall, the number of individuals considered at 'high health risk' fell from 34% to 23%. Positive shifts in moderate and high risk/sleep categories were recorded, there was a decrease in numbers engaging in unsafe sex, and there was increase in the number reporting utilising stress reduction techniques. In addition, there was an increase in the number adopting safer driving behaviours; prior to participation in the programme, 58% had reported substance use while riding in or operating a motor vehicle, compared to 39% afterwards. However, none of these findings reached statistical significance.

Short (> 1 month ≤ 6 months), medium (> 6 months ≤ 1 year) and long term (>1 year) outcomes

A wide range of positive secondary outcomes were identified by LoSciuto et al. (1996; RCT -) in 6th grade students following a three year mentoring intervention. Participants who received life skills with the addition of mentoring and parental skills workshops reported more positive attitudes towards school, the future, and elders compared with no intervention control participants or those students who received skills training and parental workshops, but no mentoring. Similar differences in this group were recorded for greater community involvement and fewer school absences. These effects were dose dependent. Within this intervention group, higher levels of programme exposure were associated with greater positive outcomes.

Forman et al. (1990; RCT -) noted significant improvements in anxiety management skills in 14 year olds receiving LST and LST with parent workshops compared to a no intervention control group, but not on other measures of coping skills including social skills, assertiveness, communication and decision-making. Both intervention and control group participants reported significant improvement across time on personality and social variables, including social assertiveness, self esteem, self-confidence, self-satisfaction, "general influenceability", smoking "influenceability", social anxiety, and school value. In terms of behaviour, there was no difference in teacher-rated behaviour on the CBCL between intervention and control participants. Poor educational outcomes were reported by McLaughlin et al. (1993; CNRT -) post

life skills. At immediate post-test, there was a non-significant increase in school absences in the intervention and control groups (4th and 5th grade) and no change in grade averages or disciplinary problems. There was also a decrease in perceived support from parents and teachers across all groups except the control group. Despite this, there were significant increases in performance-based academic self-concept (individual's confidence in own abilities and performance) between pre- and post-test in the intervention group.

Hawkins et al. (1999; CNRT +) investigated the long-term (assessment at age 18) impact of a primary school cognitive, social skills and interpersonal cognitive problem solving skills curriculum. In terms of school outcome measures, children participants who received the full programme reported a significantly stronger commitment ($p < 0.0$) and attachment ($p < 0.01$) to school at 18 years compared to the control group. In addition, intervention children showed significant improvements in self-reported school achievements and reported lower lifetime prevalence of repeating a grade. There was a marginally significant effect on GPA ($p=0.09$) but no the intervention had no effect on lifetime prevalence of dropping out of school or Official California Achievement Test Score at 17 yrs. In terms of school misbehaviour, significantly fewer intervention children reported cheating on tests, skipping school/classes or being sent from class for misbehaviour in the previous year. There was also a marginally significant effect of the intervention on official disciplinary action ($p=0.07$) but there was no difference between intervention and control children in terms of the numbers suspended or expelled. Children in the late programme group reported no difference compared to control children on any of the targeted school outcomes reported above, with the exception of school misbehaviour in terms of cheating on tests, skipping school/classes or being send from class for misbehaviour in the previous year with significantly less intervention participants reporting this outcome. In terms of targeted health risk behaviours, significantly more control students than full programme intervention students (59.7% versus 48.3%) had committed violent delinquent acts by 18 years ($p < 0.05$). There was no difference between intervention and control students in terms of lifetime prevalence of non-violent crime, being arrested, and receiving court charges from county records. In terms of sexual activity, significantly more control participants than intervention participants had engaged in sexual behaviour ($p<0.05$) and control participants had significantly more lifetime multiple partners ($p<0.05$). Full programme participants also reported a marginally significantly lower lifetime prevalence of pregnancy or "gotten a women pregnant ($p=0.06$) but there was no difference between intervention and control students in

lifetime prevalence of having or fathering a baby. There was no difference between late programme participants and control participants on any of the targeted delinquent or sexual behaviour outcomes. However, late programme participants were marginally less likely to have been sexually active (p=0.09).

O'Donnell et al. (1995; CNRT -) examined outcomes two years after delivery of a cognitive and social skills curriculum to 1st and 6th grade children. In terms of academic skills, intervention boys were rated by teachers as significantly better than control boys on the following outcomes: social competence, study skills and persistence in working on schoolwork, grades on standardised achievement tests in maths, reading, and language arts, and scores on the California Achievement Test. There were no significant differences on these outcomes between intervention and control girls. In addition, there was no difference between intervention girls and boys, and control girls and boys in terms of substance abuse refusal or family management. Intervention girls and boys reported significantly more commitment to school than their control counterparts, and intervention girls reported significantly more attachment to school (this finding did not reach significance for intervention boys). However, there was no difference between intervention and control groups in terms of bonding to mother or father, belief in moral order and attachment to friends. No differences were found in the degree of antisocial interaction according to student and teacher reports for intervention girls compared to control girls. Intervention boys had significantly lower levels of antisocial interaction compared to the control boys on the teacher rated measure, but there was no difference between groups on the student rated measure. Boys in the intervention group tended to initiate delinquent activity at lower rates than boys in the control group (p<0.10). There was no difference between intervention and control girls on this measure. In addition, intervention and control participants reported similar levels of running away.

Donnelly et al. (2001; CNRT -) examined a sexual abstinence programme delivered to 6-8 grade children. As well as not having an impact on substance use, the programme had no effect on self-esteem or measures of social support.

Morrison et al. (2000; CNRT -) examined the effectiveness of an after-school programme combined with parent education. Participants were chosen by teacher nomination based on the presence of at least 3 risk factors and compared to their classmates who did not participate in the programme. Over six months of involvement in the programme, participants and their classmates decreased their

assessment of their own self-control and cooperation and participants reported significantly lower levels of academic self-concept than their classmates ($p<0.001$). In terms of social problem solving, participants did not change in terms of their assertion skills whereas their classmates reported fewer assertive skills at post-test. The same pattern was apparent with the bonding to school measure; intervention participants maintained their level of bonding whereas their classmates dropped in their ratings of bonding. Self-rated class participation was lower in participants than their classmates ($p<0.001$) and they also reported lower rates of homework completion ($p<0.001$) and lower math grades ($p<0.001$). A similar programme examined by Rentschler (1997; RCT -) found that the intervention had no effects on number of days absent from school, suspensions, Quality Point Average (based on number of absences, number of suspensions, alternative school assignment, and positive/negative behaviours), social interactions or parent outcomes (child's behaviour, school involvement, attitude towards school, risk factor awareness, family rules/discipline, parent/child communication).

DeWit et al. (1998; 2000; CNRT -) reported beneficial effects of the Opening Doors programme in terms of reduced self-reported theft. However, post hoc comparisons of adjusted means revealed a significant difference between the groups at immediate post-test only. There was a significant group-by-time interaction effect for positive attitudes towards school, although this was also only evident at immediate post-test. Finally, a positive programme effects was found for susceptibility to peer pressure to misbehave at school and to commit violent acts. Post hoc comparisons revealed significant group differences at post-test and six month follow-up on both these measures.

One year after delivery of Project STAR to pre-schoolers, Kaminski et al. (2002; RCT +) reported that the Project STAR interventions had effects on caregiver involvement and school bonding, but not social competence or self-regulation. Further analyses revealed that caregiver involvement was significantly greater in families that had received parent training (class and parent group families) than families who had not (control and class-only families) ($p<0.05$). School bonding was higher in families who received any intervention compared to control ($p<0.05$), and for families in the class and parent group compared to the class-only group ($p<0.05$). At two years, intervention families scored significantly higher on measures of caregiver involvement and social competence, but not school bonding or self-regulation. As at 1 year, caregiver involvement was significantly greater in families that had received

parent training (class and parent group families) than families who had not (control and class-only families) ($p<0.05$). In addition, families in the class, home visit and parent group reported higher levels of caregiver involvement than families in the class and home visit group ($p<0.05$). Families who received parent training for one year scored lower than families receiving parent training for two years.

Evaluation of resilience training in pre-schoolers demonstrated that the intervention had a significant and positive effect on child behaviour ratings (Dubas et al., 1998; CNRT +). At baseline the comparison group children received higher ratings than the intervention children whereas at post-test this was reversed. In addition, the intervention children made greater gains on this measure over the course of project than the comparison group.

Farrell et al. (2003; RCT +) evaluated the impact of Responding in Peaceful and Positive Ways (RIPP) Seventh Grade violence prevention curriculum. Regression analyses of intervention effects on disciplinary code violations showed a significant intervention effect on the total number of disciplinary code violations for violent offences during the 8th grade (i.e. 12 month follow-up). There were no significant intervention effects on other disciplinary code violations (in school suspensions, out of school suspensions) during the 8th grade, or on any during the last quarter of 7th grade. In terms of self-reported behaviours, intervention participants reported significantly greater knowledge on the RIPP knowledge test at post-test and 6-months follow-up compared to control participants. At 12-months follow-up, this finding was no longer significant ($p<0.10$). There were few other significant differences between intervention and control participants; boys reported significantly less non-physical aggression at 6-months ($p<0.05$) and few attitudes supporting violence at 12 months ($p<0.01$). Intervention participants reported marginally better outcomes ($p<0.10$) compared to controls on the following measures: non-physical aggression at 6-months, and delinquent behaviour frequency and attitudes supporting non-violence at 12-months. There was no significant difference between intervention and control participants on the following measures: attitudes supporting non-violence at post-test and 6-months; attitudes supporting violence at post-test, 6- and 12-months; delinquent behaviour frequency at post-test and 6-months; non-physical aggression at post-test and 12-months; Revised Children's Manifest Anxiety Scale at post-test, 6- and 12-months; and violent behaviour frequency at post-test, 6- and 12-months

Additional analyses indicated a ceiling effect as it was found that students most likely to benefit from the intervention were those who reported higher pre-test rates of problem behaviours including violent behaviour, non-physical aggression and delinquent behaviour.

The Washington Community Violence Prevention Programme (WCVPP) examined by Gainer et al. (1993; CBA +), was delivered to 10-15 year olds in high crime areas. After controlling for baseline effects, the programme reduced the odds of responding to a social scenario in adversarial terms. The intervention group was also much less likely than the control group to provide hostile or violent solutions to the problem on post-test. The programme also led to significant increases in the number of negative consequences given for responding to the hypothetical problem in a violent way. In general, the strongest effect of the programme was to increase knowledge about risk factors for violence. The programme did not have significant effects on attitudes to risk factors for violence including drug-dealing risk, whether participants would not like a weapon for protection or the belief that aggression was not legitimate.

Zavela et al. (2004; CNRT -) found that at 3 years follow-up, participants in the Say Yes First drug prevention programme reported the following compared to control participants: more frequent participation in sports ($p<0.01$); were marginally less likely to in trouble at school ($p=0.10$); were marginally less likely to have disagreements or arguments with parents ($p=0.08$); had higher course grades ($p<0.001$) and fewer self-reported days missing from school in previous 2 months ($p<0.02$); reported higher scores on measures of communication and involvement with family members and other adults ($p<0.05$); and more positive attitudes towards school ($p<0.03$) and lower levels of pessimism and negative self-appraisal ($p<0.10$).

Table 5.1.23 Educational/skills-based: behavioural and social function outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Farrell et al., 2003	RCT+	RIPP-6	No intervention	PT	↑ RIPP knowledge ↔ Attitudes supporting violence and non-violence ↔ Violent behaviour frequency ↔ Non-physical aggression ↔ Anxiety
				6 mths	↑ RIPP knowledge ↑ Use of non-physical aggression ↔ Attitudes supporting violence and non-violence ↔ Violent behaviour frequency ↔ Non-physical aggression ↔ Anxiety

				1 yr	↔ RIPP knowledge ↓ Delinquent behaviour ↔ Attitudes supporting violence and non-violence ↔ Disciplinary code violations ↓ Disciplinary code violations for violent offences ↔ Violent behaviour frequency ↔ Non-physical aggression ↔ Anxiety
Kaminski et al., 2002	RCT+	Project STAR: all groups	No intervention	1 yr	↑ Caregiver involvement ↑ School bonding ↔ Social competence ↔ Self regulation
		Project STAR + parent training	No parent training	1 yr	↑ Caregiver involvement ↑ School bonding
		Project STAR: All groups	No intervention	2 yrs	↑ Caregiver involvement ↑ Social competence ↔ School bonding ↔ Self regulation
		Project STAR + parent training	No parent training	2 yrs	↑ Caregiver involvement (parents who received parent training for 2 yrs scored ↑ than those who received 1 yr of training)
Forman et al. (1990)	RCT -	Coping Skills School intervention with and without parent workshops	No intervention	1 yr	↑ Anxiety management skills ↔ Social skills ↔ Communication skills ↔ Decision making ↔ CBCL scores
Rentschler (1997)	RCT -	Project CARE	Not reported	4 years	↔ Days absent from school ↔ Suspensions ↔ Quality Point Average ↔ Social interactions ↔ Parent outcomes
DeMar, 1997	CNRT+	School skills & cognitive problem solving	Not reported	PT	↑ Internal locus of control ↑ Acting out behaviours ↑ Social competence ↑ Frustration tolerance ↔ Shy-anxious behaviours, problematic learning skills, task orientation, or peer social skills ↔ Self-concept
Gottfredson et al., 1996	CNRT-	LST	Not reported	2-3 yrs	↓ Parental supervision ↓ School commitment ↓ Self esteem ↑ Conduct disorder ↑ Number of days absent
LoSciuto et al., 1996	RCT-	Community service, parent workshops + mentoring	No intervention	PT	↑ Positive attitudes towards school, future and elders ↑ Positive attitudes toward older people ↑ Community Service ↓ School absences
		Community service, parent workshops + mentoring	Community service and parent workshops	PT	↑ Positive attitudes towards school, future and elders ↑ Positive attitudes toward older people ↓ School absences
Dubas et al., 1998	CNRT+	Pre-school RCMHC programme	No intervention	PT	↑ Child behaviour ratings

Hawkins et al., 1999	CNRT+	Teacher training: Full programme (grades 1-6)	No training	6 yrs	↑ Commitment and attachment to school ↑ Achievement ↓ Misbehaviour in school ↔ GPA ↔ Official test score ↔ Dropping out of school ↔ Levels of suspension or expulsion ↔ Official disciplinary action ↓ Violent delinquent acts ↔ Non-violent acts ↔ Arrests ↔ Court charges ↔ Being pregnant or having a baby ↔ Getting a women pregnant or fathering a child ↓ Sexually active ↓ Multiple sex partners
		Teacher training: Late programme (grades 5-6)	No training	6 yrs	↔ Bonding to school ↔ School success/failure ↓ Misbehaviour in school ↔ Levels of suspension or expulsion ↔ Official disciplinary action ↔ Crime ↔ Sexual activity
DeWit et al (1998; 2000)	CNRT-	Opening Doors Programme	No intervention	PT	↓ Self-reported theft ↑ Positive attitudes towards school ↓ Susceptibility to peer pressure to misbehave at school ↓ To commit violent acts
				6 mths	↔ Self-reported theft ↔ Positive attitudes towards school ↓ Susceptibility to peer pressure to misbehave at school ↓ To commit violent acts
Donnelly et al. (2001)	CNRT -	Sex Can Wait & Abstinence intervention	Usual school curriculum	PT, 6 mths	↔ Self-esteem ↔ Social support
Hahn et al. (1998)	CNRT-	Generic life skills training	No intervention	PT	↔ Parent/child risk factors
Morrison et al (2000)	CNRT-	After School tutoring and parent education	Non-risk comparison group	8 months	↓ Academic self concept ↓ Perceived class participation ↓ Homework completion ↓ Lower maths grades ↔ Self-control and cooperation ↔ Assertiveness ↔ Bonding to school ↔ Parent supervision ↔ Student behaviour
O'Donnell et al. (1995)	CNRT-	Seattle Social Development Project Girls	No teacher training	2 yrs	↔ Academic skills ↑ School commitment ↑ School attachment ↔ Bonding with mother or father ↔ Interactions with antisocial peers ↔ Delinquency
		Seattle Social Development Project Boys	No teacher training	2 yrs	↑ Academic skills ↑ School commitment ↔ School attachment ↔ Bonding with mother or father ↓ Teacher reports of child interactions with antisocial peers ↔ Delinquency
Raynal & Chen (1996)	CNRT-	After-school programme	Non-participants	PT	↑ Classroom behaviours

Zavela et al. (2004)	CNRT -	Say Yes First drug prevention programme	No intervention	3 yrs	↑ Participation in sports ⇔ Trouble at school ⇔ Disagreements or arguments with parents ↑ Course grades ↓ Days missing from school ↑ Communication ↑ Positive attitudes to school ↓ Pessimism/negative appraisal
Gainer et al., 1993	CBA +	WCVPP	No intervention	4-5 wks	↓ Likelihood of existing drug users responding to a scenario in adversarial terms ↓ Likelihood of providing hostile or violent solutions to a problem ↑ Reporting of negative consequences to hypothetical violent responses ⇔ Attitudes to risk factors for violence
Gilham et al. (1997)	CBA -	1) Outreach and Counselling 2) Classroom based Education		PT	⇔ Self esteem, assertiveness or peer character. ↓ Days absent from school
Fowler (1991)	BA-	Health Education	None	7 wks	⇔ Health behaviours

Evidence Statement 23

There is evidence to suggest that some school based educational/skills interventions can improve young peoples' educational skills and positive behaviours, and parents' family based care giving**:**

23.1 There is evidence from two CNRT + to suggest that early, pre-school intervention, delivered by specially trained teachers can produce immediate and long term effects (up to 6 years) on behaviours promoting education, risk reduction, and social inclusion (Dubas et al., 1998; Hawkins et al., 1999). Applicability Rating C.

23.2 There is evidence from one RCT + to suggest that a tiered classroom based intervention with parental training (Project STAR) can produce improvements in family based care giving and school bonding when compared with no intervention or the classroom intervention alone in the medium and long term (Kaminski et al., 2002) Applicability Rating C.

23.3 There is evidence from one CNRT – to suggest that specialised teacher training, in the context of a cognitive skills development approach, may be associated with long term improvements in educational skills and other classroom behaviours (O'Donnell et al., 1995). Applicability Rating B.

23.4 There is evidence from one RCT +, one CNRT + and one CBA + to suggest that cognitive problem solving skills sessions or a violence prevention curriculum (with substance use components) can produce immediate and medium term improvements in social behaviours (DeMar, 1997; Farrell et al., 2003; Gainer et al., 1993). Applicability Rating C.

23.5 There is evidence from 2 RCT - and 2 CNRT – to suggest that life skills curricula with parental, mentoring and/or social support components can produce both short and long term increases in mood, anxiety, community engagement, positive school based outcomes, and family bonding (De Wit et al., 1998; De Wit et al., 2000; Forman et al., 1990; LoSciuto et al., 1996). However, there is evidence from one CNRT – to suggest that a weakly implemented LST programme may be associated with long-term iatrogenic effects, and decreases in positive, school-based outcomes (Gottfredson et al., 1996). Applicability Rating B.

5.1.12 School-based counselling and therapy

School-based counselling and therapy interventions were defined as interventions that were implemented in the classroom or a setting associated with the school (e.g. after school club) that offered structured or personalised counselling and support work (including peer support).

5.1.12.1 Overview of evidence identified

One study concerned a brief intervention with feedback, another a school based social work scheme, and the remaining seven were either group or individual counselling/discussion sessions with trained facilitators. Details of the studies and the interventions examined are summarised in Table 5.1.24.

Table 5.1.24 Description of school-based counselling and therapy interventions

Study	Rating	Intervention description
Werch et al. (2005)	RCT ++	Project STARS (MI with feedback for alcohol); Project STARS Plus (MI with feedback for alcohol, tobacco, cannabis, and other drugs)
Reynolds & Cooper, (1995)	RCT -	Counselling by external therapists
Bagley & Pritchard, (1998)	CNRT -	School based social work scheme with some family elements

Flores-Fahs et al. (1997)	CNRT -	Field trips; academic assistance, peer mediation and conflict resolution, cultural pride and extracurricular activities
Valentine et al. (1998)	CNRT -	Urban Youth Connection programme, an individual, pair or group counselling programme
Britto, (2001)	CBA -	Multidimensional programme which including anger management groups, substance abuse prevention, tutoring, home visits and enhanced school services.
Gittman, (1994)	CBA -	Group mentoring programme
Winkleby et al. (2001); Tencati (2002)	BA +	Discussion group, Teen Activists for Community Change and Leadership Education (TACCLE)
Houck et al. (2002)	BA -	Support group co-facilitated by a school nurse and a counsellor
Wassef, (1998)	BA -	Group discussion group

5.1.12.2 Primary outcomes

Immediate (< 1 month)

Valentine et al. (1998; CNRT -) reported that middle school children (mean age 12.75) were less likely to report use of beer during delivery of the Urban Youth Connection counselling intervention, but only if they had high levels of participation, In contrast, high school pupils in the intervention (mean age 16.1) were more likely to report last month beer or wine drinking, and cannabis smoking than control participants. In both groups attrition was high (29% of middle school participants, 52% of those attending high school). Lack of positive effect also resulted from three evaluations of school-based group counselling sessions (Winkleby et al., 2001; BA +; Houck et al., 2002; BA -; Wassef et al., 1998; BA -). Post intervention, there was no significant change in last month prevalence of substances compared to baseline use in any of the studies.

Short (> 1 month, ≤ 6 months), medium; > 6 months ≤ 1 year) and long term (>1 year)

In the only RCT ++ study reviewed in this section, Werch et al. (2005; RCT ++) found that at three months follow up, participants (mean age 13.4) in Project STARS or STARS Plus (brief interventions with structured feedback targeted towards alcohol, and all substances respectively) differed in their substance consumption. Self report was also forensically validated, thus giving an accurate account of recent use. Significant main effects, adjusted for baseline substance use, were found for intervention status. Mean adjusted 30-day frequency of alcohol use was lower for STARS subjects than for STARS Plus and the information only control students. Frequency of alcohol use-related problems was lower for STARS and STARS Plus participants compared with control. In addition, mean adjusted 30-day cigarette use was lower for students receiving STARS and STARS Plus, than control participants.

Finally, significant main effects were found for measures of consumption on prior drug use. Greater post-test mean alcohol and drug consumption was found for those youth who were using drugs only at baseline, or those using alcohol and drugs, compared to those using alcohol only, or using alcohol or drugs respectively.

Table 5.1.25 Counselling/therapy: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Werch et al., 2005	RCT++	STARS	STARS Plus	3 mths	↓ 30-day alcohol use
		STARS and STARS plus	Postcard only group	3 mths	↓ 30-day alcohol use ↓ 30-day cigarette use
				6 mths	↔ Drug use frequency
				12 mths	↔ Drug use frequency
Valentine et al., 1998	CNRT-	Urban Youth Connection Programme	Non-participants	6 mth Intervals	Middle School Children ↓ Reduction in use of beer High School Children ↑ More likely to report use of Beer and Cannabis
Gittman & Cassata (1994)	CBA -	Mentor Programme	Non-participants (not high-risk)	NR	↔ Participants responding "no" to all drug use questions
Winkleby et al (2001)	BA-	TACCLE programme	None	PT	↔ Cannabis, alcohol or cigarettes use
Houck et al. (2002)	BA-	Support Group (Females only)	None	14 wks	↔ Alcohol use, hard drug use, adverse drug consequences or drug use control problems
Wassef (1998)	BA-	Group discussion	None	PT	40.8% had ↓ drug use

Evidence Statement 24.1

There is evidence from one RCT ++ to suggest that brief, single substance interventions can be more effective at producing short term reductions in alcohol use, than interventions targeting multiple substances (including alcohol) (Werch et al., 2005). Applicability Rating A.

Evidence Statement 24.2

There is evidence from one CNRT – to suggest that in younger children, a group counselling approach can reduce alcohol use. However, in older children a group counselling approach may be associated with an increase in use of both cannabis and alcohol (Valentine et al., 1998). Applicability Rating C.

5.1.12.3 Secondary outcomes

a) Knowledge and attitudes

Immediate (< 1 month), Medium (> 1 month ≤ 6 months; > 6 months ≤ 1 year) and long term (>1 year)

Perceived alcohol use susceptibility was significantly lower for youth receiving the alcohol focussed Project STARS, than for youth receiving the multi-substance STARS Plus or the information only control (Werch et al., 2005; RCT ++). Likewise, participants receiving standard STARS had greater alcohol 'incompatibility', a measure of social and peer alcohol use acceptance. Two outcomes approached significance; peer alcohol use (p=0.09) and peer cigarette use (p=0.06) were lower for participants receiving STARS, than STAR Plus or postcard only participants. There was no difference between groups in terms of peer cannabis use, perceived cigarette or cannabis susceptibility or cigarette or cannabis incompatibility.

Table 5.1.26 Counselling/therapy: knowledge and attitudes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Werch et al., 2005	RCT++	STARS: alcohol only	1) STARS Plus: multiple substances 2) Postcard only group	3 months	↓ Perceived alcohol susceptibility ↑ Alcohol incompatibility ↔ Peer alcohol, cigarette or cannabis use ↔ Perceived cigarette or cannabis susceptibility ↔ Cigarette or cannabis incompatibility

Evidence Statement 25

There is evidence from one RCT ++ to suggest that a brief, alcohol specific intervention can more effective at changing attitudes to alcohol, than interventions targeting multiple substances (including alcohol). Applicability Rating A.

b) Behavioural and social function

Immediate (< 1 month)

The Urban Youth Connection programme seemed to produce iatrogenic effects in participants compared to non-equivalent controls (Valentine et al., 1998; CNRT -). After statistical adjustment, any programme attendance in middle school was associated with a marginally higher level of gang membership (p<0.10) and a significantly high rate of suspension from school (p<0.05), compared to control students. There was no significant difference between intervention and control middle school students on any of the other measures of risk behaviours, psychological well-being, self-esteem or school involvement. High school intervention students reported significantly overall lower grades compared to control students (p<0.05), although they were more likely to report that they hoped to finish college (p<0.05). As

previously, there was no significant difference between intervention and control high school students on any of the other measures of risk behaviours, psychological well-being, self-esteem or school involvement.

In children (ages 5 – 13) in targeted elementary schools (indicated by high numbers of students from transient families, low socioeconomic levels, large numbers of student conduct violations), exposure to individual and group counselling sessions produced immediate improvements, compared to a wait list control group, on the Walker Problem Behaviour Identification Checklist (Reynolds and Cooper, 1995; RCT -). Among the subscales, significant adjusted mean differences were found for Acting Out, Distractibility, and Immaturity, but not for Withdrawal or Disturbed Peer Relations. Overall, for the Pier-Harris Children's Self-Concept Scale there were no statistically significant effects of the intervention. However, there was a statistically significant difference on the subscale Popularity. Another group based youth advocacy and discussion approach was associated with an immediate increase in community advocacy, self efficacy and perceived incentive values in girls, and leadership competence in boys (Winkleby et al., 2001; BA +)

Medium (> 1 month ≤ 6 months; > 6 months ≤ 1 year)

Fourteen weeks after group counselling targeted towards a small group of high risk females (n = 14, age range = 15 – 18, attrition rate 42.6%), Houck et al. (2002; BA -) reported that there was a significant decrease in suicidal ideation ($p<0.05$) and a reduction in thoughts of suicide due to drug use ($p<0.10$). In addition, suicide threats in the previous month decreased by 75% ($p<0.10$) and perceived stress and family distress decreased ($p<0.10$) The likelihood of dropping out of school during the current or subsequent semester was resolved, with all students rejecting this possibility ($p<0.10$). The intervention had no effect on emotional distress, personal and social risk factors or suicide attempts.

A multidimensional intervention programme (median age of participants was 15) that aimed to promote health service utilisation and which included anger management groups, substance use prevention, tutoring, home visits and enhanced school services failed to impact upon secondary outcomes at one year follow up (Britto et al., 2001; CBA -). There were no effects upon the proportion of participants who reported not seeking medical care for problems; or the number of doctor, dental, Accident and Emergency, mental health or nurse visits and check ups in the past year.

Long term (>1 year)

In the only UK based intervention reviewed in this section (Bagley and Pritchard, 1998; CNRT -), a comprehensive school based social work scheme was shown to have generally positive effects at 3 year follow up. As well as the fall in 'hard' drug use reported in Section 5.1.4.1, there was a smaller rise in reported thefts in the project secondary schools compared with controls, and a fall in project primary schools compared with a large rise in controls. Although there was a rise in reported bullying in secondary school projects compared to a fall in controls, this may have represented a willingness to report and address the problem rather than an absolute increase in incidents. Finally, there was 53% fall in truanting in the intervention projects compared with a 12% rise in controls.

After one and a half years of delivery of a school-home liaison project, Flores-Fahs et al. (1997; CNRT -) found that although intervention students performed significantly better at maths than comparison students, there was no difference on GPA or level of reading achievement. Intervention participants also demonstrated lower self esteem, lower self-rated improvement in school attendance, and their parents were in less frequent contact by telephone with teachers than control participants. There was no difference between intervention and control students in terms of actual school attendance, classroom adjustment, self-rated improvements in academic performance, classroom behaviour, and self-esteem or teacher-rated improvements in school attendance, academic performance, classroom behaviour, and self-esteem.

Follow-up not reported

Gittman and Cassata (1994; CBA -) examined a 5-year, teacher-mentoring programme for high-risk youth. The intervention had no effect on self-esteem or study skills.

Table 5.1.27 Counselling/therapy: behavioural and social function

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Reynolds & Cooper, 1995	RCT-	Early intervention; individual and group counselling	Waiting list	PT	Walker Problem Behaviour Identification Checklist: ↓ Acting out ↓ Distractibility ↓ Immaturity ↔ Withdrawal ↔ Disturbed peer relations Pier-Harris Children's Self-Concept Scale: ↔ Overall effect ↑ Popularity
Bagley & Pritchard, (1998)	CNRT-	School based social work scheme	No intervention	3 yrs	↓ Rise in reported thefts (Fall reported in primary schools) ↓ Truanting
Britto (2001)	CBA-	Multidimensional	Schools with no on-site nursing services	1 yr	↔ Number of participants not seeking medical care for problems ↔ Doctors visits ↔ Dental visits ↔ A&E visits ↔ Nurse visits ↔ Check-ups in the past year
Flores-Fahs et al. (1997)	CNRT-	Field Trips	Academic Assistance	1.5 yrs	↑ Maths achievement ↔ GPA ↔ Reading achievement ↔ School attendance ↔ Classroom adjustment ↓ Self esteem ↓ Self rated improvement in school attendance ↔ Self-rated improvements in academic performance, classroom behaviour, and self-esteem ↔ Teacher-rated improvements in school attendance, academic performance, classroom behaviour, and self-esteem ↓ Parental involvement
Valentine et al., 1998	CNRT-	Urban Youth Connection Programme: Middle school	Non participants	6 mth Intervals	↑ Suspension from school ↔ Risk behaviours ↔ Psychological well-being ↔ Self-esteem ↔ School involvement
		Urban Youth Connection Programme: High school	Non participants	6 mth Intervals	↓ Lower grades ↑ Hope to finish college ↔ Risk behaviours ↔ Psychological well-being ↔ Self-esteem ↔ School involvement
Gittman & Cassata (1994)	CBA -	Mentor Programme	Non-participants (not high-risk)	NR	↔ Self-esteem ↔ Study skills
Winkleby et al (2001)	BA +	TACCLE programme	None	PT	↑Community advocacy. ↑ Self-efficacy and perceived incentive values in girls. ↑ Leadership competence in boys

Houck et al. (2002)	BA-	Support Group (Females only)	None	14 wks	↓ Suicidal ideation ↓ Thoughts of suicide due to drug use ↓ Suicide threats ↔ Suicide attempts ↔ Perceived stress and family distress ↔ Dropping out of school ↔ Emotional distress ↔ Personal and social protective factors

Evidence Statement 26

There is inconsistent evidence about the effectiveness of school based counselling and therapy on behavioural and social functioning in young people. Some evidence suggests that these interventions can lead to potentially harmful outcomes in young people.

26.1 There is evidence from one RCT – to suggest that a combination of individual and group counselling sessions can produce short and medium term improvements in a range of social behaviours (Reynolds and Cooper, 1995). However, there is evidence from one CNRT – to suggest that over the course of a 3-year programme such an approach may be associated with an increase in antisocial behaviour and poor educational outcomes in older children (Valentine et al., 1998). Applicability Rating C.

26.2 There is evidence from one CNRT – to suggest that although school based diversionary schemes may produce long term increases in mathematical achievement, participation may also be associated with a decrease in self esteem and school attendance when compared with an academic assistance programme (Flores-Fahs et al., 1997). Applicability Rating C.

26.3 There is evidence from one CBA – to suggest that a multidimensional school wide improvement programme has no long-term effects upon engagement with a wide range of (external) health services (Britto, 2001). Applicability Rating C.

26.4 There is evidence from one CNRT – to suggest that school based social work schemes may produce long term decreases in reported thefts and truanting (Bagley and Pritchard, 1998). Applicability Rating A.

5.2 Black and Minority Ethnic populations

Section 5.2.1	School-based interventions
Section 5.2.2	Community-based interventions
Section 5.2.3	Family-based
Section 5.2.4	Multicomponent programmes
Section 5.2.5	Other interventions

A total of 5 systematic reviews and 41 primary studies were identified which examined interventions targeting populations of specific ethnicities or mixed ethnicities. All of the studies identified were based in the US and because of cultural and ethnic differences between US and UK minority populations these studies were judged to have limited applicability to the UK (see Section 6: Discussion). Details of these studies are shown in Table 5.2.1. The following interventions were examined:

- School-based (n=14; 1 SR ++, 2 SR +, 1 RCT ++, 6 RCT +, 2 RCT -, 1 CBA -, 1 BA -)
- Community-based (n=12; 2 RCT +, 1 RCT -, 5 CNRT -, 4 BA -)
- Family-based (n=9; 4 RCT +, 1 CBA -, 3 BA -)
- Multicomponent programmes (n=5; 1 CNRT +, 1 CBA +, 3 BA -)
- Other: multiple settings (n=2; 1 SR ++; 1 SR +), early intervention programme (n=1; RCT +), brief preventive intervention (n=1; RCT +) and mentoring (n=2; 2 RCT -)

Table 5.2.1 Studies identified: Black and Minority Ethnic

Author (Year)	Study design	Outcomes reported	
		Primary	Secondary
School			
Tobler et al (2000)	Systematic Review ++	✓	
Tobler & Stratton (1997)	Systematic Review +	✓	
Tobler (1997)	Systematic Review +	✓	
Ialongo et al. (1999)	Randomised controlled trial (individual) ++		✓
Botvin et al. (1994)	Randomised controlled trial (cluster) +		✓
Botvin et al. (1995)	Randomised controlled trial (cluster) +		
Botvin et al. (2001)	Randomised controlled trial (cluster) +	✓	✓
Colnes (2000)	Randomised controlled trial (individual) +	✓	✓
Duncan (2000)	Randomised controlled trial (cluster) +		✓
Hecht et al. (2003); Gosin et al. (2003)	Randomised controlled trial (cluster) +	✓	✓
Botvin et al (1997)	Randomised controlled trial (cluster) -	✓	✓
Polansky et al. (1999)	Randomised controlled trial (cluster) -		✓
Nelson and Arthur (2003)	Controlled before and after study -	✓	
Belcher et al. (2000)	Before and after study -		✓
Community			
Schinke et al. (2004a)	Randomised controlled trial (cluster) +	✓	✓
Lindenberg (2002)[a]	Randomised controlled trial (individual) -	✓	✓
Schinke et al. (2000)[a]	Randomised controlled trial (individual) -	✓	

Schinke et al. (2004b)	Randomised controlled trial (cluster) -		✓
Schinke et al. (1994)	Controlled non-randomised trial -		✓
Belgrave et al (2004)	Controlled non-randomised trial -		✓
Cheadle et al (1995)	Controlled non-randomised trial -	✓	✓
Gottfredson et al. (2004)	Controlled non-randomised trial -	✓	✓
Marcus et al. (2004)	Controlled before and after study -	✓	
Sutherland et al. (1997)	Controlled before and after study -	✓	✓
Harrington & Donohew (1997)	Before and after study +	✓	✓
Zane et al. (1998)	Before and after study -	✓	✓
Family			
Spoth et al (2003)	Randomised controlled trial (individual) +		✓
Houge et al. (2002)	Randomised controlled trial (individual) +		✓
Prado (2005)	Randomised controlled trial (individual) +	✓	✓
Brody et al. (2004; 2005)	Randomised controlled trial (cluster) +	✓	✓
Aktan et al. (1996)	Controlled before and after study -		
Emshoff et al. (1996)	Before and after study -		✓
Bruce & Emsholf (1992)	Before and after study -	✓	✓
Crunkilton et al. (2005)	Before and after study -	✓	✓
Multicomponent			
Cherry et al (1998)	Controlled non-randomised trial +		✓
Godley & Velasquez (1998)	Controlled before and after study +	✓	✓
Chipungu et al (2000)	Before and after study -		✓
Harvey & Hill (2004)	Before and after study -		✓
Stevenson et al. (1998)	Before and after study -	✓	✓
Other			
Yuen (2004)	Systematic Review ++	✓	
Bledsoe (2002)	Systematic Review +	✓	
Campbell et al. (2002)	Randomised controlled trial (individual) +	✓	
Fishbein et al. (2006)	Randomised controlled trial (individual) +		✓
Rhodes et al. (2005)	Randomised controlled trial (individual) -	✓	
Royse (1998)	Randomised controlled trial (individual) -		✓

[a] Included in Gates et al. (2006)

5.2.1 School-based interventions

5.2.1.1 Overview of evidence identified

Systematic reviews

In total, three systematic reviews examined school-based interventions**.** Tobler et al (2000) reported on a meta-analysis of 207 universal school-based interventions on drug prevention that compared treatment of self-reported drug use with control or comparison young people. The review was good quality and rated ++. Tobler and Stratton (1997) undertook a meta-analysis of 120 studies and evaluated the success of school based drug prevention programmes and received a good quality rating of +. Tobler (1997) was a further publication of the meta-analysis reported by Tobler and Stratton in 1997.

Primary studies

Of the 12 studies identified which examined school-based interventions, eight studies (Botvin et al., 1994; Botvin et al., 1995; Botvin et al., 1997; Botvin et al., 2001; Colnes et al., 2000; Duncan, 2000; Hecht et al., 2003; Gosin et al., 2003) targeted young people of mixed ethnicities, two studies (Belcher et al., 2000; Ialongo et al., 1999)

targeted populations of African American students and two studies (Polanksy et al., 1999; Nelson & Arthur, 2003) targeted groups of Hispanic and/or Latino students.

The study by Ialongo et al. (1999) was well reported and judged to be of sufficient quality to be rated ++. The study (Ialongo et al., 1999; RCT ++) assessed the effects of two universal interventions delivered to first graders. In the first intervention group, participants received a classroom-centred intervention focussing on behaviour management. The second intervention (Family School Partnership) targeted parents and was designed to improve parent-teacher communication and provide parents with effective teaching and child behaviour management strategies, through teacher training, home-school learning activities and parent workshops.

Six RCTs (Botvin et al., 1994; Botvin et al., 1995; Botvin et al., 2001; Colnes et al., 2000; Duncan, 2000; Hecht et al., 2003) were rated +; in all of the studies details were lacking about the method of randomisation used to assign participants to groups or whether investigators were kept blind about the treatment allocation. Two of the studies by Botvin et al. (1994; 1995; both RCT +) examined the same population at post-test and 2 years follow-up, respectively. The studies examined broad-spectrum LST versus a culturally focused intervention similar to the LST programme. Both interventions were compared to an information only control. The LST programme was further examined by Botvin et al., in two studies (1997; RCT – 2001; RCT +), both of which examined LST compared to usual drug education. Colnes et al. (2000) examined peer leadership training for high school students (grades 9 to 11) compared to no intervention and Duncan et al. (2000) examined an interactive CD-ROM designed to increase students' self-efficacy in refusing drugs. Hecht et al. (2003) evaluated the effectiveness of a culturally-grounded intervention, the "Keepin' it R.E.A.L" curriculum. The intervention consisted of resistance and life skills training delivered over 10 lessons. Schools were assigned to one of three versions of the intervention: Mexican-American, Black/White or Multicultural. Gosin et al. (2003; RCT -) also reported on the "Keepin' it R.E.A.L" curriculum presenting the same set of findings as Hecht et al. (2003).

Two RCTs, by Botvin et al. (1997; RCT -) and Polansky et al. (1999; RCT -), respectively, were rated -. The study by Botvin et al. (1997; RCT -) is described above and was rated – because the characteristics of the intervention and control groups were not clearly reported. Polansky et al. (1999) assessed three videotapes designed to address substance abuse prevention compared to a control condition.

The first tape was derived from an information-based programming perspective, the second modelled social skills related to help-seeking behaviour, and the third focused on assertion training. Participants were reported to have been randomly assigned to treatment groups but further methodological details were lacking regarding the process of randomisation and whether an ITT analysis had been undertaken. In addition, baseline participant characteristics were not reported and the RCT was rated -.

Two studies used before and after designs. Nelson and Arthur (2003; CBA -) examined the Storytelling for Empowerment programme, which targeted risk and resiliency factors through storytelling and art. The study included a control group composed of students at a local school, but was rated – because the study methodology and results were poorly reported. Belcher et al. (2000; BA -) evaluated the PANDA (Preventing the Abuse of Tobacco, Narcotics, Drugs and Alcohol) curriculum taught to African American Head Start pupils. The curriculum was taught over a 10-week period and was designed to increase awareness and understanding of healthy bodies and the harmful effects of drugs. The study was rated – because of the poor methodology used.

5.2.1.2 Primary outcomes

The systematic review by Tobler et al. (2000; SR ++) updated the meta-analysis reported on by Tobler and Stratton (1997; SR +) and so only the results of Tobler et al. (2000; SR ++) are reported here. The meta-analysis included 207 universal school-based drug prevention and the authors conducted subgroup analysis on 42 studies that examined interventions or programmes serving schools with greater than 50% ethnic minorities.

The authors found that interactive programmes demonstrated higher effectiveness than non-interactive programmes across both sets of programmes and population categories (mean difference 0.26, p=0.000). Minority populations generally gave rise to larger weighted effect size estimates than did primarily white populations or populations without known problem behaviours. However, the minority populations demonstrated statistically significant higher effectiveness only for the Interactive category in the full set of programmes [n=30; mean (SE) 0.21 (0.02)]. By contrast, for the full set of non-interactive programmes, the opposite was true and intervention was shown to be less effective with special populations [n=12; mean (SE) –0.05

(0.03)]. High quality evaluations showed only a small non-significant difference by type of population.

Short and medium term (> 1 month ≤ 6 months and > 6 months ≤ 12 months)
Botvin et al. (1997; RCT -) reported that at 3-months follow-up, the intervention group smoked cigarettes less often compared to controls [mean (SE) 1.63 (0.05) vs. 1.87 (0.06), respectively]; drank alcohol less frequently [mean (SE) 1.73 (0.05) vs. 2.0 (0.07), respectively); drank less alcohol (mean (SE) 1.43 (0.03) vs. mean (SE) 1.62 (0.05), respectively]; reported fewer episodes of drunkenness [mean (SE) 1.33 (0.04) vs. 1.49 (0.06), respectively]; and smoked cannabis less frequently [mean (SE) 1.16 (0.03) vs. 1.26 (0.05), respectively]. Intervention participants were also less likely to ever report polysubstance use compared to control students [mean (SE) 0.92 (0.03) vs. 1.09 (0.04), respectively] and were less likely to be a current polysubstance user [mean (SE) 0.15 (0.02) vs. 0.24 (SE 0.03), respectively].

The third examination of the LST intervention by Botvin et al. (2001; RCT +) included 29 schools and a total of 3,621 students. At the 3-month follow-up, intervention participants reported significantly less lifetime polydrug use than controls, however when the results were adjusted to account for within-cluster correlation this finding was no longer significant. Also, at 3-months, the intervention had significant positive effects on 3 measures of alcohol use (drinking frequency, drunkenness frequency, and drinking quantity). At 1-year follow-up, intervention participants reported less substance use than controls across 10 substance use variables. However, when the results were adjusted to account for within-cluster correlations, only the findings for smoking frequency and quantity, drinking frequency and quantity, drunkenness frequency, inhalant frequency, lifetime polydrug use and current polydrug use remained significant (cannabis frequency and getting “high” frequency were not significant).

There was no difference in cannabis use between intervention participants who received the 10-lesson, “Keepin’ it R.E.A.L.” curriculum examined by Hecht et al. (2003; RCT +) and control participants at 3- and 8-months follow-up. Intervention participants reported significantly less use of alcohol at 3- and 8-months follow-up, respectively, and cigarettes at 8-months follow-up. Hecht et al. (2003; RCT +) also examined the differential impact of the Mexican American, Black/White and Multicultural versions of the curriculum, compared to control. Students in each condition reported increased substance use over the course of the study, however

increases were smaller in the intervention conditions compared to control with regards to alcohol at 3-months.

Colnes et al. (2000; RCT +) found that there was no significant change in the frequency of substance use at 4-months follow-up in students who had participated in peer leadership training compared to controls. Both intervention and control groups reported little or no use of cannabis or inhalants at baseline and follow-up.

Nelson and Arthur (2003; CBA -) found that two cohorts who received the Story Telling for Empowerment programme reported significant decreases in the use of alcohol and cannabis. For the cohort who received the intervention in the 1998 school year, increases were seen in their mean use of amphetamines, cocaine, LSD or heroin in the past 30 days for both males (from 0.1 at baseline to 0.4 at 12 months) and females (from 0.1 at baseline to 0.2 at 12 months).

Long term (> 12 months)

At 2-years follow-up, relative to the information only control, participants who received the LST or culturally focused intervention (CFI) (Botvin et al., 1995; RCT +) reported significantly lower drinking frequency (adjusted mean drinking frequency: LST 1.94; CFI 1.61: control 2.25) and amount (adjusted mean drinking amount: LST 1.65; CFI 1.42; control 1.85). In addition, participants who received the culturally focused intervention reported drinking less frequently and consuming less alcohol than LST participants ($p<0.003$ and $p<0.03$, respectively). Students in the intervention conditions significantly reduced their frequency of drunkenness relative to the control group (adjusted mean drunkenness frequency: LST 1.40; CFI 1.25; control 1.64), and students who received the culturally focused intervention reported being drunk significantly less often than those receiving LST ($p<0.04$). There was no difference in cannabis use (19% for information control group, 18% for the LST group and 20% for the culturally focused intervention group) or frequency of cannabis use (adjusted mean cannabis frequency: LST 1.33; CFI 1.42; control 1.36) across the three groups at the 2-year follow-up.

Hecht et al. (2003; RCT +) found that intervention participants reported significantly less use of cannabis at 14 months compared to controls [mean difference (SE) -0.175 (0.048); $p<0.001$] and significantly less use of alcohol. Examining the differential impact of the Mexican American, Black/White and Multicultural versions of the curriculum, compared to control, Hecht et al. (2003; RCT +) found that increases

were smaller in the intervention n conditions compared to control with regards to overall substance use at 14-months [mean difference vs. control at 14-months: Mexican American –0.168 (SE 0.064, p<0.05); Black/White -0.149 (SE 0.063, p<0.05); Multicultural -0.159 (SE 0.052, p<0.05)]. In addition, students receiving the Mexican American and Multicultural versions reported significantly smaller increases in recent cannabis use at 14-months follow-up than control students [mean difference vs. control at 14-months: Mexican American –0.194 (SE 0.070, p<0.01); Multicultural -0.175 (SE 0.076, p<0.05)].

Table 5.2.2 School-based interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Tobler et al. (2000)	SR++	Interactive programmes for 'special' populations	Non-interactive programmes for 'special' populations	NR	Interactive programmes more effective than non-interactive
Botvin et al. (1995)	RCT+	LST or CFI	Information only	2 yr	↓ Drinking frequency ↓ Drinking quantity ↓ Drunkenness frequency ⇔ Cannabis quantity/frequency
		CFI	LST	2 yr	↓ Drinking frequency ↓ Drinking quantity ↓ Drunkenness
Botvin et al. (1997)	RCT+	LST	Usual education	3 mths	↓ Cigarette use ↓ Cannabis use frequency ↓ Drinking frequency ↓ Drinking quantity ↓ Drunkenness ↓ Polysubstance use
Botvin et al. (2001)	RCT+	LST	Usual education	3 mths	⇔ Lifetime polysubstance use ↓ Alcohol use frequency ↓ Alcohol use quantity ↓ Episodes of drunkenness
				1 yr	↓ Smoking frequency ↓ Smoking quantity ↓ Drinking frequency ↓ Drunkenness frequency ↓ Drinking quantity ↓ Inhalant frequency ↓ Lifetime polysubstance use ↓ Current polysubstance use ⇔ Cannabis frequency ⇔ Getting "high" frequency
Hecht et al. (2003); Gosin et al., (2003)	RCT+	Culturally-grounded, "Keepin' it REAL" curriculum	Control	3 mths	⇔ Recent substance use ↓ Alcohol ⇔ Cigarettes ⇔ Cannabis
				8 mths	↓ Recent substance use ↓ Alcohol ↓ Cigarettes ⇔ Cannabis
				1.2 yrs	↓ Recent substance use ↓ Alcohol ⇔ Cigarettes ↓ Cannabis
Colnes et al. (2000)	RCT+	Peer leadership training	No training	4 mths	⇔ Frequency of substance use
Nelson and Arthur (2003)	CBA -	Story Telling for Empowerment	No intervention	1 yr	↓ Use of alcohol and cannabis 1998 cohort: ↑ amphetamine, cocaine, LSD or heroin use

LST – Life Skills Training; CFI – culturally focused intervention

Evidence Statement 27

There is evidence to suggest that school-based programmes for minority youth can have positive effects on alcohol and cigarette use, however there is inconsistent evidence about their effectiveness in reducing cannabis and other drug use:

27.1 There is evidence from one SR ++ to suggest that school-based interactive programmes (i.e. those involving discussion) can be more effective than non-interactive programmes (e.g. a lecture) in reducing substance use in populations of minority students (Tobler et al., 2000). Applicability Rating C.

27.2 There is evidence from four RCT + to suggest that school-based life skills training (LST)/resistance skills interventions may reduce tobacco and alcohol use compared to no intervention in populations of mixed ethnicity in the short, medium and long term (Botvin et al., 1995; Botvin et al., 1997; Botvin et al., 2001; Hecht et al., 2003). Applicability Rating C.

27.3 There is inconsistent evidence from four RCT + about the effectiveness of school-based life skills training/resistance skills interventions in reducing cannabis use in populations of mixed ethnicity in the short and long term (Botvin et al., 1995; Botvin 1997; Botvin et al., 2001; Hecht et al., 2003). Applicability Rating C.

5.2.1.3 Secondary outcomes

a) Knowledge and attitudes

At immediate post-test, there were no significant differences between participants receiving the LST, culturally focused or information only interventions examined by Botvin et al. (1994; 1995; both RCT +), with regards to intentions to smoke cannabis or use cocaine. This non-significance remained at the 2-year follow-up. At immediate post-test the LST group demonstrated significantly lower intentions to use “hard liquor” and illicit drugs in the future compared to control participants. In addition, both intervention groups had significantly lower risk-taking scores than the control group. At 2 years, both intervention groups had significantly lower intentions to drink beer or wine and lower intentions to drink liquor relative to controls. In addition, participants receiving the culturally focused intervention had significantly lower intentions to drink beer or wine compared to participants who received the LST intervention. In terms of knowledge and skills at 2-years, participants in the LST and CFI conditions had

significantly less knowledge about cannabis use than participants in the information-only condition. However, participants in both intervention groups reported more use of refusal assertiveness skills and had significantly lower risk-taking scores than control participants (information-only). In addition, CFI participants had lower risk-taking scores than participants who received LST.

In the second analysis of the LST intervention, Botvin et al. (1997; RCT -) found that intervention participants were significantly less likely to report intention to use cigarettes, alcohol (beer/wine) and cannabis than control participants receiving usual drug education. Intervention participants also reported significantly lower normative expectations for adult and peer smoking, adult and peer drinking, peer cannabis, adult and peer cocaine use and adult and peer other drug use, relative to controls. However, the intervention had no effect on participants' attitudes to substance use or their normative expectations for adult cannabis use. In addition, there was no difference between intervention and control participants in terms of their use of the following skills: decision-making, advertising, anxiety reduction, communication and social assertiveness; although, intervention participants were significantly more likely to use refusal assertiveness skills than control participants.

The third examination of the LST by Botvin et al. (2001; RCT +) included 3,621 students, and found that at 3-months, LST participants reported significantly greater drinking knowledge and lower levels of peer normative expectations for smoking and drinking and adult normative expectations for smoking, drinking, cocaine/hard drug use and inhalant use, compared to controls. At 1-year follow-up, the intervention had significant effects on two knowledge variables; intervention participants scored higher on smoking knowledge and drinking knowledge than controls but not on knowledge related to cannabis, cocaine or hard drug use. Intervention participants reported lower intentions to smoke, drink alcohol, smoke cannabis, and use inhalants in the coming year, relative to controls, but reported no difference in their intentions to use cocaine or hard drugs. In terms of normative expectations, intervention participants reported lower expectations regarding smoking and drinking by peers and adults than control participants but no difference regarding cannabis, cocaine/hard drugs or inhalant use by their peers or adults. On psychological variables, intervention participants scored higher than controls on drug refusal skills and lower on risk taking and "getting into trouble" than controls. However, there was no difference between intervention and control participants on the following variables: decision-making,

advertising influences, anxiety reduction skills, communication skills or assertiveness skills.

Colnes (2000; RCT +) found that there was no difference between students who received peer leadership training and those who didn't in terms of their personal and social competencies, psychosocial factors, negative attitudes towards substance use or school factors.

Duncan et al. (2000; RCT +) found that intervention participants who received an interactive CD-ROM with supporting handouts, showed significantly greater personal efficacy in refusal skills, as well as higher refusal skills regarding cannabis use and an increase in their perceptions of social norms associated with substance use at immediate post-test, compared to controls (all $p<0.01$).

Intervention students, who received the Keepin' it R.E.A.L curriculum examined by Hecht et al. (2003; RCT +), reported adopting significantly more strategies used to resist cigarettes and cannabis at 3-months follow-up than control students. At 8-months follow-up, intervention students reported adding significantly more strategies from baseline compared to controls in terms of cigarettes only and at 14-months follow-up, there was no difference between intervention and control participants in terms of the number of strategies used to resist alcohol, cigarettes or cannabis. Overall, there was no significant difference in self-efficacy to resist substances or intentions to use substances between intervention and control participants at any follow-up. However, intervention students reported fewer positive expectancies in relation to substances at the 8- and 14-month follow-up, compared to control students (no difference at 3-months). In terms of substance use norms, intervention students reported significantly fewer descriptive norms (how many of their peers used drugs) compared to control students at each follow-up. In addition, intervention students reported having more personal antidrug beliefs than control students at the 3- and 8-month follow-up. However, there was no difference on this finding at 14-months, and there was no difference between intervention and control students in terms on parents' or friends' antidrug injunctive norms at any follow-up.

Polansky et al. (1999; RCT -) examined the effectiveness of three videotapes based on common prevention outcomes and measures of theoretical relevance. In terms of the effects on measures related to specific videotapes, only the assertion-training video produced significantly higher levels of assertiveness amongst 9th graders. The

authors found that the videotape interventions had no effect on common prevention outcomes.

Belcher et al. (2000; BA -) found that American Heart Start pupils who received PANDA had a mean change on self-concept status following the intervention, indicating an increase of >4 points following the intervention (significance not reported). At baseline, 14 children were rated as having 'poor' self concept compared to 3 children following the intervention (significance not reported).

b) School-related outcomes

Ialongo et al. (1999; RCT ++) found that both a classroom-centred (CC) intervention and a family-school partnership (FSP) intervention had little impact on reading or maths achievement compared to control. Overall, CC boys and girls were rated by teachers as having significantly fewer problem behaviours than control boys. FSP boys and girls were rated as demonstrating fewer problem behaviours than controls in the Spring of 2nd grade. Neither intervention had impacts on parent rated total problems. The interventions had inconsistent effects on peer-rated aggressive behaviour; CC boys had fewer peer nominations for aggression in the Spring of 1st grade compared to boys in the control group and positive effects were found in terms of FSP boys' peer nominated aggression. No effects were found for CC girls' or FSP girls' peer nominated aggression. No significant effects were found for social participation/shy behaviour for either gender or intervention (FSP or CC).

Table 5.2.3 School-based interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes	
Ialongo et al. (1999)	RCT++	Classroom-centred intervention	No intervention	1 yr	Boys:	↑ Reading achievement ↔ Math achievement ↓ Teacher-rated problems
					Girls:	↔ Reading achievement ↔ Math achievement ↓ Teacher-rated problems
				2 yrs	Boys:	↔ Reading achievement ↑ Math achievement ↓ Teacher-rated problems
					Girls:	↔ Reading achievement ↔ Math achievement ↓ Teacher-rated problems
		Family School Partnership	No intervention	1 yr	Boys:	↑ Reading achievement ↔ Math achievement ↔ Teacher-rated problems
					Girls:	↔ Reading achievement ↔ Math achievement ↔ Teacher-rated problems
				2 yrs	Boys:	↑ Reading achievement ↔ Math achievement ↓ Teacher-rated problems

					Girls:	↔ Reading achievement ↔ Math achievement ↓ Teacher-rated problems
Botvin et al. (1994)	RCT+	LST or CFI	Information only	PT	↔ Intention to smoke cannabis ↔ Intention to use cocaine ↓ Intention to use "hard liquor" ↓ Intention to use illicit drugs ↓ Risk taking	
Botvin et al. (1995)	RCT+	LST or CFI	Information only	2 yrs	↔ Intention to smoke cannabis ↔ Intention to use cocaine ↓ Intention to drink beer /wine and "hard liquor" ↓ Cannabis knowledge ↑ Use of refusal assertiveness skills	
		CFI	LST	2 yrs	↓ Intention to drink beer/wine ↓ Risk taking	
Botvin et al. (1997)	RCT+	LST	Usual education	3 mths	↓ Intention to use cigarettes, beer/wine, cannabis ↓ Normative expectations for peer/adult smoking, drinking, cannabis use, other drug use ↔ Normative expectations for adult cannabis use ↔ Substance use attitudes ↔ Skills use of decision-making, advertising, anxiety reduction, communication or social assertiveness	
Botvin et al. (2001)	RCT+	LST	Usual education	3 mths	↑ Drinking knowledge ↓ Normative expectations for peer smoking, drinking ↓ Normative expectations for adult smoking, drinking, cocaine/hard drug use, inhalant use (significant findings only)	
				1 yr	↑ Smoking knowledge ↑ Drinking knowledge ↔ Cannabis or cocaine/hard drugs knowledge ↓ Intention to smoke, drink alcohol ↓ Normative expectations for peer or adult smoking and drinking ↔ Normative expectations for peer or adult use of cannabis, cocaine/hard drugs or inhalants ↑ Drug refusal skills ↓ Risk taking ↓ Getting into trouble ↔ Decision-making ↔ Advertising influences ↔ Anxiety reduction skills ↔Communication skills ↔ Assertiveness skills	
Hecht et al. (2003)	RCT+	Culturally-grounded, "Keepin' it REAL" curriculum	Control	3 mths	↑ Strategies used to resist cigarettes and cannabis ↔ Strategies used to resist alcohol ↔ Self-efficacy ↔ Intent to accept substance offers ↔ Positive expectancies ↑ Personal antidrug norms ↔ Parents' injunctive norms ↔ Friends' injunctive norms ↓ Descriptive norms	
				8 mths	↑ Strategies used to resist cigarettes ↔ Strategies used to resist alcohol and cannabis ↔ Self-efficacy ↔ Intent to accept substance offers ↓ Positive expectancies ↔ Parents' injunctive norms ↔ Friends' injunctive norms ↓ Descriptive norms	

				14 mths	↔ Strategies used to resist alcohol, cigarettes and cannabis ↔ Self-efficacy ↔ Intent to accept substance offers ↓ Positive expectancies ↑ Personal antidrug norms ↔ Parents' injunctive norms ↔ Friends' injunctive norms ↓ Descriptive norms
Duncan et al. (2000)	RCT+	CD-ROM designed to increase self-efficacy in refusing drugs	No intervention	PT	↑ Personal efficacy in refusal skills ↑ Cannabis refusal skills ↑ Perceptions of social norms associated with substance use
Colnes et al. (2000)	RCT+	Peer leadership training	No training	4 mths	↔ Personal and social competencies ↔ Psychosocial factors ↔ Negative attitudes towards substance use ↔ School factors
Polansky et al. (1999)	RCT-	Three prevention videotapes	No intervention	PT	↔ Common prevention outcomes Assertion training video: ↑ Assertiveness
Belcher et al. (2000)	BA -	PANDA intervention (Head Start pupils)	None	PT	↑ Self concept status

Evidence Statement 28

There is inconsistent evidence about the effectiveness of school-based programmes for minority youth can have inconsistent effects on risk and protective factors related to substance use:

28.1 There is evidence from two RCT + to suggest that school-based interventions can produce long term increases in smoking and drinking-related knowledge and reduce intentions to use alcohol and tobacco in populations of mixed ethnicity, but did not impact on knowledge or intentions related to cannabis and other drugs (Botvin et al., 1995; Botvin et al., 2001). Applicability Rating C.

28.2 There is inconsistent evidence from three RCT + about the effectiveness of life skills training/resistance skills interventions in improving substance refusal skills in populations of mixed ethnicity in the long term (Botvin et al., 1995; Botvin et al., 2001; Hecht et al., 2003). Applicability Rating C.

28.3 There is evidence from one RCT + that a school-based, peer leadership intervention has no effects on outcomes related to risk and protective factors for drug use in those trained to be peer leaders in the short term (Colnes et al., 2000). Applicability Rating C.

28.4 There is evidence from one RCT – to suggest that video prevention interventions may have no effect on risk and protective factors related to substance

use in groups of Latino/Hispanic students (Polansky et al., 1999). Applicability Rating D.

28.5 There is evidence from 1 RCT ++ to suggest that universal classroom-based interventions targeting African American students are not effective in improving school achievement and have inconsistent effects on factors related to behaviour management (Ialongo et al., 1999).

5.2.2 Community-based interventions

5.2.2.1 Overview of evidence identified

Of the 12 studies which examined community-based interventions, two studies (Gottfredson et al., 2004; Schinke et al., 2004) targeted multiethnic populations, five studies (Sutherland et al., 1997; Marcus et al., 2004; Harrington and Donohew, 1997; Schinke et al., 1994; Belgrave et al., 2004) targeted young African Americans, two studies (Cheadle et al., 1995; Schinke et al., 2000) examined interventions targeting Native American communities and one study a piece targeted Hispanic females (Lindenberg et al., 2002) and young Asian Americans (Zane et al., 1998).

Of the four RCTs identified, one (Schinke et al., 2004a; RCT +) was rated + and three (Lindenberg et al., 2002; Schinke et al., 2004b; Schinke et al., 2000; all RCT -) were rated -. All of the RCTs failed to report how participants were randomised to treatment. In addition, the RCTs by Lindenberg et al. (2002; RCT -), Schinke et al. (2004b; RCT -) and Schinke et al. (2000; RCT -) failed to report whether participants were analysed in the groups they were assigned and were rated -.

Schinke et al. (2004; RCT +) examined a CD-ROM intervention for urban youth, with and without parent workshops compared to no intervention. Lindenberg et al. (2002; RCT -) evaluated two interventions delivered in health clinics with an all female sample of Hispanic participants. A risk and resilience intervention curriculum covering education about personal and reproductive heath was compared to a health education correspondence course. Participants receiving either a computer or conventionally delivered intervention involving role-play with peers were compared to no intervention controls in the study by Schinke et al. (2004b; RCT -). Schinke et al. (2000; RCT -) examined a skills approach with and without community mobilisation, targeting a Native American community. The skills approach was based on life skills training and incorporated Native American values, legends and stories. Community

mobilisation focused on activities to raise awareness on substance use issues and involved the distribution of flyers and posters in the community and information meetings for parents, teachers and other community members.

Four studies (Belgrave et al., 2004; Cheadle et al., 1995; Gottfredson et al., 2004; Schinke et al., 1994) used controlled non-randomised designs. All of the studies suffered from poor reporting and were consequently rated -. Belgrave et al. (2004; CNRT -) evaluated a culturally-enhanced intervention, the Sisters of Nia programme delivered within Boys and Girls clubs. The intervention was compared to usual Boys and Girls club activities. Cheadle et al (1995; CNRT -) evaluated the effectiveness of a community coalition intervention on a Native American reservation. The intervention targeted youth, parents and the community as a whole and included educational and skills development classes for youth and parents, alcohol and drug free events and public campaigns. Gottfredson et al. (2004; CBA -) examined the effectiveness of 14 after school programmes comparing young people who had attended the programmes with those who had not. Finally, Schinke et al. (1994; CNRT -) evaluated the effects of an interactive puppet programme.

Four studies (Harrington and Donohew, 1997; Marcus et al., 2004; Sutherland et al., 1997; Zane et al., 1998) used before and after designs. Two studies (Gottfredson et al., 2004; Marcus et al., 2004; Sutherland et al., 1997; all CBA -) included control groups but because of the poor reporting of study methodology, both were rated -. The two remaining before and after studies (Harrington and Donohew, 1997; Zane et al., 1998; both BA -) did not include a control group and because of the poor methodology used the study was rated -.

Marcus et al. (2004; CBA -) examined Project BRIDGE (Bold, Ready, Intelligent, Dedicated, Guided, Equipped), which was designed to prevent substance use and risky sexual behaviours. The intervention included life skills training and faith-based components. Sutherland et al. (1997; CBA -) evaluated a coalition of six churches, each of which provided prevention programmes selected from a variety of options. Interventions delivered included competitions and activities, excellence recognition programmes, youth mentoring, parent skills training, peer resistance training and health/drug awareness days. Harrington and Donohew (1997; BA -) evaluated the Jump Start programme for high sensation seeking African American adolescents. The programme targeted the impact of peers, family, the media and sensation seeking influences on behaviour through skills training (decision-making, values

clarification), diversionary activities and the promotion of education. The Competence through Transitions programme, evaluated by Zane et al (1998; BA -), targeted young Asian Americans. The programme was designed to increase resiliency and protective factors and was based around a network of 7 community-based agencies.

5.2.2.2 Primary outcomes

Schinke et al. (2004a; RCT +) found that cannabis use was significantly lower in participants who received a CD-ROM intervention compared to controls at 1-, 2- and 3-year follow-ups. In addition, intervention participants reported significantly less monthly alcohol use and lower cigarette use than controls at 1-, 2- and 3-year follow-ups.

Lindenberg et al. (2002; RCT -) found that there were no differences in behavioural changes in terms of substance use between Hispanic females who received a risk and resilience curriculum and those who received a health correspondence course at 3-months follow-up. The authors noted that self-reports of alcohol, cigarettes and illicit drug use were below the national average at baseline and that there was little change at follow-up.

Five studies (Marcus et al., 2004; CBA -; Gottfredson et al., 2004; CNRT -; Sutherland et al., 1997; CBA -; Harrington and Donohew, 1997; BA -; Zane et al., 1998; BA -) examined interventions delivered to groups of youth through community activities. Marcus et al. (2004; CBA -) found that participants who did not participate in the 3-year, faith-based intervention reported more cannabis use in the past 30 days and more use of any drug in the previous 30 days compared to controls. Because of the small number of participants included in the evaluation there was no difference in the numbers who reported drinking alcohol, smoking cigarettes or sniffing glue, gases or sprays. Gottfredson et al (2004; CNRT -) examined 14 after school programmes based in the community. The programmes were assessed over one school year and participants were divided in younger (grades 4-5) and older (grades 6-8) cohorts. The authors found that the older participants in the intervention group reported significantly fewer drugs used over the previous year [mean (SD): intervention (n=222) 0.038 (0.127) vs. control (n=173) 0.086 (0.198); $p<0.01$]. However, there was no significant difference between intervention and control groups in the younger cohort in terms of this outcome [mean (SD): intervention (n=137) 0.036 (0.107) vs. control (n=170) 0.024 (0.084)]. Sutherland et al. (1997; CBA -) examined a coalition of six churches covering a range of community-based activities.

Participants in a later cohort of the programme reported higher levels of alcohol use than an earlier cohort of youth. Participants in the Jump Start programme, evaluated By Harrington and Donohew (1997; BA -), were divided into high sensation seekers (HSS) and low sensation seekers (LSS). The authors examined two different implementations of the programme. At pre-test, HSS in the first Jump Start evaluation reported significantly more use of tobacco, liquor, and cannabis than LSS, however at post-test these differences were not apparent. HSS participants in the second evaluation reported significant pre-test differences in beer/wine, liquor and cannabis use. At post-test, the differences in use of liquor and cannabis had been neutralised. Zane et al. (1998; BA -) evaluated a community-based intervention for young Asian Americans. The intervention group, who received the Competence Through Transitions programme, showed significant reductions in the initiation of cigarette smoking and for the frequency of other drug use (excluding cigarettes and alcohol) in the previous month when compared to controls.

Two studies (Schinke et al., 2000; RCT -; Cheadle et al., 1995; CNRT -) examined community-based interventions tailored for Native American youth. Schinke et al. (2000; RCT -) found that young Native Americans that received a skills only intervention reported significantly lower rates of smokeless tobacco and alcohol use at the 30-months and 42-months follow-up, and significantly less cannabis use at 42-months, compared to youth who received a skills intervention plus community mobilisation, and controls. Native American youth were compared to five control communities (non-Native American) in the study by Cheadle et al. (1995; CNRT -). At 4-years follow-up, Native American youth reported non-significant reductions in their past month cannabis use (absolute change –17.7%), past year cocaine or crack use (absolute change –2.7%) but increases in past month inhalant use (absolute change + 5.2%). However, there was no difference in drug use across time between Native American youth and the control youth. The only significant difference occurred for smokeless tobacco, with Native American youth reporting greater declines in youth than controls (absolute change: -17.7% vs. –4.3%, respectively).

Table 5.2.4 Community-based interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Schinke et al. (2004a)	RCT +	CD-ROM	No intervention	1 yr	↓ Monthly cannabis use ↓ Monthly alcohol use ↓ Monthly cigarette use
				2 yrs	↓ Monthly cannabis use ↓ Monthly alcohol use ↓ Monthly cigarette use

				3 yrs	↓ Monthly cannabis use ↓ Monthly alcohol use ↓ Monthly cigarette use
		CD-ROM + parent intervention	CD-ROM only	3 yrs	↓ Monthly alcohol use ↔ Monthly cigarette use ↔ Monthly cannabis use
Lindenberg et al. (2002)	RCT -	Risk and resilience intervention	Health education course	3 mths	↔ Alcohol use ↔ Cigarette use ↔ Illicit drug use
Schinke et al. (2000)	RCT -	Skills only intervention	Control	2.5 yrs	↔ Cigarette smoking ↓ Smokeless tobacco use ↓ Alcohol consumption ↔ Cannabis use
				3.5 yrs	↔ Cigarette smoking ↓ Smokeless tobacco use ↓ Alcohol consumption ↓ Cannabis use
		Skills only intervention	Skills intervention plus community mobilisation	2.5 yrs	↔ Cigarette smoking ↓ Smokeless tobacco use ↓ Alcohol consumption ↔ Cannabis use
				3.5 yrs	↔ Cigarette smoking ↓ Smokeless tobacco use ↓ Alcohol consumption ↓ Cannabis use
Cheadle et al. (1995)	CNRT -	Community activities on a Native American reservation	5 control communities (non-Native American)	4 yrs	↔ Past month cannabis use ↔ Past year crack/cocaine use ↔ Past month inhalant use ↓ Smokeless tobacco use
Gottfredson et al. (2004)	CNRT-	After school programmes	Non-participants	1 yr	↓ Drugs used in previous year (older) ↔ Drugs used in previous year (younger)
Marcus et al. (2004)	CBA -	Project BRIDGE, faith-based intervention	Non-participants	PT	↓ Cannabis use in past 30 days ↓ Any drug use in past 30 days ↔ Alcohol use in past 30 days ↔ Cigarette smoking in past 30 days ↔ Sniffing of glue, gas or sprays in past 30 day
Sutherland et al. (1997)	CBA-	Coalition of 6 churches: 1994 cohort	Coalition of 6 churches: 1991 cohort	PT	↑ Alcohol use
Harrington & Donohew (1997)	BA-	Jump Start programme	None	PT	↔ HSS vs. LSS (HSS reported higher levels of drug use at pre-test)
Zane et al. (1998)	BA-	Competence Through Transitions	None	PT	↓ Drug use in past 30 days (excluding alcohol and cigarettes) ↓ Initiation of cigarette smoking

Evidence Statement 29

29.1 There is evidence from 1 RCT + to suggest that a CD-ROM intervention targeting mixed populations of minority youth can reduce monthly substance use in the long term compared to no intervention. Delivering the intervention in combination with parent workshops does not appear to increase effectiveness with regard to cigarettes and cannabis use; however an additional decrease in monthly alcohol use may be observed (Schinke et al., 2004a). Applicability Rating C.

29.2 There is evidence from one RCT – to suggest that culturally-tailored skills

training can produce long term reductions in substance use in a Native American community. Delivering skills training alone appears more effective than delivering the intervention in combination with community mobilisation. Furthermore, evidence from one CNRT – suggests that community activities have no effect on substance use, with the exception of smokeless tobacco use (Schinke et al., 2000; Cheadle et al., 1995). Applicability Rating D.

29.3 There is insufficient and inconsistent evidence from 1 CNRT – and 4 BA studies (2 CBA -; 2 BA -) to determine whether youth group activities are effective in reducing substance use in primarily African American populations and populations of mixed ethnicity (Marcus et al., 2004; Gottfredson et al., 2004; Sutherland et al., 1997; Harrington and Donohew, 1997; Zane et al., 1998). Applicability Rating C.

5.2.2.3 Secondary outcomes

Schinke et al. (2004a; RCT +) examined a CD-ROM intervention with and without a parent involvement component. Participants in the CD-ROM plus parent intervention group had significantly better scores on the family involvement variable than control participants at post-test and 1-, 2-and 3-years follow-up and participants in the CD-ROM only group at 3-years. Both intervention groups (CD-ROM + parent intervention and CD-ROM only) reported significantly less susceptibility to peer influence at post-test and 1-, 2- and 3-years follow-up. Participants in the CD-ROM plus parent intervention reported significantly less susceptibility to peer pressure than participants in the CD-ROM only intervention group at 2-years, but this effect was not apparent at the 3-year follow-up.

Youth who received a computer or conventionally delivered intervention reported more positive outcomes than controls on whether they regarded people who used drugs as ‘‘cool’’, the advantages of changing the subject to avoid trouble, the inadvisability of ‘‘dissing’’ (insulting) someone to calm oneself, the advantages of suggesting alternatives to avoid trouble, the ability to stay cool when angry, and appropriate ways of putting someone off to avoid trouble (Schinke et al., 2004b; RCT -). On one item, the ability to say ‘‘no’’ to drug use offers, the conventional intervention arm youth scored more positively than computer or control arm youth. There was no difference between either of the intervention groups and control group on the following outcomes: drugs, alcohol, fighting are trouble, some of my best

friends smoke, I like to get drunk, I like drugs, I smoke cigarettes, I say no to cigarette offers, I plan to get drunk, I plan to smoke, I plan to do drugs, walking away avoids trouble, picturing future will avoid trouble, better decisions if I think ahead, consider options when pressured, and consider options when deciding.

Schinke et al. (1994; CNRT -) found that more intervention participants who attended a 45-minute interactive puppet presentation indicated that they would not drink in junior high school than controls participants. In addition, fewer intervention participants reported that they thought “drug use in high school was ok”.

Lindenberg et al. (2002; RCT -) reported that a risk and resilience curriculum had no effect on behavioural outcomes related to substance use at 3-months follow-up, compared to a health correspondence course. Outcomes measured included substance knowledge, attitudes and intentions, self-efficacy and resilience.

Four studies (Belgrave et al., 2004; CNRT -; Gottfredson et al., 2004; CNRT –; Sutherland et al., 1997; CBA -; Zane et al., 1998; BA -) examined youth group interventions. Significantly more participants in the Sisters of Nia programme, evaluated by Belgrave et al. (2004; CNRT -), reported that they would not use alcohol in 4 out of 8 hypothetical situations compared to controls receiving usual Boys and Girls Club activities. Significantly more intervention girls responded “no” to drinking alcohol in the following situations: if there were problems with friends, if I thought my friends would like me more if I did it, if all my friends were doing it, and if I was worried about a problem I had. There was no difference in responses between intervention and control participants in the following situations: if I felt I had let myself down in some way, if other people didn’t like me, if there were problems with my family, and if someone made fun of me for not doing it. Significantly more Sisters of Nia participants reported that they would not use drugs in all 8 of these hypothetical situations. Girls in the intervention group also reported significantly better outcomes in terms of alcohol and drug refusal efficacy. Gottfredson et al. (1994; CNRT -) examined 14 after school programmes. At the end of the year (immediate post-test), participating older students reported significantly fewer intentions to use drugs*, more involvement in constructive activities and fewer drug-using friends compared to non-participants. There was no difference between older participating and non-participating students in terms of delinquent behaviour, rebellious behaviour*,

* Outcomes were significantly difference between intervention and control participants at baseline

hours/week in self-care, social skills*, and positive peer association. The only significant difference between younger students (grades 4-5) who participated in the after-school programme and non-participants was that participants reported significantly fewer hours in self-care. Sutherland et al. (1997; CBA -) found that compared to an earlier cohort, participants reported more positive outcomes on 5 out of 19 measures of individual and friendship group substance use attitudes, 2 out of 6 measure of friendship group quality indicators, self-concept indicators in terms of problems at school and feeling lonely and family life in terms of telling lies. Zane et al (1998) found significant improvements in participants' knowledge of drugs and in their refusal behaviours regarding drugs. There was no change in participants' scores on the Personal Risk Behaviours scale or on measures of family competence. A significant increase in school based social comfort and in school competence was also reported by Zane et al. (1998; BA -) and parents of participants reported a significant increase in school competence.

In terms of attitude toward drugs, HSS in both evaluations of the Jump Start programme by Harrington and Donohew (1997) reported significantly more positive attitudes at pre-test than LSS. At post-test, these differences were no longer significant in the first evaluation but not the second. There was no difference in perceived risk between LSS and HSS at pre- and post-test in either evaluation. In terms of attitude to education, there was no difference between LSS and HSS at pre- or post-test for participants in the first evaluation of Jump Start. Non-significant differences at pre-test between HSS and LSS in the second evaluation became significant at post-test due to a decrease in positive attitudes towards education in the HSS group.

Cheadle et al (1995; CNRT -) reported that reservation American Indians were significantly less likely to have drug education courses in place than reservation area Whites, but not rural American Indians or White, Hispanic and Asian populations. There was also no difference between reservation American Indians and these populations in terms on the numbers that reported seeing information related to alcohol and the numbers that had participated in programmes related to alcohol use.

Table 5.2.5 Community-based interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes

Lindenberg et al. (2002)	RCT -	Risk and resilience intervention	Health education course	3 mths	↔ Substance-related knowledge, attitudes or intentions ↔ Self-efficacy ↔ Resilience
Schinke et al. (2004a)	RCT +	CD-ROM + parent intervention	No intervention	PT	↑ Family involvement ↓ Peer influence
				1 yr	↑ Family involvement ↓ Peer influence
				2 yrs	↑ Family involvement ↓ Peer influence
				3 yrs	↑ Family involvement ↓ Peer influence
		CD-ROM	No intervention	PT	↔ Family involvement ↓ Peer influence
				1 yr	↑ Family involvement ↓ Peer influence
				2 yrs	↔ Family involvement ↓ Peer influence
				3 yrs	↑ Family involvement ↓ Peer influence
		CD-ROM + parent intervention	CD-ROM	PT	↔ Family involvement ↔ Peer influence
				1 yr	↔ Family involvement ↔ Peer influence
				2 yrs	↔ Family involvement ↓ Peer influence
				3 yrs	↑ Family involvement ↔ Peer influence
Schinke et al. (2004b)	RCT-	Computer based/Role play with peers	No intervention	PT	↓ Regarding people who use drugs as cool ↑ Advantages of changing the subject to avoid trouble ↑ Inadvisability of insulting someone to calm oneself ↑ Advantages of suggesting alternative to avoid trouble ↑ Ability to stay cool when angry ↑ Appropriate ways to put someone off to avoid trouble ↔ Intent to use alcohol, cigarettes or drugs ↔ Attitudes to alcohol and drugs ↔ Walking away avoids trouble ↔ Picturing future will avoid trouble ↔ Better decisions if I think ahead ↔ Consider options when pressured or deciding
		Role play with peers	Computer based	PT	↑ Ability to say no to drugs offers
Belgrave et al. (2004)	CNRT-	Sisters of Nia programme	Usual Boys & Girls club activities	PT	↓ Use alcohol in 4 out of 8 situations ↓ Use drugs in all 8 situations ↑ Alcohol refusal efficacy ↑ Drug refusal efficacy
Cheadle et al. (1995)	CNRT -	Community activities on a Native American reservation	5 control communities (non-Native American)	4 yrs	↔ Drug education courses in place ↔ Seen information related to alcohol use ↔ Participated in programmes related to alcohol use
Gottfredson et al. (2004)	CNRT -	After school programmes: Middle school students	Non-participants	1 yr	↔ Delinquent behavior ↔ Rebellious behavior ↔ Intentions not to use drugs ↓ Hours/week in self care ↔ Involvement in constructive activities ↔ Social skills ↔ Positive peer associations ↔ Peer drug models

		After school programmes: High school students	Non-participants	1 yr	↔ Delinquent behavior ↔ Rebellious behavior ↓ Intentions not to use drugs ↔ Hours/week in self care ↑ Involvement in constructive activities ↔ Social skills ↔ Positive peer associations ↓ Peer drug models
Schinke et al. (1994)	CNRT -	Interactive puppet show	No intervention	PT	↑ Not drink in junior high school ↓ "Drug use in high school ok"
Sutherland et al. (1997)	CBA-	Coalition of 6 churches: 1994 cohort	Coalition of 6 churches: 1991 cohort	PT	↑ Self concept ↑ Avoiding bad situations ↑ Did not need to get high with friends, ↑ Drugs might help overcome boredom ↓ Regular drug abusers had difficulty keeping friends ↑ Counting on friends when faced with a serious problem ↓ Imitate friend's behaviour ↓ Problems at school ↓ Feeling lonely
Harrington and Donohew (1997)	BA -	Jump Start programme	None	PT	JS 1 (HSS vs. LSS) ↔ Attitude toward drugs ↔ Perceived risk ↔ Attitude to education JS 2 (HSS vs. LSS) ↓ Positive attitude towards drugs ↔ Perceived risk ↓ Attitude to education
Zane et al. (1998)	BA-	Competence Through Transitions	None	PT	↑ Drug and HIV knowledge ↑ Refusal behaviours to drugs and peer pressure ↑ School-based social comfort ↑ School competence ↔ Family competence ↔ Personal Risk Behaviour scale scores

Evidence Statement 30

There is insufficient and inconsistent evidence to determine whether community-based interventions have effects on risk and protective factors related to substance use in minority populations.

30.1 There is evidence from one RCT – to suggest that substance use prevention messages delivered by role play or by a computer programme produce some positive effects on attitudes to substance use, but not intentions, immediately following intervention, in populations of mixed ethnicity compared to no intervention. There is evidence to suggest that role-play interventions may have more impact on refusal skills than a computer-delivered intervention (Schinke et al., 2004b). Applicability Rating C.

30.2 There is evidence from one RCT – to suggest that a risk and resilience interventions targeting Hispanic females are not effective in increasing substance-

related knowledge, attitudes and intentions or self-efficacy and resilience (Lindenberg et al., 2002). Applicability Rating D.

30.3 There is evidence from one RCT + to suggest that a CD-ROM intervention with the addition of parenting workshops is more than the CD-ROM intervention alone or no intervention in improving long-term family involvement. There is evidence that the CD-ROM intervention with and without parent workshops is more effective than no intervention in improving peer influence (Schinke et al., 2004a). Applicability Rating C.

30.4 There is evidence from one CNRT – to suggest that after school programmes delivered to populations of mixed ethnicities have few positive effects on risk factors related to substance in the medium term (Gottfredson et al., 2004). Applicability Rating C.

5.2.3 Family-based interventions

Primary studies

Of the 9 studies that examined family-based interventions, 7 studies (Spoth et al., 2003; Houge et al., 2002; Brody et al., 2004; Brody et al., 2005; Aktan et al., 1996; Emshoff et al., 1996; Bruce & Emshoff, 1992) targeted African American families and 1 study each targeted Hispanic families (Prado, 2005) and mainly Mexican American families (14% of the sample were African American, 5% were Native American and 2% were White) (Crunkilton et al., 2005).

Five RCTs were sufficiently well reported to be rated +, however details were lacking regarding the methods of randomisation. Spoth et al. (2003; RCT +) examined a modified, culturally-sensitive version of the Strengthening Families programme, which was designed to improve parenting practices and strengthen family relationships. Participants receiving the programme were compared to families on a wait list. Two studies by Brody et al. (2004; 2005; both RCT +) examined the Strong African American Families programme which targeted enhancement of family protective processes and included separate parent and child skill building curricula and a family curriculum. The two studies reported on the same population. Hogue et al. (2002; RCT +) examined the Multidimensional Family Prevention programme, an indicated, family-based prevention intervention for at-risk African American adolescents. The intervention was home-based and included 15-25 sessions of

counselling on an individual basis over 4 months. Prado (2005; RCT +) examined three interventions for adolescents of Hispanic origin. The main intervention examined was Familias Unidas, a family intervention designed to improve family functioning and increase parental monitoring, combined with PATH, which targeted individual risk and protective factors for STI/HIV. The two other interventions examined were ESOL (English for Speakers of Other Languages) combined with PATH and ESOL combined with HEART-H, a cardiovascular disease preventive intervention for Hispanics.

Aktan et al (1996) used a controlled non-randomised design, comparing families who reported “high” substance use to those reporting “low” substance use. The study methodology was poorly reported and the study was rated -. Aktan et al. (1996; CBA -) examined a family therapy intervention, the Safe Haven Project. The intervention included parent training, child skill training and family skills training delivered by substance abuse counsellors. The sample included substance-using parents.

The three remaining studies all used before and after designs without controls and were rated -. Emshoff et al. (1996; BA -) evaluated the SUPER STARS health promotion programme for families (children attended with parents or adult surrogate). The intervention consisted of seven core sessions over 2 weeks and two booster sessions delivered 1 and 3 months after. Bruce & Emshoff (1992; BA -) examined the SUPER II early intervention programme, which included youth and parent sessions focused on good communication and substance knowledge. Finally, Crunkilton et al. (2005; BA -) examined a culturally-specific intervention for families with children at risk for substance youth. The intervention included family camps lasting 2-4 days and family support groups every 3-4 weeks.

5.2.3.1 Primary outcomes

Based on survival analysis, Prado (2005; RCT +) estimated that the number of abstainers at 1-year were similar across the three interventions examined; 84% Familias Unidas + PATH, 72% ESOL + PATH, and 72% ESOL + HEART-H. At 2-years the number of abstainers was also similar across groups; Familias Unidas + PATH 77%, 66% ESOL + PATH and 62% ESOL + HEART-H. Prado (2005) also estimated the relative risk of substance abuse initiation across the three groups using the ESOL + HEART-H group as the reference group: Familias Unidas + PATH: 0.83 (95% CI: 0.44 - 1.55); PATH + ESOL: 1.15 (95% CI: 0.65 - 2.04). Neither comparison

was significant, indicating that there was no difference in the number of participants who had initiated substance use across the 3 groups.

Aktan et al. (1996; CBA -) divided the African American families participating in the Safe Haven intervention programme into high and low drug use groups based on adults' drug use within the family. Both groups reported a significant reduction in drug use both in the family [Mean (SD) family illegal drug use: low 1.44 (0.32); high 1.77 (0.54)] and by the parents themselves [Mean (SD) parent's own drug use: low 1.735 (0.428); high 2.303 (0.840)] at post-test.

Participants in the SUPER II programme, evaluated by Bruce and Emshoff (1992), reported significant decreases in their frequency of use, amount of use and the physical effects of use between baseline and the end of the programme 2-3 weeks later.

Table 5.2.6 Family-based interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Prado (2005)	RCT+	Familias Unidas + PATH	1) ESOL + PATH; 2) ESOL + HEART-H	1yr	⇔ Abstinence from substance use ⇔ Imitation of substance use
Aktan et al. (1996)	CBA -	Safe Haven Project: High drug use families	Safe Haven Project: Low drug use families	PT	Both groups: ↓ Drug use in the family ↓ Parental drug use
Bruce & Emshoff (1992)	BA-	SUPER II early intervention	None	PT	↓ Substance use frequency ↓ Amount of substance used ↓ Physical effects of use
ESOL – English for Speakers of Other Languages					

Evidence Statement 31

There is inconsistent evidence from one RCT +, one CBA – and one BA – about the effectiveness of family-based interventions in changing substance use behaviours in populations of mixed ethnicities:

31.1 There is evidence from one RCT + to suggest that family-based interventions targeting Hispanic populations are no more effective than programmes targeting other health behaviours in reducing abstinence from or initiation of substance use in the long term (Prado, 2005). Applicability Rating D.

31.2 There is evidence from two BA studies (1 CBA - and 1 BA -) to suggest that family-based interventions can have positive impacts on substance use in the immediate term (Prado, 2005; Aktan et al., 1996; Bruce and Emshoff, 1992).

Applicability Rating C.

5.2.3.2 Secondary outcomes

Prado (2005; RCT +) estimated the relative risk of sexual initiation across the three groups using the ESOL + HEART-H group as the reference group: Familias Unidas + PATH: 1.4 (95% CI: 0.7-2.8); PATH + ESOL: 1.37 (95% CI: 0.69-2.73). Neither comparison was significant indicating that there was no difference in the number of participants who had had sex across the 3 groups.

Houge et al. (2002; RCT +) found that young African Americans who received Multidimensional Family Therapy showed significantly greater improvements in self concept and bonding to school, and decreased antisocial behaviours by peers, compared to controls at immediate post-test. In addition, the intervention had a marginal effect on family cohesion ($p<0.10$). There were no differences between the intervention group and control group on drug use attitudes, parental monitoring, school grades, school antisocial behaviour and prosocial activities.

The two studies by Brody et al. (Brody et al., 2004; 2005; both RCT +) reported on the same population. Families and young people who received the Strong African American Families (SAAF) programme reported significantly greater changes from pre to post test in regulated communication parenting ($p<0.01$) and in youth protective factors ($p<0.05$), compared to controls. In addition, parents in the intervention group families reported greater changes in intervention-targeted parenting than parents in the control group ($p<0.01$). Results indicated that exposure to the SAAF programme caused the changes in the intervention group to be greater than those in the control group. Further analyses found that the SAAF intervention was indirectly linked to changes from baseline to follow up in responsive-supportive parent-child relationships and youth self-control, through their associations with changes in intervention-targeted parenting behaviours. Intervention-induced changes in parenting practices that included high levels of involved-vigilant parenting, racial socialisation, communication about sex, and clear expectations for alcohol use were linked with positive changes in responsive-supportive parent-child relationships and youth self-control across the 7 months of the programme.

Compared to wait list controls at 4- and 8-weeks follow-up, Spoth et al. (2003; RCT +) found that participants who received the Strengthening Families programme

reported significant increases in child participation in family meetings and a greater improvement in intervention targeted child behaviours. However, there were no intervention effects on the following outcomes at either follow-up: intervention-targeted parent behaviours, number of family meetings in past month, parent-child affective quality, or alcohol-related peer resistance.

Aktan et al. (1996; CBA -) found that parents in the high drug use groups reported significant decreases in their depression and an increase in their perceived efficacy as parents from pre- to post-test. Across the total sample, parents reported significant decreases in children's externalising problem behaviours in terms of aggression and hyperactivity and decreases in internalising behaviours in terms of the composite internalising scale, schizoid scores, depression, uncommunicativeness and obsessive/compulsive behaviour. These change were attributed mainly to changes in the high drug use families. Across the total sample, children were reported by their parents to have significant increases in school bonding, time spent on homework and levels of parent-child activities. In addition, children in families with low drug use reported significant reductions in school problems. In terms of the family environment, families reported an increase in family cohesion between pre- and post-test.

Bruce and Emshoff (1992; BA -) found that youth who participated in the SUPER II programme increased their knowledge of licit and illicit drugs, and their knowledge of good communication between the beginning and end of the programme. However, they also reported a significantly lower degree of peer pressure resistance. Parents demonstrated significant increases in knowledge of good communication, drug knowledge, family functioning, and positive esteem of youth. Non-significant findings were not reported. Emshoff et al. (1996; BA -) reported that youth participants in the SUPER STARS programme had significant increases in how well they like themselves, how much they liked the way they looked and how well they felt. There were also significant increases in positive feelings in family, pride in family history, and the importance of learning about African culture as well as their ability to choose to fight or not. Parents reported significant increases in self rated conflict resolution, family cohesion, family communication, parental behaviour, racial pride, positive feelings about the contribution of extended family members, pride in family history, importance of learning about family history, belief that they were part of an ideal family, appropriate ways to deal with stress management, and better feeling if decided not to use alcohol to relax.

Crunkilton et al. (2005; BA -) found that there was no difference in pre- and post-test mean scores on the FACES III measures of family functioning for cohesion, adaptability or family type. The overall average percentage of correct responses to drug knowledge questions increased on 16 out of 20 questions. Overall average percentage of correct responses was 58.8 (n=49) at pre-test and 68.2 (n=32) at post-test, reflecting a 9.4 average point improvement of scores.

Table 5.2.7 Family-based interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Prado (2005)	RCT+	Familias Unidas + PATH	1) ESOL + PATH; 2) ESOL + HEART-H	1 yr	↔ Sexual initiation
Spoth et al. (2003)	RCT+	Strengthening Families (modified)	Wait list controls	4 wks	↑ Child participation in family meetings ↑ Intervention targeted child behaviours ↔ Intervention-targeted parent behaviours ↔ Number of family meetings ↔ Parent-child affective quality ↔ Alcohol-related peer resistance
				8 wks	↑ Child participation in family meetings ↑ Intervention targeted child behaviours ↔ Intervention-targeted parent behaviours ↔ Number of family meetings ↔ Parent-child affective quality ↔ Alcohol-related peer resistance
Houge et al. (2002)	RCT+	Multidimensional Family Prevention programme	No intervention	PT	↑ Bonding to school ↓ Antisocial peer behaviour ↑ Self-concept ↔ Family cohesion ($p<0.10$) ↔ Drug use attitudes ↔ Parental monitoring ↔ School grades ↔ School antisocial behaviour ↔ Prosocial activities
Brody et al. (2004; 2005)	RCT+	Strong African American Families programme	No intervention	PT	↑ Regulated communication parenting ↑ Intervention-targeted parenting
Aktan et al. (1996)	CBA -	Safe Haven Project: Total sample	None	PT	Children: ↓ Aggression ↓ Hyperactivity ↓ Score on composite internalising scale ↓ Schizoid scores ↓ Depression ↓ Un-communicativeness ↓ Obsessive/ compulsive behaviour ↓ School problems ↑ School bonding ↑ Time spent on homework ↑ Parent-child activities ↔ Corporal punishment ↑ Family cohesion ↔ Family conflict ↔ Family relationships ↔ Family organisation

		Safe Haven Project: High drug use families	None	PT	Parents: ↓ Depression ↑ Perceived efficacy as parents Children: ↓ CBCL externalising/internalising behaviours ↑ School bonding ↔ Time on homework ↔ Corporal punishment ↑ Parent child activity ↔ Family cohesion ↔ Family conflict ↔ Family relationships ↔ Family organisation
		Safe Haven Project: Low drug use families	None	PT	Parents: ↔ Efficacy ↔ Depression ↓ Drug use ↓ Family illegal drug use Children: ↔ CBCL externalising/internalising behaviours ↓ School problems ↑ School bonding ↔ Time on homework ↔ Corporal punishment ↔ Parent child activity ↔ Family cohesion ↓ Family conflict ↔ Family relationships ↔ Family organisation
Emshoff et al. (1996)	BA-	SUPER STARS health promotion	None	PT	↑ Positive feelings toward family ↑ Pride in family history ↑ Ability to choose to fight or not ↑ How well they liked themselves ↑ How much they liked the way they looked ↑ How well they felt
Bruce & Emshoff (1992)	BA-	SUPER II early intervention	None	PT	Children: ↑ Knowledge of licit/illicit drug use ↑ Knowledge of good communication ↓ Peer pressure resistance Parents: ↑ Knowledge of good communication ↑ Drug knowledge Parents: ↑ Family functioning ↑ Positive esteem of youth
Crunkilton et al. (2005)	BA-	Culturally-specific intervention	None	PT	↔ Family cohesion, adaptability, type

Evidence Statement 32

There is evidence from three RCT + to suggest that family based interventions can positively impact on some secondary outcomes, including child participation in family meetings, bonding to school, and regulated communication parenting, but not others (number of family meetings and parental monitoring) in predominantly African American families in the immediate short term (Aktan et al., 1996; Brody et al., 2004; 2005; Bruce and Emshoff, 1992; Emshoff et al., 1996; Houge et al., 2002; Spoth et al., 2003). Applicability Rating C.

5.2.4 Multicomponent programmes

Primary studies

Five studies examined multicomponent interventions; three studies (Cherry et al., 1998; Chipungu et al., 2000; Harvey & Hill, 2004) targeted African American youth and two studies (Godley & Velasquez, 1998; Stevenson et al., 1998) targeted Latino youth.

Cherry et al. (1998; CNRT -) assessed the effects of the NTU project, which overall included seven components. The main features of the project were a rites of passage programme, drug education, an Afrocentric education course, a parenting programme and home family therapy.

Godley & Velasquez (1998; CBA +) examined the Logan Square Prevention project, a consortium of seven community agencies (churches, police department, Boys and Girl clubs, youth services, school counselling services, a drug treatment agency). The aim of the project was to provide a comprehensive array of school- and community-based prevention services. The authors used a controlled before and after design, comparing cohorts in cycles across the five year intervention.

The remaining three studies (Harvey & Hill, 2004; Chipungu et al., 2000; Stevenson et al., 1998) were before and after studies without controls and were rated -. The programme examined by Harvey and Hill (2004; BA -) used an Afrocentric approach. The programme consisted of youth and family components; the youth component involved after-school activities and the family component involved family enhancement and empowerment activities. Chipungu et al. (2000; BA -) examined 12 programmes funded by the CSAP, which targeted young African Americans. The programmes examined used a mix of educational, risk and protection and diversionary activities approaches. In addition, 10 of the programmes had an explicit cultural focus to their programme content and two programmes used Africentric topics and themes. Stevenson et al. (1998; BA -) examined Project HOPE, which targeted recent young Latino immigrants to the US. The intervention had youth components that included school-based prevention and education, peer leadership and counselling, and parenting skills workshops.

5.2.4.1 Primary outcomes

Godley & Velasquez (1998; CBA +) found a non-significant reduction in past year substance use at post-test, although seventh and eighth graders reported significantly higher substance use in the previous year than fifth and sixth graders.

Stevenson (1998) found that participants in Project HOPE did not significantly change their alcohol or cannabis use between pre- and post-test (alcohol use in previous 30 days: pre 0.186; post 0.105 / cannabis use in past 30 days: pre 0.012; post 0.000).

Table 5.2.8 Multicomponent interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Godley & Velasquez (1998)	CBA +	Logan Square Prevention Project	No intervention	PT	⇔ Past year substance use
Stevenson et al. (1998)	BA-	Project HOPE	None	PT	⇔ Alcohol use ⇔ Cannabis use

Evidence Statement 33

There is insufficient evidence to determine whether multicomponent programmes targeting young minority populations are effective in reducing substance use.

33.1 There is evidence from two BA studies (1 CBA + and 1 BA -) to suggest that multicomponent programmes may not reduce substance use immediately following intervention (Godley and Velasquez, 1998; Stevenson et al., 1998). Applicability Rating C.

5.2.4.2 Secondary outcomes

Cherry et al. (1998; CNRT +) found that fifth grade participants in the NTU project reported marginally higher levels of self-esteem on the happiness subscale of the Pier-Harris Self-concept scale, than control students ($p<0.08$). In terms of school behaviours, intervention participants reported significantly greater rule compliance ($p<0.003$) and school interest ($p<0.003$). In addition, teachers rated fifth grade intervention students as having more strengths than students in the control group ($p<0.03$). Sixth graders in the intervention group reported significantly higher school interest than control students ($p<0.007$) and teachers rated sixth grade intervention students as having significantly fewer problems than control students ($p<0.004$). There were no intervention effects on the following measures: Child Rating Scale in

terms of anxiety and peer social skills; attitudes towards drugs; drug knowledge; family relationships and communication; perceived drug harmfulness; problem solving; and self-esteem subscales - popularity, anxiety, behaviour, intellectual and school status, physical appearance and attributes.

Godley & Velasquez (1998; CBA +) reported positive secondary outcome data for the post-test cohort in that they were significantly less likely to be involved in 'gangs' at the end of the intervention relative to the pre-test cohort. They was also a tendency for the post-test cohort to report feeling less close to gangs, but the finding did not reach significance. The intervention had no clear effect on GPA, with one school reporting more improvements in the post-test cohort and another school reporting less, relative to the pre-test cohort.

Of the three BA – studies, Harvey and Hill (2004; BA -) found that young African Americans who participated in a multicomponent Africentric programme had significantly higher self-esteem and drug knowledge at immediate post-test. However the intervention had no effect on academic orientation or parent outcomes (parenting skills, community involvement, attendance at Parent-Teacher Association meetings and parental advocacy). Stevenson et al. (1998; BA -) found that eighth grade participants experienced a significant positive change in meaninglessness of life between pre- and post-test. No significant changes were found in relation to perceived risks associated with alcohol and other drug use, peer disapproval of alcohol and other drug use, expectations for school and career success, self report grades or cultural practices. Finally, Chipungu et al. (2000; BA -) reported that African American youth were more satisfied with African American-specific intervention than African American's in non-African American programmes.

Table 5.2.9 Multicomponent interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes

Cherry et al. (1998)	CNRT+	NTU project	No intervention	NR	↓ Teacher-rated problem behaviours Fifth graders: ↑ Self esteem ↑ Compliance and school interest Sixth graders: ↑ School interest All students: ↔Anxiety ↔ Peer social skills ↔ Attitudes towards drugs ↔ Drug knowledge ↔ Family relationships and communication ↔ Perceived drug harmfulness ↔ Problem solving ↔ Self-esteem subscales - popularity, anxiety, behaviour, intellectual and school status, physical appearance and attributes.
Godley & Velasquez (1998)	CBA +	Logan Square Prevention Project	No intervention	PT	↓ Likely to be involved in gangs ↔ Feeling of closeness to gangs ↔ GPA
Chipungu et al. (2000)	BA-	12 CSAP-funded programmes	None	PT	↑ Satisfaction in culturally-specific intervention vs. non-specific
Harvey & Hill (2004)	BA-	Africentric programme	None	PT	↑ Drug knowledge ↑ Self-esteem ↔ Academic orientation ↔ Parenting skills ↔ Parental community involvement ↔ Attend PTA ↔ Parental advocacy
Stevenson et al. (1998)	BA-	Project HOPE	None	PT	↓ Meaninglessness of life ↔ Perceived risks associated with ATOD use ↔ Peer disapproval of ATOD use ↔ Expectations for school and career success ↔ Self report grades

Evidence Statement 34

There is inconsistent evidence from one CNRT + and four BA studies (1 CBA + and 3 BA –) to determine whether multicomponent interventions are effective in reducing risk factors related to substance use:

34.1 There is evidence from one CNRT + to suggest that multicomponent interventions targeting populations of young African Americans may be no more effective than no intervention in improving substance-related knowledge and attitudes, family functioning and self-esteem (Cherry et al., 1998). Applicability Rating C.

5.2.5 Other interventions

5.2.5.1 Overview of evidence identified

Systematic reviews

Yuen (2004) examined the effectiveness of culturally tailored interventions. This review was well reported and received a classification of ++. Bledsoe (2002) undertook a meta-analysis of 225 BME prevention studies was classified as +.

Yuen (2004) reviewed 87 culturally tailored programmes that targeted minority youth. Bledsoe (2002) reviewed 36 studies of prevention programmes for “adolescents of colour”.

Primary studies

Four studies (Campbell et al., 2002; Fishbein et al., 2006; Rhodes et al., 2005; Royse, 1998) examined interventions that not fit within the other categories. All four studies used an RCT design; three (Campbell et al., 2002; Fishbein et al., 2006; Rhodes et al., 2005) received a + rating and one (Royse, 1998) received a – rating because very few methodological details were reported.

Campbell et al (2002; RCT +) evaluated the Abecedarian Project. In early childhood, full childcare was provided involving educational games emphasising the development of skills in cognition, language and adaptive behaviour. As children aged, the educational content became more conceptual and skill based, and the curriculum was more group oriented. Families treated in the second school-age phase were assigned a home-school resource teacher. An individualised curriculum was devised for each child based on needs identified by the classroom teacher. Activities were delivered to the home every other week where parents were encouraged to use them at least 15 minutes each day with children. Based on the 48-month cognitive test score when children were aged 4 years, pairs of children were matched within the preschool treatment and control groups, and then randomly assigned to school-age treatment and control groups. This created four treatment conditions; those with pre-school intervention alone; those with school-age treatment alone; and those who were untreated in both phases.

Two studies (Rhodes et al., 2005; Royse, 1998; both RCT -) examined the effects of mentoring interventions. Rhodes et al. (2005; RCT -) matched young people, the majority of who were from minority groups, with adult volunteers. The intervention

was compared to control youth placed on a wait list for the intervention. Royse (1998) examined a mentoring programme for African American adolescents who were selected for the programme based on low grades and low household income.

The objective of the study by Fishbein et al. (2006; RCT +) was to determine whether individual variation in neurobiological mechanisms associated with substance abuse risk moderated the effects of a brief preventive intervention on social competency skills. Curriculum materials were selected from the PACT (Positive Adolescent Choices Training) prevention programme.

5.2.5.2 Primary outcomes

Yuen (2004; SR ++) found that programmes incorporating more cultural values had lower positive effects. The author commented that it appears that the more an intervention is culturally tailored the less positive its effect. Culturally tailored interventions were found to be mild to moderately effective in promoting skills and competencies, school functioning, physical health, and family relationships. These types of interventions were also "modestly" effective in reducing a variety of internalising/externalising problems and drug use.

Overall, Bledsoe (2002; SR +) found that programmes using refusal skills training as a strategy were more effective than those than did not, and had a larger effect on behavioural outcomes. This effect was found to be strongest in programmes that served primarily Latino participants. Programmes that used affective strategies were found to be the least effective. In terms of cultural tailoring, Bledsoe (2002) found no difference in effectiveness between programmes with and without a cultural component.

Table 5.2.10 Multisite interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Yuen (2004)	SR++	Culturally-tailored interventions	Non-culturally tailored interventions	N/A	Programmes incorporating ↑ cultural values had ↓ effects Modestly effective in ↓ drug use Mild → moderately effective in promoting skills and competencies, school functioning, physical health and family relationships. Modestly effective in ↓ internalising/externalising problems
Bledsoe (2002)	SR+	Refusal skills training	No refusal skills training	N/A	↑ Effective
		Affective strategies	No affective strategies	N/A	↓ Effective
		Cultural components	No cultural components	N/A	↔ Effectiveness

Evidence Statement 35.1

There is evidence from one SR ++ and one SR + to suggest that interventions incorporating cultural values are no more effective in reducing substance misuse than interventions that do not (Bledsoe 2002; Yuen 2004). Applicability Rating B.

Evidence Statement 35.2

There is also evidence from one SR + that drug prevention programmes targeting populations of mixed ethnicities which incorporate refusal skills training are more effective in reducing substance misuse than programmes that do not (Bledsoe 2002). Applicability Rating B.

In the longitudinal evaluation of the Abecedarian Project, at age 21 (children were first assessed at age 8), there were significantly fewer reports of cannabis smoking in the pre-school treatment group compared to control (Campbell et al., 2002; RCT +). No significant differences were reported in the number of participants reporting the following: lifetime use of cocaine or other drugs; being a regular smoker; drinking alcohol in the previous month; or binge drinking in the previous month. The authors argued that when the sample was split into the four study groups the power of findings was reduced, which may partly explain these results.

Table 5.2.11 Early intervention: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Campbell et al. (2002)	RCT+	Early intervention, Abecedarian Project 1) Pre-school + school-age 2) Pre-school only	No intervention and school-age only	13 yrs	↓ Cannabis smoking in past 30 days ↔ Lifetime use of cocaine or other drugs ↔ Being a regular smoker ↔ Drinking alcohol in past 30 days ↔ Binge drinking in past 30 days

Evidence Statement 36

There is evidence from 1 RCT + to suggest that specialised, early educational interventions that include participation in a pre-school curriculum may be effective in reducing in cannabis use in the long-term but not other substance use behaviours, in a predominantly African American population, (Campbell et al., 2002). Applicability Rating C.

Rhodes et al. (2005; RCT -) examined the direct and mediated effects of a mentoring intervention. Participants were followed up at 18 months, and the authors found that being in a mentoring relationship did not significantly predict drug use. However, longer mentoring (>12 months) was significantly associated with decreased drug and alcohol use. Of the participants who received the mentoring intervention and met for 12 months or more, 3.7% reported drug use at 18 months compared to 10.1% of those receiving the mentoring intervention but meeting for less than 12 months and 10.7% of control participants.

Table 5.2.12 Mentoring: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Rhodes et al. (2005)	RCT-	Mentoring	Wait list controls	1.5 yrs	Mentoring >12 months: ↓ Drug and alcohol use

Evidence Statement 37

There is evidence from one RCT – to suggest that mentoring for longer than 12 months may have long term, beneficial impacts on substance use among African American and minority ethnic populations (Rhodes et al., 2005). Applicability Rating C.

5.2.5.3 Secondary outcomes

Bledsoe (2002: SR +) found that interventions which focused on refusal skills training had a greater effect on behavioural outcomes related to substance use compared to programme without refusal skills training.

Table 5.2.13 Multisite interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Bledsoe (2002)	SR +	Refusal skills training	No refusal skills training	N/A	↑ Effect on behavioural outcomes

Evidence Statement 38

There is evidence from one SR + to suggest that interventions including refusal skills training can have a greater effect on behavioural outcomes related to substance use

than interventions not incorporating this approach (Bledsoe, 2002). Applicability Rating B.

Campbell et al. (2002; RCT +) followed up high-risk infants, who were initially enrolled in the Abecedarian Project, as young adults. Individuals treated in preschool completed significantly more years of education by age 21 than did pre-school controls, ($p < 0.05$). Although, there was no significant difference in the percentage employed, young adults with preschool treatment were significantly more likely to be engaged in skilled jobs. The numbers of intervention and control participants who reported carrying a weapon or committing violent behaviour were similar.

Table 5.2.14 Early intervention: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Campbell et al. (2002)	RCT+	Early intervention, Abecedarian Project 1) Pre-school + school-age 2) Pre-school only	No intervention and school-age only	13 yrs	↑ Years of education ⇔ Employed ↑ Engaged in skilled job ⇔ Carrying a weapon ⇔ Violent behaviour

Evidence Statement 39

There is evidence from one RCT + to suggest that specialised, early educational interventions, which include a pre-school curriculum, can positively impact on years of education and engagement in skilled labour in a predominantly African American population in the long term. There is evidence that the intervention may not impact on criminal behaviours (Campbell et al., 2002). Applicability Rating C.

Fishbein et al. (2006; RCT +) found that participants without a diagnosis of conduct disorder responded more favourably to the PACT intervention than participants with a diagnosis of conduct disorder, in terms of aggressive conflict resolution and communication skills.

Table 5.2.15 Brief interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes

Fishbein et al. (2006)	RCT+	PACT prevention programme - Diagnosis of conduct disorder (CD)	PACT prevention programme – No diagnosis of CD	PT	↑ Aggressive conflict resolution ↑ Communication skills

Evidence Statement 40

There is evidence from one RCT + to suggest that a universal intervention can be less effective in improving social skills in a young BME population with a diagnosis of conduct disorder compared to those without the diagnosis (Fishbein et al., 2006). Applicability Rating C

Royse (1998; RCT -) found that there were no significant differences between mentored and non-mentored participants with regards to self esteem, attitudes between drugs and alcohol, grade point average, school absences or disciplinary action between pre- and post-test. At the 40-month follow-up, mentored youth reported significantly less conservative attitudes to drugs and alcohol than controls. Rhodes et al. (2005; RCT-) reported that being matched with a mentor was not significantly related to self-worth or peer relations, and had only a marginal influence on parental relationships at post-test ($p=0.08$). Youth who were matched with their mentors for 12 months or more reported a significant impact of the intervention on parental relationships compared to non-matched participants at post-test ($p<0.05$).

Table 5.2.16 Mentoring: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Rhodes et al. (2005)	RCT-	Mentoring	Wait list control group	1.5 yrs	Any mentoring: ↔ Self-worth ↔ Negative peer relations ↔ Parental relationships Mentoring >12 months: ↑ Parental relationships
Royse (1998)	RCT-	Mentoring	No intervention and un-matched youth	PT	↔ Attitudes towards drug and alcohol ↔ Self-esteem ↔ GPA ↔ School absences or disciplinary action
				3.3 yrs	↓ Conservative attitudes to drugs and alcohol ↔ Self-esteem

Evidence Statement 41.1

There is evidence from two RCT – to suggest that mentoring has no immediate effects on attitudes to substance use, self-esteem, grades or school absences and

no long term effects on self-worth, peer relations or parental relationships (Rhodes et al., 2005; Royse, 1998). Applicability Rating C.

Evidence Statement 41.2

There is evidence from one RCT – to suggest that mentoring for longer than 12 months can produce long term improvements in parental relationships (Rhodes et al., 2005). Applicability Rating C.

Evidence Statement 41.3

There was evidence from one RCT – to suggest that mentoring may reduce conservative attitudes to substance use in the long term (Royse et al., 1998). Applicability Rating C. Applicability Rating C.

5.3 Young people in families with substance using members

Key to Section 5.3	
Section 5.3.1	Multicomponent interventions
Section 5.3.2	Home visitation
Section 5.3.3	Behavioural/skills-based interventions
Section 5.3.4	Other interventions

A total of 17 studies were identified which examined interventions targeted towards or involving young people with a substance using family member (i.e. parent, sibling or carer). Details of the studies identified are shown in Table 5.3.1. The following types of interventions were examined:

- Multicomponent interventions (n=5; 2 RCT +, 1 CNRT -, 2 BA -)
- Home visitation (n=5; 1 SR -, 2 RCT +, 1 RCT -, 1 CBA -)
- Behavioural-/skills-based Interventions (n=4; 2 RCT -, 1 CNRT -; 1 BA -)
- Other (n=3; 1 RCT -, 2 CNRT +)

Table 5.3.1 Studies identified: young people in families with substance using members

Author (Year)	**Study design**	**Outcomes reported**	
		Primary	**Secondary**
Multicomponent			
Catalano et al. (1999)	Randomised controlled trial (individual) +	✓	✓
Catalano (2002)	Randomised controlled trial (individual) +	✓	✓
Whiteside-Mansell (1999)	Controlled non-randomised trial –	✓	✓
Camp & Finkelstein (1997)	Before and after study -		✓
Magura et al (1999)	Before and after study -	✓	
Home visitation			
Bowie (1995)	Systematic review -		✓
Black et al. (1994)	Randomised controlled trial (individual) +	✓	
Olds et al. (1998)	Randomised controlled trial (individual) +	✓	
Nair et al. (2003)	Randomised controlled trial (individual) -		✓
Grant et al (2005)	Controlled before and after study -	✓	
Behavioural/skills training			
Short et al (1995)	Randomised controlled trial (individual) -		✓
Horn (1998)	Randomised controlled trial (individual) -		✓
Gross & McCaul (1992)	Controlled non-randomised trial -	✓	
Springer et al (1992)	Before and after study -		✓
Other			

Nye et al. (1995)	Randomised controlled trial (individual) -		✓
Field et al (1998)	Controlled non-randomised trial +	✓	✓
Sarvela & Ford (1993)	Controlled non-randomised trial +	✓	

5.3.1 Multicomponent interventions

5.3.1.1 Overview of evidence identified

Systematic reviews

Ten studies were identified for inclusion. Of these, 3 studies fitted in with the definition of multicomponent programmes adopted for this review.

Primary studies

Three studies (Catalano et al., 1999; Catalano et al., 2002; Camp and Finkelstein, 1997) examined the addition of parenting interventions for parents involved in substance abuse treatment programmes. The two RCTs by Catalano et al. (1999; 2002; both RCT +) examined the Focus on Families Project, which involved methadone treatment supplemented with family training and home-based case management. Both studies reported on the same sample and were rated RCT +. Although the study was fairly well reported in both publications, details were lacking regarding the method used to randomise participants to groups, whether outcomes were blindly assessed and also whether an ITT analysis had been undertaken. Camp and Finkelstein (1997; BA -) examined the impact of implementing a parenting component within a treatment programme for pregnant and parenting women but without a control group for comparison.

Whiteside-Mansell (1999; CNRT -) also used controlled, non-randomised designs, utilising a group of women who refused participation as the control group. However, details about the methodology were not well reported and the study was rated -. The study examined the AR-CARES programme, which provided substance abuse and prevention services to pregnant and parenting women and their children and included assistance in locating childcare, alcohol and drug use assessment, mental health assessment and referral, life skills assessment and group and/or individual counselling. The remaining study by Magura et al. (1999; BA -) examined a Family Rehabilitation Programme that provided a variety of services to parental drug users including home visits, parenting groups, counselling, substance abuse treatment and case management and did not include a control group for comparison.

5.3.1.2 Primary outcomes

Short and medium term (> 1 month ≤ 6 months; > 6 months ≤ 1 year)

Catalano et al. (1999; 2002) found that at 6-months and 12-months follow-up, although children in the group reported lower rates of substance use than control participants in terms of alcohol, cigarette and cannabis use, however the difference was not significant.

Long term (>12 months)

At 24-months follow-up, there was no difference between the children of parents who received the Focus on Families intervention (Catalano et al., 1999) or children in the control group in terms of their substance use (cannabis use in previous month: 7% intervention children vs. 16% control children; alcohol use in previous month: 33% intervention children vs. 42% control children; cigarette use in previous month: 26% intervention children vs. 33% control children).

Table 5.3.2 Multicomponent interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Catalano et al. (1999; 2002)	RCT+	Focus on Families Project	Methadone treatment only	6 mths	⇔ Cannabis, cigarette, alcohol use
				1 yr	⇔ Cannabis, cigarette, alcohol use
				2 yrs	⇔ Cannabis, cigarette, alcohol use

Evidence Statement 42

There is evidence from two RCT + to suggest that multicomponent interventions targeting parental drug use and parenting practices in combination with drug treatment have no effect on children's drug use in the short, medium or long term compared to treatment only (Catalano et al., 1999; Catalano et al., 2002). Applicability Rating B.

5.3.1.3 Secondary outcomes

a) Young people outcomes

There were few positive effects of the Focus on Families intervention in terms of child behavioural outcomes (Catalano et al., 1999; 2002; both RCT +). There was no difference between children in the intervention and control groups on any of the family factors (rules, parental recognition or bonding) at any follow-up. Control children reported significantly better prosocial involvement with parents at 6 months but this effect was not apparent at 12 months (outcome only reported in Catalano et al., 1999; RCT +). There was no difference between intervention and control children

on measures of delinquency (delinquency scale, stole in last 6 months, picked fights in last 6 months), school attachment, grades, or peer relationships at any follow-up (6-, 12- or 24-months).

Table 5.3.3 Multicomponent interventions: young people secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Catalano et al. (1999; 2002)	RCT+	Focus on Families Project	Methadone treatment only	6 mths	↓ Prosocial involvement with parents ↔ Delinquency ↔ Negative peer networks ↔ Family factors ↔ School factors
				1 yr	↔ Delinquency ↔ Negative peer networks ↔ Family factors ↔ School factors
				2 yrs	↔ Problem behaviours ↔ Negative peer networks ↔ Family factors ↔ School factors

Evidence Statement 43

There is evidence from two RCT + to suggest that multicomponent interventions targeting parental drug use and parenting practices in combination with drug treatment have no effects on children's behavioural outcomes or school and family factors in short, medium or long term compared to treatment only (Catalano et al., 1999; Catalano et al., 2002). Applicability Rating B.

b) Parental outcomes

In terms of parental drug use, Catalano et al. (1999; 2002; both RCT +) found that intervention parents reported significantly less heroin use at 12-months follow-up, but not cannabis or cocaine use, compared to controls. However, there was no difference in parental substance use at 24-month follow-up. Intervention parents reported significantly better problem-solving skills (in overtly drug-related role-play situations) than control participants at 12-months follow-up and significantly better problem-solving skills in both drug-related and general situations at 24-months follow-up. At 12-months, intervention parents reported that more rules had been defined in their household compared to control parents, and they reported less domestic conflict. However, there was no difference in measures of family bonding or conflict, or the number of family meetings at any follow-up (6-, 12- or 24-months).

Pregnant women who participated in the intervention examined by Whiteside-Mansell (1999; CNRT -) showed a more significant reduction in other drug use between study

intake and the delivery of their child than non-participating women [intervention 66/72 (91.7%) → 3/72 (3.7%) vs. control 22/23 (95.7%) → 8/23 (33.3%); p=0.02]. Participating women also reported significantly less alcohol use at delivery [intervention 60/72 (83.6%) → 3/72 (4.0%) vs. control 21/23 (90.5%) → 8/23 (33.3%); p=0.02].

Two before and after studies also reported parent outcomes. Magura et al. (1999; BA -) found that parents completing or still active in the family rehabilitation programme had significantly lower cocaine use (as measured by hair analysis) than those leaving the programme earlier or transferring to other interventions. At follow-up, participants reported significantly less use in the past 30 days of alcohol, cocaine/crack, heroin/opiates and cannabis. Parents also reported improvements from admission on 5 composite scores on the Addiction Severity Index (drug, legal, employment and family/social), however there was no change on the psychiatric composite. The intervention had little effect on stress but reported significantly less psychological distress at follow-up. Mothers participating in the programme examined by Camp and Finkelstein (1997; BA -) reported higher levels of self-esteem nine months after intervention and demonstrated an improvement in parent styles based on improved scores on the Adult-Adolescent Parenting Inventory (AAPI); participants at site A showed improvement in all four domains measured (inappropriate expectations, lack of empathy, corporal punishment and role reversal) and participants at site B showed improvement in two domains (lack of empathy and role reversal).

Table 5.3.4 Multicomponent interventions: parental outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Catalano et al. (1999; 2002)	RCT+	Focus on Families Project	Methadone treatment only	1 yr	↓ Heroin use ↔ Cannabis or cocaine use ↑ Problem solving skills (drug-related situations) ↔ Problem solving skills (general situations) ↔ Deviant peers ↔ Number of family meetings ↓ Household rules ↔ Family bonding ↔ Family conflict ↓ Domestic conflict
				2 yrs	↔ Parental substance use ↑ Problem solving skills (drug-related situations) ↑ Problem solving skills (general situations) ↔ Deviant peers ↔ Number of family meetings ↔ Household rules ↔ Family bonding ↔ Family conflict ↔ Domestic conflict

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Whiteside-Mansell et al. (1999)	CNRT -	AR-CARES programme	Women who refused services	6 mths	↓ Other drug use at delivery ↓ Alcohol use at delivery
Magura et al (1999)	BA -	Family Rehabilitation programme	None	1 yr	Parents' substance use in past 30 days: ↓ Cocaine/crack ↓ Alcohol ↓ Heroin/opiate ↓ Cannabis Parents completing the programme or still active ↓ cocaine use ↓ ASI drug, legal, employment and family/social composites ⇔ ASI psychiatric composite ⇔ Stress ↓ Psychological distress
Camp & Finkelstein (1997)	BA -	Parenting programme + drug treatment	None	9 mths	↑ Mothers' self esteem at both sites ↑ AAPI scores for inappropriate expectations (site A only), lack of empathy, corporal punishment (site A only) and role reversal

Evidence Statement 44.1

There is evidence from two RCT + and one CRNT + to suggest that parenting programmes combined with drug treatment can improve parental outcomes in terms of problem-solving, parenting practices and depression although there are few intervention effects on family factors such as bonding and conflict (Catalano et al., 1999; Catalano et al., 2002; Whiteside-Mansell, 1999). Applicability Rating B.

Evidence Statement 44.2

There is evidence from one RCT +, one CNRT – and one BA – which also suggest that parenting programmes may help drug-using parents to stabilise or reduce their own use in the short to medium term (Catalano et al., 1999; Magura et al., 1999; Whiteside-Mansell, 1999). Applicability Rating B.

5.3.2 Home visitation

5.3.2.1 Overview of evidence identified

Systematic reviews

Bowie (2005) reviewed the literature on interventions designed to improve interactions between drug abusing mothers and their drug-exposed infants. Details were reported about how literature was identified and there were fairly clear inclusion criteria. However, other details were lacking about the review methodology such as how the quality of the included studies was assessed so the review was rated -. The review identified seven studies addressing home visitation studies. Bowie (2005; SR -) reported that the studies identified showed mixed results but that the overriding

factor in determining success of the programmes appeared to be parental abstinence.

Primary studies

Three RCTs (Olds et al., 1998; RCT +; Black et al., 1994; RCT +; Nair et al., 2003; RCT -) and one controlled before and after study (Grant et al., 2005; CBA -) were identified that examined home visitation interventions. Of the included RCTs, Olds et al. (1998; RCT +) and Black et al. (1994; RCT +) reported sufficient details about the methodology to be rated +. However details were missing regarding the method of randomisation in both studies. Olds et al. (1998; RCT +) examined three treatment arms, families in group 1 received sensory and developmental screening with or without free transportation for prenatal and well-child care, families in group 2 received the same intervention as group 1 with the addition of home visitation during pregnancy, and families in group 3 received the same intervention as group 2 but with additional visits through to the child's second birthday. Families participating in the study by Black et al. (1994; RCT +) received hour-long visits from community health nurses before the birth and continuing for the first 18 months of the child's life. Comparison families did not receive the home intervention but attended a clinic and were encouraged to enter drug treatment.

Nair et al. (2003; RCT -) examined home visitation delivered by trained lay workers. Intervention families received weekly home visits (0-6 months) and then biweekly visits (6-24 months) which focused on developmentally orientated child and parent components. The authors reported that participants had been randomly allocated to treatment and control groups but no further methodological details were available to determine whether an adequate concealment method had been used and whether outcome assessors were blinded to treatment allocation. Grant et al. (2005; CBA -) examined home visitation by para-professional case managers. The intervention focused on assisting women to participate in drug and alcohol treatment and was designed to link them with comprehensive community resources. The authors compared participants in the original demonstration of the intervention with participants in two replicated demonstrations. Subsequently this study was rated -.

5.3.2.2 Primary outcomes

Olds et al. (1998; RCT +) examined participants in the home visitation intervention study at 15 years. There was no difference between the home visitation and

comparison groups in terms of the incidence of cigarettes smoked per day, days drank alcohol or days used drugs.

Table 5.3.5 Home visitation: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Olds et al. (1998)	RCT+	Home visitation (nurses) 1) Pregnancy only; 2) Pregnancy and up to 18 months	Sensory and developmental screening	15 yrs	↔ Cigarettes smoked per day ↔ Days drank alcohol ↔ Days used drugs

Evidence Statement 45

There is evidence from one RCT + to suggest that in the long-term there is no difference in substance use between children with drug-using mothers who receive home visitation at birth and those who do not (Olds et al., 1998). Applicability Rating B.

5.3.2.3 Secondary outcomes

a) Young people outcomes

At 15-years follow-up, Olds et al. (1998; RCT +) found that there was no difference between adolescents born to women visited by nurses during pregnancy and infancy in terms of the incidence of short and long term school suspension, antisocial and delinquent acts, and problem behaviours (including anxiety/depression, social withdrawal, somatic complaints, delinquency and aggression). With regard to encounters with the criminal justice system, intervention children reported more frequent stops by police, but fewer arrests and fewer convictions and probation violations. Intervention and comparison participants reported no difference in the incidence of times sent to youth correction centres or the frequency of being adjudicated a person in need of supervision.

Black et al. (1994; RCT +) reported that when the overall HOME score[12] was considered children in the intervention group were marginally more likely to be living in a child centred home than children in the comparison group [mean (SEM) HOME scores: intervention 35.1 (1.2) vs. controls 31.4 (1.5); p=0.065]. Women in the intervention group were more emotionally responsive and provided marginally more opportunities for stimulation. Although children in the intervention group had

[12] The HOME is an observation scale that has shown a strong relationship between home environment and subsequent intellectual development and academic achievement.

marginally higher cognitive development scores at 6 months (p=0.99), there was no difference in cognitive or psychomotor development scores at 12 or 18 months.

At 6 and 18 months, Nair et al. (2003; RCT -) reported that children in the intervention group had significantly higher scores on the Psychomotor Developmental Index at 6- and 18-months follow-up, but not at 12 months. Intervention children had marginally better scores on the Mental Developmental Index at 6 and 12 months, but not at 18 months, compared to the control group. There was no difference between intervention and control children in terms of language skills at any follow-up. Nair et al. (2003; RCT -) also found that parenting stress and child abuse potential were higher for women with five risks or more compared with women who had four or fewer risks; children's mental, motor and language development were not related to level of risk.

Table 5.3.6 Home visitation: young person secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Olds et al. (1998)	RCT+	Home visitation (nurses): Pregnancy	Sensory and developmental screening	15 yrs	↔ School suspensions ↔ Behaviour problems ↔ Stops by police ↓ Arrests ↓ Convictions and probation violations ↔ Times sent to youth corrections ↔ Times ran away
		Home visitation (nurses): Pregnancy only and up to 18 months	Sensory and developmental screening	15 yrs	↔ School suspensions ↔ Behaviour problems ↑ Stops by police ↓ Arrests ↓ Convictions and probation violations ↔ Times sent to youth corrections ↔ Times ran away
Black et al. (1994)	RCT+	Home visitation (nurses) before birth to 24 months	Clinic attendance	1.5 yrs	↑ Mothers emotionally responsive ↔ Cognitive scores
Nair et al. (2003)	RCT -	Home visitation (trained lay workers)	Brief monthly visits	6 mths	↑ Motor development scores ↔ Mental development scores ↔ Language scores
				1 yr	↔ Motor development scores ↔ Mental development scores ↔ Language scores
				1.5 yrs	↑ Motor development scores ↔ Mental development scores ↔ Language scores

Evidence Statement 46.1

There is evidence from one RCT + to suggest that adolescents who receive home visitation as infants do not have improved outcomes of dysfunctional behaviours. In addition, there is evidence to suggest that although stops by police may be higher,

there are fewer arrests and convictions in the long term among children who receive home visitation at birth compared to those who do not (Olds et al., 1998). Applicability Rating B.

Evidence Statement 46.2

There is insufficient evidence[13] from two RCTs (1 + and 1 -) to determine whether home visitation may produce positive effects on children's developmental progress (Black et al., 1994; Nair et al., 2003). Applicability Rating B.

b) Parental outcomes

At 18-months follow-up, Black et al. (1994; RCT +) found that women in the home visitation programme were marginally more likely to report that they were drug free compared to women in the comparison group [logistic regression for self-reported ongoing drug abuse: odds ratio 0.23 (95% CI 0.05-1.07); p=0.059]. Women in the intervention and control groups did not differ in their pattern of scores on the Child Abuse Potential Inventory over the intervention period. There was no difference in levels of parenting stress or child abuse potential at any follow-up between intervention and control participants in the home visitation programme examined by Nair et al. (2003; RCT -).

Grant et al. (2005; CBA -) compared participants from an earlier evaluation of a home visitation programme [Original demonstration (OD)] with replications of the programme at two sites [Tahoma replication (TR) and Seattle replication (SR), respectively]. The evaluation of the original demonstration programme found that intervention participants had significantly better outcomes than controls. The TR and SR groups demonstrated a longer duration of abstinence from alcohol and drugs compared to the OD group for ≥ 6-months and ≥ 12-months abstinence at exit from the programme, and for any period of abstinence ≥ 12-months during the programme. At 3 years, Grant et al. (2005) found that although regular use of contraception at programme exit was similar across the 3 groups, the rate of subsequent pregnancy was lower in the TR group (OD 52%, SR 50% and TR 38%). At exit all participants were no longer at risk of having another alcohol or drug exposed pregnancy. This was due to mothers using a reliable contraceptive method

[13] Please see Section 6: Discussion for a discussion of the limitations of the review.

or because they had been abstinent from drugs/alcohol (or both) for a least six months (OD 60%, SR 67% and TR 74%).

Table 5.3.7 Home visitation: parental outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Black et al. (1994)	RCT+	Home visitation (nurses) before birth to 24 months	Clinic attendance	1.5 yrs	⇔ Mothers drug free (p=0.06) ⇔ Providing a child-centred home ⇔ Child abuse potential ⇔ Cognitive or psychomotor development
Nair et al. (2003)	RCT -	Home visitation (trained lay workers)	Brief monthly visits	6 mths	⇔ Parenting stress ⇔ Child abuse potential
				1 yr	⇔ Parenting stress ⇔ Child abuse potential
				1.5 yrs	⇔ Parenting stress ⇔ Child abuse potential
Grant et al. (2005)	CBA -	Home visitation (paraprofessionals): Replicated demonstration	Home visitation (paraprofessionals) : Original demonstration	3 yrs	↑ Abstinence ≥ 6 mths ↑ Abstinence ≥ 1 yr ↓ Subsequent pregnancies in TR group

Evidence Statement 47

There is insufficient evidence to determine the effects of home visitation on parental drug use:

47.1 There is evidence from one RCT + to suggest that home visitation does not produce long term increases in the number of mothers who are drug free compared to no visits and from two RCTs (1 +, 1 -) to suggest that there are no effects of home visitation on parenting stress or child abuse potential compared to no visits (Black et al., 1994; Nair et al., 2003). Applicability Rating B.

5.3.3 Behavioural/skills-based interventions

5.3.3.1 Overview of evidence identified

Primary studies

Both Short et al. (1995; RCT -) and Horn (1998; RCT -) reported that participants had been randomly assigned to intervention and control groups, however, further methodological details were lacking in the study by Short et al. (1995) and it was rated -. Horn (1998), also rated -, reported few methodological details and only included a small number of participants (n=16). Short et al. (1995; RCT -) targeted children who identified their parents as problem drinkers. The intervention examined, the Stress Management and Alcohol Awareness programme, sought to improve self-

esteem, alcohol knowledge and emotion- and problem-focused coping and social support-seeking strategies. Horn (1998; RCT -) examined an intervention for children affected by familial alcohol abuse. Participants were randomised to one of four interventions: 1) 11-session structured support group and mentor training; 2) 11-session structured support group only; 3) peer mentoring; and 4) delayed intervention. Gross and McCaul (1992; CNRT -) used a controlled, non-randomised design, assigning participants to intervention and control group based on parental substance use, resulting in a comparison group comprised of youth at risk for school dropout but who denied parental substance abuse. The intervention was designed to provide social support and to enhance drug resistance skills. Few details were reported regarding dropouts and there were major differences between the groups at baseline, resulting in a – rating.

The remaining study used a before and after design and did not include control group. The intervention examined by Springer et al. (1992; BA -) targeted children who had a substance dependent parent. The intervention included art, play and drama, communication activities and family interaction sessions.

5.3.3.2 Primary outcomes

Medium term (> 1 month ≤ 6 months; > 6 months ≤ 1 year)

Only one study reported primary outcomes of interest. Gross and McCaul (1992; CNRT -) found that there was no significant difference between groups in terms of the number of participants who reported using tobacco, alcohol or cannabis for the first time during follow-up [intervention n=6 (27.3%) vs. control n=5 (38.5%)].

Table 5.3.8 Behavioural/skills-based interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Gross & McCaul (1992)	CNRT -	Social support and drug resistance skills training	Youth at risk for school dropout who denied parental substance abuse	PT	⇔ Tobacco, alcohol or cannabis use

Evidence Statement 48

There is insufficient evidence to determine whether behavioural and skills training interventions for young people with substance using parents or other family members are effective in reducing substance use.

5.3.3.3 Secondary outcomes

Short et al. (1995; RCT -) examined the effects of a programme for children who identified their parents as problem drinkers across 3 cohorts; cohort 1 was the treatment condition and cohorts 2 and 3 were delayed controls. The results showed that children who participated in the programme experienced greater increases in programme knowledge, emotion-focussed coping social-support coping and tension expectancies in relation to alcohol (higher scores on this measure indicated higher expectancies) compared to a delayed control group. There was no difference on the following measures: problem-focused coping, cognitive/motor expectancy, antisocial behaviour, depression, athletic competence or social acceptance.

Horn (1998; RCT -) found that participants who received the 11-session structured support group and mentor training intervention had significantly greater increases in self-esteem, social skills, and school attachment, compared to children who received single components or no intervention. Children who received any type of intervention showed greater increases in negative attitudes to substances than children in the wait list control group, but the changes over time were not statistically different.

Gross and McCaul (1992; CNRT -) found that there was no difference at post-test in mean depression and self-esteem scores between those who participated in an intervention providing social support and drug resistance skills training and reported familial drug use and those who did not. The findings were similar at the 12-month follow-up.

Springer et al. (1992; BA -) reported that an examination of participants' average changes across the duration of an art and play therapy intervention revealed that there was a significant increase in the average change in competencies and a decrease in behaviour problems. Examining changes on the Child Behaviour Checklist (CBCL) problem syndromes across genders, boys demonstrated a significant reduction in terms of depression, hyperactivity, delinquency and aggression and girls demonstrated a reduction in sexual problems, depression, cruelty and hyperactivity.

Table 5.3.9 Behavioural/skills-based interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Horn (1998)	RCT -	Support group with peer mentor training	1) Support group only 2) Peer mentoring 3) Delayed intervention	6 mths	↔ Negative attitudes towards substances ↑ Self-esteem ↑ Social skills ↑ School attachment
Short et al. (1995)	RCT -	SMAA programme	Delayed entry to the programme	1 yr	↑ Programme knowledge ↑ Emotion-focused coping ↑ Social-support coping ↔ Problem-focused coping ↔ Cognitive/motor expectancy ↔ Antisocial behaviour ↔ Depression ↔ Athletic competence ↔ Social acceptance
Gross & McCaul (1992)	CNRT -	Social support and drug resistance skills training	Youth at risk for school dropout	1 yr	↔ Depression ↔ Self-esteem
Springer et al. (1992)	BA -	Art, play and drama therapy	None	PT	↓ Behaviour problems Change on CBCL (boys): ↓ Depression, hyperactivity, delinquency and aggression Change on CBCL (girls): ↓ Sexual problems, depression, cruelty and hyperactivity

Evidence Statement 49

There is inconsistent evidence to determine whether behavioural and skills training interventions, delivered to young people with substance-using parents or other family members, are effective at reducing or improving risk and protective factors related to substance use:

49.1 There is evidence from one RCT – to suggest that support groups combined with peer mentor training can increase negative attitudes to substance use and from two RCT – to suggest that support group programmes can be effective at improving intervention-targeted outcomes such as emotion-focused coping and self-esteem in the short to medium term. (Horn, 1998; Short et al., 1995). Applicability Rating B

5.3.4 Other interventions

5.3.4.1 Overview of evidence identified

Primary studies

Three studies (Nye et al., 1995; RCT -; Field et al., 1998; CNRT +; Sarvela & Ford, 1993; CNRT +) examined interventions that did not fit into the other categories.

Nye et al. (1995; RCT -) examined a child outreach programme for male children between the ages of 3 and 6 years, with a father convicted of drink driving. The intervention focused on enhancing parent-child communication and improving parent-child relationships. The authors randomly assigned participants to “mother-only” or “both parents” intervention groups. However further details about the study methodology were lacking and the study was rated -.

Two studies examined interventions for pregnant or parenting adolescents. Field et al. (1998; CNRT +) examined an intervention for adolescent mothers that consisted of several components including drug rehabilitation, parenting and vocational classes, relaxation therapy set in a vocational high school. Participants were assigned to groups based on urine toxicology screens and the study was rated +. Sarvela and Ford (1993; CNRT +) evaluated a self-administered substance abuse education programme for pregnant adolescents. The intervention was set in a prenatal clinic. The authors used a quasi-experimental design; participants were assigned to intervention and control groups based on their county of residence. However, it was not clear how many participants were lost-to-follow-up and therefore the study was rated +.

5.3.4.2 Primary outcomes

There was no difference in substance use behaviours between the intervention and control groups examined in the study by Sarvela and Ford (1993; CNRT +) (cannabis use in last 5 months/use now: intervention 2.6% vs. control 0.0%; alcohol use in last 5 months/use now: intervention 3.6% vs. control 3.4%; cigarette use in last 5 months/use now: intervention 22.6% vs. control 23.7%). Comparison of pre- and post-test substance use indicated that both intervention and control participants had reduced current cigarette use (intervention 17.7% → 14.3%; control 26.5% → 20.3%) and alcohol use in the previous 5 months (intervention 22.3% → 2.4%; control 13.1% → 1.7%).

Field et al. (1998; CNRT +) found that adolescent mothers who participated in a multicomponent intervention which included drug rehabilitation reported lower levels of continued drug use compared to drug-using mothers who did not receive the intervention at 12-months follow-up.

Table 5.3.10 Other interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Sarvela & Ford (1993)	CNRT +	Self-administered substance use education programme for pregnant adolescents	Usual pre-natal services	PT	⇔ Substance use behaviours (cannabis, cigarettes, alcohol) Both groups ↓ cigarette and alcohol use from pre-test
Field et al. (1998)	CNRT +	Multi-component intervention for adolescent mothers	Drug using controls and non-drug using controls	1 yr	↓ Drug use

Evidence Statement 50

There is insufficient evidence to determine whether interventions targeting young pregnant or parenting adolescents are effectiveness in reducing drug use behaviour:

50.1 There is evidence from one CNRT + to suggest that self-administered drug education programmes for pregnant adolescents do not impact on substance use behaviours in the medium term (Sarvela and Ford, 1993). Applicability Rating B.

50.2 There is evidence from one CNRT + to suggest that multicomponent interventions targeting adolescent mothers, which include drug rehabilitation, may reduce drug use in the medium term compared to no intervention (Field et al., 1998). Applicability Rating C.

5.3.4.3 Secondary outcomes

Nye et al. (1995; RCT -) divided groups into three levels of involvement based on early involvement: Low Early Involvement group; Moderate Early Involvement; and High Early Involvement Group. In addition, families were classified according to overall involvement: Low Overall involvement group; Moderate Overall Involvement group; and High Overall Involvement group. Early investment in the programme was positively associated with positive behaviour at post-tests 1 and 2. Similarly, early treatment investment was a significant negative predicator of negative child behaviour at both post-test 1 and 2. Therefore, greater maternal treatment investment in the first half of the intervention was associated with increased prosocial behaviour. Cumulative treatment investment was positively associated with positive child behaviour and negatively associated with negative child behaviour.

Adolescent mothers who participated in the intervention examined by Field et al. (1998; CNRT +) had significantly lower Beck Depression Inventory (BDI) scores (i.e.

better) than controls as well as more optimal background stress scores and a reduced incidence of repeat pregnancy at 12-months follow-up. Sarvela and Ford (1993; CNRT +) found that intervention participants had significantly higher knowledge scores than the control group at post-test. There was no significant difference between intervention participants and controls in terms of attitudinal survey scores. At post-test, 27.5% of control group participants and 39.7% of intervention participants group indicated that the information provided at the centre affected their decision to cut down or quit substance misuse.

Table 5.3.11 Other interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Nye et al. (1995)	RCT -	Outreach programme: Mothers only	Outreach programme: Both parents	NR	↑ Maternal engagement linked to ↑ child's prosocial behaviour
Sarvela & Ford (1993)	CNRT +	Self-administered substance use education programme for pregnant adolescents	Usual pre-natal services	PT	↑ Knowledge scores ↔ Attitudinal survey scores
Field et al (1998)	CNRT +	Multi-component intervention for adolescent mothers	Drug using controls and non-drug using controls	1 yr	↓ BDI scores ↓ Background stress scores ↓ Incidence of repeat pregnancy ↑ Continuing in education ↑ GED/diploma ↑ Employed

Evidence Statement 51.1

There is evidence from one RCT – to suggest that high levels of engagement of mothers in outreach programmes may be linked to improved prosocial behaviour in their children (Nye et al., 1995). Applicability Rating C.

Evidence Statement 51.2

There is insufficient evidence to determine whether interventions targeting young pregnant or parenting adolescents are effectiveness in reducing a range of secondary outcomes related to substance use:

51.2.1 There is evidence from one CNRT + to suggest that self-directed learning improved substance-related knowledge but no effect on attitudes to substance use, immediately following intervention (Sarvela and Ford, 1993). Applicability Rating B.

51.2.2 There is evidence from one CNRT + to suggest that multicomponent interventions including drug rehabilitation and vocational training can decrease self-reported psychopathology (including stress and depression) and improve educational and employment outcomes. Applicability Rating C.

5.4 Young substance users

Key to Section 5.4	
Section 5.4.1	Brief interventions/motivational interviewing
Section 5.4.2	Family therapy
Section 5.4.3	Counselling/behaviour therapy
Section 5.4.4	Other interventions

Studies that examined interventions targeted specifically at young people who reported substance use but not substance dependence were included in this section. Four systematic reviews and 18 studies were identified and details of the identified studies are shown in Table 5.4.1. The following interventions were examined:

- Brief intervention/motivational interviewing (n=8; 2 SR +, 3 RCT +, 1 RCT -, 1 CNRT -, 1 BA -)
- Family therapy (n=7; 2 SR +, 2 RCT ++, 2 RCT +, 1 RCT -)
- Counselling/therapy sessions for adolescents (n=4; 1 RCT +; 1 CNRT -, 1 CBA +, 1 BA -)
- Other (n=4): Midwestern Prevention Programme (n=1; RCT -); contingency-management based intervention (n=1; BA -); parenting programme (n=1; CNRT -)

In addition, the systematic review by Elliott et al. (2005; SR +) examined a variety of interventions targeting young substance users, details of which are reported in the relevant sections.

Table 5.4.1 Studies identified: Young substance users

Author (Year)	**Study design**	**Outcomes reported**	
		Primary	**Secondary**
Motivational interviewing and brief interventions			
Dunn et al. (2001)	Systematic review +	✓	✓
Tait & Hulse (2003)	Systematic review +	✓	
McCambridge & Strang (2004; 2005)	Randomised controlled trial (cluster) +	✓	✓
Tait et al. (2004)	Randomised controlled trial (individual) +	✓	✓
Oliansky et al. (1997)	Randomised controlled trial (individual) -	✓	
Aubrey (1998)	Controlled non-randomised trial -	✓	
Martin et al. (2005)	Before and after study -	✓	
Family therapy			
Austin et al. (2005)	Systematic review +	✓	✓
Elliott et al. (2005)	Systematic review +	✓	✓
Liddle et al. (2001)	Randomised controlled trial (individual) ++	✓	✓
Liddle et al. (2004)	Randomised controlled trial (individual) ++	✓	✓

Joanning et al. (1992)	Randomised controlled trial (individual) +	✓	✓
Lewis et al (1990)	Randomised controlled trial (individual) +	✓	
Santisteban, et al (2003)	Randomised controlled trial (individual) -	✓	✓
Counselling/Behaviour therapy			
Dennis et al (2004)	Randomised controlled trial (individual) +	✓	✓
Jones (2000)	Controlled non-randomised trial -		✓
Azrin et al (1994)	Controlled before and after study +	✓	
Wagner et al. (1999)	Before and after study -	✓	✓
Other			
McGillcuddy et al. (2001)	Randomised controlled trial (individual) +		
Chou et al. (1998)	Randomised controlled trial (individual) -	✓	
Kamon et al. (2005)	Before and after study	✓	✓

5.4.1 Brief intervention/motivational interviewing

5.4.1.1 Overview of evidence identified

Systematic reviews

Tait and Hulse (2003; SR +) reviewed the effectiveness of brief interventions in reducing alcohol, tobacco and other drug use. The review was of good quality but insufficient details were reported regarding the assessment of study quality, and the review was rated +. Dunn et al. (2001; SR +) examined the effectiveness of brief behavioural interventions across four domains: substance abuse, smoking, HIV risk and diet/exercise. The review was well reported but details were lacking about the quality of the included studies and consequently the review was rated +.

Primary studies

Five studies (McCambridge and Strang, 2004, 2005; Tait et al., 2004; Aubrey, 1998; Martin et al., 2005) examined brief interventions including motivational interviewing, though the format of the interventions varied. The settings for the interventions included further education colleges (McCambridge and Strang, 2004; 2005), primary care clinic (Oliansky et al., 1997), a university substance abuse programme (Aubrey, 1998) and a hospital emergency department (Martin et al., 2005).

Two studies by McCambridge and Strang (2004; 2005; both RCT +) examined a single session of motivational interviewing (MI) compared to usual education in the same population at 3 and 12 months follow-up, respectively. Sufficient methodological details were reported for both studies to be rated +, but details were lacking about the method of randomisation. In addition, randomisation was deemed to have failed and there were important differences between the intervention and

control groups at baseline. Tait et al. (2004; RCT +) examined a brief intervention enhanced by additional support in facilitating attendance at treatment services compared to usual hospital treatment. Randomisation was undertaken using computer generated codes, held in sealed numbered envelopes. However, there were a large number of participants lost to follow-up and consequently the study was rated +. Oliansky et al. (1997; RCT -) examined a single session brief intervention compared to no intervention. The authors reported insufficient methodological details and this RCT was rated -. Aubrey (1998) compared MI with feedback to MI without feedback using a controlled non-randomised design. The study was rated - because of a high rate of attrition (49% of 77 participants), high variance in substance use parameters, and the potential for bias given the role of the author as both therapist and evaluator. Martin et al. (2005) examined a brief intervention for cannabis users, utilising an uncontrolled before and after design and was therefore rated -.

5.4.1.2 Primary outcomes

Eleven studies were included in the systematic review by Tait and Hulse (2003; SR +), two of which focused on brief interventions for multiple substance use. However, data could not be combined for these two studies. The overall effect size for eight interventions which targeted alcohol use was *d*=0.275, indicating a small effect of the intervention relative to control. Dunn et al. (2001; SR +) identified 29 RCTs of motivational interviewing interventions, of which two focused on young substance users. The authors were not able to combine the data from these two studies but both reported significantly positive effects of the brief interventions examined.

McCambridge and Strang (2004; RCT +) found that in comparison to the control group, participants who received a motivational interview significantly reduced their weekly use of cigarettes, alcohol and cannabis at 3-months follow-up. Cannabis use decreased in the intervention group from a mean of 15.7 times per week at baseline to 5.4 times at 3-months, compared to an increase in the control group (mean 13.3 at baseline to 16.9 at 3 months). There was no difference between groups in terms of stimulant use. By the 12-month follow-up (McCambridge and Strang, 2005; RCT +), however, there was no difference between the groups in terms of use of any of these substances. At 12 months follow-up, intervention group participants reported using cannabis a mean 8.6 times per week compared to control group participants who reported 11.9 times per week.

Tait et al. (2004; RCT +) compared outcomes in participants who had attended treatment at an external agency with those who had not attended for treatment. Overall, treatment attendees had significantly reduced their overall drug consumption and 'hazardous drug use behaviour' at 4 months. However, due to the large proportion of participants lost to follow-up, the numbers involved were very small.

Oliansky et al. (1997; RCT -) measured change in drug use on the Substance Use Screening Instrument (SUSI). Compared to the control group, participants in the intervention group reported significantly lower mean SUSI scores at 1 and 3 months.

The outpatient brief intervention reported by Aubrey (1998; CNRT -) recruited a predominantly male sample aged under 21. At follow-up three months later a number of significant effects upon measures of drug use were reported. Participants self reported a greater % of days abstinent from substances in the previous month (d = 0.61), and fewer days using substances (d = 0.79). This was primarily due to a decrease in alcohol and tobacco, rather than illicit substances. There were no significant effects upon the total number of drugs used. However, it must be noted that 49% of participants dropped out of the study before follow up, although the author reported that there were no differences in substance use variables in participants who completed all phases of assessment compared to those that dropped out.

In their pilot study of a brief intervention for cannabis users, Martin et al. (2005; BA -) found that participants reported significantly fewer days of cannabis in the last 90 days at 3- and 6-month follow-ups.

Table 5.4.2 Brief interventions/motivational interviewing: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Tait and Hulse (2003)	SR +	Brief intervention	No advice/usual care	NR	Multiple substances (2 studies, n=64): Data not combined
Dunn et al. (2001)	SR +	Motivational interviewing	No treatment or usual care	NR	Data not combined
McCambridge & Strang (2004; 2005)	RCT +	Single session of Motivational Interviewing (MI)	Usual education	3 mths	Weekly use: ↓ Cigarettes ↓ Alcohol ↓ Cannabis ⇔ Stimulants
				1 yr	Weekly use: ⇔ Cigarettes ⇔ Alcohol ⇔ Stimulants

Tait et al (2004)	RCT +	Attendance at external treatment agency	Non-attendance at external treatment agency	4 mths	↓ Drug consumption ↓ Hazardous drug use behaviour
Oliansky et al (1997)	RCT -	Single session brief intervention	No intervention	1 mth	↓ SUSI scores
				3 mths	↓ SUSI scores
Aubrey (1998)	CNRT-	Outpatient brief Intervention	No intervention	3 mths	↑ % Days abstinent from substances in the previous month ↑ Fewer days using substances[a] ⇔ Total number of drugs used
Martin et al (2005)	BA-	Pilot study brief intervention	N/A	3 mths	↓ Cannabis use in the past 90 days
				6 mths	↓ Cannabis use in the past 90 days

Evidence Statement 52.1

There is evidence from one SR +, two RCTs (1 + and 1 -) and one CNRT – to suggest that motivational interviewing and brief intervention can have short term effects on the use of cigarettes, alcohol and cannabis (Tait and Hulse, 2003; McCambridge and Strang 2004; Oliansky et al., 1997; Aubrey, 1998). Applicability Rating A.

Evidence Statement 52.2

There is evidence from one RCT + to suggest that motivational interviewing does not have a medium term impact on the use of cigarettes, alcohol or cannabis (McCambridge and Strang, 2005). Applicability Rating A.

5.4.1.3 Secondary outcomes

At 3-months follow-up, McCambridge and Strang (2004; RCT +) found that, compared to controls, participants who received the motivational interview were more likely to have made a decision to cut down or stop smoking cannabis (intervention 75% vs. control 44%, p=0.008) and were less likely than controls to state an intention to use cannabis beyond 12 months (intervention 15% vs. control 45%, p=0.016). There was no difference between intervention and control participants in terms of the importance placed on cannabis. In terms of alcohol consumption, interventions participants were significantly more likely to have made a decision to cut down or stop drinking and placed significantly less importance on alcohol. Examining change in behavioural outcomes revealed that although there was no difference in the numbers who had been offered heroin, intervention participants were less likely to have been exposed to the risk involved in being present at heroin smoking (intervention 14% vs. control 26%, p=0.005), or to have sold drugs to friends (intervention 15% vs. control 40%, p=0.008). In addition, control participants reported significantly more interaction problems than intervention participants. At 12-months,

only one finding remained significant, intervention participants were likely to have been in the presence of someone smoking heroin compared to control participants (intervention 7% vs. control 18%, p=0.034).

Tait et al. (2004; RCT +) found that 4 months after treatment, significantly more participants who received the enhanced brief intervention attended a community treatment agency compared to those who received usual hospital care (intervention 47% vs. control 4%, p<0.001). In addition, participants who received the brief intervention reported significantly greater improvement in GHQ-12 (General health question) scores than the usual hospital care group (p<0.05) indicating better psychological well being, but there was no difference between groups on a measure of family relations.

Aubrey (1998; CNRT -) examined a motivational interviewing intervention for adolescents presenting for outpatient substance abuse treatment. At 3 months follow-up, significantly more intervention participants reported attending treatment sessions compared to control participants (p=0.03).

Table 5.4.3 Brief interventions/motivational interviewing: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
McCambridge & Strang (2004; 2005)	RCT +	Single session of Motivational Interviewing (MI)	Usual education	3 mths	↑ Made decision to cut down or stop smoking cannabis. ↓ Intention to use cannabis past 12 months ↑ Made decision to cut down or stop drinking alcohol ↓ Importance of alcohol ↔ Offered heroin ↓ Exposed to risk involved in being present at heroin smoking ↓ Sold drugs to friends
				1 yr	↔ Made decision to cut down or stop smoking cannabis ↔ Intention to use cannabis past 12 months ↔ Importance of cannabis ↔ Made decision to cut down or stop drinking alcohol ↔ Importance of alcohol ↔ Offered heroin ↓ Exposed to risk involved in being present at heroin smoking ↔ Sold drugs to friends
Tait et al (2004)	RCT +	Brief intervention	Usual hospital care	4 mths	↑ Intervention group attended a community treatment agency ↑ Psychological wellbeing ↔ Family relations
Aubrey (1998)	CNRT-	Outpatient brief Intervention	No intervention	3 mths	↑ Attendance at treatment sessions

Evidence Statement 53.1

There is evidence from one RCT + to suggest that a single session of motivational interviewing can have a positive impact on attitudes, intentions and behavioural outcomes related to substance use in the short term (McCambridge and Strang, 2004). However, there is evidence from one RCT + to suggest that these positive effects do not last in the medium term (McCambridge and Strang, 2005). Applicability Rating A.

Evidence Statement 53.2

There is evidence from one RCT + to suggest that brief intervention enhanced with additional support has a positive impact on attendance at community treatment agencies and psychological well being compared to usual hospital treatment (Tait et al., 2004). Applicability Rating B.

5.4.2 Family therapy

5.4.2.1 Overview of evidence identified

Systematic reviews

Austin et al. (2005; SR +) examined family-based interventions for adolescents with substance use problems. On the whole, the methodology used to undertake the review was well reported. However, study quality was not clearly assessed and the review was rated +.

Elliott et al. (2005; SR +) reviewed the evidence on the effectiveness of secondary prevention interventions for young drug users. Overall, the review methodology was well reported. However, the quality of the identified studies did not appear to have been taken into account sufficiently when discussing the evidence of effectiveness and the review was rated +. The review included other reviews and primary studies; 3 reviews and 1 primary paper were identified which examined family therapy and other types of family intervention.

Primary studies

Five studies (Liddle et al., 2001, 2004; Joanning et al., 1992; Lewis et al., 1990; Santisteban et al., 2003) examined family therapy interventions for adolescent substance users and their families. The two RCTs by Liddle et al. (2001; 2004; both RCT ++) examined multidimensional family therapy (MDFT). Liddle et al. (2001)

compared the intervention to an educational family intervention or adolescent group therapy, and Liddle et al. (2004) compared MDFT with peer group therapy. Both studies were of sufficient quality to be rated ++. The RCTs by Joanning et al. (1997) and Lewis et al. (1990) did not provide sufficient details about the method of randomisation and were rated +. Joanning et al. (1992; RCT +) examined family systems therapy, and Lewis et al. (1990; RCT +) and Santisteban et al. (2003; RCT -) both examined brief family therapy interventions (Santisteban vs. group therapy). Other than reporting that randomisation occurred, very few methodological details were available the RCT by Santisteban et al. (2003; RCT -) and consequently it was rated -.

5.4.2.2 Primary outcomes

Austin et al. (2005; SR +) identified five papers that examined the effectiveness of family therapy interventions. They reported that each of the intervention reviewed demonstrated changes in substance use from pre-test to post-test, but that for two interventions within-group differences in substance use were no longer significant by the follow-up periods. Only one intervention demonstrated that substance use changes were maintained at follow-up. The authors reported that two of the five interventions reviewed, MDFT (see Liddle et al., 2001; 2004; both RCT ++) and Brief Strategic Family Therapy (see Santisteban et al., 2003; RCT -), were "probably" efficacious treatments for adolescent substance use but that overall MDFT was the only family-based intervention with good evidence to support changes in substance use behaviours.

Elliott et al. (2005; SR +) reported that family therapy was effective in reducing drug use. The mean size effect compared with drug education was 0.63; family education 0.60; peer group education 0.84; individual counselling 0.34; and individual education 0.31. Family therapy was also found to be more effective than adolescent group therapy.

Immediate (≤ 7 days)

Liddle et al. (2001; RCT ++) found that changes in drug use across time from baseline to discharge were significant across all three interventions examined (MDFT, educational family intervention and adolescent group therapy). Participants in the MDFT group showed the most improvement [mean (SD) drug use at termination: MDFT 4.79 (3.20), MEI 7.26 (5.05), AGT 7.33 (3.41)]. MDFT was also found to be associated with more rapid decreases in cannabis and alcohol use than

peer group therapy (Liddle et al., 2004; RCT ++). Fifty-seven percent of MDFT participants reported using cannabis at least once a week over the last 30 days at baseline compared to 1% at discharge. Of the participants receiving group therapy, 66% reported weekly or more cannabis use at baseline compared to 20% at discharge.

Significantly fewer participants in the family therapy condition examined by Joanning et al. (1997; RCT +) reported drug use at discharge compared to adolescent group therapy and family drug education (FST 40% vs. AGT 68% vs. FDE 66%). There was no significant difference between adolescent group therapy and family drug education.

Of the two interventions that examined brief family interventions, Lewis et al. (1990; RCT +) found that participants in PBFT condition scored significantly lower on the Index of Drug Severity (IDS) compared to those receiving a parent skills programme (54.6% vs. 37.5%). Forty-four percent and 33% of “hard” drug users in the PBFT condition had moved to no use or “soft” drug use at discharge, respectively, compared to 22% and 37.5% in the parent skills training condition. Santisteban et al. (2003; RCT -) found that cannabis use was significantly reduced in the BSFT condition compared to group therapy. Nine out of 22 cannabis users (41%) at baseline in the BSFT group had ceased use at discharge compared to one of eight in the group therapy condition (13%). In the BSFT condition, 12% of nonusers at baseline reported cannabis use at discharge compared to 19% in the group therapy condition.

Medium term (> 1 month ≤ 6 months; > 6 months ≤ 1 year)

Liddle et al. (2001; RCT ++) found that the changes in drug use identified in the short term persisted at 6- and 12-month follow-up. Participants in the MDFT group showed the most improvement [mean (SD) drug use at 6 months: MDFT 5.04 (3.77), MEI 6.87 (3.79), AGT 6.21 (3.66); mean (SD) drug use at 12 months: MDFT 4.25 (2.98), MEI 7.26 (3.97), AGT 5.08 (3.71)]. At 1-year follow-up, 45% of participants in the MDFT group compared to 32% in the AGT and 26% in the MEI groups, reported a ‘clinically significant ’reduction in drug use (n not reported).

Table 5.4.4 Family therapy: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Austin et al. (2005)	SR +	Family-based interventions	NR	NR	Family Behaviour Therapy: ↓ Drug and alcohol use Functional family therapy: ↓ Cannabis use MDFT: ↓ Substance use (past 30 days) at 1 yr MST: ↓ Alcohol and other substance use at PT but no 6 mths
Elliott et al. (2005)	SR +	Secondary prevention interventions	NR	NR	Data not combined
Liddle et al (2001)	RCT++	MDFT	1) Educational Family Intervention; 2) Adolescent Group Therapy	PT	↓ Drug use across all three interventions. MDFT group showed the most improvement
				6 mths	↓ Drug use across all three interventions. MDFT group showed the most improvement
				1 yr	↓ Clinically significant reduction in drug use
Liddle et al (2004)	RCT ++	MDFT	Peer Group Therapy	PT	↓ Cannabis and alcohol use
Joanning et al (1997)	RCT +	Family Therapy	1) Adolescent Group Therapy; 2) Family Drug Education	PT	↓ Self-reported drug use
Lewis et al (1990)	RCT +	Purdue Brief Family Therapy	Parent Skills Training Programme	PT	↓ Scores on Index of Drug Severity 44% vs. 22% hard users → no use
Santisteban et al (2003)	RCT -	Brief Strategic Family Therapy (BSFT)	Group Therapy	PT	↓ Cannabis ↔ Cannabis use cessation ↔ Cannabis use initiation

Evidence Statement 54.1

There is evidence from one SR + and three RCTs (2++ and 1+) to suggest that family therapy is more effective at reducing substance use than other types of group therapy interventions immediately following treatment (Austin et al., 2005; Liddle et al., 2001; Liddle et al., 2004; Joanning et al., 1997). Applicability Rating B.

Evidence Statement 54.2

There is evidence from one SR + and one RCT ++ to suggest that multidimensional family therapy is more effective at reducing substance use than other approaches to treatment in the short to medium term (Austin et al., 2005; Liddle et al., 2001). Applicability Rating B.

Evidence Statement 54.3

There is evidence from two RCT – to suggest that brief family therapy interventions

are more effective than group therapy in producing immediate reductions in cannabis use (Santisteban et al., 2003) and overall substance use (Lewis et al., 1990). Applicability Rating B.

5.4.2.3 Secondary outcomes

Elliott et al. (2005; SR +) reported that family therapy was effective in reducing social problems. Multisystemic therapy was found to reduce drug arrests at four years follow-up compared with individual counselling (MES=0.93). Improvements in family functioning and school grades were also demonstrated.

Participants in all intervention groups examined in the trial by Liddle et al. (2001; RCT ++) demonstrated a significant decrease in acting out behaviours from baseline to 12-months follow-up. No effects were observed for grade point average or family competence. In the second study by Liddle et al. (2004; RCT ++), MDFT participants showed a more rapid decrease in externalising symptoms compared to group therapy participants. MDFT participants also showed a more rapid improvement in family cohesion, and decreased association with delinquent peers and disruptive classroom behaviours more rapidly, compared to group therapy controls. There was no difference between MDFT participants and group therapy participants on the following items: self-reported internalising symptoms, self-reported family conflict, school academic problems, school conduct problems, or self-reported delinquency.

Joanning et al. (1997; RCT +) compared a family therapy intervention with adolescent group therapy and a family drug education intervention. There was no significant difference between any of the intervention across the self-report dependent measures (marital functioning, parent-adolescent communication, family adaptation to stress and a composite measure of family health, communication, cohesion, expressiveness, directive leadership and conflict), however all three treatment groups reported an improvement in adolescent's perception of communication with their parents.

Santisteban et al. (2003; RCT -) found that young people who received the brief family therapy showed significantly greater reductions in behavioural problems compared to those in the control condition. They also showed significant improvements in conduct disorders and socialised aggression. Findings were less

clear with regards to family functioning. There was no difference between intervention and control participants on a measure of family interactions (SFSR scale) and on the adolescent- and parent-reported Cohesion and Conflict scales from the Family Environment Scale, only adolescent-reported cohesion was significantly improved in the intervention group compared to the control group.

Table 5.4.5 Family therapy: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Elliot et al. (2005)	SR +	Multisystemic therapy interventions	Individual counselling	NR	↓ Drug-related arrests ↑ Family functioning ↑ School grades
Liddle et al. (2001)	RCT++	Multidimensional Family Therapy (MDFT)	1) Educational Family Intervention 2) Adolescent Group Therapy	1 yr	↔ GPA ↔ Family competence ↓ Acting out behaviours across all groups
Liddle et al (2004)	RCT ++	Multidimensional Family Therapy (MDFT)	Peer Group Therapy (AGI)	PT	↓ Externalising symptoms ↔ Internalising symptoms ↑ Family cohesion ↔ Family conflict ↓ Association with delinquent peers ↓ Disruptive classroom behaviours ↔ School academic problems ↔ School conduct problems ↔ Delinquency
Joanning et al (1997)	RCT +	Family Therapy	1) Adolescent Group Therapy; 2) Family Drug Education	PT	↔ Marital functioning ↔ Parent-adolescent communication ↔ Family adaptation to stress ↔ Composite measure of family health, communication, cohesion, expressiveness, directive leadership and conflict
Santisteban et al (2003)	RCT -	Brief Strategic Family Therapy (BSFT)	Group Therapy	PT	↓ Reduction in behavioural problems ↑ Improvement in conduct disorders and socialised aggression ↔ Family functioning ↑ Adolescent-rated family cohesion ↔ Parent-rated cohesion ↔ Family conflict

Evidence Statement 55.1

There is evidence from one SR + and two RCTs (1 ++ and 1 -) to suggest that family therapy interventions may have more positive impacts on social behaviours than group therapy or individual therapy, immediately following treatment (Elliott et al., 2005; Liddle et al., 2001; Liddle et al., 2004; Santisteban et al., 2003). Applicability Rating C.

Evidence Statement 55.2

There is evidence from three RCTs (2 ++ and 1 +) to suggest that family therapy interventions are no more effective in improving school or family-related factors compared to educational or group therapy approaches in the immediate or medium term (Liddle et al., 2001; Liddle et al., 2004; Joanning et al., 1997). Applicability Rating B.

5.4.3 Counselling/behaviour therapy

5.4.3.1 Overview of evidence identified

Systematic reviews

Elliot et al. (2005; SR +) included two studies (one reviews, one primary study) on behaviour therapy and two primary studies on counselling in their review. For details of the quality of the review by Elliott et al. (2005) see Section 5.4.2.

Primary studies

Four studies (Dennis et al., 2004; RCT +; Jones et al., 2000; CNRT -; Azrin et al., 1994; CBA +; Wagner et al., 1999; BA -) examined counselling or behaviour therapy interventions for young substance users.

Dennis et al. (2004; RCT +) examined the effectiveness of 5 sessions of motivational enhancement treatment and cognitive behavioural therapy (MET/CBT5) for problem cannabis users in two trials; Trial I compared MET/CBT5 with a 12 session version of the intervention (MET/CBT12) and a family support intervention (FSN), and Trial II compared MET/CBT5 with an adolescent community reinforcement intervention and MDFT. Azrin et al. (1994; CBA +) compared a behavioural skills programme with a supportive counselling programme, Wagner et al. (1999; BA -) examined a group counselling, student assistance programme, and Jones et al. (2000; CNRT -) examined a curriculum based support group intervention.

5.4.3.2 Primary outcomes

Elliott et al. (2005; SR +) reported that behaviour therapy is effective in reducing drug use compared to non-intervention. Young drug users may also respond more positively to therapy than adult drug users. Elliott et al. (2005) also reported that counselling is effective in reducing alcohol and drug use.

Immediate (≤ 7 days)

Azrin et al. (1994; CBA +) found that the percentage of participants using drugs was significantly lower for those who received the behavioural intervention compared to those who received the supportive intervention (mean drug use: 3.1 months vs. 5.4 months, respectively). In addition, behavioural intervention participants reported significantly fewer days of alcohol use per month.

The uncontrolled study by Wagner et al. (1999; BA -) found that participants reported statistically significant decreases in substance use during the month attending the intervention.

Medium term *(> 1 month ≤ 6 months; > 6 months ≤ 1 year)*

Dennis et al. (2004; RCT +) reported there was no significant difference between any of the interventions examined in terms of total days abstinence from cannabis, alcohol and other drugs at 12-months follow-up. The percentage of participants in recovery (defined as living in the community, no past month substance use, abuse or dependence problems at 12 months) was significantly different by condition in Trial I with 27% MET/CBT5 participants in recovery compared to 22% of FSN participants and 17% of MET/CBT12 participants. There was no significant difference between conditions in Trial II.

Table 5.4.6 Counselling/behaviour therapy: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Dennis et al (2004)	RCT +	5 sessions MET/CBT5	1) 12 session MET/CBT 12; 2) Family Support Intervention (FSN)	1 yr	↑ Participants in recovery[a] ⇔ Cannabis ⇔ Alcohol ⇔ Other drugs
		MET/CBT5	1) Adolescent Community Reinforcement; 2) MDFT	1 yr	⇔ Participants in recovery[a] ⇔ Cannabis ⇔ Alcohol ⇔ Other drugs
Azrin et al (1994)	CBA +	Behavioural Skills Programme	Supportive Counselling Program	PT	↓ All drugs ↓ Fewer days of alcohol use per month
Wagner et al (1999)	BA -	Group counselling	N/A	PT	↓ Substance use in the month attending intervention.

[a] Defined as living in the community, no past month substance use, abuse or dependence problems at 12 months

Evidence Statement 56.1

There is evidence from one RCT + to suggest that motivational enhanced treatment combined with cognitive behavioural therapy is no more effective than other types of approaches in reducing cannabis, alcohol or other drug use in the medium term

(Dennis et al., 2004). Applicability Rating C.

Evidence Statement 56.2

There is insufficient evidence from one CBA + and one BA - to determine whether other types of counselling and behaviour therapy interventions targeting young substance users are effective in reducing substance use.

5.4.3.3 Secondary outcomes

Immediate (≤ 7 days)

In the study by Jones et al. (2000; CNRT -), the group receiving the support group intervention reported greater increases in negative attitudes in terms of cannabis and other drug use compared to the control group. They also reported greater decreases in the number of school disciplinary referrals, but no difference in absences from schools or in grades.

Azrin et al. (1994; CBA +) found that participants who received a behavioural skills intervention had significantly greater parent satisfaction with the youth and fewer behavioural problems at the end of the study compared to those receiving the supportive intervention. However, they also reported lower attendance at school or work and had higher scores (i.e. worse) on the Beck Depression Inventory. There was no difference between the behavioural skills group and the supportive counselling group in terms of youth satisfaction with their parent, number of days of institutionalisation or days of legal contact.

Table 5.4.7 Counselling/behaviour therapy: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Jones et al (2000)	CNRT-	Curriculum based support group intervention	No intervention	PT	↑ Negative attitudes in terms of cannabis and other drugs ↓ School disciplinary referrals ↔ Absences from school or grades
Azrin et al (1994)	CBA+	Behavioural Skills Programme	Supportive Counselling Programme	PT	↑ Parent satisfaction with youth ↔ Youth satisfaction with parent ↓ Behavioural problems ↓ Attendance at school or work ↑ Scores on BDI ↔ Days of institutionalisation ↔ Days of legal contact

Evidence Statement 57

There is insufficient evidence from one CNRT – and one CBA + to determine whether counselling and behavioural therapy interventions targeting young substance users are effective in reducing risk behaviours related to substance use.

5.4.4 Other interventions

Three additional studies (Chou et al. 1998; Kamon et al., 2005; McGillcuddy et al., 2001) examined interventions for young substance users that did not fit within the other categories.

Chou et al. (1998; RCT -) carried out an analysis of baseline substance users who participated in the Midwest Prevention Programme. The study was an RCT but details were not reported regarding how participants were randomised or whether investigators were blinded to the treatment allocation. In addition, there were a large number of dropouts between follow-ups and the study was rated -.

McGillcuddy et al. (2001; RCT +) examined an 8-session, coping skill training programme for parents of young drug users. Eligible parents were randomly assigning to immediate treatment or an 8-week wait list. The methodological details of the study were well reported; both treatment and research staff were kept blind to the cohort randomisation scheme. However, because of the small number of participants (n=22) the study was given a + rating.

Finally, Kamon et al. (2005; BA -) examined a multi-component contingency management-based intervention, which included adolescent and family components. The study used a before and after design without a comparison group and consequently was rated – for study quality.

5.4.4.1 Primary outcomes

Chou et al. (1998; RCT -) found that there were no significant effects of the Midwest Prevention Programme on cannabis use in those who reported use at baseline (1 intervention participant (4.6%) vs. 4 control (10.5%)). However, the intervention had significant effects on cigarette use at 6 months and on alcohol use at 6 months and at 1.5 years.

Table 5.4.8 Other interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Chou et al (1998)	RCT-	Midwest Prevention Program	No intervention	6 mths	↔ Cannabis use ↓ Cigarette use ↓ Alcohol use
				1.5 yrs	↓ Alcohol use

Evidence Statement 58

There is evidence from one RCT – to suggest that universal, community-based programmes delivered to existing substance users may produce short and long term decreases in alcohol use, short term decreases in cigarette use but no change in cannabis use (Chou et al., 1998). Applicability Rating C.

Based on parent reports of adolescent drug and alcohol use, McGillcuddy et al. (2001; RCT +) found that the coping skill training programme had positive effects on days of cannabis use compared to wait list controls [Mean (SD) cannabis use days: intervention 9.43 (13.85) vs. control 19.63 (19.73); effect size=0.08].

Table 5.4.9 Other interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
McGillcuddy et al (2001)	RCT +	Coping Skills Training Programme	Wait list controls	PT	↓ Days of cannabis use

Evidence Statement 59

There is preliminary evidence from one RCT + to suggest that skills training for parents of young substance users is effective in producing immediate reductions in cannabis use among young substance users compared to no intervention (McGillcuddy et al., 2001). Applicability Rating B.

Participants in the study by Kamon et al. (2005; BA -) reported a significant reduction in cannabis use following treatment. Seventy-four percent were negative for cannabis use at end of treatment compared to 37% at baseline, and of these, 53% were abstinent at 1-month follow-up. There was also a significant reduction in alcohol use; 74% reported no use during the previous month at end of treatment compared to 47% at baseline.

Table 5.4.10 Other interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Kamon et al (2005)	BA -	Contingency management-based Intervention	N/A	1 mth	↓ Cannabis use ↓ Alcohol use

Evidence Statement 60

There is insufficient evidence from one BA - to determine whether contingency-based management programmes with parent and child components are effective at reducing substance use in young users.

5.4.4.2 Secondary outcomes

McGillcuddy et al. (2001; RCT +) found that parents receiving the skill training programme scored significantly better on the assessment of parent coping than controls (effect size=0.34; indicating a large effect of the intervention) and marginally better on replication role-play. On measures of parental psychological functioning, intervention parents reported marginally less depression than control parents at follow-up, but there was no difference between groups on the measures of anxiety and anger. There was a non-significant trend favouring the intervention participants in terms of communication problems on the measures of family functioning but no difference between group in terms of communication openness.

Table 5.4.11 Other interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
McGillcuddy et al (2001)	RCT +	Coping Skills Training Programme	Wait list controls	PT	↑ Parent Coping ⇔ Replication role-play score ⇔ Parent psychological functioning ⇔ Family functioning

Evidence Statement 61

There is evidence from one RCT + to suggest that skills training programmes for parents of young substance users can produce an immediate improvement in parent coping but not other measures of parent and family functioning (McGillicuddy et al., 2001). Applicability Rating B.

Kamon et al. (2005; BA -) reported that parent reports of adolescent internalising and externalising symptoms decreased significantly between intake and the end of

treatment. However, there was no change in adolescent's rating of their own symptoms. Examination of parenting outcomes indicated that parent's had significantly increased monitoring and the use of consistent discipline, but had not positive involvement with their children.

Table 5.4.12 Other interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Kamon et al (2005)	BA-	Multi-component contingency management-based Intervention	None	1 mth	↓ Parent reports of internalising/externalising symptoms ↔ Adolescent reports of internalising/externalising symptoms ↑ Parents monitoring and use of consistent discipline ↔ Parents' positive involvement

Evidence Statement 62

There is insufficient evidence from one BA - to determine whether contingency-based management programmes with parent and child components had positive effects on risk factors related to substance use in young users.

5.5 Young people with behavioural and aggressive problems

Key to Section 5.5	
Section 5.5.1	Multicomponent programmes
Section 5.5.2	Single component programmes

Studies that targeted young people exhibiting disruptive, defiant, aggressive or disobedient behaviour, or more severe behavioural problems symptomatic of a conduct disorder were included in this section. Seven studies were identified; five studies (August et al., 2002; Lochman and Wells, 2002; Lochman and Wells 2003; Lochman and Wells 2004; Barrera et al., 2002) targeted children with aggressive behaviours, one study (CPRG, 2002) targeted behaviourally disruptive children and another (Vitaro and Dobkin, 2001), targeted boys with a diagnosis of oppositional defiant disorder and disruptive girls. Details of the studies identified are shown in Table 5.5.1. The format of the interventions varied, but with the exception of Vitaro and Dobkin (2001) they were all multicomponent and included child and parenting/family components:

- Multicomponent programmes (n=6; 1 RCT ++, 4 RCT +, 1 RCT -)
- Single component programmes (n=1; 1 RCT -)

Table 5.5.1 Studies identified: young people with behavioural and aggressive problems

Author (Year)	**Study design and rating**	**Outcomes reported**	
		Primary	**Secondary**
Multicomponent programme			
August et al. (2002)	Randomised controlled trial (cluster) ++		✓
Lochman & Wells (2002; 2003)	Randomised controlled trial (individual) +	✓	
Lochman & Wells (2004)	Randomised controlled trial (individual) +	✓	
Barrera et al (2002)	Randomised controlled trial (individual) +		✓
CPPRG (2002)	Randomised controlled trial (cluster) -		✓
Single component programme			
Vitaro and Dobkin (2001)	Randomised controlled trial (individual) -	✓	

5.5.1 Multicomponent programmes

5.5.1.1 Overview of evidence identified

Primary studies

The RCT by August et al. (2001) was rated ++. Although few details of the randomisation process were reported, overall the study was well reported and the authors undertook an ITT analysis. The authors examined "The Early Risers programme" compared to no treatment. In addition, to parent and child components, the intervention included a summer school programme, mentoring and a risk adjustment prevention tool.

The 3 RCTs (all rated +) by Lochman and Wells (2002; 2003; 2004) reported on the Coping Power programme, but although it was reported that participants were randomised between intervention and control groups, no details of the randomisation method were reported in any of the studies and it was not clear whether an ITT analysis had been undertaken. Two of these studies (Lochman and Wells, 2002; Lochman and Wells, 2003) reported on the same population at post-test and 1-year follow-up, respectively. The Coping Power programme included separate parent training and child training components for children identified as aggressive at the time of transition to middle school (children aged 10-12 years). The first two studies by Lochman and Wells (2002; 2003; both RCT +) examined The Coping Power programme alone compared to a universal parent programme which was delivered to all fifth-grade children and their parents, combination of the universal and Coping Power programmes, and to a no intervention control. The second study by Lochman and Wells (2004; RCT +) evaluated the effectiveness of the Coping Power programme in reducing delinquency and substance use in preadolescent aggressive boys (as identified by a teacher screen, teacher report form and child behaviour checklist). The authors compared the full Coping Power programme with the child component of the programme only and a no intervention control.

Barrera et al. (2002; RCT +) examined the Schools and Homes in Partnership (SHIP) programme which included parent training and a social behaviour intervention, compared to no intervention. This RCT was rated + as the methodological details of the study were on the whole, only adequately reported, for example, details were lacking about how randomisation was carried out. Finally, the Conduct Problems Prevention Research Group (CPPRG 2002; RCT -) examined a combined universal and indicated programme for behaviourally disruptive children compared to no

intervention. The universal component of the programme was delivered to all children in Grades 1 to 3. Parents and children identified as high-risk also received the indicated component that included parent groups, child social skill training, academic tutoring and home visiting. Few details about the method of randomisation were reported and it was not clear if the intervention and control groups were similar at the start of the trial. Consequently the this RCT was rated -

5.5.1.2 Primary outcomes

Immediate term (≤ 7 days)

Lochman and Wells (2002; RCT +) reported a significant effect of the three combined intervention groups on substance use across time compared to the control group; that is, participants in the three intervention groups reported significantly lower alcohol, tobacco and cannabis use than control participants.

Medium term (> 1 month ≤ 6 months; > 6 months ≤ 1 year)

At 1-year follow-up, participants receiving either intervention (universal intervention + Coping Power intervention; Coping Power intervention alone or universal intervention alone) (Lochman and Wells, 2003; RCT +) had lower substance use rates than control participants [mean (SD) substance use: universal intervention + Coping Power intervention: 1.15 (0.14); Coping Power intervention alone: 1.12 (0.07); universal intervention alone: 1.12 (0.09); vs. control 1.24 (0.32)].

In their second investigation of the Coping Power programme in preadolescent aggressive boys, Lochman and Wells (2004; RCT +) reported that at 1 year follow-up, boys in the intervention groups combined (child components alone and child + parent components) had lower alcohol and cannabis use rates than those in the control group (p=0.03). There was also a significantly greater reduction in parent rated substance use at 1 year in the intervention group who received the child and parent components (CPI) of the programme compared to controls [mean (SD) substance use: CPI -0.07 (0.44) vs. control 0.32 (0.93)]. There was no difference in child-rated substance use rates between boys in either of the intervention groups (child components alone group or child + parent components group) compared to one another or control [mean (SD) substance use: CI 0.19 (0.35); CPI 0.23 (0.36); control 0.15 (0.31)].

Table 5.5.2 Multicomponent programmes: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Lochman & Wells (2002; 2003)	RCT+	1) Universal intervention + Coping Power programme; 2) Coping power programme only; 3) Universal intervention only	No intervention	PT	↓ Alcohol, tobacco and cannabis use
				1 yr	↓ Alcohol, tobacco and cannabis use
Lochman & Wells (2004)	RCT+	1) Full Coping power programme; or 2) Coping power child components only	No intervention	1 yr	↓ Alcohol and cannabis use ↓ Parent rated substance use ↔ Child-rated substance use

Evidence Statement 63

There is evidence from two RCT + to suggest that a multicomponent parent and child programme, the Coping Power programme, has an immediate and medium term impact on reducing use of alcohol, tobacco and cannabis compared to no intervention in children with aggressive and behavioural problems (Lochman and Wells, 2003; Lochman and Wells, 2004). Applicability Rating C.

5.5.1.3 Secondary outcomes

Immediate term (≤ 7 days)

Participants receiving the Coping Power programme (Lochman and Wells, 2002; RCT +) demonstrated greater reductions in parent-rated proactive aggressive behaviour, an increase in teacher rated behavioural improvement and social skills compared to those who did not receive the intervention. Children who received both the indicated and universal interventions reported greater increases in social competence. No significant effects were found for either intervention group (Coping Power programme only or universal intervention plus Coping Power programme) on measures of parent-rated reactive aggression, teacher-rated aggression, temperament, dysregulation, social competence, attributions, anger, outcome expectations, perceived behaviour norms, teacher-rated problem solving, school bonding or parenting (harsh parenting and lack of supportiveness).

At immediate post-test, participants receiving the SHIP programme examined by Barrera et al. (2002; RCT +) demonstrated a significant decrease in levels of directly observed negative social behaviours compared to control participants. There were no

significant differences between intervention and control groups on the following measures: parent-rated or teacher-rated externalising/internalising behaviours, parent-reported child coercive behaviour, or parent-reported child antisocial behaviour.

Medium term (> 1 month ≤ 6 months; > 6 months ≤ 1 year)

At 1-year follow-up, Lochman and Wells (2003; RCT +) reported that participants who received the combined Coping Power programme/universal intervention and those who received the Coping Power programme alone had significantly lower levels of delinquent behaviour compared to control participants. Children who received the Coping Power programme and the universal intervention showed marginally lower levels of teacher-rated school aggression at 1-year follow-up ($p=0.10$) compared to control participants. There was no difference on this measure between control participants and participants who received the Coping Power programme only.

Lochman and Wells (2004; RCT +) reported that according to the results of the multiple analyses of covariance (MANOVA), boys who received the Coping Power programme (Lochman and Wells, 2004; RCT +) had greater reductions in covert delinquent behaviour (included minor theft, felony theft, fraud, destruction of property) and significantly greater improvements in school behaviour than control participants ($p<0.04$ and $p<0.01$, respectively) at 1 year follow-up. In particular, boys who received the child and parent components had a significantly greater reduction in covert delinquent behaviours than control boys [mean (SD) covert delinquency (child report): CI 0.54 (0.59); CPI 0.34 (0.51) vs. control 0.60 (0.74); CPI vs. control, $p<0.04$). There were no intervention effects on overt delinquency (included minor assault, felony assault, robbery).

At 1-year follow-up, Barrera et al. (2002; RCT +) found that non-Hispanic children who received the SHIP programme had significantly lower levels of teacher-rated internalising symptoms. In addition, all intervention children demonstrated a decrease in parent-rated coercive and antisocial behaviours, compared to controls.

Long term (>1 year)

August et al. (2002; RCT ++) reported that, based on ITT analyses, participants who received the Early Risers programme showed significantly greater gains than control participants in terms of social skills and academic achievement at 3-years follow-up.

Participants with high levels of attendance showed the greatest improvements on these outcomes. There was no difference between programme and control participants on measures of adaptability, concentration problems or self-regulation problems (aggression, hyperactivity or impulsivity). In terms of parental investment in the child, programme participants reported marginally greater gains in parental discipline at 3-years follow-up, but there was no effect of the intervention on nurturance or parent distress.

Significant effects of the intervention examined by the CPPRG (2002; RCT -) were found on five of eight measures of conduct problems; authority acceptance, teacher ratings of child behaviour change, parent ratings of child behaviour change, parent daily report, and special education diagnosis. There were no effects on the following measures: Teachers Report Form externalising T-score, peer-nominated aggression and diagnosis of oppositional defiant disorder or conduct disorder. Intervention children reported marginally better outcomes than control children on two measures of child social cognition (competent problem solving and hostile attributions; p=0.06). There was no difference between intervention and control children in terms of academic progress or social competence. In terms of parenting behaviour, compared to controls, parents who received the intervention indicated that they would use significantly less physical punishment and rated themselves as having improved their parenting behaviour more. However, there was no difference between intervention and control parents on measures of parental competence or teacher-rated involvement with the school.

Table 5.5.3 Multicomponent programmes: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
August et al. (2002)	RCT++	Early Risers programme	No intervention	3 yrs	↑ Social skills ↑ Academic achievement ↑ Parental discipline ↔ Adaptability ↔ Concentration problems ↔ Nurturance ↔ Parent distress ↔Aggression ↔ Hyperactivity ↔ Impulsivity

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Lochman & Wells (2002; 2003)	RCT+	Universal intervention + Coping Power programme	No intervention	PT	↓ Parent-rated proactive aggressive behaviour ↓ Teacher-rated aggression ↔ Teacher-rated proactive aggressive behaviour ↔ Teacher- or parent-rated reactive aggressive behaviour ↔ Temperament ↔ Dysregulation ↔ Teacher-rated behavioural improvement ↑ Child social competence ↔ Social cognition ↔ Social behaviour ↔ Parenting measures
				1 yr	↓ Self-reported delinquent behaviour ↔ Teacher-reported school aggression
		Coping power programme	No intervention	PT	↓ Parent-rated proactive aggressive behaviour ↔ Teacher-rated proactive aggressive behaviour ↔ Teacher- or parent-rated reactive aggressive behaviour ↑ Teacher-rated behavioural improvement ↑ Teacher rated social skills ↔ Temperament ↔ Dysregulation ↔ Social behaviour or social cognition ↔ Parenting
				1 yr	↓ Self-reported delinquent behaviour ↔ Teacher-reported school aggression
Lochman & Wells (2004)	RCT+	1) Full Coping power programme; or 2) Coping power child components only	No intervention	1 yr	↓ Covert delinquency ↑ School behaviour ↔ Overt delinquency
Barrera et al. (2002)	RCT+	SHIP parent training programme	No intervention	PT	↓ Observed negative social behaviours ↔ Teacher-rated externalising ↔ Teacher-rated internalising symptoms ↔ Parent-rated coercive and antisocial behaviours
				1 yr	↔ Teacher-rated externalising ↓ Teacher-rated internalising symptoms (amongst non-Hispanic children) ↓ Parent-rated coercive and antisocial behaviours
CPPRG (2002)	RCT-	Combined universal and indicated programme	No intervention	3 yr	+ Effects on 5 of 8 measure of conduct problems ↔ Child social cognition ↔ Academic progress ↔ Social competence ↓ Self-rated parental use of physical punishment ↑ Self-rated parenting behaviour ↔ Parental competence ↔ Teacher rated parent involvement

Evidence Statement 64.1

There is evidence from six RCTs (1 ++, 4 + and 1 -) to suggest that multicomponent programmes (including child and parent components) targeting children with behavioural and aggressive problem behaviours can have a positive impact in

reducing some problem behaviours compared to no intervention (August et al., 2002; Barrera et al., 2002; CPPRG, 2002; Lochman and Wells, 2002; Lochman and Wells 2003; Lochman and Wells 2004). Applicability Rating C.

Evidence Statement 64.2

There is evidence from one RCT ++ to suggest that a multicomponent programme (Early Risers programme) can produce long-term improvements in social skills, academic achievement and parental discipline, but not self-regulation problems, compared to no intervention (August et al., 2002). Applicability Rating C.

5.5.2 Single component programmes

The study by Vitaro and Dobkin (2001; RCT -) reported on a modified version of Life Skills Training that included the following elements: drug education; self instruction training; problem solving; stress management; anger control; communication skills; prosocial behavioural skills; and assertiveness training. No details were reported about how participants were randomised to groups and in addition, only those boys and girls completing both pre- and post-test assessments were included in the analyses.

The LST intervention examined by Vitaro and Dobkin (2001; RCT -) included child components only and targeted both disruptive and non-disruptive children (mean age 10.9 years). The selection instruments were difference for boys and girls; boys were selected based on a diagnosis of oppositional defiant disorder (ODD) and girls were selected based on teacher-rated disruptiveness. Both ODD and non-ODD boys and disruptive and non-disruptive girls were randomised to the intervention or a no intervention control group. The length of the modified LST intervention was unclear but sessions were delivered in grades 5 and 6.

5.5.2.1 Primary outcomes

Immediate term (≤7 weeks)

There was no significant difference between the intervention and control participants in terms of mean change scores for self-reported cigarette or alcohol use at post-test follow-up. At post-test, mean self-reported cannabis use had increased for both the control girls (to 0.07) and problem boys (to 0.14). There was no change in self-reported mean cannabis use for either the control boys or problem girls. Because of

the small number of participants that reported cannabis use at baseline and follow-up, groups could not be compared.

Table 5.5.4 Single component programmes: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Vitaro & Dobkin (2001)	RCT -	Modified version of LST	No intervention	PT	↔ Change scores for cigarette or alcohol use

Evidence Statement 65

There is evidence from one RCT – to suggest that a modified version of LST may be no more effective than no intervention at reducing cigarette and alcohol use in young people (aged 11 to 12 years) with behavioural and aggressive disorders, immediately following intervention (Vitaro and Dobkin, 2001). Applicability Rating C.

5.5.2.2 Secondary outcomes

Vitaro and Dobkin (2001; RCT -) found that compared to controls, intervention participants receiving a modified version of LST reported a greater increase in knowledge of, and negative attitudes to cigarettes but not alcohol or cannabis. Problem children (ODD boys and disruptive girls) receiving the intervention reported greater increases in assertiveness than problem children in the control group (significance not reported).

Table 5.5.5 Single component programmes: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Vitaro & Dobkin (2001)	RCT-	Modified version of LST	No intervention	PT	↑ Knowledge of cigarettes ↑ Negative attitudes to cigarettes ↔ Knowledge of alcohol and cannabis ↔ Negative attitudes to alcohol and cannabis
		Modified version of LST: ODD boys and disruptive girls	No intervention: ODD boys and disruptive girls	PT	↑ Assertiveness

Evidence Statement 66

There is evidence from one RCT – to suggest that a modified version of LST is more effective than no intervention in increasing knowledge and negative attitudes to cigarettes, but not alcohol or cannabis in young people (aged 11 to 12 years) with behavioural and aggressive disorders, immediately following intervention (Vitaro and Dobkin, 2001). Applicability Rating C

5.6 Young offenders

Key to Section 5.6	
Section 5.6.1	Counselling/behaviour therapy
Section 5.6.2	Educational/skills-based interventions
Section 5.6.3	Other interventions

Ten studies were identified which examined drug prevention interventions in populations of young offenders. Details of the studies are shown in Table 5.6.1. The following interventions were examined:

- Counselling/behavioural therapy (n=2; RCT +; RCT -)
- Educational/skills based (n=6; 2RCT +, 1 RCT -, 1 CNRT -; 2 BA -)
- Other (n=2): multicomponent intervention (n=1; 1 BA-), juvenile drug court (n=1; CBA-)

Table 5.6.1 Studies identified (young offenders)

Author (Year)	Study design	Outcomes reported	
		Primary	Secondary
Counselling/behavioural therapy			
Hengeller et al. (1991)	Randomised controlled trial (individual) +	✓	✓
Gil et al. (2004)	Randomised controlled trial (individual) -	✓	
Educational/skills-based			
Hawkins et al. (1991)	Randomised controlled trial (individual) +		✓
Friedman & Utada (1992)	Randomised controlled trial (individual) -	✓	✓
Friedman et al. (2002)	Randomised controlled trial (individual) -	✓	
Sotthiyapai et al. (2003)	Controlled non-randomised trial -		✓
Cervantes et al. (2004)	Before and after study -	✓	✓
Lynsky et al. (1999)	Before and after study -		✓
Other			
Sloan et al. (2004)	Controlled before and after study -		✓
Stein et al. (1992)	Before and after study -	✓	✓

5.6.1 Counselling/behavioural therapy

5.6.1.1 Overview of evidence identified

Primary Studies

The RCT by Hengeller et al. (1991; RCT +) was considered to have reported sufficient methodological information to be rated as +, however details were lacking on the method of randomisation and whether an ITT analysis had been carried out. The study reported on the effects of two separate multi-systemic therapy (MST) projects for tackling drug use and abuse in serious juvenile offenders, the Missouri

Delinquency Project (MDP) and Family and Neighbourhood services project (FANS). The MDP outcome study utilised an individual counselling control group, while the control group in the FANS study were individuals assigned to the usual services provided by the US Department of Youth Services.

Gil et al. (2004; RCT -) examined the effectiveness of guided self-change, a culturally sensitive brief motivational, cognitive behavioural intervention with minority juvenile offenders. Participants were randomly assigned to either an individual format of guided self change (I-GSC), a family involved format (F-GSC), and their choice between the two formats or a waiting list control condition. The authors did not report an adequate level of detail on the control groups and information was lacking regarding the number of participants lost to follow-up, consequently the RCT was given a – rating. In addition, data was only reported for participants in the intervention groups.

5.6.1.2 Primary outcomes

Hengeller et al. (1991; RCT +) reported that there were significantly lower levels of self-reported soft drug use (according to the soft drug use subscale of the National Youth Survey) at post-test among participants in the FANS multi-systemic therapy intervention group, compared to the usual services group (mean self-report scores: MST 0.36 vs. control 1.68; $p<0.041$). No primary outcomes were reported for the trial comparing the Missouri Delinquency Project (MDP) with control.

Gil et al. (2004; RCT -) reported that there were significant reductions in the percentage of days on which alcohol and other drug use occurred amongst all three ethnic groups represented in the study (USA-born Hispanic, foreign-born Hispanic and African American) between baseline and post-test. African American participants demonstrated the largest reductions. Further analysis showed significant reductions, among all groups in the proportion of days in which cannabis use occurred (83-90% to 40-49%) between baseline and post-test. Data was not reported for the intervention groups versus a wait list control.

Table 5.6.2 Counselling/behavioural therapy: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Hengeller et al. (1991)	RCT+	Family and Neighbourhood services project: Multisystemic therapy	US Department of Youth Services: Usual services	PT	↓ Self-reported soft drug use

Evidence Statement 67

There is evidence from one RCT + to suggest that multisystemic therapy may be more effective than "usual services" at reducing "soft" drug use by young offenders in the immediate term (Hengeller et al., 1991). Applicability Rating C.

5.6.1.3 Secondary outcomes

The RCT conducted by Hengeller et al. (1991) reported that young offenders who completed all or some of a multisystemic therapy (MST) intervention had significantly lower rates of substance-related arrests compared to participants receiving similar levels of individual counselling (arrest rate for substance-related offences: completers of MST 4% vs. control 16%; $p<0.02$). Those who received at least some MST (including dropouts and completers) had significantly lower rates of substance-related arrests than those who received at least some individual counselling (arrest rate for substance-related offences: MST 3% *vs.* control 15%; $p<0.02$). Participants who refused treatment had a substance-related arrest rate of 17%.

Table 5.6.3 Counselling/behavioural therapy: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Hengeller et al. (1991)	RCT+	Missouri Delinquency Project: Multisystemic Therapy	Individual counselling control	PT	↓ Substance related arrests

Evidence Statement 68

There is evidence from one RCT + to suggest that multisystemic therapy may be more effective than individual focused counselling in tackling recidivism in young offenders in the immediate term (Hengeller et al., 1991). Applicability Rating C.

5.6.2 Educational/skills based interventions

5.6.2.1 Overview of evidence identified

Primary studies

Six studies (Friedman and Utada, 1992; Friedman et al., 2002; Hawkins et al., 1991; Sotthiyapai et al., 2003; Cervantes et al., 2004; Lynsky et al., 1999) were identified that examined educational and skills based intervention approaches for young offenders.

The RCT by Hawkins et al. (1991) was deemed to have provided adequate methodological information to be rated +, however the study was lacking in methodological details regarding the method of randomisation and whether an ITT analysis had been undertaken. The authors compared the effects of cognitive-behavioural skills training for "incarcerated juvenile delinquents" with a usual treatment control group. The aim of the intervention was to provide additional skills training focused specifically on self-control, problem solving, and drug and alcohol avoidance and refusal skills. Both intervention and control participants were judged to have been exposed to behaviourally orientated skills training in school or in their residential programme. The RCTs by Friedman and Utada (1992), and Friedman et al. (2002) were not considered to have reported sufficient methodological details and were rated -. Both studies examined the effects of LST on adjudicated adolescent males. Friedman and Utada (1992) compared an adapted version of LST with a comparison group assigned to a combined Anti-violence and a Values Clarification (VC/AC) social cognitive programme. Friedman et al. (2002) compared the effects of a triple modality classroom intervention, incorporating both LST and VC/AV with a basic treatment control group. The CNRT by Sotthiyapai et al. (2003) did not adequately report on differences in control and intervention groups, and failed to report an adequate level of overall methodological detail, and was therefore rated -. Sotthiyapai et al. (2003; CNRT -) reported on the effects of a self-control skills training programme on convicted juvenile delinquents, with a no intervention control group.

Two studies (Cervantes et al., 2004; Lynsky et al., 1999) utilised before and after study designs. Neither of the studies employed a control group and both were therefore rated -. The intervention examined by Cervantes et al. (2004) was a culturally sensitive, multicomponent programme targeted at Hispanic families with delinquent youth. The programme was organised into four sessions designed to increase resiliency and address risk factors through the provision of legal education, parent and child communication training, drug education, case management and mentoring. Lynsky et al. (1999) reported on the effects of the Youth Alternative Sentencing Programme (YASP), an intervention programme aimed at adolescents in a county jail court system. The programme consisted of outreach education and intervention containing orientation evaluation, workshops, visits to a coroner and a trauma centre, and essay writing.

5.6.2.2 Primary outcomes

Friedman and Utada, (1992; RCT -) found no improvements in measures of Adolescent Drug Abuse Diagnosis (ADAD) in either the LST intervention group, or the VC/AV intervention group at 6-months follow-up. Furthermore, the authors reported that there was a trend towards a significant increase in self-reported drug use in the combined sample, between pre- and post-test ($p=0.06$). There were no significant differences between LST and VC/AC in terms of the interviewer's severity rating of drug problems. However, there was a trend towards a significant difference in interviewers severity rating of drug problems, with participants in the VC/AC intervention group reporting less severe problems ($p<0.10$).

Friedman et al. (2002; RCT -) found that participants who received the triple modality classroom intervention, involving the combined LST curriculum and VC/AC programme, showed a significantly greater reduction in levels of drug use compared to the control group at follow-up ($t=-2.58$; $p<0.01$). In addition, there was a non-significant trend towards a greater reduction in alcohol use in the intervention group compared to the control group ($t=-1.24$; p not reported).

Cervantes et al. (2004; BA -) reported non-significant increases (assessed using paired t-tests) in participants' self-reported cigarette and alcohol use from baseline to programme exit (cigarette use: from 12.9% at baseline to 14.1% at exit; alcohol use: 14.1% at baseline to 15.5% at exit). Use of illicit substances decreased from 13.1% at baseline to 12.8% at post-test, although the change was non-significant. No significant differences in drug use were reported between participants who received three or four intervention sessions.

Table 5.6.4 Educational/skills-based interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Friedman & Utada (1992)	RCT-	Modified version of LST	Combined anti-violence and values clarification programme	6 mths	No improvement on ADAD in either group Trend towards ↑ self-reported drug use in combined sample
Friedman et al. (2002)	RCT-	LST + combined anti-violence and values clarification programme	No intervention	6 mths	↑ Reduction in levels of drug use
Cervantes et al. (2004)	BA-	"Programma Shortshop": 4 session educational intervention	None	PT	↔ Self-reported cigarettes and alcohol use ↔ Illicit substance use

Evidence Statement 69.1

There is evidence from one RCT – to suggest that neither a modified version of LST or a combined anti-violence and values clarification programme are effective in reducing substance use among young offenders in the short term (Friedman and Utada, 1992). Applicability Rating C.

Evidence Statement 69.2

However, there is evidence from one RCT – to suggest that a combined programme of LST, anti-violence and values clarification can produce short-term reductions in substance use by young offenders compared to no intervention (Friedman et al., 2002). Applicability Rating C.

5.6.2.3 Secondary outcomes

Hawkins et al. (1991; RCT +) found that incarcerated juvenile delinquents receiving cognitive-behavioural skills training had higher scores at post-test on skills measures of drug and alcohol avoidance ($p<0.01$), social and problem solving ($p<0.001$) and self-control ($p<0.001$), and had significantly higher total scores across these measures, compared to a usual treatment control group. These results reflected the positive effects of the intervention on participants' skills to perform in role-play situations requiring the avoidance of drug and alcohol use, social interaction and interpersonal problem solving and self-control. Hawkins et al. (1991; RCT +) also found that participants in the experimental group scored significantly higher on measures of 14 untrained Adolescent Problem Situation Inventory (APSI) situations ($p<0.001$) and drug and alcohol avoidance outcomes ($p<0.01$) compared with the usual treatment group. Subgroup analyses indicated that pre-test characteristics had no significant influence on skills training effectiveness.

Friedman and Utada (1992; RCT -) reported that the combined sample of participants in the LST curriculum intervention and the VC/AV intervention groups demonstrated a significant decrease in numerous risk factors linked to substance use. There was a significant decrease among intervention groups in measures of "gotten in a fight" while drunk or drinking alcohol and, having "gotten into trouble with police" while drunk or drinking, between pre-test and post-test. There were also significant increases in measures of the cognitive variables, "smoking knowledge" and "alcohol knowledge". In addition, there was a significant increase in negative attitudes towards

cannabis between pre-test and post-test. However there was no significant change for measures of cigarette smoking and the measure of “trouble at home”, or injuries sustained due to alcohol. There was also no change on the measures of interpersonal skills between pre- and post-test. Comparing outcomes between the LST and VC/AV interventions, Friedman and Utada (1992; RCT -) reported five statistically significant differences ($p<0.05$), each favouring the VC/AV intervention. Participants in the VC/AV group showed a greater reduction in the frequency of going to bars, more reliance on what their mothers told them, a greater reduction in the number of illegal offences, a greater reduction in the number of days in the preceding month in which they engaged in illegal activity and a greater reduction in the amount of money spent on purchasing drugs in the preceding month. Non-significant findings were not reported. Friedman et al. (2002; RCT-) compared a combined LST and VC/AV curriculum to no intervention. At 6 months follow-up, participants who received the combined LST and VC/AV curriculum showed a significantly greater reduction in the frequency of involvement in the selling of drugs than participants in the no intervention control group ($p<0.05$). There was no difference between groups in the degree of illegal or violent offences committed or school problems.

Sotthiyapai et al. (2003; CNRT -) reported that participants who received a group self-control skills training programme (designed to promote self-efficacy, problem-solving skills, and self-control skills) reported significantly higher self-control scores than the no intervention control group [mean (SD) self-control score: intervention 147.9 (8.3) vs. control 135.3 (5.8); $p=0.003$].

Cervantes et al. (2004) found significant increases ($p<0.001$) from intake to release on level of knowledge about legal issues, including those related to alcohol, tobacco and other drug use. In addition it was found that youth who received the four-session intervention showed significantly greater increases in legal knowledge compared to those receiving the three-session intervention. Significant increases ($p<0.001$) were also found in resiliency factors in the area of school-related factors among programme participants. However, there were no improvements in family and peer related factors and only non-significant findings were reported on measures of family cohesion and adaptability. Parents showed significant ($p<0.001$) improvements in their knowledge of alcohol, tobacco and other drug use between pre-test and post-test, and there were also significant improvements in parent’s ratings of youth social behaviours. As with the youth measures there were no significant improvements in measures of parents’ ratings of family cohesion and adaptability.

Lynsky et al. (1999; BA -) reported that there was little change in participants' perception of harm from pre-test to post-test. However there were improvements in the proportion of participants reporting intentions not to use alcohol and cannabis (significance not reported).

Table 5.6.5 Educational/skills-based interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Hawkins et al. (1991)	RCT+	Cognitive-behavioural skills training	Usual treatment	PT	↑ Skills measures of drug and alcohol avoidance ↑ 14 APSI situations ↑ APSI drug and alcohol avoidance outcomes ↑ Social and problem solving ↑ Self-control
Friedman & Utada (1992)	RCT-	Combined anti-violence and values clarification programme	Modified version of LST	6 mths	↓ Frequency of going to bars ↓ Money spent on purchasing drugs during preceding month ↑ Reliance on what their mothers told them ↓ Number of illegal offences committed ↓ Number of days during the preceding month that they engaged in illegal activity
Friedman et al. (2002)	RCT-	LST + combined anti-violence and values clarification programme	No intervention	6 mths	↔ Illegal offences ↓ Drug selling ↔ Violent offences ↔ School problems
Sotthiyapai et al. (2003)	CNRT-	Self-control skills training programme	No intervention	PT	↑ Self-control
Cervantes et al. (2004)	BA-	"Programma Shortshop" 4 session educational intervention	None	PT	↑ Parents' knowledge of alcohol, tobacco and other drug use ↑ Resiliency factors related to school ↔ Family- and peer-related factors ↔ Family cohesion and adaptability ↑ Parent-rated youth social behaviours ↑ Legal education
Lynsky et al. (1999)	BA-	Youth Alternative Sentencing programme	None	PT	↔ Perception of harm

Evidence Statement 70.1

There is evidence from two RCTs (1 + and 1 -) to suggest that educational and skills based interventions are effective in improving knowledge, attitudes, skills and behaviours related to substance use in young offenders in the immediate to short term (Friedman and Utada, 1992; Hawkins et al., 1991;). Applicability Rating C.

Evidence Statement 70.2

There is evidence from one RCT – to suggest that a combined programme of LST and anti-violence and values clarification may not have an impact on illegal and

violent offences or school problems in a population of young offenders, compared to no intervention (Friedman et al., 2002). Applicability Rating C.

5.6.3 Other interventions

5.6.3.1 Overview of evidence identified

Primary studies

One study (Stein, 1992; BA -) examined an intervention containing multiple components within a single intervention strategy. Stein et al. (1992) examined the effects of the Colorado OSAP Project, a multi-agency collaborative strategy containing elements of counselling, skills building, prosocial bonding and mentoring. The authors conducted a before and after study and due to the lack of a control group within the study was given a rating of -.

Sloan et al. (2004; BA -) examined the effectiveness of juvenile drug courts on reducing levels of recidivism within a sample of juvenile drug offenders. Drug court was a four-phase programme including intensive probation supervision, frequent random drug testing, judicial monitoring and the use of incentives. Comparisons were made with adolescents who had taken part in the Adolescent Substance Abuse Programme (ASAP) a 12 week combined drug education and treatment programme. The CBA study was deemed to be lacking in key methodological areas and there were important differences at baseline between intervention and control groups, and the study was therefore rated -.

5.6.3.2 Primary outcomes

Stein et al. (1992; BA -) found that there were no significant changes in measures of alcohol and other drug use within the youth sample involved in the OSAP project at either post-test, 6 month or 12 month follow-up. There were also no significant changes when sub group analyses were undertaken.

Table 5.6.6 Multicomponent programmes: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Stein et al. (1992)	BA-	Multiagency OSAP project	None	6 mths	⇔ Alcohol or other drug use
				1 yr	⇔ Alcohol or other drug use

Evidence Statement 71

There is insufficient evidence from one BA - to determine whether multicomponent

interventions for young offenders are effective in reducing substance use.

5.6.3.3 Secondary outcomes

Stein et al. (1992; BA -) reported on the impact of a multi-component intervention on measures of prosocial bonding, environmental impact, morality and psychological factors. There was an increase in friends' approval for prosocial behaviour, but a decrease in family bonding. Perceptions of the neighbourhood ratings decreased between intake and release, but increased between release and 6 month follow up. Measures of belief in moral rules decreased between intake and release, however perceived sanctions for delinquency increased in the same period. There were no significant changes in psychological factors.

Table 5.6.7 Multicomponent programmes: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Stein et al. (1992)	BA-	Multiagency OSAP project	None	6 mths	↓ Family bonding ↑ Perceptions of neighbourhood ratings ↑ Friend's approval for prosocial behaviour ⇔ Psychological factors

Evidence Statement 72

There is insufficient evidence from one BA - to determine whether multicomponent interventions are effective in reducing risk factors related to substance use in young offenders.

Participants in the 12 week adolescent substance abuse programme (ASAP) combining drug education and treatment showed lower levels of recidivism at 1, 4, 8, 12, 16, 20, and 24 months compared to participants in the drug court programme (comprising intensive probation supervision, frequent random drug testing, judicial monitoring and the use of incentives. However after controlling for the effects of variables including age, sex and race, Sloan et al. (2002; CBA -) reported that there was no significant differences in levels of re-arrest between the two study groups after 2 years follow-up.

Table 5.6.8 Juvenile drug court: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Sloan et al. (2004)	CBA-	Juvenile Drug Court	Drug education and treatment programme	2 yrs	⇔ Re-arrests

Evidence Statement 73

There is insufficient evidence from one CBA - to determine whether drug courts for young people have positive effects on risk factors related to substance in young offenders.

73.1 There is evidence from one CBA – to suggest that juvenile drug court programmes are no more effective than drug education and treatment in reducing the long-term frequency of being arrested (Sloan et al., 2004). Applicability Rating C.

5.7 School dropouts, truants and underachievers

Key to Section 5.7	
Section 5.7.1	Educational/skills-based interventions
Section 5.7.2	Multicomponent interventions

A total of 12 studies were identified which examined drug prevention interventions for school dropouts, truants and underachievers. Two studies (Cho et al., 2005; Munoz, 2001) examined interventions for truants, seven studies focused on young people in alternative education (Sussman et al., 1995., Sussman et al., 1998; Sussman et al., 2002a; Sussman et al, 2002b; Sussman et al., 2003; Sun et al., 2006; Sohn, 2000) and two studies (Eggert et al., 1990; 1994) targeted potential school dropouts. Details of the studies are shown in Table 5.7.1. The following interventions were examined:

- Educational/skills-based interventions (n=10; 5 RCT +, 2 RCT -; 3 CNRT -)
- Multicomponent interventions (n=2; 2 BA -)

Table 5.7.1 Studies identified: school dropouts, truants and underachievers

Author (Year)	**Study design**	**Outcomes reported**	
		Primary	**Secondary**
Educational/skills-based interventions			
Cho et al., (2005)	Randomised controlled trial (individual) +	✓	✓
Sun et al. (2006)	Randomised controlled trial (cluster) +	✓	
Sussman, et al. (1998)	Randomised controlled trial (cluster) +	✓	
Sussman et al (2002b)	Randomised controlled trial (cluster) +	✓	
Sussman et al., (2003)	Randomised controlled trial (individual) +	✓	
Sussman et al., (1995)	Randomised controlled trial (individual) -		✓
Sussman et al., (2002a)	Randomised controlled trial (cluster) -		✓
Eggert et al. (1990)	Controlled non-randomised trial -	✓	✓
Eggert et al. (1994)	Controlled non-randomised trial -	✓	✓
Thompson et al. (1997)	Controlled non-randomised trial -	✓	✓
Multicomponent interventions			
Munoz, (2001)	Before and after study -		✓
Sohn (2000)	Before and after study -	✓	✓

5.7.1 Educational/skills-based interventions

5.7.1.1 Overview of studies identified

Primary studies

Six studies (Sussman et al., 2002a; Sussman et al., 2002b; Sun et al., 2006; Sussman et al., 1998; Sussman et al., 2003; Sussman et al., 1995) examined a 9-session, social influence-oriented substance abuse prevention curriculum delivered to students in continuation high schools. Sussman et al. (1995; RCT -) compared a health educator (active) delivery mode and a paragraph-only (passive) delivery mode of the intervention, within continuation and traditional high schools. Five studies, (Sussman et al., 2002a; RCT -; Sussman et al., 2002b; Sun et al., 2006; Sussman et al., 1998; Sussman et al., 2003; all RCT +) reported on the same intervention programme, Project Towards No Drug Abuse (TND). Two RCTs (Sussman et al., 1998; Sun et al., 2006; both RCT +) reported up to one- and five-year outcomes on the same sample. In both studies, a classroom-only, 9-session version of TND, and a classroom-based, 9-session version, plus a school-as-community component were compared to a standard care control group. Two other studies (Sussman et al. 2002a; Sussman et al. 2003) reported short-term and two-year follow measures for a 12-session version of the TND programme within continuation high school samples. In both studies, a self-instruction version of TND and a health educator led version were examined, compared to a standard care control group. The remaining TND study (Sussman et al. 2002b) provided a review of data from three TND trials; two of which reported on the same samples as Sussman et al. (1998) and Sun et al. (2006), and Sussman et al. (2003), respectively.

Four of the RCTs conducted by Sussman et al. (1998; 2002b; 2003) and Sun et al. (2006) were considered to have reported sufficient methodological detail to be assigned a + rating, however, there were high levels of attrition at follow up and differences in sample characteristics at baseline. Two RCTs conducted by Sussman et al. (1995; 2002a) were deemed to have been lacking in methodological detail and illustrated poor study design and implementation, these studies were therefore rated -.

Four studies (Cho et al., 2005; Eggert et al., 1990; Eggert et al., 1994; Thompson et al., 1997) examined skills-based interventions. Cho et al. (2005; RCT +) examined the effectiveness of Reconnecting Youth, a 55 lesson programme (with 24 additional booster lessons), which aimed to develop skills within the areas of self-esteem,

decision making, personal control, and interpersonal communication within youth at high risk of school dropout. Comparisons are made at post-test and six-month follow-up, utilising a no intervention control group. The RCT was rated +, due to contrasting results reported from two different study sites and a high rate of attrition in the intervention group. Eggert et al. (1990; CNRT -) examined the effects of the semester long, Interpersonal Relations (IPR) programme among potential high school dropouts and drug abusers. The programme consisted of life-skills and self-management training, peer tutoring and study skills training. Comparisons were made with a randomly selected high-risk control group with an immediate, post-intervention follow up. The CNRT was considered to have potential bias in the results due to differing baseline demographics between experimental and control groups. Eggert et al. (1994; CNRT -) examined the efficacy of a school based social network development programme for youth at high risk of school drop out. Intervention and control groups were randomly selected and subsequently invited to take part in either a survey of high school students or a preventive intervention programme. Intervention participants took part in a semester long Personal Growth Class, effects were monitored at post-test and five-month follow-up. The study was deemed to be methodologically lacking due to a potential bias upon findings resulting from the sample selection process, and differences in baseline measures, and this study was therefore rated -. Thompson et al. (1997; CNRT -) further examined the Personal Growth Class, focusing on Early and Late programme cohorts. Both groups received the intervention, but Late participants received a refined version of programme. Few methodological details were reported and the study was rated -.

5.7.1.2 Primary outcomes

The study conducted by Sussman et al. (1998; RCT +) and followed up by Sun et al. (2006; RCT +) reported a significant reduction in hard drug use among TND programme participants compared to the control group at 1-year follow up ($p<0.04$). There were no significant differences between the classroom only condition and the classroom plus school-as-a community condition ($p=0.93$). Participants in the classroom only condition who reported no baseline use of hard drugs showed greater benefits from exposure to the classroom only condition. At one year the school as a community condition showed greater benefits for participants reporting intermediate or higher use at pre-test. There was no reported programme effect on pre-test nonusers and lower level users of alcohol, however classroom-only programme participants reporting higher pre-test alcohol use did show significant reductions in alcohol compared to controls ($p<0.01$).

Sun et al. (2006; RCT +) found a significant effect of Project TND at the combined four- and five-year follow-up, however no significant effects were found at the combined two- and three-year follow-up. Adjusted means of 30-day substance use showed that participants in the classroom-only version of TND had less than half of the last month hard drug use[14] compared to the control group, the classroom plus the school-as-community component group showed approximately one fifth of the last month hard drug use of the control group at long term follow up. However there were no significant long or short-term programme effects for cigarette, alcohol or cannabis.

A health educator-led, 12-session version of TND was found to significantly reduce 30-day drug use relative to the self-instruction and control conditions. Sussman et al. (2002b; RCT -) reported that there was a 26% relative reduction in hard drug use, a 27% relative reduction in cigarette smoking and a 22% relative reduction in cannabis use at one-year follow up. In addition the self-educator led programme produced a 9% relative reduction in alcohol use among participants who reported use at baseline. Sussman et al. (2003; RCT +) reported data on the same sample at two years follow up, showing that the health educator led TND programme significantly reduced the probability of 30-day tobacco use (p=0.016) and hard drug use (p=0.024), compared to the self instruction condition and the standard care control. In addition it was found that the health educator led programme was significantly effective in reducing cannabis use amongst males who were nonusers at pre-test (p=0.031). However there were no significant effects on participants' tobacco, alcohol and hard drug use. Effectiveness of the 12-session version of TND was not proven, as there were no significant positive effects of the self-instruction programme at two year follow up.

The study Cho et al. (2005; RCT +) showed no effect of the intervention on hard drug use in the previous 30 days, when comparing experimental groups to control at post-test. Additional analysis produced inconsistent and contradictory findings with differing effects reported between sites. At six-month follow-up only negative effects were reported.

[14] Hard drug use included use of cocaine (crack), hallucinogens (LSD, acid, mushrooms), stimulants (ice, speed, amphetamines), inhalants (rush, nitrous), and other drugs (depressants, PCP, steroids, heroin etc.).

Follow-up data from the study conducted by Eggert et al. (1990; CNRT -) showed that intervention participants significantly decreased the reported frequency of their drug use ($p<0.001$) between pre- and post-test. Intervention participants also reported reductions in drug consequences (fewer problems with family and friends, fewer disciplinary actions, psycho social consequences, biomedical consequence) ($p<0.001$) and drug involvement (a composite of drug use and drug consequences) $p<0.001$). Drug use outcomes were not compared with controls.

Eggert et al. (1994; CNRT -) reported a decreasing trend in drug use (p=NS) within the intervention group who received the Personal Growth Class (PGC) compared to the control group, showing a stemming of the progression of cigarette and alcohol use to illicit drugs. In addition it was reported that significant decreasing trends were found when examining participants' drug control problems and consequences ($p=0.029$) within the intervention group when compared to the control group. Thompson et al. (1997; CNRT -) found that the Late cohort, who received the refined PGC, reported a significant reduction in 'hard' drug use immediately post intervention compared to the Early cohort ($p<0.05$). There were no effects of the refined intervention on the use of tobacco, alcohol or cannabis.

Table 5.7.2 Educational/skills based interventions: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Sussman, et al. (1998)[a]	RCT +	1) 9-session TND 2) 9-session TND + school as community	Standard care	1 year	↓ Hard drug use ↔ Alcohol use ↔ Tobacco use ↔ Cannabis use
Sun et al. (2006)[a]	RCT +	9-session TND	Standard care	2-3 yrs	↔ Hard drug use ↔ Alcohol use ↔ Tobacco use ↔ Cannabis use
				4-5 yrs	↓ Hard drug use ↔ Alcohol use ↔ Tobacco use ↔ Cannabis use
Sussman et al. (2002b)[b]	RCT -	12-session TND	Standard care/Self instruction	1 yr	↓ Hard drug use ↓ Alcohol use ↓ Cigarette smoking ↓ Cannabis use
Sussman et al. (2003)[b]	RCT +	12-session TND (Health educator led)	Standard care	2 yrs	↓ 30 day tobacco use ↓ 30 day hard drug use ↔ 30 day alcohol use ↔ 30 day cannabis use
			Self-instruction TND	2 yrs	↔ Tobacco use ↔ Alcohol use ↔ Cannabis use ↔ Hard drug use
Cho et al. (2005)	RCT +	Reconnecting Youth	No intervention	6 mths	↔ Hard drug use Inconsistent findings across intervention sites regarding alcohol and cigarette use

Eggert et al. (1994)	CNRT -	Personal growth curriculum	Not specified	5 mths	⇔ Drug use
Thompson et al. (1997)	CNRT-	Personal growth curriculum: Late cohort	Personal growth curriculum: Early cohort	PT	↓ Hard drug use ⇔ Alcohol ⇔ Cannabis ⇔ Drug use
Superscript letters denote publications reporting on the same sample					

Evidence Statement 74.1

There is evidence from two RCT + to suggest that a classroom-based social influence intervention (Project TND) has inconsistent long-term effects but positive medium-term effects on "hard drug use" amongst youth in alternative education provision. Medium- and long-term intervention effects on use of other substances (alcohol, tobacco and cannabis) are inconsistent. (Sussman et al., 1998; Sun et al., 2006; Sussman et al., 2002b; Sussman et al., 2003). Applicability Rating D.

Evidence Statement 74.2

There is evidence from two RCT + to suggest that the addition of a community-based component to Project TND does not increase programme effectiveness (Sussman et al., 1998; Sun et al., 2006) and that health-educator delivered interventions are more effective than a self-instruction programme in reducing subsyance use (Sussman et al., 2002b; Sussman et al., 2003). Applicability Rating D.

Evidence Statement 74.3

There is inconsistent evidence from one RCT + and two CNRT – about the effectiveness of skills based interventions in preventing or reducing substance use in students identified as at risk of school dropout (Cho et al., 2005; Eggert et al., 1994; Thompson et al., 1997). Applicability Rating C.

5.7.1.3 Secondary outcomes

Data reported by Sussman et al. (1995; RCT -) showed that eight of the nine social influence components of the programme examined, produced increases in drug use knowledge. However, it was found that only the health educator (active) delivered curriculum produced positive increases in drug use beliefs. Four of the nine health educator delivered sessions produced a significant increase in beliefs against drug use, however only one of these (normative restructuring) was significantly different across delivery modes (health educator vs. paragraph-only; significance not reported).

Sussman et al. (2002a; RCT -) found that both a health educator led 12-session version of TND and a self-instruction version produced similarly positive results in the area of drugs knowledge. Significant improvements were also made in the areas of motivation, group oriented perspective taking and tobacco cessation skills.

Cho et al. (2005; RCT +) reported that intervention participants had lower delinquency scores compared to control participants at post-test, however the difference was not significant ($p=0.068$). Negative effects were found in the area of conventional peer bonding; intervention participants reported significantly lower levels compared to control participants at post-test ($p<0.05$). At the six-month follow-up there was no difference between the intervention groups in terms of grade point average, anger or school connectedness. Compared to participants in the control group, intervention participants reported significantly lower levels of conventional peer bonding ($p<0.05$) and higher levels of peer high-risk behaviour ($p<0.05$).

Eggert et al. (1990; CNRT -) found a greater proportion of potential dropouts were retained within the experimental IPR group than were in the control group (74% vs. 61%, significance not reported). In addition truancy rates decreased for intervention group participants while increasing in the control group, creating a significantly different pattern between the two groups ($p<0.0001$). Pre-test analysis showed both intervention and control groups were reporting declining grade point averages, however post-test measures revealed that the IPR group had reversed the decline, while control group grade point averages continued to go down ($p<0.0001$).

Eggert et al. (1994; CNRT -) reported that PGC participants had significant increases in their grade point average relative to the control group ($p=0.024$). Prior to the introduction of the intervention, absenteeism was increasing in both the experimental and control groups. Following the intervention, although there was no significant difference between the groups, control students' levels of truancy continued to escalate, but truancy levels in the experimental group stabilised [mean (SD) class absences at pre-test: intervention 58.7 (36.2) vs. control 47.6 (33.1); at post-test: intervention 57.1 (39.4) vs. control 56.6 (34.0); at 5 months: intervention 58.0 (38.9) vs. control 48.5 (28.7)]. PGC participants also had higher levels of self-esteem and bonding to school at 5-months follow-up compared to control participants, and lower levels of deviant peer bonding. Thompson et al. (1990; CNRT -) reported that participants who received a refined version of PGC (Late cohort) reported significantly decreased levels of depression, perceived stress and anger, and

increased self-esteem (all p<0.0001) compared to the Early cohort. There was no difference between the two cohorts on measures of personal control, school achievement (GPA) or school absences.

Table 5.7.3 Educational/skills-based interventions: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Sussman et al. (1995)	RCT -	9-Session, social influence intervention: health educator	9-Session, social influence intervention: paragraph only	PT	↑ Both delivery modes had effects on knowledge ↑ Beliefs against drug use (resulting from 4 of the nine actively delivered components)
Sussman et al. (2002a)	RCT -	12-Session TND	Standard care control	~ 4 wks	↑ Drugs knowledge ↑ Motivation ↑ Group oriented perspective taking ↑ Tobacco cessation skills
Cho et al. (2005)	RCT +	Reconnecting Youth	No intervention	PT	⇔ Delinquency scores ↓ Conventional peer bonding
				6 mths	⇔ Grade point average ⇔ Anger ⇔ School connectedness ↓ Conventional peer bonding ↑ Peer high-risk behaviour
Eggert et al. (1990)	CNRT -	IPR	High risk youth who did not choose an IPR class	PT	↑ Retention of potential school dropouts ↓ Truancy ↑ Grade point average
Eggert et al. (1994)	CNRT -	Personal growth curriculum	Non-participants	5 mths	↑ Grade point average ⇔ School absences ↑ Self-esteem ↓ Deviant peer bonding ↑ Perceived school bonding
Thompson et al. (1997)	CNRT-	Personal growth curriculum: Late cohort	Personal growth curriculum: Early cohort	PT	↓ Depression ↓ Perceived Stress ↓ Anger ↑ Self esteem ⇔ Personal control ⇔ School achievement (GPA) ⇔ School absences

Evidence Statement 75.1

There is evidence from two RCT - to suggest that a social influence intervention (Project TND) is effective in producing very short-term improvements in substance-related attitudes and knowledge within youth in alternative education provision (Sussman et al., 1995; Sussman et al., 2002a). There is evidence to suggest that the programme is more effective when delivered actively rather than passively (Sussman et al., 1995). Applicability Rating D.

Evidence Statement 75.2

There is evidence from two CNRT – to suggest that skills based interventions are effective at improving grades in the immediate and short term in students identified as at risk of school dropout, although effects on school absences are less clear

(Eggert et al., 1990; Eggert et al., 1994). Applicability Rating C.

Evidence Statement 75.3

There is evidence from one RCT + to suggest that a programmed intervention approach (Reconnecting Youth) has no effects on grades, school connectedness or anger. In addition, there is evidence to suggest that intervention may decrease conventional peer bonding and increase peer high-risk behaviours in the short term (Cho et al., 2005). Applicability Rating C.

5.7.2 Multicomponent interventions

5.7.2.1 Overview of evidence identified

Primary studies

Two before and after studies (Munoz, 2001; Sohn, 2000; both BA -) examined multi-component interventions for targeting populations of young offenders. Both studies were rated – due to poor methodology and because a control group was not included for comparison. Sohn (2000; BA -) examined a multicomponent mental health and vocational services substance use prevention and reduction programme (HMC) implemented in an alternative high school setting. The HMC programme consisted of health care, psychological and social services in addition to standard curriculum classes. Munoz (2001; BA -) reported on a multi-component Truancy Court Diversion Project (TCDP). The programme was designed to tackle truancy among high-risk youth. The programme included parenting classes, Saturday school, behaviour contracts, drug screening of children, tutoring, psychological assessments, anger management and referral to other support services.

5.7.2.2 Primary outcomes

Sohn (2000; BA -) found that the percentage of study participants who reported an increase in their cannabis, alcohol or hard drug use was higher than those reporting a reduction. This trend was reported to be particularly apparent for those who reported no substance use at pre-test.

Table 5.7.4 Multicomponent programmes: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Sohn (2000)	BA -	Mental health and vocational services programme	None	PT	↑ Substance use

Evidence Statement 76

There is insufficient evidence from one BA - to determine whether multicomponent interventions are effective in preventing or reducing substance use in students identified as at risk of school dropout, truants or students in alternative education provision.

5.7.2.3 Secondary outcomes

There were small increases in psychological adjustment reported at post-test, within the study conducted by Sohn (2000; BA -). Analysis of psychological adjustment across gender revealed that while female participants psychological adjustment scores increased at post-test, male participants scores had decreased. Sohn (2000; BA -) also reported small improvements in post-test measures of self-esteem.

Data from the study conducted by Munoz et al. (2001; BA -) showed a decrease in the mean number of days absent from school ($p<0.05$). Analysis of data indicated a 24% decrease in days absent at one-month follow-up. There were also significant improvements reported after 3 months ($p<0.01$).

Table 5.7.5 Multicomponent programmes: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Sohn (2000)	BA -	Mental health and vocational services programme	None	PT	↑ Psychological adjustment (females) ↓ Psychological adjustment (males) ↑ Self-esteem
Munoz et al. (2001)	BA -	Truancy Court Diversion program	None	1 mth	↓ Days absent
				3 mths	↓ Days absent

Evidence Statement 77

There is insufficient evidence from two BA - to determine whether multicomponent interventions have positive effects on risk factors related to substance use in young people identified as at risk of school dropout, truants or students in alternative education provision.

5.8 Other populations

Key to Section 5.8	
Section 5.8.1	High sensation seekers
Section 5.8.2	Homeless young people
Section 5.8.3	Children of divorce
Section 5.8.4	Institutionalised youth
Section 5.8.5	Abused females
Section 5.8.6	Latchkey students

Nine studies were identified which covered six additional populations. Details of the studies are shown in Table 5.8.1:

- High sensation seekers (n=2; 2 CNRT -);
- Homeless young people (n=2; 2 CNRT -);
- Children of divorce (n=2; 1 RCT +, 1 CNRT);
- Institutionalised youth (n=1; CBA -);
- Abused females (n=1; RCT -);
- Latchkey[15] students (n=1; CNRT -).

Table 5.8.1 Studies identified: other populations

Author (Year)	Study design	Outcomes reported	
		Primary	Secondary
High sensation seekers			
Palmgreen et al. (2001)	Controlled non-randomised trial -	✓	
Stephenson et al (1999)	Controlled non-randomised trial -		✓
Homeless young people			
Booth et al. (1999)	Controlled non-randomised trial -	✓	✓
Fors & Jarvis (1995)	Controlled non-randomised trial -		✓
Children of divorce			
Wolchik et al (1993)	Randomised controlled trial (individual) +		✓
Short (1998)	Controlled non-randomised trial -		✓
Institutionalised youth			
Morehouse & Tobler (2000)	Controlled before and after study -	✓	
Abused females			
Brown and Block (2001)	Randomised controlled trial (individual) -	✓	
Latchkey students			
Ross et al. (1992)	Controlled non-randomised trial -		✓

[15] Young people who lack parental supervision (e.g. parent is out at work) when they return home from school.

5.8.1 High sensation seekers

Primary studies

Two studies (Stephenson et al., 1999; Palmgreen et al., 2001) examined the SENTAR (Sensation Seeking Targeting) intervention, which consisted of an anti-cannabis television campaign targeted at high sensation seeking individuals. Both studies received a CNRT rating of – due to the insufficient methodological details provided.

5.8.1.1 Primary outcomes

Palmgreen et al. (2001; CNRT -) modelled cannabis use in adolescents after televised anti substance use advertisements were shown in two counties in the USA. Young people were divided into high sensation seeking (HSS) and low sensation seeking (LSS) groups. In one county, where participants received one televised campaign, HSS showed an upwards trend in 30 day cannabis use before the campaign. In Fayette County, young people were able to view two televised campaigns; a wearing off effect was found in the first campaign after approximately six months.

Table 5.8.2 High sensation seekers: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Palmgreen et al. (2001)	CNRT-	SENTAR Fayette County: Two televised campaigns	SENTAR Knox County: One televised campaign	NR	Knox County: HSS displayed ↓ trend in 30 days cannabis use Fayette County: ↓30 days cannabis use, wearing off effect found after approx. 6 mths

Evidence Statement 78

There is insufficient evidence from one CNRT - to determine whether television campaigns targeting high sensation seeking adolescents are effective at reducing self-reported cannabis use (Palmgreen et al., 2001). Applicability Rating C.

5.8.1.2 Secondary outcomes

Stephenson et al (1999) found that following the television campaign, compared with the low sensation seeking adolescents (LSS), HSS adolescents had stronger pro-cannabis beliefs and attitudes, and reported a greater intention to use. Furthermore HSS reported greater intervention recall certainty compared with LSS.

Table 5.8.3 High sensation seekers: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Stephenson et al (1999)	CNRT-	SENTAR intervention: Anti-cannabis TV campaign	No intervention	NR	HSS reported stronger pro-cannabis beliefs and attitudes, and greater intention to use vs. LSS for occasional and regular cannabis use

Evidence Statement 79

There is insufficient evidence from one CNRT - to determine whether television campaigns targeting high sensation seekers have effects on substance use knowledge, attitudes, and intentions to use (Stephenson et al., 1999). Applicability Rating C.

5.8.2 Homeless young people

Primary studies

Two controlled non-randomised trials (Booth et al., 1999; Fors and Jarvis, 1995) examined substance use prevention interventions for young runaway and homeless people. Both interventions examined the effectiveness of peer led interventions. The intervention examined by Booth et al. (1999; CNRT -) targeted drug and sex-related HIV risk behaviours whereas the focus of the intervention examined by Fors and Jarvis (1995; CNRT -) was on developing skills and knowledge related to drug use.

5.8.2.1 Primary outcomes

In the study by Booth et al. (1999; CNRT -) participants who received the peer intervention decreased their use of heroin/cocaine over the 3-month follow-up by 7% (non significant compared to baseline), while those in the control group reported no change. Both groups demonstrated a non-significant change from baseline in the average number of drugs used (intervention -0.3 vs. control +0.1).

Table 5.8.4 Young homeless/runaways: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Booth et al. (1999)	CNRT-	Peer helper intervention targeting drug- and sex-related HIV risk behaviours	No intervention	3 mths	⇔ Heroin/cocaine use ⇔ Average number of drug used

Evidence Statement 80

There is insufficient evidence from one CNRT - to determine whether substance use prevention interventions targeting young homeless people are effective in reducing their substance use.

80.1 There is evidence from one CNRT – to suggest that peer led interventions targeting young runaways and homeless people do not significantly impact on drug use (heroin and cocaine) in the short term (Booth et al., 1999). Applicability Rating C.

5.8.2.2 Secondary outcomes

Booth et al., (1999; CNRT -) found that participants who received the peer led intervention were significantly more knowledgeable about HIV than those who did not at both two days ($p < 0.001$) and 3-month follow-up ($p < 0.001$). The authors also report that high-risk sex[16] had decreased by 9% from baseline to follow up at 3 months for young people in the peer led intervention group and a decrease of 12% was recorded for those in the control group (significant decrease from baseline). However, the difference between the two groups was not statistically tested.

Fors & Jarvis (1995; CNRT -) reported that the peer led intervention group were significantly more willing to accept responsibility for their actions and were significantly more likely to help friends use community resources following the intervention than controls.

Table 5.8.5 Young homeless/runaways: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Booth et al. (1999)	CNRT-	Peer helper intervention targeting drug- and sex-related HIV risk behaviours	No intervention	3 mths	⇔ High risk sex ↑ HIV Knowledge
Fors & Jarvis (1995)	CNRT-	Peer led intervention targeting drug use knowledge and skills	No intervention	2 wks	↑ Willingness to accept responsibility for actions ↑ Helping friends to use community resources

Evidence Statement 81

There is insufficient evidence from two CNRT - to determine whether substance use

[16] Defined as infrequent condom use (condoms used less than 50% during sexual encounters) combined with three or more sex partners or 10 or more sex encounters.

prevention interventions targeting young homeless people have any effect on risk and protective factors related to substance use.

81.1 There is evidence from one CNRT to suggest that peer led interventions are more effective than no intervention in increasing knowledge related to HIV but not high risk sex in the short term (Booth et al., 1999). Applicability Rating C.

81.2 There is evidence from two CNRT – to suggest that peer led interventions may encourage young runaways and young homeless people to reduce some risk-taking behaviours related to HIV and drug use in the short term (Booth et al., 1999; Fors and Jarvis, 1995). Applicability Rating C.

5.8.3 Children of divorce

Two studies (Wolchik et al., 1993; and Short, 1998) examined interventions that targeted children of divorced parents. The intervention evaluated by Wolchik et al. (1993; RCT +) was rated + and sought to promote positive family activities through a group session format, comparing both children and their mothers with a control group. The study by Short (1998; CNRT -) used a controlled, non-randomised design and was classified -, due to insufficient methodological details reported regarding the comparison group. The intervention looked at children only and was delivered through lectures, demonstrations, practices and homework, which aimed to modify behaviours and reduce substance use expectancies.

5.8.3.1 Primary outcomes

None reported

5.8.3.2 Secondary outcomes

The study by Wolchik et al. (1993; RCT +) found that children in the intervention group had higher quality parent-child relationships and better mental health outcomes than controls. There were no effects upon experiences of negative divorce events and inter-parental conflict. Improvements for mothers in the intervention group were reported for higher levels of control. There was no effect on reports of having a positive attitude towards fathers parenting abilities. In the study by Short (1998; CNRT -), those children involved in the intervention demonstrated significant increases in self-esteem and problem-focused coping, in addition to significant decreases in anxiety, antisocial behaviour and substance use.

Table 5.8.6 Children of divorce: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Wolchik et al (1993)	RCT +	Family-based intervention for children of divorce	Wait list controls	PT	↑ Parent-child relationships ↑ Mental health outcomes ↑ Mothers' higher level of control ↔ Mothers positive attitude towards fathers parenting abilities ↔ Experiences of negative divorce events ↔ Experiences of inter-parental conflict ↔ Contact with father
Short (1998)	CNRT -	SMAAP curriculum for children of divorce	No intervention	PT	↑ Self-esteem ↑ Problem focused coping ↓ Anxiety ↓ Antisocial behaviour ↔ Emotion focussed coping ↔ Social support coping ↔ Alcohol expectancies ↔ Depression

Evidence Statement 82

There is evidence from one RCT + and one CNRT – to suggest that classroom-based interventions for children of divorced parents can have positive effects on some measures of psychological wellbeing (e.g. anxiety, self-esteem, composite mental health) at immediate post-test (Wolchik et al., 1993; Short, 1998). Applicability Rating C.

5.8.4 Institutionalised youth

Primary studies

One study was identified as providing relevant outcomes for institutional youth. The CBA by Morehouse and Tobler (2000) examined a multi-component intervention for institutionalised youth providing data on secondary outcomes of relevance. The study was given a – rating due to a lack of methodological detail, specifically, inadequate information concerning the differences between experimental and control groups. Detail was lacking in the information provided concerning the differences between experimental and control groups. In addition there was a degree of variability between study sites due to an imbalance in levels of programme implementation.

The multicomponent intervention reported by Morehouse and Tobler (2000; CBA -) was a comprehensive student assistance programme set within residential child-care institutions (RSAP). The RSAP was designed to help young people tackle risk factors linked to substance use in a culturally sensitive manner. The programme included prevention education, outreach activities, group and individual counselling, referral to AOD treatment programmes, involvement in 12-step programmes (e.g. Alcoholics Anonymous), and provided retention initiatives. The study compared outcomes from the RSAP with outcomes from an "in-house" control group, who did not take part in

the RSAP offered at their facility and also an "out-of-house" control group, who resided in a facility that did not offer RSAP.

5.8.4.1 Primary outcomes

Across RSAP intervention sites there was a significant reduction in both the number and frequency of drugs used in the previous 30 days (Morehouse and Tobler. 2000). The intervention appeared to be effective at encouraging self-reported abstinence from both alcohol (82% of intervention group non-users at pre-test reported no use at post-test; 72% of intervention participants reported use at pre-test, but not at post-test) and cannabis use (83% of intervention group reported no use at pre-test remained nonusers and 59% of participants who reported pre-test use did not report use at post-test). In addition 78% of tobacco nonusers at pre-test remained nonusers and 27% of intervention group participants who reported tobacco use at pre-test reported no use at post-test. However, there were no significant differences in measures of frequency of last month drug use and measures of the number of different drugs used within the cross-sectional control group. The intervention group reported significantly lower levels of alcohol and other drug use at post-test compared to the control group.

Table 5.8.7 Institutionalised youth: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Morehouse & Tobler (2000)	CBA -	Multicomponent intervention for institutionalised youth	In-house control group and out of house control group	PT	↓ Alcohol and other drug use

Evidence Statement 83

There is insufficient evidence from one CBA - to determine whether multicomponent interventions targeting institutionalised youth are effective in preventing or reducing substance use Morehouse & Tobler (2000). Applicability Rating C.

5.8.4.2 Secondary outcomes

None reported

5.8.5 Abused females

Primary studies

One RCT by Brown and Block (2001) provided primary and secondary outcomes of relevance. This RCT was graded –as it was considered to have been lacking in methodological detail, it was also felt that because control groups had access to

some of the services offered within the programme there was a high degree of potential bias within the study.

The intervention examined was Project Chrysalis, a multicomponent school based intervention for youth identified as a victim of sexual, physical or emotional abuse. The primary method of intervention delivery was via support groups delivered by counsellors and therapists and also included case management services, skill-building workshops and knowledge acquisition sessions. Intervention outcome data was compared to a randomly assigned, no intervention control group at immediate post-test and at 2 years.

5.8.5.1 Primary outcomes

No immediate effects were found for Project Chrysalis in terms of initiation of alcohol use at post-test or 1 year. However significant programme effects were reported for intervention participant's alcohol abstention for alcohol nonusers at the one-year follow up. For every 20 minutes of case management received the likelihood of trying alcohol was reduced by as much as 4%. No programme effects were reported for use of alcohol at immediate follow up. Similar programme effects were found for tobacco, with no significant effects seen until the 2-year follow-up. It was found that for every additional programme session attended there was an increase of 7% in the odds of never trying tobacco. However there were no significant programme effects for tobacco use among participants who used tobacco at baseline.

There were no programme effects for the onset of cannabis use or current cannabis use at post-test. However time spent in case management had a significant effect on the quantity of cannabis used at 1 year. In addition a relationship was found between attendance at the programme and cannabis initiation at the two-year follow-up, with the odds of cannabis use onset reduced by 5% for every session attended.

Table 5.8.8 Abused females: primary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
Brown and Block (2001)	RCT -	Project Chrysalis: Multicomponent intervention for abused females	No intervention	PT	⇔ Cannabis use ⇔ Alcohol initiation ⇔ Cannabis initiation
				1 yr	⇔ Alcohol initiation ⇔ Cannabis initiation Likelihood of trying alcohol ↓ 4% for every 20 min of case management ⇔ Alcohol use ⇔ Tobacco use ↑ Time spent in case management associated with ↓ in cannabis use

Study	Rating	Intervention	Comparator	Follow-up	Primary outcomes
				2 yrs	↑ Programme attendance associated with ↓ Cannabis initiation

Evidence Statement 84

There is inconsistent evidence from one RCT – about the effectiveness of multicomponent programmes in reducing substance use among abused females.

84.1 There is evidence from one RCT – to suggest that multicomponent school based intervention (comprising support groups, case management services, skill-building workshops and knowledge acquisition sessions) for young women identified as victims of sexual, physical or emotional abuse may be effective at reducing cannabis use in the long term but no have no effects on the initiation of alcohol or cigarette use. (Brown and Block 2001). Applicability Rating C.

5.8.5.2 Secondary outcomes

Significant programme effects were found for intervention participants' involvement in risky sexual practices at immediate post-test, however no effects were found at the one- or two-year follow-up (Brown and Block, 2001; RCT -). No significant programme effects were found on the reported number of depressive symptoms at follow-up, however there was a significant effect on suicide risk scores at the two-year follow-up.

Table 5.8.9. Abused females: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Brown and Block (2001)	RCT -	Project Chrysalis: Multicomponent intervention for abused females	No intervention	PT	↓ Involvement in risky sexual practice ↔ Depressive symptoms
				1 yr	↔ Involvement in risky sexual practice ↔ Depressive symptoms
				2 yr	↔ Involvement in risky sexual practice ↔Depressive symptoms ↓ Suicide risk

Evidence Statement 85

There is inconsistent evidence from one RCT – about the effectiveness of multicomponent programmes on secondary outcomes related to substance use in abused females.

85.1 There is evidence from one RCT – to suggest that multicomponent school based interventions (comprising support groups, case management services, skill-building workshops and knowledge acquisition sessions) for young women identified

as victims of sexual, physical or emotional abuse may be effective at reducing suicide risk behaviour. (Brown and Block 2001). Applicability Rating C.

5.8.6 Latchkey students

Primary studies

One CNRT conducted by Ross et al. (1992; CNRT -) was identified as providing relevant secondary outcome data on Latchkey students. The CNRT was deemed to be lacking in key methodological areas. For example, there were important differences between the experimental and control groups and a disproportionate number of parents were lost to follow-up in the control group. The CNRT was therefore assigned a – rating.

The intervention examined the ADEPT Drug and Alcohol Community Prevention Project (ADACPP), a skills based programme for children between kindergarten and sixth grade. The programme included activities aimed to develop positive self-esteem and improve decision-making skills, improve students' self-concept and teach them refusal skills. Services were provided as part of after-school child-care services and delivered in a variety of formats including drama exercises, field trips and teaching. A control group was recruited from parents who did not express an interest in involving their children within the ADACPP programme; comparisons were made utilising parent and teacher testing four weeks before the end of the school year.

5.8.6.1 Primary outcomes

None reported

5.8.6.2 Secondary outcomes

There were no effects on any measures of personality, including self-esteem, depression or risk taking (Ross et al., 1992; CNRT -). In addition, there were no positive measurable effects on teacher rated in-classroom behaviour. No overall effects were found on performance in standardised tests, however a statistically significant interaction was found between attendance of self-esteem building exercises and improvements in standardised test scores (maths and language skills).

Table 5.8.10 Latchkey students: secondary outcomes

Study	Rating	Intervention	Comparator	Follow-up	Secondary outcomes
Ross et al. (1992)	CNRT -	Skills-based programme for latchkey students	Non-participants	PT	↔ Depression ↔ Impulsivity ↔Sulking ↔Egotism ↔ Self-esteem ↔ Risk-taking ↔ Teacher rated In-classroom behaviour ↑ Improvements in standardised test scores with attendance at self-esteem building exercises

Evidence Statement 86

There is insufficient evidence from one CNRT - to determine whether interventions targeting latchkey students have positive effects on risk factors related to substance use.

6 DISCUSSION

The aim of this review was to provide a rapid assessment of the literature evaluating interventions delivered in community settings and designed to prevent (or delay) substance use in vulnerable young people. A wide range of populations were identified and a total of 222 papers were included for review.

6.1 Summary of findings

Despite a wide variety of approaches producing improvements in substance use knowledge and attitudes, regardless of the type of population targeted, few interventions resulted in a reduction of substance use behaviours beyond the immediate post-intervention assessment phase. It is therefore difficult to draw conclusions from the studies reviewed. Those approaches that demonstrated success tended to address a wide variety of risk factors and problem behaviours rather than having an exclusive substance use focus. However, even for these types of approaches there was not a broad evidence base.

In general, for young people exhibiting multiple risk factors, family focused work showed the most potential for success. Many parent and family focused interventions also produced significant improvements in some secondary outcomes of family functioning (including parenting styles and child behaviour). This type of approach was also considered to have high applicability, with suitable adaptation, to UK settings. School based interventions were the most popular type of intervention, and skills training the most frequently evaluated model (whether programmed or generic). There was mixed evidence with regards to the success of this type of approach, with the balance of evidence suggesting that life skills approaches were associated with immediate and medium term reductions in substance use. However, a note of caution is warranted, as across relevant studies there was a heterogeneous population, and a high rate of attrition. Furthermore, there was often inconsistent effects of school-based skills training on substance use attitudes and norms, meaning more work is needed to identify underlying determinants of success (e.g. was success due to the attention paid, and support given, to vulnerable young people rather than to the content of the programme delivered?).

In BME populations there was evidence to suggest that school based interactive programmes could produce long term reductions in alcohol and tobacco use, but there was a general lack of effect upon cannabis and other illegal drugs. Cultural

tailoring of interventions did not seem to be a pre-requisite for success. No studies addressed engagement of BME populations with interventions, something which has been highlighted to be a problem in the UK[17].

In children of substance users, the evidence suggested that whilst a range of family based programmes (e.g. home visitations, drug treatment) could have a significant impact upon parental outcomes, there was little evidence for effects upon the drug use or behaviour of the child.

In young substance users themselves, brief intervention and motivational interviewing only produced a short term reduction in the use of alcohol, cigarettes, and cannabis, although the longevity of effect of was greater for community and family based work. Family based interventions were also associated in this population with immediate improvements in family function.

In young people with aggressive and behavioural disorders one two year multicomponent family based programme, Coping Power (targeted at 9-11 year olds), was effective in reducing use of alcohol, tobacco, and cannabis and this was associated with a reduction in problem behaviours. In contrast, a single component approach, LST, had no effect on substance use behaviours.

Despite extensive statutory services in most western countries, there was little research identified that examined drug use in young offenders. Multisystemic Family Therapy, a programme that targets the interaction of individual, family, peer, school, and environmental factors was more effective than usual criminal justice services at reducing both immediate drug use and criminal behaviour.

In individuals at risk of school dropout or exclusion there was research investigating substance use prevention, but the results of this was generally inconsistent. Further no studies were identified that attempted to intervene with substance use in non educational settings. Unless in contact with pupil referral units, school excludees and truants in the UK are unlikely to be in contact with specialist drug services.

[17] Fountain J, Bashford J, Winters M, Patel K (2003) Black and minority ethic communities in England: a review of the literature on drug use and related service provision. London, National Treatment Agency

6.2 Limitations of the review

The review suffered from a number of limitations. Because of imposed time constraints (two months from agreement of scope to production of first draft), it was not possible to more fully explore the data and produce statistical summaries such as effect sizes, confidence intervals, forest plots, odds ratios, and risk ratios. Where primary authors reported these details they have been included, but the usefulness of the current review may have been improved through additional analyses and data combination. However, it is important to note that despite common primary outcome data (i.e. drug use), there was great variation in how this was collected and reported. For example, drug use could be reported over a range of time periods (e.g. last week, month, year, lifetime etc); as binary (e.g. yes/no), continuous (e.g. number of occasions per month), and categorical data (e.g. estimated frequency of use); be self reported or forensically validated; or collected through validated or researcher generated measures. This would have great implications for the appropriateness of making comparisons across data, and may have only been suitable for studies sharing common designs and outcomes, such as reports generated from a programmed approach to prevention such as LST or ATP.

Evidence statements were generated on the basis of statistically significant outcomes ($p < 0.05$). This criterion was used in order to maintain consistency across studies. However, intervention approaches that were associated with outcomes that approached significance, perhaps indicating a trend towards success, would have been reported in the review as having no effect. Lack of statistical significance may therefore have been due to the nature of the study design (e.g. insufficient power), and promising programme approaches would have been obscured.

Whilst the search strategy identified a large number of studies, and we are confident that all major substance related papers were identified (supplemented by hand searches, and cross referencing with reference lists of other reviews etc.), the specificity of the search results was quite low. This meant that a large proportion of the initial review time was dedicated to sorting through search results and excluding universal interventions. Informal, retrospective review of the search strategies used (detailed in Appendix 1) indicated that the inclusion of major terms was appropriate. However, it was apparent that the population descriptors were too broad. The project team had agreed prior to commencing the review that in order to reduce the chances of excluding relevant papers for a particular vulnerable group it was important not to

impose definitions of vulnerability. Hence, search results were obtained which concerned drug prevention in all young people. Furthermore, whilst conducting the review it became apparent that unless primary authors were studying a clearly defined group (e.g. school excludees, a particular BME population), vulnerable populations were heterogeneous. This has implications for section 5.1 of this review. To describe a population as vulnerable without identifying defining characteristics which give rise to vulnerability is problematic, especially with respect to generating evidence statements. This was not a failure of the review process but caused through wide variation in primary author definitions of vulnerability. Whilst some authors used strict criteria to determine vulnerabilities, for example a cut-off score on a validated scale or professional documentation of behaviour, others relied on self-report or the judgement of (non professional) observers (e.g. teacher or carer). In addition, whilst some authors identified a population as being at risk or vulnerable by drawing clear links between the behaviour or characteristic of concern and substance use, others only provided arbitrary or tacit justification. Wherever possible the review team included these factors in quality assessment decisions, although in retrospect the overall rating system should have incorporated additional assessments of population descriptors.

Due to aforementioned time constraints, a number of original articles were omitted from the review. These are detailed in Appendix 6 and were mostly non-English language papers and doctoral dissertations from the USA. The latter type of publication was unavailable from the British Library during the document retrieval period. If more time were available for review then it would have been beneficial to translate foreign language papers. The critical review procedure included consideration of the generalisability of non-UK assessments, so non-English language of origin would have not have been a barrier for inclusion. There has been previous discussion of the effects of language bias on the results of systematic reviews, and whilst it is thought generally to have little effect (e.g. Jüni et al., 2002) the nature of (non dependent) drug use in the UK may be more similar to that in the rest of Europe than the USA (e.g. Calafat et al., 1998). Hence, by excluding European language papers we may not have considered some studies with a high degree of applicability to the UK.

It is important to note that although this review included developmental and therapeutic responses that aimed to modify risk and protective factors for substance use (e.g. home visitation in early years), it was not intended to be a comprehensive

overview of the potential utility of these types of approaches in drug prevention. Whereas the search strategy identified those studies that specifically investigated specialised drug prevention programmes (e.g. LST, Preparing for the Drug Free Years), for other behavioural and cognitive strategies, only those studies that made an explicit reference to drug use were included. There is a large literature detailing putative intervention strategies to support healthy development in vulnerable young people (e.g. McCain and Mustard, 1999[18]), which if adapted could impact upon substance use risks, but it was beyond the scope of the current work to review them.

The search and selection strategy did not result in the inclusion of qualitative work in this review (although papers with both qualitative and quantitative analyses were included). One of the secondary review aims was to assess the engagement of communities and vulnerable young people. Although some of the included papers investigated this directly through measures of engagement, mobilisation and participation, and indirectly through measures of programme dosage and attrition, none held this as a specific objective. Briefly, although quality assessment and data extraction tools are available (see NICE Methods Manual; version 1, 2006), the data from the five qualitative studies identified in the preliminary searches were not compatible with the aims of this review and did not refer to projects which had quantitative outcomes (Baldwin et al., 1999; Brown and Caston, 1995; Clutterbuck, 2001; Daenseekaew et al., 2005; Gance-Cleveland, 1995). Therefore, there was no indication from this qualitative work whether engagement was directly related to outcome. However, qualitative work may have provided a detailed overview of how to increase engagement *per se*. Community and participant engagement is an important topic that should be addressed through an additional qualitative review.

6.3 Limitations of the evidence reviewed

This review identified a number of weaknesses in the evidence base. The most pertinent of these was the lack of prevention initiatives originating from the UK. The UK Government launched its ten-year drugs strategy in 1998 (Tackling Drugs to Build a Better Britain, updated in 2002[19]). It provided a framework for designing and implementing policies to address drug use. Prevention of young people's drug use is one of the four elements of the strategy, alongside drug use and community,

[18] McCain MN, Mustard JF (1999) Early Years Report: Reversing the Real Brain Drain. Final Report. Ontario, The Canadian Institute for Advanced Research

[19] The respective strategies in Wales, Scotland and Northern Ireland are; Tackling Substance Misuse in Wales: A Partnership Approach; Tackling Drugs in Scotland: Action in Partnership; and Drug Strategy for Northern Ireland

treatment for drug use, and drug availability. In particular, the 2004 Spending Review Public Service Agreement (PSA) stated that by 2008 there should be a reduction of use of all Class A drugs and the frequency of use of any illicit drugs among all young people under the age of 25, especially by the most vulnerable. Accordingly, drug prevention initiatives in the UK have grown markedly since 1998. One of the most high profile of these is the FRANK initiative (www.talktofrank.com), an intervention that offers substance related information to users, contemplators, and their friends and family. The majority of primary (80%) and secondary schools (95%) have adopted drug education policies (DfES 2004). Drug education in schools is now widely available and is a part of the Personal, Social and Health Education (PHSE) curriculum, and the National Healthy Schools programme[20] includes drug education as one of its core themes. The Connexions Service, which, as part of its wider activities, identifies young people with drug problems and provides appropriate referral or support, now covers most of England (80%). Treatment is offered to young people with drug problems in most (80%) of the Drug (and Alcohol) Action Team areas. All Youth Offending Teams (YOTs) have named drugs workers available to support young offenders with drug problems. Positive Futures[21] has been offering diversionary sports and art activities to young 'vulnerable' people. Changing Lives – Keeping Communities Safe from Drugs (2004) was a cross-Governmental report summarising the progress made against targets, and described a range of policies and interventions to decrease illicit drug-related harm by 2008. It was stated that drug prevention programmes would be improved and drug education would be offered to all young people and increased services and support would be available for those who were identified as key risk groups for drug use/problems. It also provides a framework for preventing harm associated with drug use from early years to adulthood. The Every Child Matters Change for Children programme (2004)[22] aims to reform children's services to enable them to reach their full potential, tackling not only substance use but also the risk factors that may lead to substance misuse. *Choose not to use Illegal Drugs* is part of the *Be Healthy* objective of the programme. This work is closely linked to the Updated Drug Strategy and contributes to the PSA target above. The Choosing Health public health White Paper (Department of Health

[20] The National Healthy School Standard (http://www.wiredforhealth.gov.uk) has three strategic aims; to reduce health inequalities; to promote social inclusion; to raise educational standards. Themes include PSHE; Citizenship; Drug education (including alcohol and tobacco); Emotional health and wellbeing; Healthy eating; Physical activity; Safety; Sex and relationship education.

[21] http://www.drugs.gov.uk/NationalStrategy/YoungPeople/PositiveFutures

[22] See http://www.everychildmatters.gov.uk/aims/ for more information

2004), considers drug use in the context of general population health, and aims to improve the provision of health information and advice to young people.

To date there have been no rigorous outcome evaluations associated with such strategies. As many of these initiatives have only started to be implemented, it is hoped that they will generate a high quality and useful body of evidence in the near future. Despite the unprecedented increase in UK initiatives since 1998, in the current review only the evaluations of Bagley and Pritchard (1998; CNRT -), who reported on a school based social work scheme, and investigation of a brief intervention for existing drug users by McCambridge and Strang (2004; 2005; both RCT +), originated from the UK. The generally poor quality of UK prevention research has been highlighted by other UK based reviewers (e.g. Elliott et al., 2005; McGrath et al., 2005; Roe and Becker, 2005; White and Pitts, 1998). Although the Government's 10-year drug programme established clear guidelines, recommendations, and targets, and provided increased funding, it has not been accompanied by routine evaluation of services and interventions.

Traditionally, UK drugs services have relied on small evaluations of projects to indicate success and development, but these have mostly taken the form of process and formative work, have often been not included as part of the intervention planning process, and therefore have added little to the evidence base (McGrath et al., 2005). Whilst primary drugs research in the UK is strong (e.g. preclinical behavioural pharmacology, addictive behaviours, clinical research), there are generally few examples of research evaluations of UK prevention projects in the scientific literature. Furthermore, as shown through the current review process, almost none of these are methodologically rigorous enough to warrant further consideration. Although there is a rich grey literature[23] source in the UK, which holds the potential to share learning about how research evidence is implemented in practice, McGrath et al (2005) noted in their review of such types of work that only 19 UK reports (from a total of 1339 identified studies) were deemed suitable for inclusion. After being subject to a critical appraisal tool, it was concluded that none of these added anything substantial to the evidence base.

[23] Alberani and colleagues have defined grey literature as "*all that non conventional material including reports, theses, conference proceedings, technical specifications and standards, translations, bibliographies, technical and commercial documentation, and official documents*" (Alberani *et al*., 1990)

6.4 Applicability and generalisation of findings

Evidence based drug prevention practice must therefore be drawn from the findings of North American literature, predominantly the USA. Although this would pose less of a problem if the interventions described were standardised and clinically based, or concerned pharmacological, technological, or (manualised) psychotherapeutic interventions, public health interventions require additional considerations. Although both the USA and UK adhere to international protocol (e.g. United Nations International Drug Control Programme), responses to drug use are led by national policy and objectives (e.g. Stopping Use Before It Starts element of the National Drug control Strategy in the USA, Be Healthy element of Every Child Matters in the UK) and are tailored accordingly. In the USA, there is a perceived focus upon abstention and primary prevention, whilst in the UK drug prevention for vulnerable young people is increasingly being integrated into more multidisciplinary strategies; for example, *Hidden Harm* or *Every Child Matters* (Edmonds et al., 2005). Whilst drug abstention and primary prevention are still important objectives of UK approaches, there is also a perceived priority on wider risks and vulnerabilities faced by young people (for example see Figure 1 in Section 2), the potential harmful consequences of drug use, and the expansion of drug treatment service access. Multiagency responses to vulnerabilities may be one reason there is a less coherent response to evaluation in the UK. However, a large proportion of USA studies reviewed in this work included secondary outcomes, which provided important data on antecedents, prodromes, correlates, and correlated of risky behaviour. Many of the included interventions and programmes specifically targeted drug use in the context of other vulnerabilities. Efforts were also made by authors to relate these secondary outcomes to drug use behaviours where reported. High quality multicomponent and community interventions also emerged, which detailed the work of both statutory and non-statutory agencies. This suggests therefore, that differences in the nature of support available and policy priorities are not the sole reason. Perhaps a major difference between the UK and the USA is in the existence of national bodies dedicated to substance use research. The National Institute on Drug Abuse, and Center for Substance Abuse Prevention have no precedents in the UK. Whilst initiatives such as the Young People Substance Misuse Partnership Grant supports local delivery of the young people aims of the UK National Drug Strategy, funding provision is not dependent upon the evaluation of outcomes.

Aside from usual considerations of transferability and generalisability (e.g. Firestone, 1993; Shadish 1995[24]), introducing research evidence from the USA (or other countries) into UK practice is not without problems. The BluePrint[25] drug prevention research project currently being evaluated by the UK Government is a good example of preparatory work that needs to be performed before internationally derived methods of working are introduced. Although several individual, population, community and societal factors that modify risk and protection for substance use are shared between members of different countries and cultures, many others are not. Evidence indicating the success of an intervention targeting a particular factor, or adhering to a particular model needs to be tested in local contexts. National policy and strategy considerations have already been mentioned. If a particular population has not historically been a policy target then it is unlikely that there will be the service structure available to support delivery of interventions to them. Another barrier to straightforward implementation may be the existing recommendations of national professional societies or other organisations responsible for guidance. For example, NICE guidance for the psychological treatment of mild to moderate depression recommends the use of Cognitive Behavioural Therapy (NICE, 2004) (guidance on the psychosocial treatment of drug dependence is currently being prepared). Therefore, there may be funding and skills biases towards this type of approach rather than other methods of psychological therapy that have been promoted and investigated abroad. Although school based interventions are the most popular type of prevention approach, the requirements of the UK National Curriculum means that specially programmed curricula, which are common in the USA, will not be implemented if they fall outside the objectives of PHSE.

There are immediate cultural and ethnic differences between populations. Many of the interventions for BME populations reviewed in section 5.2 of this work referred to specific ethnic groups unique to the USA. For example, the content of culturally tailored projects for Mexican America, Hispanic, African American and Pacific Islanders, which have no appreciable UK equivalents, and would be inappropriate if transferred. There will also be differences in professional delivery and engagement skills, service provision and uptake, and the types of drugs used[26], which may mean

[24] Firestone WA (1993). Alternative arguments for generalizing from data as applied to qualitative research. Educational Researcher *22*: 16-22; Shadish WR. (1995). The logic of generalization: five principles common to experiments and ethnographies. American Journal of Community Psychology 23 (3), 419-29.

[25] see http://www.drugs.gov.uk/young-people/blueprint/

[26] This equally applies to young white populations, whose drug use choices may be culturally and geographically determined by such factors as availability, fashion, music preference, and media.

that specialised interventions which focus upon particular populations, drugs and responses to them are likely face difficulties (*see* Fountain et al., 2003). However, this does not mean that evidence derived from these populations has no use in UK practice. The prevention model used may be adapted, transferred, delivered and evaluated. For example, Bledsoe (2002; SR +) found no difference in effectiveness between programmes with and without a cultural component, and that differential success for BME populations was dependent upon the approach used (e.g. skills training, affective education), rather than intervention content.

Differences in the cultural and social responses to substance use may determine the acceptance, and therefore success, of a particular type of intervention. There has been a large shift in public attitudes in the UK to second hand smoking, or drink driving, for example, (Office for National Statistics, 2005[27]). In US students (12th grade, aged 17-18), 55% disapproved of someone over 18 trying cannabis once or twice (Johnson et al., 2005). Although directly equivalent data is not available for the UK, 11% of UK pupils aged 11-15 thought it was acceptable to use cannabis to 'see what it was like' and 39 % of 11 year olds and 69% of 15 year olds in England reported that they thought most young people would try drugs at some point (Department of Health, 2004; 2005). Differing attitudes towards drugs may mean that interventions targeting their use may have less of a chance of success compared to countries where the population is more disapproving. This will be particularly true for those interventions that require affective judgments to be made about substance use.

6.5 Questions still to be answered

6.5.1 Research gaps

There was limited data available for most of the vulnerable groups prioritised in the study questions. In light of current policy priorities (if appropriate) the following research gaps were identified:

- Young people whose parents or other family members misuse drugs

Children in drug using families have been prioritised in Hidden Harm (2003), and the UK Government has made a commitment to establish effective services and support for this population (Home Office, 2005). The limited evidence reviewed in the current work derived from this population primarily concerned the effects of interventions

[27] ONS (2005) Smoking related behaviour and attitudes, 2004. ONS report 27

targeted at parents and parental drug use. It is therefore uncertain whether interventions targeted at their children and dependents are effective.

- Young offenders (including those who are incarcerated)

Whilst a number of interventions were reviewed that reported on a wide range of relevant outcomes, there was no indication of the effectiveness of projects that looked at co-existing offending and drug using behaviours and how one might affect the other. The Youth Justice Board (2006) recommends that responses to substance use in young offenders should be based upon a comprehensive assessment of physical, social, emotional and mental health needs. Unfortunately the current review was not able to identify interventions that would provide a suitable response to such assessment.

- Young people with behavioural conduct disorders
- Young people with mental health problems

Both of these populations are priority groups in Every Child Matters, and an indicator of success is improvement in access to Child and Adolescent Mental Health Services (CAMHS). However, there is currently no population specific guidance available in the UK. Evidence derived from this review suggested appropriate drug prevention approaches for young people exhibiting behavioural disorders such as aggression, conduct disorder, or oppositional defiant disorder. However there was a lack of work that had investigated secondary effects upon indicators of behavioural disorders, or interventions investigating the effects of behavioural investigations upon substance use. Furthermore, there were no studies that examined interventions for young people with serious mental illnesses such as psychosis. Substance use in adults with mental health problems has received great attention (e.g. Abdulrahim, 2001; Greig et al., 2006), and so equivalent work needs to be conducted in younger populations.

- Young people who are (or have been) looked after by local authorities or in foster care
- Young people who are (or have been) homeless or who move frequently

This review identified two studies focussing on this population (Booth et al., 1999; Fors & Jarvis, 1995). Whilst both examined drug use and other risky behaviours, neither investigated how intervention may have also had an impact on stabilising accommodation or promoting personal and social independence. Wincup and

colleagues (2003) identified these as some of this population's most pressing needs, and therefore more research is needed.

- School excludees and truants

Several relevant interventions were reviewed. These reported both primary and secondary outcomes, including drug use and school engagement and attendance. These secondary outcomes are relevant to the Every Child Matters Enjoy and Achieve element. Further research is needed to explore the suitability of such approaches in the UK, particularly those addressing the whole school environment (e.g. Bagley and Pritchard (1998; CNRT -). Such non curricula work might include examination of the effects of introduction of a new school drugs policy upon drug use and exclusions (DfES, 2004); the impact of classroom behavioural management programmes; or professional development for teachers around the needs of at risk pupils (separate from curriculum training) (Flay, 2000). Furthermore, work needs to be conducted in this population to examine the effectiveness of interventions designed to improve educational self-efficacy, and to determine specific links between educational attainment and substance use.

- Young people involved in commercial sex work

Children working in the sex industry are considered to be subject to sexual abuse and exploitation, regardless of apparent participatory consent (for protocols see the Stay Safe Component of Every Child Matters (2004); UN Convention on the Rights of the Child and its protocol on the Sale of Children, Child Prostitution and Child Pornography, 2000). This review did not identify interventions for young sex workers, but did include a case management approach for sexually abused females (Brown and Block, 2001; RCT -). Guidance for drug treatment for adult sex workers issued by the NTA (Bloor et al., 2006) emphasises the importance of structured drug treatment for addressing both drug dependence and involvement in sex work. However, younger sex workers may not have developed problematic drug use behaviours, hence research is needed on effective prevention approaches that foster social, psychological and skills development so that the individual is better placed to choose not to engage in sex work, if indeed it was the young persons' choice to participate.

- Members of some black and minority ethnic (BME) communities

Whilst many papers concerned interventions delivered to members of some BME communities, as discussed above, these were predominantly specific to the USA. A common feature of these interventions was the promotion of cultural values (although one meta analysis suggested that this was not an important component in determining intervention effectiveness (Bledsoe, 2002; SR +)). Further research is needed to investigate the appropriateness of inclusion of targeted cultural components on engagement, and outcomes of interventions for this population in the UK.

- Members of some socio-economically deprived groups

Several interventions described in section 5.1 defined individuals and populations as being vulnerable, defined by being resident in, or attending school in socio-economically deprived neighbourhoods. However, whilst some interventions aimed to improve the socio-economic status of the individual (e.g. Schochet et al., 2001; RCT +), no studies included for review targeted the socio-economic environment that made the population vulnerable in the first place (Aguirre-Molina and Gorman, 1996). In the UK the New Deal for Communities partnership aims to integrate drug prevention into regeneration strategies. Complete evaluation was completed in 2005[28], but at the time of writing only one publication examining the early impact upon drug prevention has been published (Peters et al., 2003). Furthermore, this study did not describe specific interventions or outcomes. It is therefore important that comprehensive, and high quality evaluation of the impact of this project is published.

6.5.2 Secondary questions

In addition to primary substance misuse aims, this review aimed to answer several secondary questions relating to the characteristics and components of effective interventions (section 1.2). Where appropriate the review text addressed these. In general, however, there was not evidence to make specific comments. In particular:

- How valid and appropriate are the outcome measures used to assess effectiveness? (For example, self-report versus biologically validated measures of substance misuse.)

[28] See http://ndcevaluation.adc.shu.ac.uk/ndcevaluation/Home.asp

Few studies employed forensic validation of substance misuse, and most often relied on self report. Such self-reported data are subjective, rely on accuracy of memory, and are influenced by additional factors such as the perceived acceptability of drug use, fear of the consequences of admission, and the participant's knowledge of study aims and desire to please the facilitator or evaluator. It is unlikely that forensic testing of biological samples to validate drug intake is within the budget of many prevention evaluations. However, the bogus pipeline technique (see Jones and Sigall 1971), whereby respondents are requested to provide a biological sample and then (falsely) informed it will be analysed for the presence of drugs, motivates individuals to give accurate answers to avoid embarrassment. However, such techniques must be balanced against the need to build up trust and confidence with the population, particularly if young people who are already subject to social stereotypes and negative social opinions are being targeted.

- Does the effectiveness of the intervention depend on the job title/position/characteristics of the person leading the intervention (for example, their age, gender, sexuality or ethnicity)? What makes someone effective?

No studies were identified which specifically answered this question. Such studies might include the impact of using ethnically discordant facilitators to deliver to mixed ethnic groups; the relative effectiveness of gender matched facilitators; the use of health professionals to deliver certain types of intervention (e.g. brief intervention with feedback); or the association between the facilitator's own substance related beliefs and behaviours, intervention implementation, and outcomes.

- What are the most effective ways of engaging vulnerable and disadvantaged children and young people? (For example, what factors lead them to access, drop out or disengage from substance misuse prevention programmes?)
- What are the barriers/facilitators to implementation? (For example, resistance from young people, policy drivers, funding and staff.)
- How acceptable is it to the target audience and their parents/carers?

No included studies satisfactorily investigated these topics. As discussed above, qualitative work, involving structured interviews and focus group work, may help to provide insight. Such studies would also need quantitative components in order to understand how engagement relates to programme outcome.

- How does the level and nature of substance misuse influence the intervention's effectiveness? (For example, does the type of user, substance/s used or length of use have an impact?)
- Does the intervention have any impact on inequalities in health within and between different vulnerable and disadvantaged groups?

Whilst some studies investigated substance use outcomes as a function of baseline reporting, more work is needed to understand how differing levels of baseline risk and protective factors affects both primary and secondary outcomes.

- What are the adverse or unintended outcomes? (For example, stigmatisation or disruption of community cohesion.)

Whilst no studies specifically addressed these examples, many evaluations concluded that exposure to interventions was associated with an increase in substance use or negative behaviours, or a decrease in positive behaviours. Such examples can be seen in the evidence tables. However, whilst some primary authors suggested possible reasons for this, there were no retrospective investigations performed.

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Appendix 1. Search strategies

The core search strategy was designed for searching Medline via the Ovid interface and was subsequently adapted as appropriate for the other databases searched. The core strategy was based on strategies reported for the HDA Evidence Briefing (Canning et al., 2004; McGrath et al., 2006) and two Cochrane Reviews related to drug prevention (Faggiano et al., 2005; Gates et al., 2006). The search strategy was further refined with the help of the Information Team at the NICE Centre for Public Health Excellence.

- **Medline** (via Ovid 1966 to April 2006. Searched 06/04/05)

1. adolescent/
2. child/
3. (teen$ or adolescen$ or youth$ or early adult or child$ or student$ or juvenile$ or young adult or young people).mp.
4. or/1-3
5. exp substance-related disorders/
6. ((substance or drug) adj (abuse$ or use$ or misuse or dependen$ or disorder$ or addict$ or volatile or poly)).ti,ab.
7. 5 or 6
8. cannabis/
9. (cannabis or hashish or marijuana).ti,ab.
10. exp narcotics/
11. (heroin or diamorphine hydrochloride or morphine or methadone).ti,ab.
12. n-methyl-3-4-methylenedioxyamphetamine/
13. (ecstasy or MDMA or MD?A).ti,ab.
14. exp hallucinogens/
15. hallucinogen$.ti,ab.
16. exp cocaine/
17. (crack cocaine or cocaine).ti,ab.
18. lysergic acid diethylamide/
19. (lysergic acid diethylamide or LSD).ti,ab.
20. exp amphetamine/
21. (amphetamine sulphate or methamphetamine or crystal meth or (amphetamine$ adj3 abus$)).ti,ab.
22. ((abus$ adj2 anabolic steroids) or (abus$ adj2 steroids)).mp.
23. (GHB or Gamma hydroxy butyrate).mp.

24. ((volatile substance or inhalant or solvent) adj2 abuse).mp.
25. (prescription drug$ adj (abuse$ or use$ or misuse or dependen$ or disorder$ or addict$)).mp.
26. or/8-25
27. primary prevention/
28. (prevention or preventive).ti,ab.
29. (diversion$ adj (approach$ or activit$)).mp.
30. health education/
31. Health promotion/
32. Peer Group/
33. (peer adj (group$ or influence or education)).ti,ab.
34. Counseling/
35. Directive Counseling/
36. (Counse?ling or mediation or support group$).ti,ab.
37. ((brief or short or concise or opportunistic or motivational) adj (advice or intervention$ or interview$)).ti,ab.
38. (skills adj (training or education or life)).ti,ab.
39. Social adjustment/
40. Community networks/ or social support/
41. Patient Education/
42. Adolescent Health Services/
43. Preventive health services/
44. or/27-43
45. 4 and (7 or 26)
46. 44 and 45
47. limit 46 to humans
48. limit 47 to yr="1990 - 2006"

- **Cochrane Library** (Wiley Interscience©. Searched 06/04/06)

1. MeSH descriptor Adolescent, this term only in MeSH products
2. MeSH descriptor Child, this term only in MeSH products
3. (teen* or adolescen* or youth* or early adult or child* or student* or juvenile* or young adult* or young offender*) in Title, Abstract or Keywords in all products
4. (#1 OR #2 OR #3)
5. MeSH descriptor Substance-Related Disorders explode all trees in MeSH products

6. ((substance or drug) near (abuse* or use* or misuse or dependen* or disorder* or addict* or volatile or poly)) in Title, Abstract or Keywords in all products
7. (#5 OR #6)
8. MeSH descriptor Cannabis, this term only in MeSH products
9. MeSH descriptor Narcotics explode all trees in MeSH products
10. MeSH descriptor Hallucinogens explode all trees in MeSH products
11. MeSH descriptor Cocaine explode all trees in MeSH products
12. MeSH descriptor Lysergic Acid Diethylamide, this term only in MeSH products
13. MeSH descriptor Amphetamine explode all trees in MeSH products
14. cannabis or hashish or marijuana or heroin or (diamorphine next hydrochloride) or morphine or methadone or ecstasy or MDMA or MD*A or n-methyl-3-4-methylenedioxyamphetamine or hallucinogen* or (crack next cocaine) or cocaine or lysergic acid diethylamide or LSD or (amphetamine next sulphate) or methamphetamine or (crystal next meth) or (amphetamine* near/3 abus*) or (abus* near/2 anabolic steroids) or (abus* near/2 steroids) or GHB or (Gamma next hydroxy next butyrate) or ((volatile substance or inhalant or solvent) near/2 abuse) or (prescription drug* near (abuse* or use* or misuse or dependen* or disorder* or addict*)) in Title, Abstract or Keywords in all products
15. (#8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14)
16. MeSH descriptor Primary Prevention, this term only in MeSH products
17. MeSH descriptor Health Education, this term only in MeSH products
18. MeSH descriptor Health Promotion, this term only in MeSH products
19. MeSH descriptor Peer Group, this term only in MeSH products
20. MeSH descriptor Counseling, this term only in MeSH products
21. MeSH descriptor Directive Counseling, this term only in MeSH products
22. MeSH descriptor Community Networks, this term only in MeSH products
23. MeSH descriptor Social Support, this term only in MeSH products
24. MeSH descriptor Social Adjustment, this term only in MeSH products
25. MeSH descriptor Patient Education, this term only in MeSH products
26. MeSH descriptor Adolescent Health Services, this term only in MeSH products
27. MeSH descriptor Preventive Health Services, this term only in MeSH products
28. prevention or preventive or (diversion* next (approach* or activit*)) or (peer next (group* or influence or education)) or counse*ling or mediation or support group* or ((brief or short or concise or opportunistic or motivational) adj (advice or intervention$ or interview$)) or (skills near (training or education or life)) in Title, Abstract or Keywords in all products

29. (#16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28)
30. (#4 AND (#7 OR #15))
31. (#29 AND #30)
32. (#31), from 1990 to 2006

- **CINAHL** (Ovid, 1982 to March Week 5 2006. Searched 06/04/06)

1. adolescence/
2. child/
3. (teen$ or adolescen$ or youth$ or early adult or child$ or student$ or juvenile$ or young adult or young people).mp.
4. or/1-3
5. exp substance abuse/
6. ((substance or drug) adj (abuse$ or use$ or misuse or dependen$ or disorder$ or addict$ or volatile or poly)).ti,ab.
7. 5 or 6
8. cannabis/
9. (cannabis or hashish or marijuana).ti,ab.
10. exp narcotics/
11. (heroin or diamorphine hydrochloride or morphine or methadone).ti,ab.
12. exp Methamphetamine/
13. (ecstasy or MDMA or MD?A).ti,ab.
14. exp hallucinogens/
15. hallucinogen$.ti,ab.
16. exp cocaine/
17. (crack cocaine or cocaine).ti,ab.
18. lysergic acid diethylamide/
19. (lysergic acid diethylamide or LSD).ti,ab.
20. amphetamines/
21. (amphetamine sulphate or methamphetamine or crystal meth or (amphetamine$ adj3 abus$)).ti,ab.
22. ((abus$ adj2 anabolic steroids) or (abus$ adj2 steroids)).mp.
23. (GHB or Gamma hydroxy butyrate).mp.
24. ((volatile substance or inhalant or solvent) adj2 abuse).mp.
25. (prescription drug$ adj (abuse$ or use$ or misuse or dependen$ or disorder$ or addict$)).mp.
26. or/8-25

27. primary prevention.ti,ab.
28. (prevention or preventive).ti,ab.
29. (diversion$ adj (approach$ or activit$)).mp.
30. health education/
31. Health promotion/
32. Peer Group/ or support group/
33. peer counseling/
34. (peer adj (group$ or influence or education)).ti,ab.
35. Counseling/
36. motivational interviewing/
37. (Counse?ling or mediation or support group$).ti,ab.
38. ((brief or short or concise or opportunistic or motivational) adj (advice or intervention$ or interview$)).ti,ab.
39. (skills adj (training or education or life)).ti,ab.
40. Social adjustment/
41. Community networks/
42. Drug information services/
43. Patient Education/
44. School health education/
45. student health education/
46. Adolescent Health Services/
47. Preventive health care/
48. or/27-47
49. 4 and (7 or 26)
50. 48 and 49
51. limit 50 to yr="1990-2006"

- **ERIC** (Dialog@site, 1990 to December 2005. Searched 06/04/06)

The following intervention and population subject headings were combined: high risk students; at risk persons; disadvantaged youth; out of school youth; migrant youth; rural youth; surburban youth; urban youth; adolescents; children; young adults; teenagers; preadolescents; marijuana; narcotics; cocaine; heroin; stimulants; crack; lysergic acid diethylamide; sedatives; hashish; marihuana; drug use; drug abuse; substance abuse; illegal drug use; drug addiction; prevention; intervention; education; health education; drug education; health programmes; health promotion; patient education; youth programmes.

- **EMBASE** (via Dialog Datastar 1974 to current. Searched 06/04/06)

1. adolescent#.de.
2. child#.de.
3. juvenile#.de.
4. student#.de.
5. (adolescen$4 or teen$4 or early adult or child$4 or student$1 or young people or young adult$1 or young offender$).ti,ab.
6. 1 or 2 or 3 or 4 or 5
7. drug-abuse#.de.
8. substance-abuse.de.
9. drug-dependence#.de.
10. illicit-drug.de.
11. ((substance OR drug) NEAR (abuse$1 OR use$1 OR misuse OR dependen$4 OR disorder$1 OR addict$4 OR volatile OR poly)).TI,AB.
12. 7 or 8 or 9 or 10 or 11
13. cannabis.de.
14. (cannabis or hashish or marijuana).ti,ab.
15. diamorphine.de.
16. morphine.de.
17. (heroin or diamorphine hydrochloride or morphine or methadone).ti,ab.
18. psychedelic-agent#.de.
19. hallucinogen$.ti,ab.
20. (ecstasy or MDMA or MDA).ti,ab.
21. cocaine.de.
22. (crack cocaine or cocaine).ti,ab.
23. (lysergic acid diethylamide or LSD).ti,ab.
24. methamphetamine.de.
25. amphetamine.de.
26. (amphetamine sulphate or crystal meth or (amphetamine$ near abus$)).ti,ab.
27. ((abus$ near anabolic steroids) or (abus$ near steroids)).ti,ab.
28. (GHB or Gamma hydroxy butyrate).ti,ab.
29. ((volatile substance or inhalant or solvent) near abuse)
30. (prescription drug$1 near (abuse$1 or use$1 or misuse or dependen$4 or disorder$1 or addict$4))
31. 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25 or 26 or 27 or 29 or 30
32. primary-prevention.de.

33. (prevention or preventive).ti,ab.
34. (diversion$4 with (approach$4 or activit$4)).ti,ab.
35. health-education.de.
36. Health-promotion.de.
37. school-health-education.de.
38. Peer-group.de.
39. (peer next (group$1 or influence or education)).ti,ab.
40. Counseling.de.
41. Directive-Counseling.de.
42. (counseling or counselling or mediation or support group$1).ti,ab.
43. ((brief or short or concise or opportunistic or motivational) with (advice or intervention$1 or interview$1)).ti,ab.
44. (skills with (training or education or life)).ti,ab.
45. Social-adaptation.de.
46. social-support.de.
47. Patient-Education.de.
48. child-health-care.de.
49. Preventive-health-service.de.
50. 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49
51. 6 and (12 or 31)
52. 50 and 51
53. 52 and HUMAN=YES
54. Information added since 1990

- **PsycINFO** (via Webspirs 5

1. (adolescen* or teen* or early adult or child* or student* or young people or young adult* or young offender* or youth* or juvenile*) in ti ab su
2. exp drug abuse
3. ((substance or drug) adj (abuse* or use* or misuse or dependen* or disorder* or addict*)) in ti ab su
4. #2 or #3
5. exp cannabis
6. (cannabis or hashish or marijuana) in ti ab
7. (heroin or morphine) in de
8. (heroin or diamorphine hydrochloride or morphine or methadone) in ti ab
9. methamphetamine in de

10. (ecstasy or MDMA or MD?A) in ti ab
11. exp hallucinogenic drugs
12. hallucinogen* in ti ab
13. exp cocaine
14. (crack cocaine or cocaine) in ti ab
15. (lysergic acid diethylamide or LSD) in ti ab
16. exp amphetamine
17. (amphetamine sulphate or methamphetamine or crystal meth or (amphetamine* NEAR abus*)) in ti ab
18. ((abus* NEAR anabolic steroids) or (abus* NEAR steroids)) in ti ab su
19. (GHB or Gamma hydroxy butyrate) in ti ab su
20. ((volatile substance or inhalant or solvent) NEAR abuse) in ti ab su
21. (prescription drug* adj (abuse* or use* or misuse or dependen* or disorder* or addict*)) in ti ab su
22. #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21
23. drug abuse prevention in de
24. (prevention or preventive) in ti ab
25. (diversion* NEAR (approach* or activit*)) in ti ab
26. health education in de
27. drug education in de
28. after school programmes in de
29. health promotion in de
30. peer counseling in de
31. peer relations in de
32. (peer adj (group* or influence or education)) in ti ab
33. counseling in de
34. (educational counseling or school counseling) in de
35. (Counse?ling or mediation or support group*) in ti ab
36. ((brief or short or concise or opportunistic or motivational) adj (advice or intervention* or interview*)) in ti ab
37. (skills adj (training or education or life)) in ti ab
38. social adjustment in de
39. social support in de
40. client education in de
41. public health services in de

42. #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 or #32 or #33 or #34 or #35 or #36 or #37 or #38 or #39 or #40 or #41
43. #1 AND (#4 OR #23)
44. #41 AND #42
45. #42 and #43 and (PO:PSYI = HUMAN) and (PY:PSYI = 1990-2006)

- **ASSIA** (via CSA Illumina, 1987 to 2006/04)

The thesaurus terms 'adolescents', 'young people', and 'children' were exploded and combined (AND) with the descriptors and keywords:

(KW=(teen* or adolescen* or youth* or early adult or child* or student* or young people or young adult* or young offender*))

((DE=("substance abuse" or "drug abuse" or "solvent abuse" or "drug addiction")) or (KW=((substance or drug) within 3 (abuse* or use* or misuse or dependen* or disorder* or addict* or volatile or poly))))

(DE=("narcotics" or "heroin" or "opiates" or "morphine" or "cannabis" or "skunk" or "cocaine" or "crack" or "amphetamines" or "dexamphetamines" or "dextroamphetamines" or "ecstasy drug" or "flatliner drug" or "khat" or "methamphetamine" or "gamma-hydroxybutyrate" or "anabolic steriods"))

(KW=(cannabis or hashish or marijuana or heroin or diamorphine hydrochloride or morphine or methadone or ecstasy or MDMA or MDA or hallucinogen* or crack cocaine or lysergic acid diethylamide or lsd or amphetamine or methamphetamine or crystal meth OR GHB or gamma hydroxy butyrate or volatile substance abuse or inhalant abuse or solvent abuse)) or (KW=(prescription drug* within 3 (abuse* or use* or misuse or dependen* or disorder* or addict*)))))

(DE=("prevention" or "intervention" or "harm reduction" or "health education" or "drug education" or "peer groups" or "Counselling" or "health promotion" or "social support" or "social networks" or "support networks" or "community health services"))

(KW=(prevention or preventive or (diversion* within 3 (approach* or activit*))) or peer group* or (counse?ling or mediation or support group* or (brief or short or concise or opportunistic or motivational) within 3 (advice or intervention* or interview*)))

- **Sociological Abstracts** (via CSA Illumina, 1952-2006/04)

((KW=(teen* or adolescen* or youth* or early adult or child* or student* or young people or young adult* or young offender*)) and (((DE=("substance abuse" or "alcohol abuse" or "drug abuse" or "drug addiction")) or (KW=((substance or drug) near (abuse* or use* or misuse or dependen* or disorder* or addict* or volatile or poly)))) or (DE=("drugs" or "narcotic drugs" or "opiates" or "heroin" or "psychedelic

drugs" or "lysergic acid diethylamide" or "tranquilizing drugs" or "marijuana" or "cocaine")) or (KW=(cannabis or hashish or marijuana or heroin or diamorphine hydrochloride or morphine or methadone or ecstasy or MDMA or MDA or hallucinogen* or crack cocaine or lysergic acid diethylamide or lsd or amphetamine or methamphetamine or crystal meth OR GHB or gamma hydroxy butyrate or volatile substance abuse or inhalant abuse or solvent abuse)) or (KW=(prescription drug* within 3 (abuse* or use* or misuse or dependen* or disorder* or addict*))))) and ((DE=("prevention" or "intervention" or "outreach programmes" or "harm reduction" or "health education" or "peer groups" or "Counseling" or "health promotion" or "social support" or "social networks")) or (KW=(prevention or preventive or (diversion* within 3 (approach* or activit*))) or peer group* or (counse?ling or mediation or support group* or (brief or short or concise or opportunistic or motivational) within 3 (advice or intervention* or interview*))))

Appendix 2. Example of forms

Study selection form

Ref number # 0 Author, Year

Study design

What study type has been used?

Meta-analyses, systematic review of RCTs, OR RCTs (including cluster RCTs) ☐

Systematic reviews of, OR individual, non-randomised controlled trials, case-control studies, cohort studies, controlled before-and-after (CBA) studies, interrupted time series (ITS), studies, correlation studies ☐

Non-analytic studies (e.g. case reports, case series studies) ☐

Expert opinion (e.g. non-systematic review articles), formal consensus ☐ If yes, exclude

Intervention

What is the type of intervention (if described)?

Universal ☐ If yes, exclude

Selective ☐

Indicated ☐

Not described ☐

Population

Is the study about vunerable or disadvantaged young people? ☐

If yes, briefly describe:

If no, exclude

Outcomes

What outcomes are reported in the study?

Primary outcome(s) reported? ☐

Number of participants who stop using substances

Changes in use or frequency of substance use.

Changes in the numbers of participants who start using substances

Changes in the time before initiation of substance use.

Seondary outcome(s) reported? ☐

Changes in patterns of drugs or volatile substance use

Changes in risk or protective factors that are likely to affect a young person's propensity to misuse substances (e.g. knowledge, intentions and attitudes toward drug-taking, school attendance, homelessness, family cohesion, social exclusion etc), and also those relating to community or process aspects (e.g. access to services, social capital, community cohesion)

The 'Be Healthy Outcomes' outlined in 'Every child matst (e.g. physical, mental, emotional and sexual health, and adoption of a healthy lifestyle).

The engagement of communities, or vulnerable or disadvantaged young people, in an intervention or strategy

Drug-related hospitalisation or death.

Outcomes related to the criminal justice system

If none of the primary or secondary outcomes of interest are reported then exclude

Inclusion or exclusion

Included ☐

Excluded ☐

Reason for exclusion

1st Reviewer Initals: _____

2nd Reviewer Initals: _____

Agreement between reviewers? ☐

Data extraction form for primary studies

PHIAC 5.3a: Substance misuse: Review of effectiveness (LJM)

Ref # 0 Author(s) Year Data extracted by Date of extraction

Describe the study:

Randomised Controlled Trial - individual ☐
Randomised Controlled Trial - cluster ☐
Controlled non-randomised trial ☐

Click to quality assess (QA)

Controlled before and after ☐
Before and after (no control group) ☐

QA

Interrupted time series ☐ QA

Author(s) objective

Study parameters

Setting:

Geographical (city/country) Date of study (to/from) Social (e.g. school, workplace)

Resources (i.e. source of funding)

Participants:

Select vunerable/disadvantaged group targeted:

At risk (general) ☐ Families with drug using members ☐
Behavioural/emotional ☐ Black and Minority Ethinic (BME) ☐
Truants/low educational achievers ☐ Other ☐ Please describe:
Existing drug users ☐
Were intervention groups balanced at baseline? ☐
Comments (if any)

Demographic details:

Total n (%) =
Intervention n (%) =
Control n (%) =
Male n (%) =
Mean age (range):

Ethinicity:

Other:

Unit of allocation/recruitment:

Individual ☐ Sex (%): Age (range/mean): Group ☐ Describe:
Organisation/institution ☐ Describe: Community/environment ☐ Describe:
Method of recruitment

Selection criteria:

Inclusion:

Exclusion:

Intervention:

Description of intervention

Description of comparator(s)

Method/mode of delivery

Providers/deliverers

Time to follow-up

Length, duration and intensity

Number completing the intervention? n (%)

Reasons for non-completion (if described)?

Outcomes

Primary outcomes

- Number of participants who stop using substances ☐
- Changes in use or frequency of substance use ☐
- Changes in the number of participants who starting using substances ☐
- Changes in the time before initiation of substance use ☐

Secondary outcomes

- Changes in paterrns of drug or volatile substance use (e.g. moving to 'softer' drug use) ☐
- Changes risk/protective factors that are likely to affect a young person's propensity to use drugs (e.g. knowledge, intentions/attitudes towards drug use, school attendance, homelessness, family cohesion, social exclusion, access to services etc.) ☐
- "Be Healthy Outcomes" outlined in Every Child Matters (e.g. physical, mental, emotional and sexual health, and adoption of a healthy lifestyle) ☐
- The engagement of communities or vunerable/disadvantaged young people in an intervention or strategy ☐
- Outcomes related to the criminal justice system ☐
- Drug-related hospitalisation or death ☐

Analyses

Data collection methods used:

Self report ☐

Forensic validation (e.g. hair/saliva testing) ☐

Describe methods used to analyse data?:

Unit of analysis: Individual ☐ Group ☐ Organisation/institution ☐ Community/environment ☐ Policy/socio political ☐ Other ☐

If other, describe:

Any other process details:

Results

Briefly describe the results for each of the main outcomes

Primary outcomes:

Secondary outcomes:

Are any key criticisms noted by the authors?:

Are the results generalisable to UK? Yes ☐ No ☐ Not sure ☐ Briefly, why:

Second reviewer: Second reviewer comments

Print this record

Appendix 3. References for included studies

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Appendix 4. Evidence Tables

Please refer to separate document – PHIAC 5.3b: Review of effectiveness: Evidence Tables

Appendix 5. Results of quality assessment

Systematic reviews methodology checklist

1.1 The study addresses an appropriate and clearly focused question
1.2 A description of the methodology used is included
1.3 The literature search was sufficiently rigourous to identify all relevant studies
1.4 Study quality is assessed and taken into account
1.5 There are enough similarities between the studies selected to make combining them reasonable
2.1 How well was the study done to minimise bias? (Rated ++, + or -)

Key: ✓✓✓ Well covered ✓ ✓ Adequately covered ✓ Poorly covered X Not addressed NR Not reported N/A Not applicable

Author(s) (Year)	1.1	1.2	1.3	1.4	1.5	2.1
Austin (2004)	✓✓✓	✓✓✓	✓✓	✓	✓✓✓	+
Bledsoe (2002)	✓✓✓	✓✓✓	✓✓✓	X	✓✓✓	+
Bowie (2004)	✓ ✓	✓ ✓	✓ ✓	X	N/A	-
Dunn et al. (2001)	✓✓✓	✓✓✓	✓✓	X	✓✓	+
Elliott et al. (2005)	✓✓✓	✓✓✓	✓✓	✓✓	✓	+
Gates et al. (2006)	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	++
Gottfredson (2003)	✓✓✓	✓ ✓	X	✓ ✓	✓	+
Roe and Becker (2005)	✓✓✓	✓✓✓	NR	✓✓✓	N/A	+
Streke (2004)	✓✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓	++
Tait & Hulse (2003)	✓✓✓	✓ ✓	✓✓✓	✓ ✓	✓✓✓	+
Tobler (1997)	✓✓✓	✓ ✓	NR	✓✓✓	NR	+
Tobler and Stratton (1997)	✓✓✓	✓✓	✓✓✓	✓✓	✓✓	+
Tobler et al. (2000)	✓✓✓	✓✓✓	✓ ✓	✓✓✓	✓✓✓	++
Yuen (2004)	✓✓✓	✓✓✓	✓ ✓	✓✓✓	✓✓✓	++

Randomised controlled trials methodology checklist

1.1 The study addressed an appropriate and clearly focused question

1.2 The assignment of subjects to intervention groups is randomised

1.3 An adequate concealment method is used

1.4 Subjects and investigators are kept 'blind' about intervention allocation

1.5 The intervention and control groups are similar at the start of the trial

1.6 The only difference between groups if the intervention under investigation

1.7 All relevant outcomes are measured in a standard, valid and reliable way

1.8 What percentage of the participants or clusters recruited into each intervention arm of the study dropped out before the study was completed?

1.9 All subjects are analysed in the groups to which they were randomly allocated? (ITT)

1.10 Where the study is carried out at more than one site, results are comparable for all sites

2.1 How well was the study done to minimise bias?

2.2 If coded as + or - what is the likely direction in which bias might affect the study results?

2.3 Based on the assessment of quality, are you certain that the overall effect is due to the study intervention?

2.4 Are the results of the study directly applicable to the population group targeted?

✓✓✓ Well covered ✓ ✓ Adequately covered ✓ Poorly covered X Not addressed NR Not reported N/A Not applicable

Randomised controlled trials

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
Aubrey (1998)	✓✓✓	✓✓	✓✓	X	✓✓✓	✓✓	✓✓	40% intervention and 52% control; pts lost reported more arrests	✓	N/A	+	High rate of attrition meant small sample size at follow-up.		
August et al. (2002)	✓✓✓	✓	X	N/A	✓ ✓	✓ ✓	✓✓✓	see extraction form	✓✓✓	X	++		Yes	Yes
Barrera et al., (2002)	✓ ✓	✓ ✓	NR	NR	✓ ✓	✓ ✓	✓ ✓		✓ ✓	NR	+	?	Yes	yes
Baydar (2003)	✓✓✓	✓✓✓	NR	N/A	✓✓✓	✓ ✓	✓✓✓	NR	NR	✓ ✓	+		Reasonably so	Yes
Black et al. (1994)	✓✓✓	✓ ✓	NR	NR	✓✓✓	✓ ✓	✓✓✓	28%	NR	N/A	+	Potentially most vulnerable not included.	No	Not necessarily, see above
Botvin (1994)	✓✓✓	✓	X	X	✓ ✓	X	✓ ✓	NR	X	X	+	Not sure	No	Not sure
Botvin (2001)	✓✓✓	✓ ✓	X	X	✓ ✓	✓ ✓	✓✓✓	NR	X	X	+	Not sure	Not sure	Not sure
Botvin et al. (1994)	✓✓✓	✓ ✓	NR	NR	✓ ✓	NR	✓✓✓		✓✓✓	✓✓✓	+		Yes	Yes
Botvin et al. (1997)	✓✓✓	✓ ✓	NR	NR	✓ ✓	✓ ✓	✓ ✓	NR	✓✓✓	X	-	Unsure about group characteristics	Yes, although short follow up used	Yes
Brody et al. (2004; 2005)	✓ ✓	X	X	X	✓✓✓	X	✓✓✓	4% intervention; 3% control	✓✓✓	X	+	Whether truly randomised, but equivalence tested.	Yes	Yes, though might not be applicable to UK population
Brown and Block (2001)	✓	✓✓	NR	NR	✓✓	✓✓	✓✓	33%	✓✓		-			
Brown et al. (2005)	✓✓	✓	NR	NR	NR	✓✓	✓✓✓	<12%	✓	X	-			Yes
Campbell et al. (2002)	✓✓✓	✓✓✓	X	N/A	✓✓	✓✓	✓✓✓	6.3% (1% of eligible)	NR	N/A	+	Small number of participants reduced the power of findings.		Yes
Catalano (2002)	✓ ✓	✓ ✓	X	X	✓ ✓	NR	✓ ✓	25% Approached refused to participate	✓	NR	+	Unclear as to how those who did not participate differed from those who did	No	Unclear
Catalano et al. (1999)	✓✓✓	✓	X	N/A	✓✓✓	✓ ✓	✓✓✓	26%	X	NR	+		Yes	Yes
Cheadle (2001)	✓ ✓	✓	NR	N/A	✓ ✓	✓	✓ ✓	NR	NR	NR	-		No	No
Chou (1999)	✓✓✓	✓✓✓	NR	NR	✓✓✓	✓✓✓	✓✓✓	In exp group ranged from	✓✓✓	X	-		Unknown, very high dropout at	yes

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
								86.4% to 57.3% who completed all 4 follow up					extended survival points	
Colnes (2000)	✓✓✓	✓ ✓	N/A	N/A	✓✓✓	✓✓✓	✓✓✓	NR, overall 13.2%	✓✓✓	✓	+		Yes, although no sig effects	Yes
CPPRG (2002)	✓✓✓	✓	✓	N/A	✓	✓ ✓	✓✓✓	15.5% control; 11.9% intervention	✓✓✓	X	-	Unsure.	Yes. Study looks like it was conducted well but few details reported	Yes, though no substance use outcomes reported
DeMar (1997)	✓✓✓	✓ ✓	✓ ✓	✓ ✓	✓	✓	✓ ✓	NR	NR	N/A	+	Intervention and control groups have differences at baseline, this is may have provided bias	No	Yes
Dennis et al. (2004)	✓✓✓	✓✓✓	X	X	✓✓✓	✓ ✓	✓✓✓	NR	✓✓✓	✓✓✓	+		Self report; generalisability of cost effectiveness data to non-clinical settings, lack of no-treatment control group	Included non-dependent and co-morbid subjects
Dishion (2001)	✓✓✓	✓✓✓	NR	N/A	✓✓✓	✓ ✓	✓✓✓	15% (total)	✓✓✓	NR	+		Reasonably certain	With caution
Dishion (2003)	✓✓✓	✓ ✓	X	X	✓ ✓	X	✓✓✓	Total 29%	✓✓✓	X	+		Yes	Not sure
Dishon & Andrews (1995)	✓✓✓	✓✓✓	✓✓✓	X	✓ ✓	✓✓✓	✓✓✓		✓✓✓	✓ ✓	+		yes	?
Duggan (1999)	✓✓✓	✓✓✓	✓✓✓	✓ ✓	✓✓✓	X	✓✓✓	Total 51%	X	X	+		Yes	Not sure
Duncan (2000)	✓✓✓	✓ ✓	X	N/A	NR	NR	✓✓✓	NR	✓ ✓	NR	+	overstating efficacy	Yes	No. Although the focus groups used to inform the intervention involved BME youth, there is no data on ethnicity, disadvantage etc. in the groups that

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
														received the intervention.
Eddy et al. (2000)	✓✓✓	✓✓	X	X	✓	✓	✓✓	3%	✓✓	N/A	-	Full methodology not reported, no details of differences between groups. Further details of control required.	No	Yes
Eddy et al. (2003)	✓✓✓	✓ ✓	X	X	✓	✓	✓	Not listed by intervention arm. However, by ethnicity: Latino - 8% Other - 25% Native American - 27% Asian/ Pacific Islander - 38% African American - 50% White - 15%	X	X	-	Not sure	Not sure	Not sure
Farrell et al. (2003)	✓✓✓	✓	X	N/A	✓✓✓	✓ ✓	✓✓✓	See extraction form. No difference between groups.	✓✓✓	X	+	Unsure.	Yes.	Yes. Applicablity to UK pop unclear.
Fishbein et al. (2006)	✓✓✓	✓✓✓	NR	NR	✓✓✓	✓✓✓	✓✓✓		✓✓✓	✓✓✓	+	participants may have been exposed to other interventions	yes	yes
Forman et al. (1990)	✓✓✓	✓✓	NR	NR	✓	✓✓	✓✓	14.7% by end of intervention; 28% at 12 months	X	X	-	Intervention status assigned by school but analysed individually	Yes	Yes
Friedman & Utada (1992)	✓ ✓	✓ ✓	NR	X	NR	NR	✓ ✓	26%	NR	NR	+			
Friedman et al. (2002)	✓ ✓	✓	X	X	✓ ✓	✓	✓ ✓	16%	X	N/A	-	May be systematic differences between the two groups.	No.	Yes.
Gil et al. (2004)	✓✓	✓	NR	NR	X	✓	✓	NR	✓	N/A	-		yes	yes
Gosin et al. (2003)	✓	✓ ✓	X	X	X	✓	✓ ✓	NR	✓✓✓	X	-	Too little evaluation data reported	Too little evaluation data reported	Too little evaluation data reported
Griffin et al.	✓ ✓	✓✓✓	NR	NR	✓ ✓	✓ ✓	✓ ✓	36% intervention	✓✓✓	N/A	+	unsure	Yes it is likely	Yes

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
(2003)								group and 38% control group						
Halmi & Golik-Gruber (2002)	✓✓	✓	X	N/A	✓✓	✓	✓✓	32% of parents and 34% did not provide data for the final analysis	X	X	+	Overestimation of treatment effects, high-risk nature of sample not clear, I.e. those receiving the intervention might have been less "high-risk".	?	Yes,
Harmon (1995)	✓✓	✓	✓	X	✓✓	NR	✓✓	23% drop out	✓✓✓	N/A	+	Drop out were more likely to report risk factors at start of intervention, therefore results would underestimate any programme effects	Uncertain	Uncertain
Hawkins et al. (1991)	✓✓	X	X	NR	✓✓	✓✓	✓✓	NR	X	N/A	+	Overestimation of treatment effects	Yes	Yes,
Hecht (2003)	✓✓✓	✓✓	X	X	✓✓	X	✓✓	No differentiation between study arms. Attrition: 3 months - 7%, 8 months - 12%, 14 months - 16%	X	X	+	Not sure	Not sure	Not sure
Henggeler et al. (1991)	✓✓	✓	NR	NR	✓✓	✓✓	✓✓	23% (MDP)	NR	✓	+	Unclear as complete methodology NR in this paper	No	Yes
Horn (1998)	✓✓	✓	X	X	✓✓	✓✓	✓✓	1 child excluded (i.e. lost to follow-up)	✓✓	N/A	-	Small number of participants limits power.		
Hostetler & Fisher (1997)	✓✓✓	✓✓	NR	X	✓✓	✓✓	✓✓	Uncertain as data only reported on the number of individuals completing both pre and post test questionnaires	✓✓✓	✓✓✓	+	Doubts over suitability of outcomes assessments	Not sure of control group exposure to interventions, not sure of implementation fidelity and completeness	Yes
Houge et al. (2002)	✓✓✓	✓✓✓	✓✓	NR	✓✓✓	✓✓	✓✓✓		✓✓✓	NR	+		Yes	Yes

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
Ialongo (1999)	✓✓✓	✓✓✓	✓✓✓	X	✓✓✓	X	✓✓✓	Results for each arm not separated, but "there were no significant differences between them", i.e. 11.5% attrition	✓✓✓	✓	++		Not sure	Not sure
Irvine et al. (1999)	✓ ✓	✓	X	N/A	✓ ✓	✓ ✓	✓ ✓	31% at 6 months, 55% at 12 months	NR	NR	+	Not clear, potential for more "high risk" families to have been allocated to immediate intervention which might have diluted the intervention effect	Yes.	Yes.
Joanning et al. (1992)	✓✓✓	✓	X	N/A	✓✓✓	✓ ✓	✓ ✓	See extraction	✓ ✓	N/A	+	Selection bias.	Yes	Yes
Johnson et al. (1996)	✓✓✓	✓ ✓	✓	X	X	✓	✓	NR	✓✓✓	✓	-			Yes
Johnson (1998)	✓✓✓	✓ ✓	X	X	X	X	✓✓✓	32% ("no evidence of differential attrition")	X	NR	-	Not sure	No	No
Kaminski et al. (2002)	✓ ✓	✓	X	N/A	✓ ✓	X	✓✓✓	24% at Year 2, 19% to Year 3	X	X	+	Overestimation of treatment effect	?	Yes
Knopes (2004)	✓ ✓	✓ ✓	X	NR	✓ ✓	✓✓✓	✓ ✓	20% attrition	✓✓✓	N/A	+		Yes	Yes, although substance use behaviours NR
Kosterman (1997)	✓✓✓	✓✓✓	NR	X	✓ ✓	✓✓✓	✓ ✓	Unknown, data not provided	✓✓✓	✓✓✓	+	Unsure of exact nature of randomisation. Unsure of how standard videotaped scoring is	Quite sure, although may depend upon ability to perfrom for the video session	Yes
Kosterman et al. (2001)	✓✓✓	✓✓✓	N/A	X	✓✓✓	✓ ✓	✓ ✓	20 % drop out	✓✓✓	N/A	+	Parents may give socially desirable answers	Yes	Yes - independent data collection from

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
														researchers blind to treatment condition
Lewis et al. (1990)	✓✓✓	✓ ✓	NR	NR	✓	✓	✓✓✓	18.4%	✓ ✓	N/A	+	Unsure	Unsure	Unsure
Liddle (2001)	✓✓✓	✓✓✓	NR	✓✓✓	✓✓✓	✓✓✓	✓✓✓	16% failed to attend even one therapy session. Then, of the remaining 152 cases: 30% did not complete Multidimensional Family Therapy (the intervention) 35% did not complete Multifamily Education Intervention (control) 47% did not complete Adolescent Group Therapy (control)	NR	NR	++		Yes	Yes
Liddle et al. (2004)	✓✓✓	✓ ✓	✓	✓ ✓	✓ ✓	✓ ✓	✓✓✓	NR	X	N/A	++		Yes.	Yes.
Lindenberg (2002)	✓✓✓	✓ ✓	X	N/A	X	X	✓✓✓	11% (in total)	X	X	-	Not sure	No	Not sure
Lochman and Wells (2002, 2003)	✓✓✓	✓ ✓	X	NR	✓✓✓	X	✓✓	Not clear. Attrition analysis at 3 year follow-up showed the availbale sample to be representative of the original sample at baseline.	NR	X	+	Not sure	Not sure	Not sure

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
Lochman and Wells (2004)	✓✓✓	✓	X	NR	✓✓✓	NR	✓ ✓	(overall attrition rates): 30% (youths) 31% (parents)	✓	NR	+		Yes	With caution, yes
LoSciuto et al. (1996)	✓✓✓	✓	X	X	✓ ✓	✓ ✓	✓ ✓	Across all treatment conditions 23% dropped out	✓ ✓	NR	-	requires more methodological details	Yes	Yes
LoSciuto et al. (1999)	✓✓✓	✓ ✓	NR	NR	✓✓✓	✓ ✓	✓✓✓	Exp = 12.4%; control = 13.2%	✓✓✓	N/A	+	Unsure	Yes	Yes
McCambridge & Strang (2004)	✓✓✓	✓✓✓	✓✓✓	NR	✓ ✓	✓ ✓	✓✓✓	0	✓ ✓	N/A	+		yes	yes
McCambridge & Strang (2005)	✓ ✓	X	X	N/A	NR	X	✓ ✓	NR.	✓✓✓	X	-	Might be due to chance.	No.	Yes.
McGillicuddy et al. (2001)	✓✓	✓✓	X	✓✓	✓✓	✓✓	✓✓	0%	X	N/A	+	Small participant sample may have underestimated effects.	Yes.	Yes.
Miller-Heyl (1998)	✓✓✓	✓ ✓	X	X	✓✓✓	X	✓ ✓	No differentiation between arms; 25% at year 1, 29% at year 2	X	✓	+	Not sure	Not sure	Not sure
Nair et al. (2003)	✓✓✓	NR	NR	✓ ✓	NR	✓ ✓	✓✓✓	NR	NR	N/A	?	Methodology reported in another publication.	?	?
Nye et al. (1995)	✓ ✓	✓ ✓	✓	NR	✓ ✓	✓ ✓	✓	Intervention 10 familes dropped out	✓ ✓	✓ ✓	-	Potential criterion contamination bias in therapist rating of maternal investments	yes	yes
Olds (1998)	✓✓✓	✓✓✓	NR	N/A	NR	NR	✓ ✓	NR	✓ ✓	N/A	+		Yes	No
Oliansky (1997)	✓✓✓	✓ ✓	NR	NR	NR	NR	✓ ✓	24%	N/A	N/A	-	Unclear as limited methodology supplied	As above	As above
Palinkas et al. (1996)	✓✓✓	✓✓✓	NR	NR	✓✓✓	✓ ✓	✓✓✓		✓ ✓	N/A	+		Yes	Yes
Park et al. (2000)	✓ ✓	✓	X	N/A	✓ ✓	✓ ✓	✓ ✓	See extraction form; low attrition.	X	X	+	Over estimation of intervention effects.	Yes, analyses controlled for baseline differences.	Not sure, population sample not particularly 'at risk'.
Polansky et al. (1999)	✓✓✓	✓	X	X	X	X	✓	27% for information only,	X	N/A	-		No, results are not clear	No

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
								38% for help seeking, 36% for assertiveness training and 19% control group						
Prado (2005)	✓✓✓	✓ ✓	X	NR	✓ ✓	✓ ✓	✓✓✓	Estimated 59 in total	✓✓✓	X	+	May be interschool differences, although few sig results	Yes	Yes, but Hispanic subjects in this study were not representative of national demographics
Rentschler (1997)	✓✓✓	✓ ✓	✓ ✓	N/A	✓ ✓	✓✓✓	✓ ✓	23 (21.5%) lost; 19% exp, 26% control	✓✓✓	✓	-	Unknown	Uncertain as few significant results reported	Yes
Reynolds & Cooper (1995)	✓	✓	X	N/A	✓	✓	✓ ✓	38 dropped out.	X	X	-	Larger estimate of effect is likely.	No.	Yes.
Rhodes et al. (2005)	✓ ✓	✓	X	N/A	✓✓	✓✓	✓✓	Not clearly reported for both groups	X	X	-	Unmatched youths grouped with controls, not ITT.		
Royse (1998)	✓✓✓	✓ ✓	X	N/A	X	X	✓ ✓	NR	X	X	-	Not sure	Not sure	Not sure
Santisteban et al. (2003)	✓ ✓	✓	X	X	✓ ✓	✓	✓ ✓	30% dropped out of BFST and 37% dropped out of the GC condition	✓	N/A	-	No evidence that study was truly randomised, results might be affected by selection bias	? Details of randomisation not reported	Yes
Schinke (2000)	✓✓✓	✓ ✓	X	X	✓ ✓	✓	X	Overall 14%	X	X	-	Not sure	No	Not sure
Schinke et al. (2004)	✓ ✓	✓	NR	NR	NR	✓	✓ ✓	NR	NR	NR	-		Not very,	Yes.
Schinke et al. (2004)	✓ ✓	✓	NR	N/A	X	X	✓ ✓	At 3 yrs: A 7.9%; B 11.8%; C 6.7%. No significant differences between those who did and did not complete follow-up.	X	X	+	Effect of the intervention might be due to differences within the groups.	No.	Yes.
Schochet et al. (2001)	✓✓✓	✓	X	N/A	✓ ✓	✓ ✓	✓ ✓	NR	✓ ✓	X	+	Overerstimation of treatment effect,	Yes	Yes

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
Short et al. (1995)	✓✓	✓	NR	NR	✓	✓	✓✓	Unknown	✓	X	-		Uncertain, poorly written paper, difficult to understand methods	Unknown, by authors' own admission their self selction technique is not an accurate way of identifying children of problematic alcohol drinkers
Smith et al. (2004)	✓✓	✓✓	NR	NR	✓✓	✓✓	✓✓		✓✓	NR	+	?	yes	no, more suitable for females than males
Spoth et al. (1998)	✓✓✓	✓✓✓	X	X	✓✓✓	✓	✓✓✓	16 - 20% drop out	✓✓✓	X	+	Uncertain as to the effect of differences in implementation measures across sites on outcomes	yes	yes
Spoth et al. (2003)	✓✓✓	✓✓✓	X	NR	✓✓	✓✓✓	✓✓✓		✓✓✓	N/A	+		Yes - results later replicated in waiting list control group	Yes
St. Pierre et al. (2001)	✓✓	✓	X	X	✓✓	✓	✓✓✓	~70% retention at year 4	X	X	-	No ITT analysis reported and unclear if results the same across sites.		
Sun et al. (2006)	✓✓	✓	X	X	✓✓✓	✓✓	✓✓			N/A	+		yes	yes
Sussman et al. (1995)	✓	✓✓	N/A	N/A	X	X	✓✓	NR	✓✓✓	NR	-	Poor study design.	No	Yes
Sussman et al. (1998)	✓✓✓	✓✓✓	NR	NR	✓✓	✓✓	✓✓		✓✓	N/A	+	?		
Sussman et al. (2002a)	✓	X	X	X	X	X	✓✓	NR	X	X	-	Overestimation of treatment effects likely.	No	Yes
Sussman et al. (2002b)	See Sussman et al., 1998; Sun et al., 2006 and Sussman et al., 2003 for details of individual study quality assessment													
Sussman et al. (2003)	✓✓✓	✓✓✓	NR	NR	✓✓	NR	✓✓✓	45%	NR	N/A	+		No, due to high levels of attrtion.	Yes

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
Tait et al. (2004)	✓✓✓	✓✓✓	✓✓✓	NR	✓✓✓	✓ ✓	✓ ✓	31	✓ ✓	✓ ✓	+		Yes	Yes
Vicary et al. (2004)	✓✓✓	✓ ✓	NR	NR	✓ ✓	✓✓✓	✓✓✓		✓✓✓	✓✓✓	+		yes	yes
Vitaro & Dobkin (2001)	✓✓✓	✓ ✓	✓ ✓	X	✓✓✓	X	✓✓✓	23-27%	✓✓✓	X	-		Yes	yes
Wagner (2000)	✓ ✓	✓ ✓	X	X	X	X	✓	NR	X	NR	-	Not sure	No	Not sure
Weiss & Nicholson (1998)	✓	✓	X	N/A	✓ ✓	X	✓ ✓	Not clear	NR	NR	+	Overestimation of effects.	Yes	Yes
Werch et al. (2005)	✓✓✓	✓✓✓	✓ ✓	X	✓✓✓	✓✓✓	✓✓✓	3.3% of individuals	✓✓✓	N/A	++			Yes
Wolchik et al. (1993)	✓✓✓	✓✓✓	X	X	X	✓ ✓	✓ ✓		✓ ✓	NR	+		Yes	Yes

Non randomised controlled trials

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
Bagley & Pritchard (1998)	✓✓✓	X	X	X	X	✓	✓	Different subjects used pre and post intervention	✓ ✓	X	-	Uncertain	Uncertain	Yes, broad population group
Baker et al. (1995)	✓	N/A	N/A	N/A	✓ ✓	✓	✓ ✓	I 30 (44%) ; C 97 (74%)	N/A	N/A	-	Might have underestimated treatment effect because of baseline differences, or overestimated because sample willing to change.	Not clear.	Yes.
Beamer et al. (1991)														
Belgrave et al (2004)	✓✓✓	✓	NR	X	X	✓ ✓	✓ ✓	NR	✓✓✓	N/A	-	Overestimate success	Uncertain, no baseline data collected	Yes
Booth et al. (1999)	✓ ✓	N/A	N/A	NR	✓ ✓	✓	✓✓✓	40% not available at 3 month follow-up	N/A	N/A	-	Intervention not shown to be effective, direction of bias not clear.	Not effective.	Yes.
Cheadle et al. (1995)	✓✓✓	X	NR	X	NR	✓	✓ ✓	NR	✓✓✓	X	-		Little programme effect	yes

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
Cherry et al (1998)	✓✓✓	✓✓✓	NR	NR	✓ ✓	✓ ✓	✓✓✓		✓✓✓	✓✓✓	+	good attempt	yes	yes
Corvo & Persse (1998)	✓✓✓	X	N/A	X	NR	NR	✓✓✓	Only post-test performed	✓✓✓	N/A	-		No, lack of pre-test measures and lack of control group affects confidence in results	Yes
Demers (2000)	✓✓✓	N/A	X	X	✓ ✓	X	✓✓✓	0%	X	NR	+		Not sure	Youths with learning difficulties are a distinct group that, whilst at-risk, should be clearly differentiated from other at-risk groups?
DeWit et al. (2000)	✓ ✓	N/A	N/A	NR	X	✓	✓ ✓	intervention 13%; control 33%	NR	NR	-	Programme effect may be overestimated. Hard to judge as participants details at pretest are NR.	No.	Yes.
DeWitt et al. (1998)	✓✓✓	X	X	X	X	✓ ✓	✓ ✓	13% drop out, 33% control	✓✓✓	X	-	Excluded most vulnerable so may have overestimated effects.	Yes	Yes
Donnelly et al. (2001)	✓ ✓	✓	X	X	NR	✓✓✓	✓ ✓	NR	✓✓✓	X	-	Unclear, may have been between group and between site differences	Yes	Yes
Dubas et al. (1998)	✓✓✓	N/A	N/A	N/A	✓	✓	✓✓	NR	X	X	-	Few methodological details reported.	No	Yes
Eggert et al. (1990)	✓✓✓	X	X	X	✓	✓ ✓	✓	None	✓✓✓	N/A	-	Older students in treatment group may be more motivated, hence positive results	Unsure due to lack of randomisation	yes
Eggert et al. (1994)	✓✓✓	✓	X	N/A	✓ ✓	✓	✓ ✓	See extraction	✓✓✓	NR	-	Selection bias is a problem.	Yes.	Yes.
Field et al. (1998)	✓✓✓	✓✓✓	NR	NR	NR	✓ ✓	✓✓✓		✓✓✓	N/A	+	?	yes, this area was well covered	yes

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
Flores-Fahs et al. (1997)	✓✓✓	X	N/A	N/A	X	X	✓ ✓	NR	✓✓✓	N/A	-	Unsure, but reduces confidence in results (although negative outcomes)	No	Yes
Fors & Jarvis (1995)	✓ ✓	N/A	N/A	NR	✓	NR	✓ ✓	NR	NR	NR	-	Results likely due to chance.	No.	Yes.
Gottfredson et al. (1996)	✓ ✓	✓	✓	✓	✓	✓	✓ ✓	Unsure, but between 11 - 38% of students failed to complete follow up questionnaires at different time points	✓ ✓	✓	-	Variable implementation, differences in schools	Uncertain	yes
Gross & McCaul (1992)	✓✓	NA	NA	NA	X	X	✓✓	Not clear	X	NA	-			
Hahn et al. (1998)	✓✓✓	✓	X	NR	✓	NR	✓✓✓	NR	✓✓✓	N/A	-		No significant results	Yes
Hanlon et al. (2002)	✓✓✓	✓	NR	NR	✓ ✓	✓ ✓	✓ ✓	0	✓✓✓	✓✓✓	-		No, participants in control group differ significantly from intervention group on a number of measures	see above
Hawkins et al. (1999)	✓ ✓	✓ ✓	NR	NR	✓ ✓	✓ ✓	✓ ✓		✓ ✓	✓ ✓	+		yes	yes
Hermann (2002	✓✓✓	✓	X	X	X	X	X	NR	X	X	-		Uncertain, likely other publications in this series will address the question better	
Husler et al. (2005a; 2005b)	✓ ✓	✓	X	X	X	✓	✓ ✓	NR	NR	✓	-			Yes
Jones (2000)	✓ ✓	✓	X	X	✓ ✓	✓✓✓	✓ ✓		✓✓✓	N/A	-	Low power, unusual choice of outcome measures	yes	yes
Lam et al. (2005)	✓✓	N/A	N/A	N/A	✓✓	X	✓	<5% lost	X	N/A	-	Major differences between groups at pretest. Poor methodology.	Unclear	Yes

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
McLaughlin et al. (1993)	✓✓	X	X	X	✓	✓✓	✓✓	NR	✓✓✓	N/A	-	Unsure	Few significant effects, unknown if a result of group allocation effects	Yes
Morrison et al. (2000)	✓✓✓	X	✓	✓	X	✓✓	✓✓	NR	✓✓✓	N/A	-		No	yes
O'Donnell et al. (1995)	✓✓	✓	✓	X	NR	X	✓✓	NR	X	X	-	May be differences between two groups which are responsible for the the findings rather than the intervention	No	Yes
Palmgreen et al. (2001)	✓✓	✓✓✓	✓✓	✓✓	✓✓✓	N/A	✓✓✓		✓✓✓	N/A	+		yes	yes
Poulin et al. (2001)	✓✓✓	✓✓	NR	N/A	✓✓	✓✓✓	✓✓✓	7% drop out in exp group	✓✓✓	NR	+	Small sample size reduced stat power, less likely to detect sig programme effects	yes	yes
Raynal & Chen (1996)	✓✓	✓✓	NR	NR	X	X	✓	NR	✓✓✓	X	-	No indication of group equivalence at baseline	Uncertain	Uncertain
Richards-Colocino (1996)	✓✓✓	X	NR	NR	X	NR	✓	NR	✓✓	N/A	-			
Ross et al. (1992)	✓✓✓	N/A	N/A	N/A	✓✓	X	✓✓✓	NR	X	N/A	+	Might have missed most vulnerable children.		
Ruch-Ross (1992)	✓✓✓	✓	NR	NR	✓✓✓	✓✓	✓✓✓		✓✓✓	N/A	-	No sig results	Yes	Yes
Sambrano et al. (2005)	✓✓✓	✓✓	NR	X	NR	X	✓✓✓	5.5% drop out	✓✓✓	✓✓	-	Recipients of the grant may have been the most vulnerable, therefore non random allocation	Yes, authors run a series of analyses to control for differences in population characteristics and intervention	Yes
Sarvela & Ford (1993)	✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓	not clearly specified	✓✓✓	✓✓	+		Yes	Yes
Schinke et al. (1994)	✓✓	X	NR	NR	NR	NR	✓✓	NR	NR	N/A	-	Unsure. Many categories NR.	Unsure	Think so.
Short (1998)	✓✓✓	X	✓✓	✓	✓✓	X	✓✓✓	0% drop out	✓✓✓	X	-	lack of randomised	yes	yes

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
												allocation, don't know if differences between schools involved in study		
Sotthiyapai et al. (2003)	✓✓	N/A	N/A	NR	✓✓	✓✓	✓✓	NR	X	N/A	-	Overestimation of treatment effects. Might be other differences between the groups that weren't explored.	?	? Young offenders but convictions NR, might not be suffciently similar to UK populations.
Springer et al. (2002a; 2002b)	See Sambrano et al. (2005) for study quality assessment													
St Pierre et al. (1992)	✓✓✓	X	X	NR	✓✓	✓✓	✓		✓✓✓	X	-		Yes	Yes
St Pierre et al. (1997)	✓✓✓	X	X	X	✓	✓✓✓	✓✓	59.5% retention	✓✓✓	X	-	Unknown, high drop out, differences in implementation		
Stephenson et al. (1999)	✓✓✓	N/A	X	N/A	NR	✓✓	✓✓✓	Cross sectional design	✓✓	N/A	-		Confident	Yes
Thompson et al. (1997)	✓✓	N/A	N/A	N/A	✓✓	✓	✓	20% dropped out	X	N/A	-	Poorly reported methods	Yes	Yes
Valentine et al. (1998)	✓✓✓	✓	NR	NR	✓✓	✓✓	✓✓	71% middle school, 48% high school completed	✓✓✓	N/A	-		Yes	Yes
Whiteside-Mansell (1999)	✓✓✓	N/A	X	X	✓✓	X	✓✓	NR	X	N/A	-	Not sure	Not sure	Not sure
Zavela et al (2004)	✓✓✓	X	X	X	✓✓	✓✓	✓✓	NR, but only 14% of programme participants took part in evaluation	✓✓✓	N/A	-		yes	yes
Zavela et al. (1997)	✓✓✓	X	N/A	N/A	NR	X	✓✓		✓✓✓	✓	-	No robust control group. Compared exp data from survey data collected , from earlier cohorts, therefore might over or under estimate effects	Unsure	Yes

Author ,Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	1.10	2.1	2.2	2.3	2.4
												compared with a contemprous comparison/control group		

Controlled before and after studies methodology checklist

1.1 Contemporaneous data collection

• Score DONE pre and post intervention periods for study and control sites are the same.

• Score NOT CLEAR if it is not clear in the paper, e.g. dates of collection are not mentioned in the text.

• Score NOT DONE if data collection was not conducted contemporaneously during pre and post intervention periods for study and control sites.

1.2 Appropriate choice of control site

Studies using second site as controls:

• Score DONE if study and control sites are comparable with respect to dominant reimbursement system, level of care, setting of care and academic status.

• Score NOT CLEAR if not clear from paper whether study and control sites are comparable.

• Score NOT DONE if study and control sites are not comparable.

1.3 Baseline measurement

• Score DONE if performance or patient outcomes were measured prior to the intervention, and no substantial differences were present across study groups (e.g. where multiple pre intervention measures describe similar trends in intervention and control groups);

• Score NOT CLEAR if baseline measures are not reported, or if it is unclear whether baseline measures are substantially different across study groups;

• Score NOT DONE if there are differences at baseline in main outcome measures likely to undermine the post intervention differences (e.g. are differences between the groups before the intervention similar to those found post intervention).

1.4 Characteristics for studies using second site as control

• Score DONE if the authors state explicitly that the primary outcome variables were assessed blindly OR the outcome variables are objective e.g. length of hospital stay, drug levels as assessed by a standardised test;

• Score NOT CLEAR if not specified in the paper;

• Score NOT DONE if the outcomes were not assessed blindly.

1.5 Blinded assessment of primary outcome(s)

• Score DONE if the authors state explicitly that the primary outcome variables were assessed blindly OR the outcome variables are objective e.g. length of hospital stay, drug levels as assessed by a standardised test;

• Score NOT CLEAR if not specified in the paper;

• Score NOT DONE if the outcomes were not assessed blindly.

1.6 Protection against contamination

Studies using second site as control

• Score DONE if allocation was by community, institution, or practice and is unlikely that the control group received the intervention;

• Score NOT CLEAR if providers were allocated within a clinic or practice and communication between experimental and group providers was likely to occur;

• Score NOT DONE if it is likely that the control group received the intervention (e.g. cross-over studies or if individuals rather than providers were randomised).

1.7 Reliable primary outcome measure(s)

• Score DONE if two or more raters with at least 90% agreement or kappa greater than or equal to 0.8 OR the outcome is obtained from some automated system e.g. length of hospital stay, drug levels as assessed by a standardised test;

• Score NOT CLEAR if reliability is not reported for outcome measures that are obtained by chart extraction or collected by an individual;

• Score NOT DONE if agreement is less than 90% or kappa is less than 0.8.

1.8 Follow up of professionals (protection against exclusion bias)

• Score DONE if outcome measures obtained 80-100% subjects allocated to groups. (Do not assume 100% follow-up unless stated explicitly.);

• Score NOT CLEAR if not specified in the paper;

• Score NOT DONE if outcome measures obtained for less than 80% of individuals allocated to groups.

1.9 Follow up of individuals

• Score DONE if outcome measures obtained 80-100% of individuals allocated to groups or for individuals who entered the study. (Do not assume 100% follow-up unless stated explicitly.);

• Score NOT CLEAR if not specified in the paper;

• Score NOT DONE if outcome measures obtained for less than 80% of individuals allocated to groups or for less than 80% of individuals who entered the study.

2.1 How well was the study conducted? Code ++, + or –

2.2 Are the results of the study directly applicable to the target population?

Controlled before and after studies

Author, Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.1	2.2
Ambtman et al (1990)	?	✓	?	?	X	✓	?	✓	✓	-	Yes
Aktan et al. (1996)	✓	X	?	?	?	X	?	?	?	-	
Azrin et al (1994)	?	✓	✓		✓	✓	X		✓	+	
Britto (2001)	✓	✓	?	✓	?	✓	?	X	X	-	Not sure
Gainer et al. (1993)	?	✓	X	X	?	?	✓	?	?	+	Yes.
Gilham et al. (1997)	?	?	?	?	?	?	?	?	?	-	Yes.
Gittman & Cassata (1994)	?	?	?		X	?	?	?	X	-	Not sure
Godley & Velasquez (1998)	X	✓	✓	✓	?	X	?	?	?	+	Yes.
Gottfredson (2004)	?	?	?	✓	?	?	?	✓	✓	-	Yes, with caution
Grant et al. (2005)	X	?	✓	✓	?	N/A	✓	?	?	-	All groups received intervention but at different time points.
Grayson (2001)	✓	?	✓	✓	X	✓	?		✓	+	Yes
Hahn et al. (1998)	✓	✓	?		?	✓			✓	+	Yes
Lam et al. (2005)	?	X	X	X	?	✓	?	?	✓	-	Yes.
Marcus et al. (2004)	✓	✓	✓	X	?	✓	?	?	?	-	Poor methodology: cross-sectional comparison with controls only.
Morehouse & Tobler (2000)	✓	✓	✓	?	?	✓	?	✓	✓	-	
Nelson and Arthur (2003)	?	✓	?	?	?	✓	✓	?	?	-	Unclear methodology is poor and most of results presented in graphs.
Schinke et al. (1992)	?	?	?	X		✓	✓	✓	?	-	Unclear as methodology contains numerous flaws
Sloan et al. (2004)	X	✓	✓	N/A	X	N/A	?	✓	✓	-	Used historical controls
Springer (2004)	?	?	?	?	?	?	?		?	-	Not sure
St Pierre et al (2001)	✓	✓	✓	X	?	✓	✓	X	X	-	Considered applicable

Before and after studies (no control)

Author, Year	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.1	2.2
Belcher et al. (2000)	N/A	N/A	?	?	?	X	✓	X	X	-	?, short follow-up only.
Bruce & Emshoff (1992)	N/A	N/A	X	X	X		X	X	X	-	Unknown as no control used
Bry & Krinsley (1992)	N/A	N/A	X	X	X	X	X	X	X	-	Yes
Bryan (1992)	N/A	N/A	N/A	N/A	X	X	X	X	X	-	Yes
Buncher (1996)	N/A	N/A	N/A	N/A	N/A	N/A	?	?	?	-	Not clear how many participated in pre- and post-test analyses.
Camp (1997)	N/A	N/A	?		✓		?		?	-	Not sure
Cervantes et al. (2004)	N/A	N/A	X	X	X	X	X	X	X	-	Yes.
Collingwood et al. (1993)	N/A	N/A	✓							-	
Collingwood et al. (2000)	N/A	N/A	X	X	X	X	X	X	X	-	Yes
Crunkilton et al. (2005)	N/A	N/A			?		?	✓	✓	-	Yes
Danoff (1997)	N/A	N/A	N/A	N/A	N/A	N/A	✓	?	?	-	
DeGuire & Thyrum (1999)	N/A	N/A	X	X	X	X	X	X	X	-	Yes.
Emshoff et al (1996)	N/A	N/A	X		X		?	X	?	-	yes
Fowler (1991)	N/A	N/A	✓		?		?		✓	-	Researcher designed

											and adminstered questionnaire, and lead prevention sessions. No control group. Questionnaire directly based upon content of lessons. Results likely to overemphasise positive effects
Grant et al (2005)	N/A	N/A	✓		X	?	?	?	✓	-	
Gross & McCaul (1992)	N/A	N/A	X	X	X	X	X	X	X	-	Not necessarily
Harrington and Donohew (1997)	N/A	N/A	✓		X	?	?	✓	✓	+	Yes
Harvey (2004)	N/A	N/A	?		X		?		X	-	Not sure
Houck et al. (2002)	N/A	N/A	X	X	X	X	X	X	X	-	Depressed students, drug use not really a focus of the intervention.
Jenson (1993)	N/A	N/A	X		X	X	✓		✓	-	Not necessarily, many refused to participate, these may have been most vulnerable
Lynsky et al (1999)	N/A	N/A	✓	?	X	X	?	?	✓	+	yes
Magura et al (1999)	N/A	N/A	N/A	N/A	X	✓	✓	✓	✓	-	Yes
Martin (2005)	N/A	N/A	X	X	X	X	X	X	X	-	Yes.
McAleavy et al. (1996)	N/A	N/A	N/A	N/A	N/A	N/A	?	?	?	-	
McDonald (1998)	N/A	N/A	X	X	X	X	X	X	X	-	Yes
Munoz (2001)	N/A	N/A	?	X	X	?	?	?	X	-	Few results were mentioned in this paper and there was no mention made of improvements in substance use either at baseline or post-test.
Sohn (2000)	N/A	N/A	N/A	N/A	X		X	?	?	-	Yes
Springer et al (1992)	N/A	N/A	N/A	N/A	X		✓		?	-	yes
Springer et al (1997)	N/A	N/A	✓		X		X	X	X	-	Yes
Stein et al. (1992)	N/A	N/A	X	X	X	X	X	X	X	-	Yes, but not really very useful.
Stevenson (1998)	N/A	N/A	?		?		?		?	-	Not sure
Sutherland et al. (1997)	N/A	N/A	X	X	X	X	X	X	X	-	Yes.
Tencati (2002)	N/A	N/A	X		X		X	X	?	-	Not sure
Wagner et al. (1999)	N/A	N/A	X	X	X	X	X	X	X	-	Yes
Wassef et al. (1998)	N/A	N/A	?	?	?		?	?	?	-	yes
Winkleby et al (2001)	N/A	N/A			X	X	?		?	+	Volunteer study so most at risk may not be included
Zane et al. (1998)	N/A	N/A	X	X	X	X	X	X	X	-	Yes.

Appendix 6. References to excluded studies

- Universal intervention (n=185)

Abatemarco, D. J., West, B., Zec, V. et al. (2004). Project northland in Croatia: a community-based adolescent alcohol prevention intervention. Journal of Drug Education 34 (2): 167-178.

Abbey, A., Pilgrim, C., Hendrickson, P. et al. (2000). Evaluation of a family-based substance abuse prevention programme targeted for the middle school years. Journal of Drug Education 30 (2): 213-228.

Abbey, Antonia, Oliansky et al. (1990). Substance Abuse Prevention for Second Graders: Are They Too Young to Benefit? Journal of Applied Developmental Psychology 11 (2): Apr-June, 149.

Ahmed, N. U., Ahmed, N. S., Bennett, C. R. et al. (2002). Impact of a Drug Abuse Resistance Education (D.A.R.E) programme in preventing the initiation of cigarette smoking in fifth- and sixth-grade students. Journal of the National Medical Association 94 (4): 249-256.

Anguelov, A., Petkova, E., and Lazarov, P. (1999). Promoting health educational programmes for the prevention of tobacco, alcohol and drug abuse in the school environment. Drugs: Education, Prevention and Policy: 333-335.

Anon. (1993). Effectiveness of Drug and Alcohol Programmes Administered by the Department of Education: 1991-1992 Annual Report.

Barrett, A. C. and White, D. A. (1991). How John Henry effects confound the measurement of self-esteem in primary prevention programmes for drug abuse in middle schools. Journal of Alcohol & Drug Education 36 (3): 87-102.

Battistich, V., Schaps, E., Watson, M. et al. (1996). Prevention effects of the Child Development Project: Early findings from an ongoing multisite demonstration trial. Journal of Adolescent Research 11 (1): 12-35.

Becker, H. K., Agopian, M. W., and Yeh, S. (1992). Impact evaluation of Drug Abuse Resistance Education (DARE). Journal of Drug Education 22 (4): 283-291.

Bell, R. M., Ellickson, P. L., and Harrison, E. R. (1993). Do drug prevention effects persist into high school? How project ALERT did with ninth graders. Preventive Medicine 22 (4): 463-483.

Bennett, G. T. (1995). An exploration of patterns of drug use and of the effectiveness of a substance abuse prevention programme according to adolescents' level of academic achievement. Dissertation Abstracts International Section A: Humanities and Social Sciences 55 (10-A)A.

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Berkley-Patton, J. Y. (2005). Evaluation of a comprehensive community effort to reduce substance abuse among adolescents in a Kansas community. Dissertation Abstracts International: Section B: The Sciences and Engineering 65 (9-B)B.

Biglan, A., Ary, D. V., Smolkowski, K. et al. (2000). A randomised controlled trial of a community intervention to prevent adolescent tobacco use. Tobacco Control 9 (1): 24-32.

Black, D. R., Tobler, N. S., and Sciacca, J. P. (1998). Peer helping/involvement: an efficacious way to meet the challenge of reducing alcohol, tobacco, and other drug use among youth? Journal of School Health 68 (3): 87-93.

Bond, L., Thomas, L., Coffey, C. et al. (2004). Long-term impact of the Gatehouse Project on cannabis use of 16-year-olds in Australia. Journal of School Health 74 (1): 23-29.

Botvin, G. J., Baker, E., Dusenbury, L. et al. (1990). Preventing adolescent drug abuse through a multimodal cognitive-behavioral approach: results of a 3-year study. Journal of Consulting & Clinical Psychology 58 (4): 437-446.

Botvin, G. J., Baker, E., Dusenbury, L. et al. (1992). Preventing adolescent drug abuse through a multimodal cognitive- behavioural approach: Results of a 3-year study. Annual Review of Addictions Research and Treatment 2 (-): 473-487.

Botvin, G. J., Baker, E., Dusenbury, L. et al. (1995). Long-term follow-up results of a randomized drug abuse prevention trial in a white middle-class population. JAMA 273 (14): 1106-1112.

Botvin, G. J., Baker, E., Filazzola, A. D. et al. (1990). A cognitive-behavioral approach to substance abuse prevention: one-year follow-up. Addictive Behaviors 15 (1): 47-63.

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Botvin, G. J., Griffin, K. W., Paul, E. et al. (2003). Preventing tobacco and alcohol use among elementary school students through life skills training. Journal of Child & Adolescent Substance Abuse 12 (4): 1-17.

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Clayton, R. R., Cattarello, A., and Walden, K. P. (1991). Sensation seeking as a potential mediating variable for school-based prevention intervention: A two-year follow-up of DARE. Health Communication 3 (4): 229-239.

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Corbin, S. K., Jones, R. T., and Schulman, R. S. (1993). Drug refusal behavior: the relative efficacy of skills-based and information-based treatment. Journal of Pediatric Psychology 18 (6): 769-784.

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Crosswaite, C., Tooby, J., and Cyster, R. (2004). SPICED: evaluation of a drug education project in Kirklees primary schools... Schools Partnership in Children's Education on Drugs. Health Education Journal 63 (1): 61-69.

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- **Population not vulnerable/disadadvantaged or not young people (n=49)**

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- **No primary or secondary outcomes of interest reported (n=93)**

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- **Not an evaluation of an intervention (e.g. intervention described but not evaluated) (n=72)**

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Appendix 7. Studies awaiting assessment

- **Foreign language (n=47)**

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