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Targeted youth support: Rapid Evidence Assessment of effective early interventions for youth at risk of future poor outcomes

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REPORT

List of abbreviations

CAF	common assessment framework
CBI	cognitive behavioural intervention
CBT	cognitive behaviour therapy
CLS	Centre for Longitudinal Studies
DCSF	Department for Children, Schools and Families
DfES	Department for Education and Skills
EBT	evidence-based therapy
EPPI-Centre	Evidence for Policy and Practice Information and Co-ordinating Centre
ESRC	Economic and Social Research Council
ILP	Independent Living Programme
MST	Multisystemic Therapy
NEET	Not currently engaged in Employment, Education or Training
NPD	National Pupil Database
OST	Out of School Time strategy
PLASC	Pupil Level Annual Census
REA	rapid evidence assessment
RCT	randomised controlled trial
SES	Socio-economic status
STD	Sexually transmitted disease
TFC	Treatment Foster Care
TYS	Targeted youth support
YJB	Youth Justice Board

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1 Preface

1.1 Scope of this report

This report describes the findings and methods of a systematic rapid evidence assessment (REA) of research relevant to interventions of interest to Targeted Youth Support. It was commissioned by the Department for Children, Schools and Families (DCSF) to inform the development of policy and practice in relation to this initiative.

There are two components to the work presented in this document: 1) identification and assessment of the risk factors associated with the poor outcomes that TYS focuses on ("Component 1"); and 2) a rapid review (Rapid Evidence Assessment, or REA) of what services and interventions work to reduce the poor outcomes ("Component 2"). The risk factors, identified in Component 1, form the conceptual framework for the main part of the work: Component 2, the REA.

1.2 How to read this report

This report is divided into two parts: Part I focuses on the findings of the REA with only very brief information given on the methods; Part II describes the REA methods in detail, as well as describing the scope of research activity uncovered by our searches.

If you want to find out how this review was undertaken you should read Part II of the report. If you want to know the findings of the review you should start with read Part I. However, given the nature and range of topics covered in the review, the reader may find it more useful to focus on identifying the specific question that they are interested in and reading the findings in that part only rather than reading through all of the findings. The structure of the report facilitates this.

Part 1 Section 7 contains the main results of the REA. It is based on a series of matrices in which the risk factors identified in Component 1 of this study are cross tabulated against the nine outcomes of interest (as defined in Section 5). This Section also contains a description of the nature of the relationship between risk factor and outcome, and the findings from the systematic reviews that address that outcome.

Section 8 discusses multi-provider interventions, as identified across the outcome areas, and attempts to draw some conclusions about the nature of these interventions and the topic areas which are targeted within them. Finally, Section 9 examines recurring or frequent topics within the systematic reviews thematically, links between risk factors and outcome areas, and connections between these, to draw the findings of Parts 1 and 2 together.

A short summary of the REA is on the next page.

2 Summary

2.1 Who wants to know and what do they want to know?

Targeted Youth Support (TYS) is an initiative aimed at vulnerable young people and involves ensuring that agencies work together to meet young people's needs. The initiative's rationale is that a collaborative, 'joined-up' approach is needed because young people may have complex and multiple needs which cannot be met by mainstream or specialist services in isolation. This report was commissioned by the Department for Children, Schools and Families (DCSF) to explore what works for young people in relation to the outcomes prioritised by the TYS initiative.

2.2 What did we do?

We were interested both in identifying which risks are associated with the outcomes targeted by TYS, and in interventions which improve these outcomes, and so conducted this study in two parts: Component 1) identification and assessment of risk and protective factors associated with TYS outcomes, and Component 2) a rapid review of systematic reviews examining what services and interventions work to reduce the poor outcomes.

2.3 What did we find?

We identified 29 risk and protective factors. The risk factors fell into five main areas: family, school, community, individuals and peers. We found 57 systematic reviews about what works and related these to the risk and protective factors.

We found that rarely, if ever, were all known risk factors addressed by the included reviews; for example, one out of four known individual risk factors for mental health was addressed by the interventions we identified. Protective factors, where known, were all addressed in the reviews. The risk factors relating to drug and alcohol misuse, NEET, and low attainment were rarely addressed in the reviews.

More risk factors at the individual and family levels were identified (and more addressed) than at the school and community levels. This either suggests that individual and family levels are more important in determining behaviour or is simply a reflection of an emphasis in research and policy on personal responsibility and behaviour change.

Many studies were not always clear that they were targeting a specific risk-factor at all; they were aiming to improve a particular outcome.

We found a reasonable quantity of evidence on multi-component interventions, which are particularly relevant to TYS, but less detail on the specific sub-groups that might be affected by them. This information (where available) is included in detail in the report.

Part I: Background and results of the rapid evidence assessment

3 Background

In 2003, the Government published its Green Paper entitled *Every Child Matters*. This paper contained five outcomes the Government wanted to see all young people achieving: being healthy, staying safe, enjoying and achieving, making a positive contribution, and economic well-being (p.14).

This was followed by the Green Paper, *Youth Matters* in July 2005 which included a consultation which was completed the following November. The consultation included more than 19,000 responses from young people, and the Government's response, *Youth Matters: Next Steps* was published in March 2006 with the sub-heading "Something to do, somewhere to go, someone to talk to". One of the findings of the consultation was that "62% of young people would like one professional person to go to for advice and information" and that "70% of adults/organisations supported bringing together within children's trusts responsibility for commissioning different services which provide support to young people with additional needs" (Summary, p.9). At the time, *targeted youth support pathfinders* were being tested in 14 local authorities. The learning from these projects was summarised in *Targeted youth support: a guide* in 2007 (DfES 2007).

Targeted Youth Support (TYS) is aimed at vulnerable young people and involves ensuring that agencies work together to meet their needs. Its rationale is that, since they may have complex and multiple needs which cannot be met by mainstream or specialist services in isolation, a collaborative, 'joined-up' approach is needed. TYS is made up of seven elements:

- Strengthening the influence of vulnerable young people, and their families and communities, and their ability to bring about positive change
- Identifying vulnerable young people early, in the context of their everyday lives
- Building a clear picture of individual needs, shared by young people and the agencies working with them, using the common assessment framework (CAF)
- Enabling vulnerable young people to receive early support in universal settings. Helping all agencies to draw in extra help on behalf of young people, through better links with other agencies and organisations
- Ensuring vulnerable young people receive a personalised package of support, information, advice and guidance, and learning and development opportunities, with support for their parents or carers as appropriate…
- Providing support for vulnerable young people across transitions, for example moving on from school or from the support of one service to another as needs change
- Making services more accessible, attractive and relevant for vulnerable young people (DfES 2007: 4)

Targeted youth support is delivered collaboratively through a range of services, including: education welfare, behaviour support, Connexions, youth services, social services, drugs and alcohol, sexual health, mental health, housing support, school nurses, youth offending services; and through Positive Activities for Young People, the Young People's Development Programme, Positive Futures, youth inclusion programmes, and the Teenage Pregnancy Strategy.[1]

3.1 The need for the Rapid Evidence Assessment

There have been two reviews of TYS carried out by the Prime Minister's Delivery Unit (PMDU). These reviews have identified a lack of evidence-based practice at local delivery levels and state that this is a barrier to effective implementation of the TYS initiative. The first PMDU review, in 2006, proposed seven work streams, one of which was to: "Develop an evidence-based best practice in interventions and system designs – To ensure better understanding of and evidence for what types of interventions with young people at risk work, and in what circumstances; and ensure better government facilitation of sharing learning between areas." This need was confirmed by the second review, in 2007. Moreover, since an 'accelerated delivery plan' for TYS has been agreed recently (6 August, 2007), the need for evidence to support this became urgent at the time this work was commissioned.

There was thus a policy need for evidence to support the delivery of TYS, and also a need for the evidence to be produced quickly, necessitating the rapidity of this work and the methods it used.

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1 http://www.everychildmatters.gov.uk/deliveringservices/targetedyouthsupport/whatis/

4 Aims and objectives

This project aimed to support the delivery of TYS by collating the available evidence of “what works?” to reduce poor outcomes among young people. Different young people are at risk of different outcomes so, when they first come into contact with TYS, it may not be clear which outcomes any one young person is at risk of and, hence, what support might be most appropriate. This project therefore also aimed to identify the specific risk factors that are associated with given poor outcomes and the interventions that target them.

In order to achieve these aims, the objectives of this project were to:

1. identify the risk factors that are associated with the poor outcomes TYS aims to reduce; and

2. identify interventions that are effective at reducing the poor outcomes.

5 Definitions of key terms in this work

Risk and protective factors

Risk factors are taken to mean those characteristics or variables associated with future potential harm, whilst protective factors are those characteristics or variables which ameliorate or neutralise the effects of risk factors. In this definition, a protective factor is more than simply a reduction in level of risk, as an individual may have high levels of both risk and protective factors.

Poor outcomes: These are taken from the *Targeted Youth Support Guide*, page 6 and describe the outcomes that TYS aims to reduce. These outcomes are referred to as the *TYS Outcomes* throughout this report. They are:

- Youth offending / anti-social behaviour
- Drug or alcohol misuse
- Under-18 conceptions and poor sexual health
- Poor outcomes for teenage parents and their children
- 16-18 year-olds not in education, employment and training (NEET)
- Low attainment
- Running away and youth homelessness
- Poor mental health

Please note that an additional outcome, 'Entry into care', is also listed in the TYS guide, but after discussion with the Department was not included in the scope of this REA. Three potentially relevant reviews were identified, they did not meet our final criteria for inclusion and would not have made it through into the results of this review.

Young people are people aged 13-19 years.

6 Methods

There are two components to the work presented in this document: 1) identification and assessment of the risk factors associated with the poor outcomes that TYS focuses on ("Component 1"); and 2) a rapid review (Rapid Evidence Assessment, or REA) of what services and interventions work to reduce the poor outcomes ("Component 2"). The risk factors, identified in Component 1, form the conceptual framework for the main part of the work: Component 2, the REA.

This Part contains a brief outline of the methods used in this project. Part II of this report describes the methods in much greater depth.

One aspect of the project was concerned with eliciting the views of experts in the field through an expert panel. Membership of the panel was decided in consultation with the DCSF, and included leading policy, practice and research personnel.

While the use of 'experts' is sometimes contested by those advocating a pure and unbiased 'evidence-based' approach, it is important to take account of people's experiential knowledge. This project therefore used a panel of experts throughout the work to help to identify relevant research and particularly at the completion of the research - in order to help to interpret its findings and assess its implications for the delivery of services.

Since organising meetings of busy people in a fairly short time period can prove problematic, we circulated the protocol (to this group) by email for feedback and to request relevant research, and then the group met face-to-face on 3 April 2008 to discuss the findings of the draft report.

6.1 Component 1: risk factors

The timescale for this work was short and conducting a full review of research in this area would necessarily have been time-consuming. Therefore, a non-systematic scoping exercise was undertaken to find longitudinal or cohort studies able to identify risk factors that are associated with the TYS outcomes listed in Section 5.

Risk factors do not, of course, always operate in isolation. There are varying degrees of risk, and some risk factors operate in combination with one another - and, of course, some of the TYS outcomes, could themselves be considered to be risk factors (and *vice versa)*. Thus, as well as listing potential risk factors, any models of association that we found in the literature were also identified.

In addition to risk factors, there is the question of resilience. While some young people have particular risk factors and go on to suffer one or more of the poor outcomes listed, many with the same risk factors do not. An additional question therefore, is what factors appear to protect against poor outcomes, in young people with similar risk factors?

The research questions for this component were:

1. What factors are associated with the TYS outcomes?
2. Which factors have the largest association with these outcomes?

3. Which combinations of factors are associated with one or more of the above outcomes?

4. What other (protective) factors are associated with the absence of poor outcomes among young people with similar risk factors?

The outcome of this work is a matrix which associates risk factors with TYS outcomes. Each cell contains a narrative (where available from the text) of the primary research that supports the association (thus, some cells will be empty). This matrix also forms the conceptual framework for Component 2: the REA.

The purpose developing the risk and protective factor matrices was to identify recurrent patterns that were found in the longitudinal studies. We decided to organise the risk factors into families of associated risk domains: individual, family, school and community.

6.2 Component 2, the REA: what services and interventions work to reduce the TYS outcomes?

Since this work crosses many different sectors and topics, it was not feasible to conduct a systematic review of all potentially relevant primary research. Therefore, the method for this Component was a rapid systematic review of systematic reviews. Systematic reviews can be considered a short-cut to the research evidence because they aim to avoid drawing wrong or misleading conclusions that arise either from biases within the research studies they contain, or from the way the reviews themselves were conducted. Characteristics of systematic reviews are that they specify how studies were located; how they were included; how they were quality appraised; and how they were synthesised (EPPI-Centre 2007). We checked that the systematic reviews we included did indeed have these characteristics and brought their findings together into common threads of effectiveness across sectors.

The research questions for this component are:

- What services and interventions are effective in reducing the TYS outcomes among young people?
- Which risk factors, identified in Component 1, do they target?
- Where available, what evidence is there on the cost effectiveness of these interventions?

In order to answer these questions, we sought systematic reviews in the TYS outcome areas defined in Section 5. We developed a Boolean search strategy and searched 16 online databases, key academic and other websites, Google Scholar and, in addition to these electronic searches, the reference lists of included reviews were scanned to locate other, potentially relevant, reviews.

Over 7,900 potentially relevant references were identified, of which just over 2000 were duplicates. After screening these references for inclusion, 162 were found to meet our inclusion criteria (see Part II of this report for complete details). These were given keywords and formed the focus of a discussion with the DCSF to inform the in-depth phase of the review.

After a further screening for quality and relevance, the results of this REA are based on a set of 57 systematic reviews.

It is clear, therefore, that although quite a large number of research papers initially met our inclusion criteria, only one-third of these subsequently proved to

be of sufficient quality and relevance to include in our report. This highlights the need for caution when reading and interpreting research evidence, particularly when using it as a basis from which to develop policy.

6.3 Structure and framework of the results in this report

The remainder of Part I of the report contains the results of the REA.

Section 7 contains the main results of the REA: a description of the nature of the relationship between risk factor and outcome, and the findings from the systematic reviews that address that outcome.

Since Targeted Youth Support aims explicitly to link relevant services together in a tailored way for young people, the review also identified evidence on multi-component (or multi-provider) interventions. The results of this part of the analysis can be found in Section 8.

Finally, a thematic overview of cross-cutting issues is presented in Section 9. First, topics or sub-groups of young people which recurred frequently across the five main areas of risk factors were collated and discussed to identify trends and subsequent gaps in the research. Secondly, the number of associations between risk factors and outcomes at each level (individual/peer, family, school, and community) was identified. This association matrix was used to display patterns and trends in research. The findings from these stages are discussed in conjunction with the rest of the report to draw overarching themes.

7 Results: risk and protective factors, associated outcomes and systematic reviews of effectiveness

This chapter describes the evidence about the effectiveness of youth interventions and associated risk factors according to the TYS outcomes. The interventions described below were characterised by target population, target outcomes, setting, and type of intervention. Within each section, syntheses of findings have been conducted, using varying characteristics as the ordering principle as appropriate. Some reviews are therefore described more than once, and there is overlap between the subsections under each outcome heading.

7.1 Cautionary notes in interpreting the findings of this review

This section discusses two important considerations to be borne in mind when interpreting the findings of this review: firstly, the distinction between correlation and causation and secondly, the possible role of moderating factors on the effects of interventions.

This REA makes extensive use of ***correlational studies*** in order to understand more about the relationships between risk factors and poor outcomes. However, the results of these studies need to be interpreted carefully since they usually do not usually justify the inference of a causal link between a given risk factor and an outcome, particularly when there is no other evidence to support a link.

For example, the fact that poor housing is a risk factor that is statistically associated with teenage pregnancy / poor sexual health does not mean that that poor housing *causes* teenage pregnancy. It is very difficult to determine in any individual case, whether a risk factor *caused* a particular outcome, or even that it was a contributory factor.

Nevertheless, in a detailed report addressing the environmental causes of disease, Rutter *et al* (2007) emphasize that non-experimental methods of research do have a valuable role to play in enabling us to make causal inferences, providing certain stringent conditions are met. The example of smoking and lung cancer is quoted as the most successful example of research of this kind, where the probable causal relationship was observed long before compelling evidence emerged. (p.19; p.75)

The same is true of social research; where randomised controlled trials are not appropriate, close, systematic observation of relationships between risk factors and outcomes *may*, as part of an overall body of evidence from various sources, help us to identify the most important influences on young people's health and behaviour. However, as Rutter *et al* (2007) point out, we need to assess the strength and reliability of any evidence carefully before using it to formulate public policy. Pilot studies and rigorous evaluation should also form an integral part of any new policy implementation (ibid, p.90).

When assessing the potential impact of any intervention, it is vital to be aware of the extensive body of evidence on the role of ***moderating factors***, on outcomes. Put simply, this means that an intervention which works for one group of young people may have no comparable effect on another. There is a growing scientific literature on gene-environment interactions, highlighting the possible importance of genetic

moderation of environmental risk effects. (Rutter *et al* 2007, p. 25). For example, studies have shown that "maltreatment' in childhood is associated with an increased risk of both antisocial behaviour and depressive disorders in adolescence/early adult life, but the risk effect is largely confined to those with particular genetic variants" (Caspi *et al* 2002, 2003; quoted in Rutter *et al* 2007, p. 36).

Similarly, social context may be a moderating factor. For example, Jaffee *et al* (2002) found that close involvement by fathers in their children's upbringing was "psychologically protective", but conversely, their involvement led to increased risk if the fathers were "seriously antisocial" (in Rutter *et al* 2007, p. 36).

In summary, we need to acknowledge that the causes of any behavioural outcome in a young person will be complex, and that this will be reflected in their need for targeted support. Although we have identified recurrent associations between risk factors and behavioural outcomes, caution is needed when applying this knowledge to any given individuals. The evidence, as yet, is not strong enough to enable us to make confident predictive statements. However, the patterns can help us to understand the pathways which may lead to individuals' situations; we can identify common pathways from certain combinations of risk factors, but when delivering services, a flexible and individualised approach must be taken to reflect the complexity of human behaviour.

As Rutter *et al* (2007) point out: "Not only is there not just one cause, but none is the basic cause. What is most important will depend on which elements in the causal pathway can be manipulated most successfully." (2007; p.23).

7.2 Youth offending/anti-social behaviour

7.2.1 Risk factors

All the risk factors we identified are associated with Youth offending/anti-social behaviour.

The family risk factors are:

- Poor parental supervision and discipline
- Family conflict (including physical and sexual abuse)
- Family history of problem behaviour (including poor mental health)
- Parental involvement/ attitudes condoning problem behaviour
- Low income and poor housing (including family structure and size)
- Experience of authority care

Several Home Office research studies drawing upon data from the Youth Lifestyles Survey of 1998/9 found that the likelihood of offending is substantially increased if the parent has themselves offended (Richardson and Budd (2000), Home Office Research Study 263; Flood-Page *et al* (2001)). The degree to which teenagers are supervised by their parents is directly related to the number of evenings that they go out: generally, young teens who went out several evenings during the week or who went to pubs, night-clubs or parties were more likely to be offenders. Moreover, hostile, antisocial behaviour can elicit a negative response from parents and so lock those involved into a cycle of relationship deterioration (Youth Lifestyles Survey p.33, in Flood-Page *et al*, 2001). Family breakdown was found to be a risk factor for youth offending in a review of nine studies evaluating the Targeted Youth

Support Pathfinders by Rodger *et al* (2007).

The Youth Justice Board (YJB) report by Anderson (2001) on the risk and protective factors associated with youth crime found that each of the family risk factors, but particularly having a family history of problem behaviour, significantly increased the likelihood of a young person reporting having ever been arrested or having ever stolen something. A family history of problem behaviour equalled a 62 percent increase in the odds of having been arrested or having stolen something. While low income was not measured directly, some demographic information about participants could be used as proxy measures for household income. Those young people who reported not having a car were 93 percent more likely to report having been arrested; on the other hand, the odds decreased by 8 percent for each additional room in the house.

Experience of being in authority care was identified as a risk factor in both the YJB report Anderson (2001) and the Rodger *et al* (2007) report.

The school risk factors are:

- Low achievement beginning in primary school
- Aggressive behaviour, including bullying
- Lack of commitment, including truancy
- School exclusions
- School disorganisation

Two studies have found that low levels of educational attainment and disliking school are predictive of later offending (Rodger *et al* 2007; Flood-Page *et al* 2000) and being a bully in school is associated with offending – both while at school, and after leaving. Young people who were both victims and perpetrators of bullying were also more likely to offend. School exclusions and suspensions are linked with increased rates of offending and, in the case of exclusions, with violent crime.

Unauthorised absences and truancy, particularly chronic or repeated truancy, was strongly linked to offending behaviour. Truancy was also a predictor of offending in later life among those aged 17 and over: those who were persistent truants when they were at school were more likely to be offenders later on (The Audit Commission, 1996).

In the Youth Lifestyles Survey of 1998/9, authors found that among the 12-16 year olds who were persistent truants, almost half of the boys and a third of the girls were offenders, compared to only 10 percent of those who had not or had rarely truanted (Flood-Page *et al* 2000).

The YJB report (Anderson 2001) predicted a 25 percent increase in self-reported arrests with the risk factor: *lack of commitment to school*, but by far the highest increase in odds of offending in this study was for *low achievement in school*, with a 90 percent increase in the odds of self-reported arrests (the highest percentage change in odds of the risk factors). In addition, young people who reported low achievement in school were 52 percent more likely to report that they had ever having stolen something (the second highest percentage difference apart from ‘having a family history of problem behaviour’). Two other studies also found low achievement at school to be a risk factor for offending and antisocial behaviour.

The community risk factors are:

- Community disorganisation and neglect (including lack of suitable leisure facilities)
- Availability of drugs

- High turnover and lack of neighbourhood attachment

Boys who 'hung around' public places were found to have four times the offending rates compared with those who did not (Youth Lifestyles Survey, p.60, in: Flood-Page *et al* 2000). High turnover and lack of neighbourhood attachment (measured by how many times a young person said they had moved house) increased the odds of self-reported arrests by 25 percent, but by only 10 percent for self-reported theft. A lack of support services was a risk factor identified by Rodger *et al* (2007).

The individual and peer risk factors are:

- Alienation and lack of social commitment
- Personal attitudes that condone problem behaviour
- Early involvement in problem behaviour
- Friends involved in problem behaviour
- Cognitive function and mental health
- Gender
- Age
- Ethnic background

Personal attitudes appear to be associated with offending, since those who had been caught for an offence in the previous twelve months were significantly less likely to recognise a "wrongful act" compared with those who had not (Mori 2002, p.29). The YJB report (Anderson, 2001) also found that young people with attitudes that condoned problem behaviour – such as stealing or taking drugs – increased their odds of self-reported arrest by 11 percent and 14 percent for self-reported stealing. As well as family members (see above), Graham and Bowling (1995) found that those with neighbours and friends who had been in trouble with the police were more likely to be in trouble themselves. Moreover, another survey (Mori 2002) found that two thirds of offenders usually offended with someone else (e.g. a friend). Rodger *et al* (2007)also found that a deviant peer group was identified as a risk factor across nine studies reviewed relating to youth offending, and having friends involved in problem behaviour was associated with large and significant increases in the odds of being arrested (50 percent) and stealing (44 percent) identified in the YJB report (Anderson, 2001). These were the largest percentage increases in this set of risk factors.

Demographic characteristics such as age, gender and ethnicity were also associated with levels of risk. Being male increased the odds of being arrested by 146 percent, the single largest increase in odds of being arrested for any of the demographic or risk and protective factors identified by the YJB report (Anderson 2001). By contrast, the percentage increase in odds for stealing was only 21 percent, suggesting that either low level offending was less associated with gender than more serious offences and/or anti-social behaviour, or that males were more likely to be arrested than females, whatever the offence.

Being from a black or mixed minority background was linked to experiences of risk factors associated with youth offending. (Rodger *et al* 2007). Age was associated with offending in both younger and older groups. Early onset of problem behaviour was associated with more serious and persistent offending in later years, whilst older year groups were more likely to be currently involved in offending and/or antisocial behaviour, an increase of 16 percent with each school year according to the YJB report (Anderson, 2001) – though this behaviour

does not necessarily continue into adulthood.

The protective factors are:

- Strong bonds with family, friends and teachers
- Healthy standards set by parent, teachers and community leaders
- Opportunities for involvement in families, school and community
- Social and learning skills to enable participation
- Recognition and praise for positive behaviour

Overall, those who had a weak family attachment were more likely to currently be a serious or persistent offender (12 percent compared to 8 percent of those with a strong bond). The relationship was stronger for women than for men. Similarly, those who spent a lot of time with their parents were less likely to offend than those who lived with their parents but spent little time with them (Youth Lifestyles Survey p.33, in: Flood-Page *et al* 2000). In the YJB report (Anderson 2001), strong family attachment was associated with a decrease in odds of arrest and for stealing by 7 percent each; experiencing positive aspects of school life was associated with a decrease in odds of arrests by 15 percent and for stealing by 12 percent. Recognition from teachers brought about a 15 percent decrease in the odds of being arrested and a 12 percent decrease in odds for stealing. The percentage decreases for protective factors were not as great as for the percentage increases associated with some risk factors, suggesting that effective interventions would likely strengthen protective factors as well as reducing levels of risk. In this report a good relationship with one's parents was a weaker protective factor compared to recognition from teachers and positive experiences of school life.

7.2.2 Systematic reviews

Parenting and family therapy-based Interventions

Interventions in this group all comprise of an activity that involves the family of the young person at risk. The interventions vary in the degree to which the focus is on improving the skills of the parent and/or relationships within the family. The evidence of effectiveness of this type of intervention provided by the reviews is contradictory.

In a US-based meta-analysis, Anderson (1996) evaluated the effectiveness of parent management training and found that the average effect was positive. A UK-based review of 21 studies evaluated the cost-effectiveness of health therapies for prevention and treatment of psychiatric problems in children and young people (Romeo *et al* 2005). They found that parent and child training programmes led to child behavioural gains and parent satisfaction from parent and child training programmes. They report that there was little good evidence about the issue of cost-effectiveness in the field.

In a UK-based systematic review, Woolfenden *et al* (2001) evaluated family and parenting programmes to improve the behaviour of juveniles with conduct disorder or delinquency. They found that family and parenting interventions significantly reduced time spent by juveniles in institutions, although not incarceration rates. There was a further reduction in the risk of a juvenile being rearrested and in the rates of subsequent arrests, but the authors note that all these results should be interpreted with caution due to their heterogeneity. Woolfenden *et al* (2001) found no significant difference for psychosocial outcomes such as family functioning, and child/adolescent behaviour.

Similarly, in a US-based meta-analysis of 8 studies, Littell *et al* (2005) evaluated

the impact of Multisystemic Therapy (MST is a family behavioural therapy) on reducing out-of-home living arrangements, crime and delinquency and other behavioural and psychosocial outcomes. They found that results were inconclusive as to whether MST was more effective than other usual services in restricting out-of-home living arrangements or arrests, but also no evidence that MST has harmful effects.

School-based violence reduction programmes

These interventions are based in schools and set out specifically to reduce violent and disruptive behaviour by teaching social or personal skills, strategies for dealing with confrontation and conflict, team work, or behavioural (e.g. reduction of aggression) change. The young people targeted varied between reviews as did the exact nature of the intervention. The reviews were consistent in finding positive effects for this type of intervention.

In a US -based meta-analysis of 36 studies, Garrard & Lipsey (2007) evaluated the effectiveness of Conflict Resolution Education (CRE) programmes in US schools in reducing antisocial behaviour. They found CRE to be effective in reducing antisocial behaviour particularly in mid- and early adolescence. In a US-based systematic review of 53 studies, Hahn *et al* (2007) evaluated the effectiveness of universal school–based programmes in reducing or preventing violent or aggressive behaviour in children and adolescents. They found that results consistently indicated that universal school-based programmes in low SES communities or those characterised by high crime rates, were effective in reducing violence in young people.

In a UK review and meta-analysis of 44 US & UK randomised controlled trials (RCTs), Mytton *et al* (2002) evaluated school - based interventions designed to reduce aggression, violence, bullying, conflict or anger amongst children in mandatory education at risk of violence and aggression, and found an overall reduction in aggression. They stated that their results suggested that interventions may be more effective in older groups and when administered to mixed sex groups rather than boys alone. An update of this review by the same authors in 2007 (Mytton *et al* 2007) found an overall reduction in aggression both in primary and secondary school immediately after the intervention. The authors state that longer term follow-up results did not show a benefit in the primary school group but did in the secondary school age group. Further, they state that subgroup analyses suggested that interventions designed to improve relationship or social skills may be more effective than interventions designed to teach skills of non-response to provocative situations, but that benefits were similar when delivered to children in primary versus secondary school, and to groups of mixed sex versus boys alone. This contrasts with the findings by the same researchers in 2002.

In a large meta-analysis of 219 studies, Wilson & Lipsey (2005) evaluated the effectiveness of school-based programmes for preventing or reducing aggressive and disruptive behaviour. They divided these programmes into groups representing distinct programme formats. They found that “universal”, “selected/indicated” and “comprehensive” programmes were all generally effective at reducing the more common types of aggressive behaviour seen in schools, such as fighting, name calling, intimidation and other negative interpersonal behaviours. Approaches involving social skills, behavioural or cognitive programmes or counselling were all equally effective in reducing aggressive behaviour. The effects were especially noticeable among the higher-

risk students and those already exhibiting potentially problematic behaviour.

Community-based residential placement/ foster care

In this type of intervention, young people at risk of anti-social behaviour or offending are given a residential placement usually as part of a sentence. Such placements are non-secure but vary in intensity from placements with a 'foster family' to placement in a small group home.

In a US-based systematic review of 5 studies, Hahn *et al* (2005) assessed two similar interventions. Therapeutic foster care for reduction of violence by children with severe emotional disturbance (termed "cluster therapeutic foster care") involved programmes lasting on average 18 months, in which clusters of foster-parent families cooperated in the care of children (aged 5-13 years) with severe emotional disturbance. The review was unable to determine the effectiveness of this intervention in preventing violence, as there were too few studies upon which to base a conclusion. Therapeutic foster care aimed at reducing violence by chronically delinquent adolescents (termed "programme-intensive therapeutic foster care") involved short-term programmes, lasting on average 6-7 months, in which programme personnel collaborated closely and daily with foster families caring for adolescents (aged 12-18 years) with a history of chronic delinquency. The review found evidence that this intervention brought about a significant decrease in violence, aggressive behaviour and self-reported felonies. It was also cost effective compared to standard treatments. However, certain studies reviewed indicated a potentially negative effect of therapeutic foster care among females.

In a UK -based review and meta-analysis, Newman *et al* (2007) found that community-based family residential placement was more effective than "standard" residential placement for female juvenile offenders. However they found promising but insufficient evidence that community-based family residential placement was more effective than 'standard' residential placement for male juvenile offenders. The authors suggest that the finding may indicate that the nature of the placement (i.e. 1 to 1 or small group family home) may be more important for boys than girls.

MacDonald and Turner (2008) conducted a review that aimed to assess the impact of Treatment Foster Care (TFC) on psychosocial and behavioural outcomes, delinquency, placement stability and discharge status for children and adolescents requiring out-of-home placement. They describe TFC as "a foster family-based intervention that aims to provide young people with a tailored programme designed to effect positive changes in their lives". The authors analysed 5 studies, four of which focused on young offenders or children with behavioural problems, whilst the fifth included young people in a state mental hospital. The findings suggest that TFC may be a useful intervention for children and young people with complex emotional, psychological and behavioural needs, who are at risk of placement in non-family settings such as hospital, secure residential or youth justice settings.

Social and cognitive skills interventions

This group of interventions can be broadly viewed as education and training interventions that aim to provide the young person with the social skills necessary to manage relationships and/or the knowledge and skills necessary to complete their education, live independently and gain employment. The reviews of these types of interventions were consistent in finding a positive effect.

In a US-based meta-analysis, Anderson (1996) evaluated the relative effectiveness of cognitive interventions and found that the average effect was positive. In a German and UK meta-analysis of 136 studies, Beelman and Lösel (2006) evaluated the relative effectiveness of social skills training for preventing and treating behavioural problems in childhood and adolescence. They found that intensive Cognitive Behavioural Therapy programmes (interventions that focus on enabling an individual to understand and manage their own behaviour and relationships with others) were most effective when treating anti-social behaviour and social competence, especially when delivered by authors, project staff, or supervised students, rather than teachers or other psychosocial practitioners.

A UK -based review and meta-analysis by Newman *et al* (2007) found that pre-sentencing diversion that included personal skills training plus other elements (for example reparation to the community), were more effective than caution and monitoring alone.

A US -based review and meta-analysis of 28 US studies evaluated the effectiveness of ‘wilderness challenge’ programmes (Wilson and Lipsey 2000). These programmes had both a physical challenge element and an interpersonal element. They found a modest positive effect of the interventions on reduction in re-offending. They suggest that longer programmes and/or programmes with greater ‘treatment’ (as opposed to personal challenge) elements may be more effective.

Fisher *et al* (2008) reviewed cognitive-behavioural interventions aimed at preventing youth gang involvement for children and young people aged 7-16. The researchers based their review on the well documented relationship between gang membership and involvement in crime. Their main outcomes of interest were gang membership status and convictions for gang-related offences. Secondary outcomes included other forms of “delinquent” behaviour, drug abuse, truancy, school attainment and employment status. The authors identified several evaluations of "gang resistance education and training" but all were excluded from the review due to methodological weaknesses. They were unable to find any evidence from randomised controlled trials, or quasi-randomized controlled trials, about the effectiveness of cognitive-behavioural interventions for gang prevention. They conclude that there is an urgent need for primary research in this area.

Treatments for sex offenders

A US -based review and meta-analysis of 9 studies evaluated treatments for juvenile sex offenders (Reitzel *et al* 2006). Treatments included interventions using cognitive, behavioural, psychological and multisystemic therapies. They found a positive effect on reducing re-offending. The authors state that the quality of the included studies is such that caution is need in interpreting this result.

Drug therapy

In a US-based meta-analysis, Anderson (1996) evaluated the relative effectiveness of psychopharmacological intervention (i.e. the use of lithium carbonate and the use of stimulants (e.g., methylphenidate, dextroamphetamine, and pemolinel) to treat conduct disorder. The review found that the average effect was positive.

Aversion therapy (‘scared straight’)

A US-based review of 9 RCTs evaluated interventions in which 14-19 year olds were taken on a visit to prison to ‘scare them straight’(Petrosino *et al* 2000). They found that the intervention increased the percentage of the treatment group

committing new offences anywhere from 1 percent to 30 percent; i.e. the intervention was responsible for an *increase* in offences and was therefore not effective.

Other

The review by Newman *et al* 2007 found limited or inconsistent evidence of positive effects for teen courts compared to standard diversion. It also found insufficient evidence for:

- Psycho-dynamic counselling compared to 'normal court interventions'
- Multi component diversion interventions for persistent offenders or offenders with a mixed level of offence severity
- Supported transition from secure incarceration to the community compared to no or limited support
- Probation plus sports counselling compared to probation only
- Clinically led violence re-education programmes compared to court imposed community service

A US -based meta analysis of 305 studies by Wilson *et al* (2003) evaluated whether interventions targeting young people aged 12 to 21 years and measuring delinquent or anti-social behaviour as an outcome had different effects for 'majority' (white) and 'minority' (ethnic minority) youth. The researchers found that overall, service programmes were equally effective for minority and white delinquents.

One other review aimed to evaluate interventions relevant to this outcome (Donkoh *et al* (2006)), but did not find any studies that met its criteria for inclusion.

7.3 Drug or alcohol misuse

7.3.1 Risk factors

The family risk factors associated with this outcome are:

- Poor parental supervision and discipline
- Family conflict
- Family history of problem behaviour
- Parental involvement or attitudes that condone problem behaviour
- Low income and poor housing
- Experience of authority care

A body of research, largely from the US, has demonstrated that parental attitudes to, and their use of, drugs are significant factors in the initiation of adolescent drug use (Hoffmann and Su, 1998). Siblings have also been found to be sources of drug supply, as well as co-drug users (Needle *et al* 1986 quoted in the Youth Lifestyles Survey 1998/9). Parental factors such as discipline, family cohesion, parental substance abuse, parental monitoring, sibling drug use, and early life trauma were the strongest predictors for drug use when experienced in early childhood (3-8) and middle childhood (9-11) (Browne 2007). In a review of 4 studies by Rodger *et al* (2007) family breakdown and mode of family interactions were associated with substance abuse.

Parental attitudes and behaviour towards alcohol were strongly indicative of children's attitudes and behaviour towards alcohol, in that the heaviest drinking parents had the heaviest drinking children and the children whose parents drank frequently were more likely to drink alcohol frequently themselves. Among parents who had never drunk, only ten percent had children who drank frequently; however, among parents with

the highest level of drinking (three or more times a week), 31 percent had children who drank frequently (Youth Lifestyle survey 1998/9).

In a review of 4 studies by Rodger *et al* (2007) deprivation was found to be a risk factor associated with substance abuse; on the other hand, the Home Office found only a moderate risk effect on alcohol consumption if experienced from early childhood to adolescence (Browne 2007).

The school risk factors associated with this outcome are:

- Low achievement at school
- Lack of commitment including truancy
- School exclusions

Several studies identified disrupted schooling as a possible cause and effect of alcohol and substance misuse. This included truancy, absences and exclusions and this was often associated with other problem behaviours, such as crime and delinquency. (Browne G 2007, Meltzer *et al* 2004, Rodger *et al* 2007).

The Home office report by Goulden and Sondhi (2001) found that problems in school, such as with school rules, attainment, and truancy, had a strong effect on future substance abuse when experienced during middle childhood (9-11) and adolescence (12-18). Drug use was significantly higher for regular truants compared to young people routinely attending school; female truants and excludees were more likely than male truants to be taking drugs (Goulden and Sondhi 2001).

Community risk factors are:

- Availability of drugs

Several of the studies identify the availability of drugs in the neighbourhood as a risk factor for young people to be drawn into substance abuse, by increasing the chance of exposure to drug using groups, or by being targeted as new consumers (Browne 2007, Rodger *et al* 2007, Goulden and Sondhi 2001).

Individual risk factors are:

- Personal attitudes condoning problem behaviour
- Friends involved in problem behaviour
- Cognitive function and mental health
- Age
- Gender
- Ethnic background

In their review of 4 studies, Rodger *et al* (2007) found some evidence that a young person's attitudes towards drug abuse contributed to the likelihood that the young person would take drugs themselves, and a Home Office paper found that hedonistic attitudes were also a contributory factor (Browne 2007).

Peer involvement in substance abuse was a strong risk factor when experienced during adolescence (Home Office 2007) and several other studies found that friends' involvement in substance abuse increased exposure to attitudes condoning drug taking as well as increased availability, greatly increasing the likelihood of a young person taking drugs or alcohol themselves (Flood-Page *et al* 2000, Rodger *et al* 2007, Browne 2007).

Both the Rodger *et al* study (2007) and the Home Office study 47 (Browne 2007) identified poor self-esteem and depression as risk factors for young people taking drugs and abusing alcohol. Rodger *et al* also found that having a genetic predisposition to addiction or having a special educational needs

statement was also common to young people who took drugs or drank alcohol. The Home Office study (Browne 2007) found that other psychological traits, such as: hedonism, ADHD, and employing aggressive behaviour to solve problems were all strongly associated with substance abuse when experienced in adolescence. Related to mental states, 'reasons for getting intoxicated' was listed as a separate risk factor in the Home Office report, and young people who gave reasons such as wanting to take drugs to get intoxicated and wanting to escape negative moods was a strong risk factor in adolescence.

Gender was found to be a risk factor by Rodger *et al* (2007) and in the Youth Lifestyles Survey (Flood-Page *et al* 2000). Female truants were more likely than male truants to report finding it easy to obtain drugs. Females at the margins of society, e.g. young female offenders or excludes, were more likely than their male counterparts to report drug use. Related to alcohol use, females were more likely than males to report drinking alcohol frequently or binge drinking (Anderson, 2001).

The following were found to be protective factors against substance abuse:

- Healthy standards set by parent, teachers and community leaders
- Opportunities for involvement in families, school and community
- Social and learning skills to enable participation

In the Home Office report number 47 (Browne 2007) the following were found to be characteristics of resilient adolescents: knowledge of the negative consequences of drug taking, not considering drugs to be part of their lifestyle, not being exposed to drugs, adhering to conventional values, involvement in religious or sporting activities, having strategies for resisting pressures to use drugs and /or having positive future plans. These characteristics were strongly protective in adolescence (Home Office 2007).

7.3.2 Systematic Reviews

The reviews in this section are characterised by the multi-component nature of the interventions they contain. They do not easily lend themselves to categorising in terms of intervention level and might be delivered in schools or the community and have components that involve family therapy as well. The reviews fall into two main areas: those that report outcomes on drug misuse (seven) and those concerned with alcohol misuse (four).

Drug misuse

In a UK -based systematic review of 18 studies, Elliott (2002) evaluated the effectiveness of drug services in reducing drug use, reducing harms associated with drug use, improving family and social relations of young drug users and encouraging the uptake of other health and social services. They found that behaviour therapy, culturally sensitive counselling, family therapy, and the 12-step Minnesota programmes were most successful in reducing drug use, whilst family therapy was most successful in reducing psychological problems of young drug users. Interventions that were most successful in improving family and social outcomes were family therapy, family teaching, non-hospital day programmes, residential care services, and school life skills interventions.

Family therapy, as defined by Stanton and Shadish (1997), is a distinct concept differing from other family intervention processes in that it aims to draw in all relevant family members either individually or in a group. It employs therapeutic approaches aimed at altering family structure and/or family interactions and may include multisystemic, multidimensional interventions from external agencies.

White and Pitts (1998) conducted a systematic review to assess the effectiveness of interventions directed at the prevention or reduction in the use of illicit substances by young people, or at reducing the harm caused by their continuing use. Many of the studies they found were evaluations of interventions introduced in schools that targeted alcohol, tobacco and marijuana simultaneously. Meta-analyses showed that whilst exposure to drug education was associated with lower drug use, the interventions had only a small impact and the gains dissipated over time.

In another UK-based systematic review of 16 studies, Becker and Roe (2005) evaluated interventions to reduce drug use in vulnerable or high-risk young people. They found that universal, school-based life skills training programmes have some success in preventing drug use in high risk subgroups, but more so when targeted interventions are nested within the universal programmes. The intensive multi-component Children at Risk programme produced positive results (this comprised integrated services co-ordinated by a case manager, including parenting support and educational services, after-school and summer activities and community policing). One included intervention, the Logan Square Prevention Project, carried out by Godley and Velasquez (1998) had a harmful effect. This study evaluated a programme that included life-skills training, counselling and after-school activities provided, by a number of different agencies. The evaluation found that those who had received the intervention had increased their use of marijuana; Becker and Roe suggested this was due to high student turnover and subsequent reduction in intensity.

The Minnesota Model is characterised by its focus on abstinence and its multi-method therapeutic approach. Combining an initial intensive in-patient phase with an assessment of the patient (or client, as they are often referred to) by a range of professionals at the start of the programme. This team of multidisciplinary professionals combine their assessments to create an individualised treatment plan, which includes individual counselling, group therapy, medication for co-morbid conditions, family therapy, schooling and recreational programming. The 12-step philosophy leans on other step models, notably the Alcoholics Anonymous (AA) step system. The rationale of the Minnesota Model is based on changing the patient's beliefs about his or her relationship with themselves and others. This change in perspective is brought about gradually through habit-breaking and new habit-forming, as well as self reflection and group affiliation. The in-patient period of 4-6 weeks is followed by a variable period of out-patient meetings and appointments.

Successful interventions found by Elliott *et al* (2005) in reducing further drug use in young drug users are: behaviour therapy, culturally sensitive counselling in residential settings, family therapy, Minnesota 12-step programmes, residential care, and general treatment programmes. Programmes that are successful in addressing the associated problems with drug use are: behaviour therapy, family therapy, school interventions particularly life-skills interventions, residential care, and non-hospital day programmes.

In a US-based meta-analysis of 18 studies, Vaughn and Howard (2004) evaluated the outcome findings and methodological characteristics of controlled evaluations

of adolescent substance abuse treatments. They found the highest level of effectiveness evidence in multidimensional family therapy and cognitive-behavioural group treatment. The authors concluded that, in addition, several other interventions were effective for treating adolescent substance abuse. All these treatments have similar characteristics, in that they were psycho-social in nature, exist within a structured framework, and should be appealing to social work practitioners.

A more cautionary tale than those above is told in a systematic review of 17 studies by Gates *et al* (2006), who evaluated evidence of effectiveness of interventions delivered in non- school settings to prevent drug use in young people. Four types of intervention were included: motivational interviewing or brief intervention, education or skills training, family interventions and multicomponent community interventions. They found a lack of evidence for effectiveness to prevent or reduce drug use across the wide range of included interventions, although there were possible benefits of motivational interviewing and some family interventions.

Alcohol misuse

The systematic reviews examining interventions to reduce alcohol misuse all come to similar conclusions: that there very few proven effective interventions and intervention strategies in this area.

In the largest review in this field, a UK-based systematic review of 56 studies, Foxcroft *et al* (2002) evaluated the longer term effectiveness of primary prevention interventions of alcohol misuse, comprising generic drug (including alcohol) education programmes, or prevention programmes aimed specifically at alcohol. They found that the evidence base was weak for short and medium- term effectiveness and a significant proportion of evaluations showed signs of ineffectiveness.

Previously, Foxcroft *et al* (1997) had evaluated the effectiveness of alcohol misuse prevention programmes for young people. They found that not only were very few studies well designed and evaluated (with the exception of some school-based programmes), but also that none of the programmes was convincingly effective, except for some limited influence on self-reporting measures.

In the most recent review in this area, Wood *et al* (2006) evaluated US-based alcohol abuse intervention studies which included an element of community involvement. The authors found limited effectiveness for school-based interventions, poor methodological quality in the studies included and heterogeneity of outcome measures. Effect sizes for the outcomes were relatively small, undermining long term follow up value of these interventions.

Finally, in a relatively small review containing nine studies, Elder *et al* (2005) evaluated the effectiveness of school-based programmes such as school-based instructional programmes, peer organizations, and social norming campaigns, in reducing the number of young people who drink-drive or ride with drink drivers. Due to the small numbers of studies, only one included study provided sufficient evidence to demonstrate that school-based instructional programmes are effective in reducing riding with drink drivers, but insufficient evidence regarding their effectiveness in reducing drink driving.

7.4 Teenage pregnancy/ poor sexual health

7.4.1 Risk factors

The family risk factors associated with unintended pregnancy and poor sexual health are:

- Low income and poor housing (including family structure and size)
- Parental attitudes that condone problem behaviour
- Family history of problem behaviour
- Experience of authority care

Fathers' social class was correlated with risk of teenage pregnancy in a review of two studies by Rodger *et al* (2007). While the First Survey of the UK Millennium Cohort found that socioeconomic disadvantage was associated with low knowledge about sex and contraception, it was not associated with expectations of sexual intercourse before the age of 16 (Hawkes *et al* 2004).

The school risk factors identified for this outcome were:

- Lack of commitment, including truancy.
- Low achievement, beginning in primary school

A lack of knowledge about sex was not associated with a dislike of school, but disliking school was associated with expectations about having sex before the age of 16. Regular truanting was found to be associated with an increased risk of teenage pregnancy, identified from the Pupil Level Annual Census (PLASC) and the National Pupil Database (NPD) in the study by Rodger *et al* (2007). The study by Rodger et al (2007) also associated low achievement at school with teenage pregnancy.

Three individual risk factors were identified for this outcome:

- Cognitive function and mental health
- Early involvement in problem behaviour
- Ethnicity

According to the study by Rodger *et al* (2007), people with special educational are at an increased risk of teenage pregnancy. Being from a black or mixed ethnic background is also an individual risk factor.

Early sexual activity and having had children previously were associated with teen pregnancy (Rodger *et al* 2007), as was being from a black or mixed ethnic background, identified from the Pupil Level Annual Census (PLASC) and the National Pupil Database (NPD), also in the study by Rodger *et al* (2007).

The three community risk factors associated with this outcome are

- Community disorganisation and neglect (including lack of suitable leisure facilities)
- Disadvantaged neighbourhoods
- Availability of drugs

Respondents in the *Unequal Entry to Motherhood and Unequal Starts in Life: Evidence from the First Survey of the UK Millennium Cohort* were also most likely to complain about the quality of the neighbourhood.

The UK Millennium Cohort Study (Hawkes *et al* 2004) found that the majority of those who started childbearing under the age of 21 were living in ethnic or other disadvantaged neighbourhoods, (around 6 in 10) compared with around one quarter of the two eldest groups (p10). In addition, living in an area of child poverty or of concentration of ethnic minority settlement was associated with early motherhood as well as a number of economic disadvantages (p.27).

No protective factors were identified for this outcome.

7.4.2 Systematic Reviews

The systematic reviews looking at the effectiveness of programmes to reduce unintended pregnancy and improve young people's sexual health fall into three main areas: general sex education, HIV prevention and interventions specifically targeting the prevention of unintended pregnancy. All of the programmes described here take place either in the school or the community. There appears to be little differentiation in terms of theories of behaviour change that underpin interventions in either setting; rather, the more important distinction appears to be the purpose of the intervention – particularly whether it is aimed at preventing HIV infection, or at preventing unintended pregnancies.

The one systematic review that does not fall into the categories below is the US-based systematic review of 83 studies worldwide carried out by Kirby *et al* (2006). This team evaluated the impact of curriculum-based sex and HIV education programmes on sexual risk behaviours, STIs and pregnancy rates. They found that the studies demonstrated that, on the whole, sex and HIV education programmes did not increase sexual behaviour and a substantial percentage of programmes significantly decreased one or more types of sexual behaviour. They found that "across all 83 studies, 65 percent had a statistically significant impact on one or more sexual behaviours affecting risk of HIV, other STDs or pregnancy (p.44). They analysed the characteristics of effective interventions, including curriculum development, content and implementation, but concluded that it was difficult to say which were the most important characteristics. The review has a detailed description of these characteristics which there is not space to reproduce here.

Interventions classified as 'behavioural' often include one or more of the following:

- Increasing interpersonal skills (with practice/without practice) such as communications with sexual partners and within this, for example, condom use negotiation skills.
- Increasing perceptions of risk of HIV/AIDS ('perceived risk enhancement')
- Increasing technical skills (with practice/without practice); this refers to condom use skills rather than condom use.
- Increasing personal skills
- Decreasing number of sexual partners or sexual frequency or onset of sexual activity.

General school-based sex education

In a US based meta-analysis of 67 studies, Song *et al* (2000) found that school-based sexuality education programmes for adolescents contribute to increasing sexual knowledge. The effects of school sexuality education programmes on six outcomes regarding sexual knowledge are large, with the exception of STD knowledge. The outcomes measuring family life knowledge showed the largest effect.

While knowledge does not necessarily directly translate into behaviour, Moos *et al* (2003) and Oakley *et al* (1995) - described in the next section - found that knowledge of contraceptive methods can be associated with their appropriate use.

HIV Prevention

Five systematic reviews focused on HIV prevention: Johnson *et al* (2003), Moos *et al* (2003), Mullen *et al* (2002), Oakley *et al* (1995) and Underhill *et al* (2007).

Johnson *et al* (2003) found HIV sexual risk-reduction interventions to be efficacious in significantly enhancing participants' skills for sexual risk communications, skills for condom use, the quantity of sexual risk

communications, and participants' condom use. One particular aspect of this latter intervention strategy revealed that, the more time spent in the intervention on active condom instruction and training, the higher the success rate – though overall results were modest. Interventions also reduced sexual frequency. Mullen *et al* (2002) found that behavioural and social interventions on the sexual risk of HIV had a significant protective effect on sexually experienced adolescents in the US. They identified that more protective outcomes were found in interventions carried out in groups that were ethnically similar.

In a US-based systematic review of 13 studies, Moos *et al* (2003) evaluated the effect of behavioural and social interventions on the sexual risk of HIV among sexually experienced adolescents in the US and the factors associated with any variation of outcomes. They found that knowledge of correct contraceptive methods may be positively associated with their appropriate use, but reservations about the method itself, partner support of the method, and women's beliefs about their own fertility are important determinants of method adherence that may attenuate the knowledge effect. However, the authors also point out that the quality of the existing research does not provide strong guidance for practice recommendations.

In a systematic review of 65 studies, Oakley *et al* (1995) evaluated the effectiveness of different approaches to promoting young people's sexual health. They found that only 12 (18 percent) of the 65 outcome evaluations were methodologically sound, and that only three of the 12 sound evaluations recorded interventions that were effective in showing an impact on young people's sexual behaviour. The effective programmes included a sex education programme delivered to high school students, a course of AIDS and other information given to middle and high school students and HIV and AIDS education programmes delivered to runaways at a residential centre.

Interventions in sexual abstinence only programmes took the form of individual or group sessions, led by mostly adults (but also peer- led) and varying in length and duration. These sessions were sometimes supplemented by videos, pamphlets and parent-child homework assignments or activities. One concept featuring prominently is social inoculation, where students practice resisting peer pressure.

The evidence on abstinence programmes shows that they do not work. In a systematic review of sexual abstinence-only programmes for HIV prevention among participants in high income countries, Underhill *et al* (2007), found that these programmes neither increased nor decreased sexual risk among youths in high-income countries. Moreover, Oakley *et al* (1995) found one abstinence programme intervention to have harmful effects, with none of the desired changes in attitudes or behaviour being achieved. More young men in the intervention group than in the control group claimed to have initiated intercourse by the end of the programme.

Unintended pregnancy

We found four systematic reviews which contained evaluations of interventions to reduce unintended pregnancy: DiCenso (1995), DiCenso *et al* (2002), Harden *et al* (2006) and Swann (2003).

Alba DiCenso has carried out two systematic reviews in this area (1995 and 2002). In both reviews she found that the interventions being evaluated showed no effect in delaying the initiation of sexual intercourse, no improvement in the use of birth control and, no reduction in

pregnancy rates. DiCenso *et al* (2002) found intervention types aligning to five main categories: sex education classes, school-based clinics, family planning clinics, and community-based programmes. Intervention purposes focused around either delaying sexual intercourse, consistent use of birth control or avoiding unintended pregnancy. Interventions, which were usually session-based, took place in educator or health professional-led groups, mixed gender, all female or all male, though some interventions involved peer led groups. DiCenso *et al* (2002) also noted that none of the interventions in their review focused on strategies for improving the quality of sexual relationships. In addition, they found that intervening among young men was more likely to result in increases in pregnancies, rather than decreases.

However, in a U.K.-based review of reviews of 22 reviews, Swann *et al* (2003) found that school-based sex education, particularly linked to contraceptive services, community-based (e.g. family or youth centres) education, development and contraceptive services, youth development programmes and family outreach programmes were effective in preventing pregnancy. They concluded that good antenatal care, home visiting, improving housing for young parents and their children, parental and psychological support, clinic-based healthcare programmes for teenage mothers and early educational interventions for disadvantaged children can improve health outcomes for mother and child, and are cost-effective and may prevent or delay repeat pregnancies. In addition, support for young parents to continue education was found to improve educational and employment outcomes.

It is notable that Swann *et al* (2003) and DiCenso *et al*'s (2002) results differ from one another, with Swann finding more positive results than DiCenso. In part, this can be explained by the scope of the studies in question. Swann *et al* carried out a broad review of reviews, whereas DiCenso is a focused review of primary studies. In addition, while the research questions of the two reviews overlap, DiCenso's RCT-only review had the general focus of avoiding unplanned pregnancy, but within this narrowed to specific sub-foci of delaying intercourse use of and birth control methods. In contrast, Swann *et al* (2003) adopted much broader inclusion criteria, both in terms of study methodology and in research focus: the main difference between the two questions is one of a broad 'what works to impact on this outcome' approach, versus a narrower perspective of 'how effectively has a specific intervention worked'.

Peer-led intervention approaches- where information, advice and skills in decision-making and resisting peer pressure are delivered by young people as mediators or facilitators are highlighted as a promising approach in increasing contraceptive use, according to Swann (2003).

In a UK-based systematic review, Harden *et al* (2006) evaluated interventions that 1) prevent unintended pregnancies and 2) provide support to teenage parents. They found that early childhood interventions and youth development programmes can reduce teenage pregnancy rates among young women but are less successful with young men. In addition, young people who had received early childhood and youth development interventions did better at school, had better attitudes to school, and were more likely to be employed and financially independent. Interventions to improve young people's experiences of school, or to broaden their expectations/aspirations for the future or to tackle poor material circumstances and prevent unhappy childhoods were effective in reducing pregnancy rates among young women.

7.5 Poor outcomes for teenage parents and their children

7.5.1 Risk factors

The 'family' risk factors associated with this outcome were:

- Low income and poor housing
- Family conflict

Kiernan (1995), cited in Swann (2003), found that a teenage mother was more likely to find herself in the middle of family conflict as a result of reduced choices available to her as a single mother with low income. Eighty percent of mothers aged under 18 live in someone else's household (e.g. their parents') and teenagers are more likely to have to move house during pregnancy (Botting *et al*, 1998 in Swann *et al* (2003).

Although there is little information on this group, young fathers are as likely to experience low income and unemployment as young mothers. One study (Long-term Consequences of Teenage births for Parents and their Children) puts forward the idea that that young mothers may have fared worse in the 'marriage market', as their peers, who had delayed the start of their family, were more likely to be married to more successful men in terms of employment and education. However, this may ignore other factors that may be involved in choosing one's mate, which may not be as open a 'market' as this idea suggests. Compared to their peers, teenage parents were certainly more likely to experience low educational attainment and unemployment – as well as being more likely to be in receipt of benefits, and if employed, be on lower incomes (SEU, 1999, in Swann *et al* (2003)).

Individual risk factors identified for this outcome were:

- Cognitive function and poor mental health

Both the study by Berthoud *et al* 'Long-term Consequences of Teenage births for Parents and their Children' (2004), and the HDA review of reviews conducted by Swann *et al* (2003), found poor mental health to be an individual risk factor for teenage parents, a consequence of teenage parenthood and a risk factor for negative outcomes for their children.

School risk factors identified for this outcome were:

- Low achievement beginning in primary school
- Lack of commitment including truancy
- School disorganization

According to *Long-term Consequences of Teenage births for Parents and their Children*, children of teenage mothers suffer as young adults in terms of lower educational attainment and a higher risk of economic inactivity in later life (HDA 1996 Education and employment). Young mothers were also more likely to:

- Report having problems at school before they became pregnant
- Leave their education incomplete
- Have no qualifications by age 33
- Be in receipt of benefits
- Be on lower incomes (if employed) than their peers (SEU, 1999)

Teenage mothers from the 1946 birth cohort study were, on average, the least able academically, unambitious and had left school at the minimal age.

In the multi-method study *Teenage Parenthood and Social Exclusion* (2007) most teenage mothers interviewed felt that any sex education they had had at school and at home had been inadequate.

Reports of bullying were not uncommon, adding to the picture of schools as being perceived as uncongenial places.

The single community risk factor identified for this outcome was:

- Disadvantaged neighbourhoods

Eleven per thousand mothers aged 15-19 lived in areas described as 'most prosperous', compared with 43 per thousand in those described as 'ports and industries'. Other types of areas with above average birth rates were areas characterised by 'mixed economies', 'manufacturing', 'coalfields' and 'inner London'. The same pattern was seen for the under- 16s birth rates in 1994-96 (Botting *et al* 1998).

Protective factors identified for this outcome were:

- Strong bonds with family, friends and teachers
- Opportunities for involvement in families, school and community

A multi-method study by Wiggins *et al* (2005) described the key factors associated with successful teenage parenting as: "support from family and having a positive partner relationship." The key factors for success relating to opportunities for involvement were: "developing a career or having employment they liked".

7.5.2 Systematic reviews

Six systematic reviews were located that addressed this outcome. They focused on the provision of parenting skills and support to young parents and also on the social exclusion that can accompany teenage parenthood. Most can therefore be conceptualised as *community-based* interventions.

In the largest UK-based review in this area, Harden *et al* (2006) examined 18 studies that looked what is known about effective, appropriate and promising interventions that target the social exclusion associated with teenage pregnancy and parenting, which might therefore have a role to play in supporting teenage parents. They found that the evidence points both to daycare (The Abecedarian project) and to education and career development programmes as promising ways of supporting young parents. Holistic support programmes also appear to be appropriate but have not yet been shown to be effective, and thus have not yet been shown to translate into better employment prospects. Interventions using either welfare sanctions or bonuses, or education and career development programmes resulted in a significant increase in numbers of teenage parents in education or training. High quality programmes without sanctions appeared to be more effective.

> One intervention, which reported significant improvements in parent behaviours, (Coren and Barlow 2001) saw adolescent mothers of healthy infants taking part in a one-to-one teaching programme based on videotaped instruction. Subjects were then videotaped during structured mother-infant teaching episodes in their homes at 1 and 2 months after birth; the videoed episodes were subsequently assessed by a specially trained nursing practitioner who then delivered individualised feedback emphasising positive behaviours.

A more narrowly focused review, in terms of its scope, was carried out in the U.K. by Coren and Barlow (2001). They evaluated the effectiveness of four individual and/or group -based parenting programmes in improving psychosocial and developmental outcomes in teenage mothers and their children. They found that these programmes were significantly effective in improving in parenting knowledge, causing changes in parent attitudes to mealtimes, maternal

The Abecedarian Project took place in the 1970s in North Carolina. A full-time educational programme, it provided high quality child care from early infancy to the age of five, including individualised games to stimulate socio-cognitive and emotional development. Follow-ups were carried out at ages 8, 12, 15 and 21. A subgroup of participants (teenage mothers) was also followed to investigate effects on the mother of the child's participation in the programme. The teenage mothers in this study were more likely to have finished high school and continued their education, more likely to be self supporting and less likely to have had more children.

mealtime communication, and improvement in mother-infant interaction, maternal self-confidence and identity, maternal sensitivity in interaction and improvement in cognitive growth fostering capacities of the mothers. However, there were no significant effects on infant outcomes.

Esther Coren and her colleagues (2003) also conducted a more general review, assessing the effectiveness of individual and group-based parenting programmes in improving outcomes for teenage mothers and their children. The results show that parenting programmes can be effective in improving a range of psychosocial and developmental outcomes for teenage mothers and their children, but the conclusions are limited by the small number of included studies and high participant drop-out.

The two US -based systematic reviews had similar results to the three above. Akinbami *et al* (2001) evaluated the effectiveness of four 'teen-tot' programmes. They found that the programmes had moderate success in helping teen mothers continue their education, and in improving teen and infant health over 6 to 18 months, although their effects on improving parenting skills, knowledge of child development and outcomes for child development were disappointing. Their most significant effect was in preventing subsequent pregnancies between 12 and 24 months postpartum.

Baytop (2006) conducted a meta-analysis of 29 secondary prevention programmes for teenage mothers aimed at improving maternal life course outcomes including health, education, employment and reduced reliance on public assistance amongst African American teen mothers. She found that these programmes had only a minimal effect on increasing the participants' educational attainment. Whilst the analysis included home and community -based programmes, they did not include school-based programmes because none used randomised controlled designs. The author therefore suggests that large, well-controlled trials are needed to establish the effectiveness of school -based programmes.

'Teen-Tot' programmes are comprehensive clinic-based programmes which provide access to a range of services from parent and child health to parenting skills. The programme design is based on the assumption that the 'one-stop shop' nature of the broad clinic-based intervention will remove some of the common barriers (transportation, lack of continuity care, lack of case management) and improve communication between parent and health worker, increase trust and simplify access.

The final review found in this area contained 39 studies. Bakermans-Kranenburg *et al*. (2005) evaluated the effectiveness of early childhood interventions which aim to improve home environments for mothers with infants of less than 54 months. Generally, interventions aimed to optimise the parent-child interaction, and/or enhance the child's cognitive development. They found that interventions with middle-

class, non-adolescent parents showed higher effect sizes than interventions with low-SES or adolescent samples. The most effective interventions comprised a limited number of sessions and were home-based.

7.6 16-18 year olds not in education, employment or training, and low attainment

7.6.1 Risk factors

Family risk factors identified for these outcomes were:

- Family conflict
- Family history of problem behaviour
- Low income and poor housing
- Caring responsibilities
- Experience of authority care

Three family risk factors were associated with these outcomes in the study by Rodger *et al* (2007). *Family conflict* was found to be predictive of low attainment at school, drawn from a review of 3 studies, including families under stress and experience of authority care. *Low income*, as measured by free school meals eligibility and other measures of deprivation were also found to be risk factors. Having *caring responsibilities* also increased a young persons' risk of low attainment at school.

In a DfES study by Golden *et al* (2004), family conflict, neglect, and challenging family backgrounds were common features of these young people's lives. Caring responsibilities appeared to have an impact on the risk of not being in education, employment or training (Golden *et al* 2004, Rodger *et al* 2007). Many young people took responsibility for parents' problems; 4 percent of young people in the DfES study were formally 'young carers' and many had also experienced bereavement.

Coming from a family of material disadvantage and educational underperformance was found to be a contributory factor in a lack of knowledge of opportunities in further education or training, as identified in the Scottish School Leavers' Survey (Biggart *et al* 2005) and weak family support networks were also found to be a contributory factor in a review of 2 studies by Rodger *et al* (2007). Being in authority care or leaving it was also found to be a risk factor (Rodger *et al* 2007; Golden *et al* 2004).

School risk factors identified for these outcomes were:

- Low achievement at school
- Aggressive behaviour including bullying
- Lack of commitment including truancy
- School exclusions
- School disorganisation

Perhaps unsurprisingly, more school risk factors were associated with low attainment at school more than in any other of the risk factor groups. In the *low achievement at school* risk factor, previous low attainment was a risk factor for further low attainment (possibly suggesting that low educational attainment can become a continuous experience, rather than merely phases of low attainment that students can move in and out of). *A lack of commitment to school* and aggressive behaviour, including bullying as measured by poor attendance and disruptive behaviour respectively, were also found to increase the young person's risk of low educational attainment (Rodger *et al* 2007).

Interviews with young people revealed that negative experiences at school were a common theme, including experiences of conflict with other students such as bullying, attitudes and the approach of teachers, inappropriate teaching and learning methods. Perhaps related to this, the following were all found to be risk factors: regular truancy; non-attendance, particularly if truancy was in final year of compulsory education, and in secondary comprehensive schools without a sixth form; exclusions and low achievement at school (Golden *et al* 2004; Payne, 2000; Rodger *et al* 2007).

Community risk factors were:

- Disadvantaged neighbourhoods

Time in NEET was longer in areas with higher rates of unemployment, for instance, young people in inner London were at greater risk than those in outer London (Payne, 2000). Three percent of those young people interviewed for the Golden *et al* (2004) study were refugees or asylum seekers.

Individual risk factors identified for this outcome were:

- Alienation and lack of social commitment
- Cognitive function and lack of social control
- Gender
- Ethnic background

Demographic characteristics associated with this outcome were being male, being from a black or mixed ethnic minority background or having additional educational needs. Alienation and lack of social commitment was identified by the Scottish School Leavers' survey (Biggart *et al* 2005).

The locus of control describes how a person explains underlying causes of events; those with an external locus of control are more likely to feel that events are determined by chance or fate over which they have little or no influence. In the Scottish School Leavers survey, young people interviewed who exhibited a strong external locus of control were more likely to experience unemployment, although of course such fatalism may be based on real rather than an imagined experience of the labour market. More females than males expressed a strong external locus of control, suggesting that their beliefs of self-determination were weaker than their male counterparts.

Family and childcare issues, as well as personal problems, were cited by significant numbers of females in the Scottish School Leavers Survey with almost four in ten currently looking after the home or children. Young people with additional educational needs and poor mental health were at greater risk of this outcome (Payne 2000). Being from a black minority ethnic group was also a risk factor (Payne 2000; Rodger *et al* 2007).

No protective factors were identified for this outcome.

7.6.2 Systematic reviews

16-18 year olds not in education, employment or training

Only one systematic review was found to address the issue of NEET directly. It is a US -based systematic review of 16 studies conducted by Cobb *et al* (2006), who evaluated the effectiveness of cognitive behavioural interventions (CBIs) to reduce school dropout of young people with disabilities. They found that CBIs that included a behavioural component were effective in reducing school drop out and that young people found CBIs relatively easy to learn. However, the evidence was not clear on the length of time an intervention needed to take to be effective.

Low attainment

There are a large number of systematic reviews which focus on teaching and learning and attainment. For the purposes of this review, we were interested in teaching strategies for young people at risk of the other poor TYS outcomes, rather than simply reviewing every systematic review which had an attainment outcome. Four systematic reviews were relevant, all of which were based in the USA. All the interventions described are *school-based*.

In a meta-analysis of 47 studies, Lauer *et al* (2004) found statistically significant effects of Out of School Time strategies in assisting low-achieving or at-risk students in reading and mathematics.

Learner centred teacher-student relationships were the focus of a review of 119 studies carried out by Cornelius-White (2007). This meta-analysis found that person-centred (i.e. involving human relationships rather than the quality or style of instruction in a subject) can improve student outcomes. Person-centred teaching refers to those aspects or qualities of teacher actions and behaviours that affect students on a personal level: listening, caring, respect, teachers being perceived as honest, sensitive, and understanding.

In a large meta-analysis of 219 studies, Wilson (2005) evaluated the effectiveness of school-based programmes for preventing or reducing aggressive and disruptive behaviour. They found that universal, selected/indicated, and comprehensive programmes were generally effective at reducing the more common types of aggressive behaviour seen in schools. Interventions were also found to be effective across modality types; social skills training, cognitively-oriented programmes, behavioural programmes, and counselling.

Baytop (2006) found that secondary prevention programmes for teenage mothers had a minimal effect on increasing educational attainment among African American teenagers. The authors suggest this may be due to the method of evaluation: the school-based interventions were not randomised, whereas other interventions – e.g. those based in the clinic- and home (such as family planning counselling and services, clinical care, and individual and group counselling) tend to be more robustly evaluated.

> The concept of Out of School Time strategies (OSTs) encompasses classes, courses, one to one mentoring and tutoring or other enrichment or support activities. OSTs have become of increasing interest as a way of delivering the mandatory supplementary educational services for children from low income families (following the No Child Left Behind legislation in the USA). The types, provision, timeframes and goals of OSTs are broad and range from summer school, Saturday school to afterschool sessions, with an academic, cultural, social, or recreational focus (or a combination of these). Ultimately, the principle of any OST strategy lies in attempting to improve student performance by creating additional time for instruction.

7.7 Running away and youth homelessness

7.7.1 Risk factors

Studies relating to this outcome were more likely to report risk factors in the family domain than any other.

The family risk factors identified for this outcome were:

- Poor parental supervision and discipline
- Family conflict

- Parental involvement/ attitudes condoning problem behaviour
- Family history of problem behaviour including poor mental health
- Low income and poor housing
- Experience of authority care

Several studies cited *family conflict* as placing young people at risk of running away or becoming homeless. Young people in the Taking Risks study reported constant arguments at home and a slightly lower proportion saying that they argued frequently. They were also more likely to report *parental involvement or attitudes condoning problem behaviour*, such as drink or drugs problems as well as reporting verbal or physical abuse and poor mental health (Bruegel and Smith 1999). In addition to this theme, previous episodes of running away were predictive of future episodes, and were often as a result of escaping abuse or rejection, but sadly resulting in a greater risk than non-serial runaways of further exploitation and abuse or substitutive care (Flood-Page *et al* 2000). Childhood running away was further associated with future episodes of homelessness or sleeping rough. *Poor supervision and discipline,* as indicated by Rodger *et al* (2007), is concerned with a lack of family support with young people at risk of running away from home.

Low income and poor housing also featured as risk factors for this outcome. Deprivation was a risk factor identified by Rodger *et al* (2007) from the NPD and PLASC databases, and households with no full time earner as a proportion of all children, households living with more than one person a room as a proportion of all households, residents in households sharing or lacking basic amenities as a proportion of all residents in households, were all associated with running away and becoming homeless. One-off runaways, who do not travel far and generally go alone, are also likely to come from poor backgrounds and reconstituted families and have a history of truanting (Bruegel and Smith 1999).

Young people who ran away from home were at risk of being placed in *authority care*, itself a risk factor for other negative outcomes. In addition to being at risk of entering care, the transition from authority care was identified by Rodger *et al* (2007) from a review of 4 studies as a potential time of risk for young people. Foster care was also found to be a risk factor (Bruegel and Smith 1999).

The only school risk factor associated identified for this outcome was:

- School exclusions

Rodger *et al* (2007), and a sub-sample of the study with young people vulnerable to drug abuse (Goulden and Sondhi 2001), both reported that being excluded from school is an indicator of future risk of running away from home or becoming homeless.

There were no community risk factors identified for this outcome.

The only individual risk factor identified for this outcome was:

- Gender

There was a gender differential for youth homelessness, although this may be an artefact of reporting. Females were more likely than males to have experienced homelessness by a ratio of three to two. This may be because young males who leave home do so permanently and do not appear in household surveys. But this gender differential has been shown in other research into youth homelessness, particularly amongst the young homeless (Rugg, 2000: p.5 in Flood-Page *et al* 2000).

No protective factors were identified for this outcome.

7.7.2 Systematic reviews

There were no systematic reviews which addressed this outcome specifically. However, one review of potential relevance was conducted by Donkoh *et al* (2006). This review aimed to evaluate the effectiveness of Independent Living Programmes (ILPs), a varied group of programmes intended to improve outcomes for foster care (looked-after) youth leaving the care system. The authors suggest that a sizeable number of young people are discharged from care each year lacking the life skills or resources necessary to succeed independently; they experience much higher rates of homelessness, unemployment, dependency on public assistance, physical and mental health problems, and involvement with the criminal justice system than the general population. Donkoh *et al* were unable to find any randomised or quasi-randomised controlled trials assessing the effectiveness of ILPs, however they discuss the results of 18 non-randomised studies. In general, these indicate that ILPs may improve outcomes for young people leaving care. However, the authors warn that weak methodology makes it difficult to draw any firm or reliable inferences for policy and practice. The review specifically targeted children and young people who had been in care, but no studies that met their inclusion criteria were identified.

7.8 Poor mental health

7.8.1 Risk factors

Family risk factors identified for this outcome were:

- Poor supervision and discipline
- Family conflict
- Family history of problem behaviour including poor mental health
- Low income and poor housing
- Experience of authority care

Poor supervision and discipline in the ONS study of persistence, onset, risk factors and outcomes of childhood mental disorders by Meltzer *et al* (2003) took the form of harsh parenting, with young people with mental health problems recalling that they were frequently told off. In the same study, Meltzer *et al* (2003) found that young people living in perpetual discord, dysfunctional families or having experienced stressful life events were at greater risk of developing a mental health disorder. Poor relationships and experience of disharmony were identified in a review of 2 studies by Rodger *et al* (2007). In a different ONS study by Meltzer *et al* (2004) the emphasis was on the mental health of looked-after young people. They found that "Looked after children are thought to be at much greater risk than other children of having an attachment disorder. Inhibited attachment disorders are characterised by marked difficulties with social interactions that are usually attributed to early and severe abuse from 'attachment figures' such as parents" and may also be attributable by changes in primary caregiver in the early years. The onset of emotional disorders was more likely among young people whose mothers experienced psychological distress.

There was a strong relationship between low income and poor housing and the onset of poor mental health in young people. The study by Meltzer (2004) found 20 percent of children in families without a working parent had a mental disorder; more than twice the proportion among children with one or both parents working (9 percent and 8 percent. Other factors included downward mobility,

living in rented rather than owned accommodation, where no parent was working, or where the household changed from working to non-working. A poor physical environment was also identified as a risk factor for poor mental health in a review of two studies by Rodger *et al* (2007), which may be related to levels of affluence generally.

Children from lone parent and cohabiting couple families were approximately twice as likely as the children of married couples to have a mental disorder (16 percent and 13 percent compared with 7 percent). Children living in reconstituted families were more likely to have a mental disorder than those living in a family without stepchildren (14 percent compared with 9 percent). Experience of authority care was strongly associated with experience of poor mental health. Bamford and Wolkind (1988) reported that the risk of psychiatric ill health was highest among children looked after by local authorities when compared with any other group in society (in Meltzer 2004).

School risk factors linked to poor mental health in young people were:

- Low achievement in school
- Lack of commitment including truancy
- School exclusions

Low achievement at school was found to be strongly linked to the future onset of poor mental health in children in authority care (Meltzer *et al* 2004). Children with a mental disorder were nearly twice as likely as children with no disorder to have marked difficulties with each of the three abilities: reading (37 percent compared with 19 percent); mathematics (35 percent compared with 20 percent) and spelling (41 percent compared with 24 percent). These young people also reported long absences of a week (30 percent) or more (18 percent) from school as well as truancy. School exclusions may also be a cause and effect of childhood mental disorders (Meltzer *et al* 2003).

One community risk factor was identified for this outcome:

- Disadvantaged neighbourhood

The community risk factor, *disadvantaged neighbourhood* was strongly identified by the ONS study by Meltzer *et al* (2004) as a risk factor for poor mental health. “Children living in areas classed as ‘Hard pressed’ were the most likely to be assessed as having a mental disorder (15 percent). This proportion was about twice as high as that for children living in areas classed as ‘Wealthy achievers’ or ‘Urban prosperity’ (6 percent and 7 percent)” (Meltzer 2004).

The individual risk factors identified for this outcome were:

- Alienation and lack of social commitment
- Cognitive function and mental health
- Gender

Individual risk factors included *Alienation and lack of social commitment*. In a review of 2 qualitative studies by Rodger *et al* (2007) feelings of isolation were identified in young people at risk of poor mental health. In addition to this, Meltzer el al (2004) found that young people in authority care were much more likely than young people in foster care not to spend time any with their friends (13 percent compared with 3 percent), and young people with a mental health disorder were four times more likely than those young people without a disorder to report not spending time with their friends, further increasing their sense of isolation and exacerbating their risk of poor mental health.

Cognitive function and mental health were found to be strongly associated with poor mental health in young people including special learning difficulties, conduct order, and additional educational needs. Meltzer *et al* (2004) found that the largest percentage increase in odds of being diagnosed with a conduct disorder was to be found in young people with SEN statements although the authors point out that it may be that young people with conduct disorder are being classified as having special educational needs, rather than the SEN status leading to the conduct disorder (Meltzer 2004).

Gender was also associated with different levels of risk and for different mental health problems. There was an increased risk of conduct disorder in boys and for poor mental more health generally with a slightly decreased risk for emotional disorders compared to girls. Amongst looked-after children, Girls were more likely than boys (36 percent compared with 25 percent) to have sought help because of unhappiness or worry (Meltzer *et al* 2003, Meltzer *et al* 2004, Rodger *et al* 2007).

The Meltzer (2004) study found a consistent pattern in the 1999 survey data between the presence of conduct disorders and the number of children in the household, though this may reflect socio-economic characteristics rather than household size per se. (Meltzer *et al* 2004).

Relating to *age*, Older children were more likely than younger children in care (38 percent compared with 28 percent) to have sought help because of unhappiness or worry (Meltzer 2004).

No protective factors were identified for this outcome.

7.8.2 Systematic reviews

Family interventions

Three reviews examining family-level interventions were identified. All three focus on families with children with pre-existing mental health problems

In a US -based systematic review of 8 studies, Littell *et al* (2005) aimed to provide unbiased estimates of the impacts of multisystemic therapy (MST) on restrictive out-of-home living arrangements, crime and delinquency, and other behavioural and psychosocial outcomes for youth and families. The concept behind MST is to identify individual, family, and environmental factors which may contribute to problem behaviour, and change them through sessions with therapists and crisis case-workers, in addition to work with school and peer groups focusing on cognitive and/or behavioural change, communication skills, parenting skills, family relations, peer relations, school performance, and/or social networks. The authors concluded that it is not clear whether MST has clinically significant advantages over other services.

In a US -based review of 2 studies, Bjornstad and Montgomery (2005) aimed to determine whether family therapy (e.g. training parents and/or modelling behaviours for young people) reduces symptoms of inattention, impulsivity and hyperactivity for children with ADHD or ADD when compared to no treatment or standard treatment. They found that one study showed no detectable difference between the efficacy of behavioural family therapy and treatment as usual in the community and one study only marginally favoured treatment over the medication placebo.

MacDonald and Turner (2008) conducted a review into the effectiveness of 'Treatment Foster Care' on psychosocial and behavioural outcomes for children and young people with complex emotional, psychological and behavioural needs. TFC is described by the authors as a family-based intervention that aims to provide young people with a tailored programme designed to effect positive changes in their lives. The results of the 5 studies in this review indicate that TFC might be "a promising intervention for children and youth experiencing mental health problems", but the authors caution that the evidence base is not particularly robust.

School-based interventions

Two reviews evaluating school-level interventions were found. The interventions concerned were quite different from one another. The first review included interventions teaching stress management skills to children, while the second evaluated interventions aiming to change teachers' interpersonal skills.

In a UK- and Holland-based meta-analysis of 19 studies, Kraag *et al* (2006) looked at the effect of school programmes targeting stress management skills in school children. They found that primary prevention programmes for schools (i.e. interventions designed specifically to promote mental health and reduce the incidence of adjustment problems in currently normal child and adolescent populations) show promising results. Findings indicate that although several issues have to be resolved, primary prevention programmes focusing on promoting mental health through school-based stress management training are most likely effective.

In a US-based meta-analysis of 119 studies, Cornelius-White J (2007) evaluated the effectiveness of learner-centred relationships (see Section 7.6.2 for a description of this type of intervention). The author found that person-centred teaching can improve students' self esteem.

Cognitive Behavioural Therapy serves as an umbrella term for a group or individual therapy which combines cognitive therapies with behaviour therapies, using varying approaches and treatment strategies. Underlying this concept is the assumption that unwanted thinking patterns and behavioural responses are habitualised over a long period of time. Commonly CBT focuses on altering maladaptive thinking, changing attitudes and modifying behaviour patterns and is delivered in sessions with a specially trained therapist.

Central to CBT is a focus on the 'here and now' and on altering the way of thinking and feeling in the present. Techniques used in CBT to achieve this cognitive restructuring can, amongst others, include teaching social problem solving skills, encouraging self monitoring, challenging negative thoughts and reflection of previously unexamined attitudes, Socratic questioning techniques, reward plans and exposure tasks to modify avoidance behaviours. A range of strategies can be used to improve coping skills, or alter internalised ineffective coping mechanisms, usually involving both physical and mental processes.

Community interventions

In a US -based review of 32 studies, Weisz *et al* (2006) looked at whether evidence -based therapies (EBT) produce better outcomes than the usual care interventions employed in clinical care in youth psychotherapy. They found that although evidence -based therapies (defined as having been included on previously published lists of effective treatments) have a medium effect size this relatively modest magnitude suggests that there is considerable room for improvement for EBTs. The necessarily wide range of interventions described prevents generalisation or characterisation.

Social and cognitive skills interventions

There are a large number of studies that evaluate the effectiveness of cognitive behavioural therapy (CBT) for various purposes. They break down into two broad camps in this review: those that aim to treat depression and those that aim specifically to increase self esteem. There may well be considerable overlap between the two.

Two reviews examined the effectiveness of CBT for treating depression. In a UK - based systematic review of 10 studies, Cartwright-Hatton *et al* (2004) evaluated its effectiveness as a treatment for anxiety disorders of childhood and adolescence. They found that CBT is a promising intervention for childhood and adolescent anxiety. This is especially true when the evidence for the efficacy of CBT is compared to that which is available for alternative approaches. The US -based meta-analysis of 28 studies conducted by Chu and Harrison (2007) also found that CBT is effective as a treatment for depression, as well as anxiety and other general functioning outcomes.

In addition to the above, in a US -based meta-analysis of 24 studies, Michael *et al* (2002) evaluated the effectiveness of psychosocial treatments (such as CBT) and pharmacological treatments on depression and depressive symptoms for 5-18 year olds. They found that both psychosocial and pharmacological interventions were more effective for adolescents than for children and these results were durable over time (median 36 weeks) where follow up data were reported. In a more general review than those previously mentioned, Weisz *et al* (2006) found that psychotherapeutic treatments appear to produce significant but modest effects on youth depression.

Unsurprisingly, CBT is also recommended for increasing young people's self esteem. While the UK-based review by Taylor and Montgomery (2007) only contained two trials, they were of good quality and contained a reasonable number of participants. Taylor and Montgomery concluded that the use of cognitive behavioural therapy for adolescents suffering from unhealthy, low levels of self-esteem may be an appropriate and effective treatment for increasing global and academic self-esteem, although more research is clearly needed.

In a US-based meta-analysis of 64 studies, Elbaum and Vaughn (2001) looked at the effect of school-based interventions on self esteem for students with learning disabilities. They found that it was possible to increase students' academic self concept, social self concept and general self concept, but not personal and physical. Little detail is given of the interventions evaluated, other than broad categorisations: 'mediated', 'counselling', 'academic', 'physical', and 'self concept'.

Finally, physical activity (exercise) has also been trialled to improve both to treat depression, and to improve the self esteem of young people. The Norwegian-based review of 23 studies by Ekeland *et al* (2005) found twelve studies indicating that exercise can improve self esteem by a small, but significant amount. In another Norwegian review (of 16 studies), Larun *et al* (2006) evaluated exercise for the treatment of depression. They found that whilst there appears to be a small effect in favour of exercise in reducing depression and anxiety scores in the general population of children and adolescents, the small number of studies included and the clinical diversity of participants, interventions and methods of measurement limited their ability to draw conclusions regarding effectiveness.

One additional study, that sought to improve young people's social and cognitive skills, examined neither depression nor self esteem. In a US - based systematic review of 205 studies, Durlak *et al* (2007) evaluated the impact

of Positive Youth Development programmes that target children's personal and social competence. They found that the programmes had a significant effect on variables related to School setting (psycho-social environment of the school and classroom and classroom level change), Family (Parenting practices and family environment), Community (Bonding to community adults) and mesosystemic changes (Family-school relationships).

One other review aimed to evaluate interventions relevant to this outcome (Donkoh *et al* (2006)), but did not find any studies that met its criteria for inclusion.

8 Multi-provider interventions

The rationale for Targeted Youth Support, and this review, is that agencies providing services for vulnerable young people would work better together than they do alone, and that this would increase efficiency and cost-effectiveness (DfES 2007: 4). The population targeted by TYS and thus of interest to this review, typically has multiple risk factors, and experience one or more of the outcomes of interest to TYS. In order to explore the effectiveness of interventions to alleviate poor outcomes for this group, reviews which included explicitly multi-component interventions (targeting more than one risk factor and/or outcome) were examined in more detail since these interventions, containing more than one component, are likely to require multiple providers and, hence, be of particular relevance to TYS.

Eleven reviews were identified which included multi-component interventions. These were identified by identifying reviews which described interventions delivered by more than one provider, or explicitly involved multiple institutions/actors in the delivery of the intervention. The identification of these interventions was hampered by widespread limited reporting both in the primary studies and the systematic reviews. Conclusions are equally difficult to draw from the reviews with respect to the impact of these interventions. Those identified are described below divided into sections according to outcome. Where individual programmes are named and described from included reviews, these are summarised below to illustrate multi-provider interventions. The amount of detail available here reflects the level of detail available in the reviews we were working with.

8.1 Drug or Alcohol Misuse

Becker and Roe (2005) included several studies with multi-component interventions which focused on drug prevention. These included programmes with a range of initiatives (work with parents, drug education, outreach, recreation, life-skills training, counselling and home visits), residential programmes with educational and vocational training, and residential programmes with counselling too. The Children At Risk (CAR) programme was also described, comprising integrated services co-ordinated by a case manager including parenting support and educational services, after-school and summer activities and community policing. This last was shown to be effective, and the others had some beneficial effects, with one harmful intervention. Overall, these interventions were targeted at high-risk young people (at risk for drug use) in the US, with interventions mainly being delivered in the school setting. High risk sub-groups appear to respond better when targeted interventions are nested within a universal programme.

Three other systematic reviews evaluated drug and alcohol use prevention programmes; Elliott *et al* (2005) Vaughn and Howard (2004) and Foxcroft *et al* (1997). All included studies primarily conducted in the US and Canada, although British, Scandinavian and other countries were represented. This is important when attempting to generalise as the US drug policy is based predominately on drug abstinence rather than tackling problems associated with drug use. Similarly, many US interventions are targeted at specific populations, such as African-Americans, Asian-Americans, and Latino-Americans, which are groups less representative of

the UK population. Elliot and colleagues (2005) described two types of multi-component intervention. 'Minnesota 12-step' interventions are described by Williams and Chang (2000) as short hospital inpatient programmes typically offering a comprehensive range of treatment consisting of individual counselling, group therapy, medication for co-morbid conditions, family therapy, schooling and recreational programming. These showed a positive effect in reducing drug re-use. Diverse 'school-based programmes', for example combining school with afterschool facilities or health centres and other extracurricular activities such as sports, voluntary work, and cultural activities involving parents, peers or health professions also showed effectiveness, particularly life-skills interventions. Foxcroft *et al* (1997) also found limited effectiveness for Life Skills Training (LST) intervention, which is a multi-modal drug education programme, although the evidence base was weak.

Vaughn and Howard (2004) included studies whose participants were often juvenile offenders, probationers or youths referred by courts, and most participants were in lower socioeconomic groups. The predominantly psycho-social interventions included in order of strength of effect: multidimensional family therapy and cognitive behavioural group treatment; behavioural therapy; multisystemic therapy; combined cognitive-behavioural therapy and functional family therapy; family systems therapy; functional family therapy; combined Botvin life-skills with additive programmes and psycho-educational therapy; supportive group counselling; interactional group treatment; aftercare services; residential treatment services; individual counselling; family education; adolescent group treatment; and individual cognitive-behavioural treatment. As can be seen, the interventions which attempted to operate within several social arenas were more successful, with the highest level of effectiveness evidence in multidimensional family therapy and cognitive-behavioural group treatment.

8.2 Poor mental health and anti-social behaviour

Bjornstad *et al* (2005) described a behavioural family intervention aiming to reduce symptoms of inattention, impulsivity and hyperactivity, which taught parents behavioural skills to use in the home, which were combined with therapist-administered behavioural interventions with the children including a reward system, time outs, social reinforcement, and modelling. This was also based in the US, and was targeted specifically at families with children with ADD/ADHD, but showed only marginal treatment effect. Durlak *et al* (2007) had a theoretical framework which they used to synthesise the Positive Youth Development programmes that target children's personal and social competence. This framework explicitly employed the concept of systemic change to explore "attempts to change the roles, behaviours, and relationships among members of one or more social systems." The programmes were found to have a significant effect on variables related to school setting (psycho-social environment of the school and classroom and classroom level change), family (parenting practices and family environment), community (bonding to community adults) and mesosystemic changes (family-school relationships). All were conducted in the US. This lack of detail may reflect the relatively vague outcomes.

Littell *et al* (2005) targeted children and youth (ages 10-17) with social, emotional, and behavioural problems and their family members, attempting to evaluate the impact of multi-systematic therapy (MST) on restrictive out-of-home living arrangements, crime and delinquency,

and other behavioural and psychosocial outcomes for youth and families. MST uses a "family preservation service delivery model" that provides time-limited services (four to six months) to the entire family. Treatment teams consist of professional therapists and crisis caseworkers, who are supervised by clinical psychologists or psychiatrists. Therapists were mental health professionals with masters or doctoral degrees; they have small caseloads and are available to program participants 24 hours a day, seven days a week. Treatment is individualized to address specific needs of youth and families, and includes work with other social systems including schools and peer groups (hence, the name multisystemic). However, MST showed no beneficial effect.

MST was also evaluated by Woolfenden *et al* (2001). It is probable that some overlap has occurred between these reviews, as juveniles with conduct disorder or delinquency were also targeted. Seven of the eight studies were interventions in the US. Significant effects were found for time spent in institutions, risk of being rearrested and in the rates of subsequent arrests, but not risk of incarceration, psychosocial outcomes such as family functioning, or child/adolescent behaviour.

8.3 Under-18 conceptions

Two multi-component interventions were described by DiCenso (2002), both aiming to reduce unintended pregnancies amongst adolescents. The majority of participants were African American or Hispanic, thus "over-representing lower socioeconomic groups" and all were from the US. One was an educational intervention led by trained peers and teachers that included a peer resource team, parent education, and community linkages. The other delivered various tailored services including education, skill building, counselling, mentoring, advocacy, values and attitudes about teen sexual activity and pregnancy, coping skills and goal setting, links to family planning services, participation in social or recreational activities, and was delivered by combinations of family planning clinics, schools and other community based settings. Neither showed a positive effect.

Harden *et al* (2006) also evaluated some multi-component interventions aiming to reduce unintended teen pregnancies. Six multi-component interventions were described. All were targeted at teenage girls or mothers. According to the authors, "Holistic support programmes also appear to be appropriate but have not yet been shown to be effective. High quality programmes without sanctions appeared to be more effective than interventions with sanctions." Details of the multi-component interventions in this review are described below, though more information is available in the review itself.

- Philliber *et al* (2001) report the effects of the Children's Aid Society Carrera-Model Programme, a multi-component community-based intervention. The programme included work experience, careers advice, academic support, sex education, arts workshops, and sports; outcomes were measured after three years and young people in the control group received no intervention. The results were statistically significantly in favour of the intervention group. The study took place in 12 sites in six American cities during the 1990s. Researchers recruited 1,163 participants aged 13 to 15; study participants came from several different ethnic backgrounds and mainly from families with low SES.

- Hahn *et al* (1994) report the effects of the Quantum

Opportunities Programme (QOP). This intervention includes community service, educational support, and social development workshops, and is aimed at improving academic achievement and social skills. Participants were followed up one year after the end of the programme. Young people in the control group received no intervention. The intervention lasted for four school years and took place in the 1980s and 1990s. Researchers recruited 250 US high-school students aged 13 to 17; 76 percent were black and all were from families on benefits. While the results suggested that the intervention reduced the birth rate by 36 percent, it was of borderline statistical significance.

- Cave *et al* (1993) report the effects on teenage mothers of Jobstart, a multi-component education and employment intervention aiming to increase the rate of employment and earnings for young people who have dropped out of school. Teenage mothers in the control group did not receive an intervention. They were followed up four years after the start of the intervention. The intervention took place between 1985 and 1988 in the USA. Researchers recruited 2,312 participants aged 17 to 21, mostly from ethic minorities, and including 508 teenage mothers. This study found that the intervention was able to improve educational attainment, but only sites with a clear focus on long-term self sufficiency were able to improve mothers' employment prospects. The intervention had no impact on rates of repeat pregnancies.
- Field *et al* (1982) report the effects of daycare provision and a professional training intervention aiming to improve rates of employment and school attendance among teenage mothers. The intervention took place in the late 1970s in Miami, USA among 120 black teenage mothers aged 13 to 19 from families with low socio-economic status. Teenage mothers in the control group did not receive an intervention. Participants were followed up for two years after the start of the intervention. This intervention showed beneficial effects for education and training, though was less clear with regards to its impact on repeated pregnancies.
- Gathron (1990) reports the effects of a multi-component education, employment and social support intervention aiming to reduce the negative outcomes associated with teenage parenting, such as school dropout, unemployment and low self-esteem. Teenage mothers in the control school did not receive an intervention. Outcomes were measured after 25 months. The study took place at two rural schools in the USA in the 1980s. Researchers recruited 66 pregnant African-American teenagers aged 16–18 and 8–28 weeks pregnant. The results showed that the intervention reduced repeat pregnancies, was responsible for a large improvement in education outcomes, but had less impact on emotional wellbeing.
- Quint *et al* (1997) report the effects of New Chance, a multi-component education and training programme for teenage

mothers who had dropped out of school that aimed to help them find employment. Teenage mothers in the comparison sites did not receive an intervention. They were followed up for three and a half years after the start of the intervention. Researchers recruited a total of 2,322 young mothers at 16 different sites in the USA in 1989. Participants were, on average, 19 years old at the start of the study, were from disadvantaged communities, and the majority were from ethnic minorities. The intervention was able to improve young mothers' educational attainment but not their emotional wellbeing.

8.4 Therapeutic foster care

This is described by Hahn *et al* (2005) as interventions in which "Youth who cannot live at home are placed in a foster home in which foster parents are trained to provide a structured environment for learning social and emotional skills. Youth in the programme are monitored at home, in school and in leisure activity; programme personnel work closely with foster parents and may collaborate with teachers, probation officers, employers and others in the youth's environment to ensure prosocial learning and behaviour." All included studies in this review were US, universal school-based programmes targeting young people or areas at risk. A significant decrease in violent or aggressive behaviour was found, and the intervention was shown to be cost-effective, although less beneficial for girls than for boys.

8.5 Youth Offending

Newman *et al* (2007) reviewed the evidence for interventions to reduce juvenile offending, including interventions that contained multiple components. Offenders were defined as individuals under the care of the Criminal (or juvenile) Justice System at the time of the study, aged 10-17. This included individuals on parole, probation, in jail or in any other secure detention setting.

Multi-component interventions were divided by the authors of the review into those which targeted first time offenders and those which targeted persistent or mixed groups of offence severity. The review authors found consistent evidence of a positive effect for multi-component interventions when compared with standard diversion for first time offenders i.e. lower rates of re-offending for multi-component interventions. They found insufficient evidence about their effect for persistent or mixed groups of offenders.

Multi-dimensional Treatment Foster Care (MTFC) can also be considered to be a multi-component intervention. The authors found consistent evidence of positive effect For MTFC compared to 'standard residential care for female offenders but inconsistent evidence of effect for male offenders.

8.6 Implications

Multi-component interventions identified within this review do not show any definite patterns. This may be due to the reporting issues discussed in the introduction to this section. Another factor contributing to this is the heterogeneity of outcomes and populations, study designs and components. Similarly, systematic reviews may choose to examine a population, or interventions to alleviate a certain outcome or risk factor (e.g. unintended teenage pregnancy, juvenile offending). Alternatively they may specifically examine the processes and effectiveness of a type of intervention (e.g. therapeutic foster care). This gives rise to very different types of review, which hinders meaningful meta-synthesis. However, the majority of the multi-

component interventions appear to show beneficial effects.

A systematic review of multi-component or multi-provider interventions may prove more useful. A sustained and systematic examination of the theoretical and logistic barriers to implementing multi-component interventions and their impact could be used to inform policy in a range of areas and promote cross-sector working by examining the findings and outcomes of multi-component interventions. While some interventions have been briefly described above, a systematic review would allow and analysis of why and which multi-component interventions are more effective.

9 Discussion of cross-cutting themes

Our analysis thus far has been structured according to the outcomes targeted by TYS. In order to examine themes across the outcome areas, patterns within the research were examined in three ways:

1. Identifying the **intervention types** for the systematic reviews within each outcome area (see Appendix E for further details). These were combined with the findings from the consultation with the expert panel on April 3rd to form conclusions, and recommendations (see Chapter 11)
2. Exploring the number and type of **risk factors** identified at each of the four levels (individual/peer, family, school and community) targeted by reviews for each outcome area.
3. Examining the **patterns of research** revealed by comparing these.

Each review was mapped against the known risk factors from Component 1. If the review mentioned specifically that an included intervention aimed to change an outcome similar to the risk factors, or targeted a population defined by the risk factors, it was considered to be evaluating relevant evidence. By comparing the known risk factors for this outcome with the outcomes studies professed to target, it has been possible to identify patterns in the available research. These may reflect:

- Policy and funding priorities; (policymakers may be required to focus on a particular population, which effects where funding resources are distributed)
- Practical or logistic concerns; (e.g. it may be easier to research and implement interventions in schools due to the captive audience and the relatively good chance of retaining participants over a reasonable follow-up period: therefore more research may be carried out in this setting)
- Current beliefs about theories of behaviour; (e.g. individual versus community models)
- Publishing bias; journals may reflect fashionable theories, or may only publish positive results.
- Ease of evaluation and implementation; (it is easier to target individuals and families than carrying out a high-quality evaluation of a large-scale change in local structural environment.)

9.1 Intervention types

Assessment of the relationship between risk factor and outcome, and methods of evaluation, was often poorly discussed in the reviews, especially modelling of the risk pathways and outcomes. Such information would enhance the usefulness of such research to policy-makers. Long-term follow-ups were rarely identified, and would add considerably to the usefulness of evaluations in this area, as would greater detail about the content and implementation of interventions.

The Expert Panel considered that information about duration, length of time to follow-up, content, theory and population should be consistently reported by evaluations of interventions to facilitate the use of this research. Moreover, more reporting of inconsistent

results and negative or null findings would assist policymakers and other users of research. This would also reinforce the message that some interventions can be harmful, as discussed later in this report (see Chapter 10).

9.1.1 Youth Offending and Anti-social behaviour

Nineteen reviews were found which evaluated interventions in this area covering:

- Parenting and family therapy-based interventions
- School-based violence reduction programmes
- Community-based residential placement/ foster care
- Social and cognitive skills interventions

Two additional reviews which did not readily fit into one of the previous categories, focused on specific intervention or populations. Reitzel *et al* (2006) examined cognitive, behavioural, psychological and multisystemic therapies for juvenile sex offenders. Anderson (1996) evaluated a psychopharmacological intervention to treat conduct disorder.

These interventions focus primarily on individual or family behaviour change. This suggests that there is a research gap about of the effectiveness of interventions which target the community, or built/structural environment, although these are known risk factors.

Moreover, the Expert Panel considered that engagement with society and community is an appropriate approach to take in targeting youth offending. More and/or better quality evaluative research to identify what fosters engagement would be welcomed, as would services-based research which asks questions about the personalisation of services, flexibility and workplace development of local practitioners and agencies, and needs-based delivery. These recommendations are offered with the understanding that the answers are likely to differ considerably for different groups.

9.1.2 Drug/Alcohol Misuse

Eleven reviews were identified which targeted this outcome. Many of these reviews included multi-component interventions. A range of settings were used, based in the school, community, or family. Virtually all operate at the individual or family level. They were grouped into reviews which either specifically targeted drug misuse, or targeted alcohol misuse. Several multi-component interventions were included, and have been discussed in Section 8.

Whilst effective interventions were identified in the reviews, the Expert Panel considered that addressing additional contextual factors and service delivery would improve drug- and alcohol-related outcomes, both in research in practice. Exploring parental attitudes which condone alcohol and drug use by their children could usefully inform research and practice in this area. Similarly, investigating young people's reasons and motivation for behaviour change, combined with early identification of those at risk would be valuable. Interventions which promoted empowerment or a sense of belonging amongst young people were felt to be of interest for future research.

Several of these interventions were set within school. This was felt by the Expert Panel to be of relevance to suggestions about service delivery. Peer-led interventions were proposed as a subject for future research, as were initiatives to improve teacher training. A skilled workforce, and efficient referral of at-risk individuals, would ease connections between youth services organisations.

9.1.3 Teen pregnancy and poor sexual health

Eleven reviews about under-18 conceptions or poor sexual health were found. The systematic reviews looking at the effectiveness of programmes to reduce unintended pregnancy and improve young people's sexual health fell into three main areas:

- General sex education
- HIV prevention
- Prevention of unintended pregnancy

All of the programmes were set either in the school or the community. There appears to be little distinction made in terms of theories of behaviour change that underpin interventions in either setting, rather, the more important distinction appears to be the purpose of the intervention - particularly whether it is aimed at preventing HIV infection, or unintended pregnancies. Most interventions were targeted at teenage mothers, but not specifically at groups within this population.

The difficulty in teasing out the mechanisms by which the included interventions attempted to affect change was reflected in the questions raised by the Expert Panel. While the systematic reviews provided useful information, more detailed descriptions about the interventions and the various sub groups (age groups, components of intervention, how they attempted to bring about change) would enable more effective implementation of evidence-based policy and practice. It was also suggested that understanding people's choices and behaviour motivations (which evolve as society does) would assist in designing appropriate and effective interventions, and more importantly, in replicating positive behaviours. The expert panel felt that it is important to be aware that interventions based on individual behaviour or attitude change are limited in their scope, and do not account for factors such as financial or local environmental influences.

9.1.4 Poor outcomes for teenage parents and their children

The interventions, from six systematic reviews, which targeted these poor outcomes tended to be community-based and focus on providing parenting skills and support to young parents and also the social exclusion that can accompany teenage parenthood. They operated at the individual and community levels, further evidence that the overwhelming majority of interventions try to affect people's behaviour and choices, rather than remove macro- risk factors such as poor housing, poverty, and unemployment. Targeting was not a feature of included interventions; more research on who would benefit from interventions and how to get them into the services, on hard-to-reach groups (with attendant recognition of increased need for programme funding, monitoring and performance measures) was suggested by the Expert Panel. Research also needs to look at outcomes (e.g. work, education, quality of life) for parents as themselves; not just parents as vessels for their children's development.

9.1.5 NEET and Low attainment

The only systematic review which addressed NEET directly employed cognitive behavioural therapy (to prevent school dropouts), which again operates at an individual behavioural/attitudinal level. This was discussed together with the six reviews which targeted low attainment, which included interventions such as person-centred teaching, and youth development programmes, with the caveat that it is recognised that NEET and low attainment have different histories and risk factors. All the interventions described for this outcome are school-based.

These results, discussed in detail above, underlined, for the expert panel, the importance of understanding transition issues from primary to secondary school, and life transitions such as change in family structure, or out of the home environment. Better information about the relationships between underlying risk factors would assist in forming and delivering appropriate measures.

9.1.6 Youth homelessness and running away

No evidence about interventions was identified for this section, and expert comments could not therefore be solicited.

9.1.7 Mental health

The sixteen systematic reviews which evaluated interventions to improve mental health outcomes tended to operate at the individual or family levels. School, family and community settings were used.

The interventions clustered around four types:

- School-based interventions
- Family intervention
- Community interventions
- Social and cognitive skills interventions

These all appear to attempt to change an individual's attitudes. It is interesting to note that almost no research has been conducted on the effect of the built environment, or exercise, for example. Ekeland (2005) for example, found a positive effect on self-esteem with exercise intervention for schoolchildren.

This may reflect the broad conception of 'mental health' used in this review. Having more focused definitions would enable both more in-depth analysis, and improved clarification of the pathways which lead to different forms of mental ill health.

However, the risk factors which are associated with poor mental health may be poorly understood; within the framework of this review, itself limited, only twelve risk factors at all levels were identified which were connected with poor mental health. A holistic, connected approach to identifying risk factors and individuals and communities at risk may facilitate a more appropriate conceptualisation of the mental health agenda and its resource implications.

9.2 Risk Factors and Associations

By comparing the known risk factors for each outcome, with the populations or risk factors targeted by the included reviews, it was possible to draw a grid of associations (see Table 1 below). This allows patterns of research to be examined and gaps and trends to be identified.

9.2.1 Gaps and trends in research

A common theme across all risk levels and outcomes is that rarely, if ever, were all known risk factors addressed by the included reviews. For example, one out of four known individual risk factors for mental health was addressed by the interventions we identified. All the protective identified in this study were addressed by research contained in the reviews.

Outcomes which fared particularly badly in terms of having risk factors addressed OR identified were: drug and alcohol misuse, NEET, and low attainment.

9.2.2 Individual/Peer risk factors

Just under half of the individual and peer risk factors were targeted by interventions and by systematic reviews which aimed to change individual behaviour or attitudes through personal skills training, cognitive interventions, or family management interventions. This possibly reflects current research and policy priorities, as well as prevailing socio-political ideological and moral discourses. Of the 27 associations between the risk factors and outcomes, 12 were addressed by interventions. Risk factors not addressed, or addressed rarely included age, gender, ethnicity, early involvement in problem behaviour, alienation and lack of social commitment. This may reflect a lack of targeting (e.g. at single-sex, single-age group populations), a lack of reporting of

Table 1: the number of risk factors per outcome targeted by reviews in each outcome area (number targeted/number known risk factors)

	Individual	Family	School	Community	Protective	Total number of associations
Youth Offending	6/8	5/6	2/5	1/4	5/5	19/28
Drug/Alcohol	3/6	4/6	0/3	0/1	3/3	9/19
Teen pregnancy/sexual health	0/1	2/4	0/1	1/2	0/0	3/8
Poor outcomes for teens	1/1	1/2	0/0	0/0	2/2	4/5
NEET	1/3	0/4	1/3	0/2	0/0	2/12
Low attainment	0/3	0/3	3/3	0/0	0/0	3/9
Youth homelessness	0/1	4/5	0/0	0/0	0/0	4/6
Mental health	1/4	3/4	1/3	1/1	0/0	6/12
Total number of associations	12/27	18/34	7/18	3/11	10/10	

details of individual interventions within reviews, or the immutable nature of these risk factors.

This concentration of research on the identification of individual/peer level risk factors and on evaluations of interventions which operate at this level, may reflect the greater influence of these factors in determining outcomes. However, we risk an oversimplification of the pathways and choices people make which lead them to poor outcomes. The reasons, however complex, that lead vulnerable young people to unintended teenage parenthood are multi-faceted and may well be different qualitatively and quantitatively from the reasons which are identified as leading to drug misuse. To attempt to alleviate these different outcomes through similar interventions may be ineffective and inappropriate.

Despite this concentration of interventions at this level, low attainment, NEET, mental health and running away were all identified as having individual/peer level risk factors which were not addressed by included studies. These represent gaps in the research evidence.

9.2.3 Family risk factors

Family-level factors were addressed with similar frequency, with 18 out of 34 associations between risk factors and outcomes being addressed by interventions. This may reflect the relative ease of carrying out interventions which target families, rather than communities, or may reflect cost, logistic, ideological or political concerns.

Interventions which operated at this level tended to be family management or parenting programmes, which aimed to alter behaviour or attitudes. Foster care and independent living programmes were also used to target risk factors at this level. They frequently addressed risk factors such as family history of problem behaviour, parental involvement or condoning attitudes, and parental supervision.

Risk factors at this level which were not addressed, or were rarely addressed, included low income and poor housing, family conflict, caring responsibilities, and experience of authority care. Low income and poor housing was not a targeted outcome for any reviews, possibly reflecting the increased difficulty of implementing interventions in this area. ‘Experience of authority care’ similarly was under-researched, and the only study which referred to this risk factor was mapped against youth offending because it targeted young people who had been in care.

Low attainment, NEET and teen pregnancy were identified as having multiple risk factors at the family level which were not addressed by interventions. This constitutes another research gap.

9.2.4 School risk factors

Of the eighteen school level risk factor/ outcome associations identified, only seven were addressed by interventions, demonstrating a paucity of research on these relationships. Significant numbers of research studies seem to have been conducted in school settings, but without specifically targeting school risk factors. This may suggest that an outcome which has a health focus (such as teen pregnancy) may be affected by risk factors traditionally addressed by education professionals and/or academics. This could be seen to justify the current policy to promote connectedness in youth services, especially for vulnerable young people. Further research in this area would clarify the nature of the relationship between the risk factor and the outcome, in addition to providing a range of effective strategies which could be employed by schools to improve youth offending and anti-social behaviour.

Interventions addressing school level risk factors tended to focus on person-centred teaching, or cognitive behavioural therapies. School level risk factors, which were not addressed, or were rarely addressed, included a lack of commitment including truancy, school exclusions, school disorganisation, and low achievement. Interestingly, none of the interventions considered to be affecting school-level risk factors were educational or set in schools. This may reflect a dislocation between youth services, or between youth services and the academic community. Greater communication and connectedness between these institutions would improve information transfer and facilitate effective assistance of vulnerable young people.

9.2.5 Community risk factors

Few interventions were seen which operated at the community level. Only three out of eleven associations between risk factors and outcomes at the community level were addressed by interventions in the reviews identified. No interventions addressed the availability of drugs, high turnover or lack of neighbourhood attachment. Disadvantaged neighbourhoods were considered in only one intervention. Interventions at this level comprised initiatives such as family outreach programmes and youth development programmes. The distinction between community-level outcomes and interventions which operate at a community level is only crudely drawn in this report; further research could explore this in depth.

Most community risk factors were not addressed by the studies, identifying another gap in the evidence base. Again, this may reflect the difficulty of targeting these risk factors given their diverse nature, e.g. operating at several levels at once. Nevertheless, this provides justification for evaluations of community-level policy initiatives targeting these factors, given their known association to poor outcomes. Research in this area would be welcomed. Included reviews targeted risk factors such as a lack of community resources (e.g. leisure centres). This lack of research means we do not understand the effect of community-level risk factors, nor what they may be or how they interact with other risk factors, or the effectiveness and appropriateness of interventions which operate at this level, and that the potential for alleviating poor outcomes is not gauged.

9.2.6 Protective Factors

Several systematic reviews also included interventions which attempted to foster protective factors, as well as, or instead of, alleviating the risk factors. Although generalisations should be read with caution, these reviews seemed to show an overall beneficial effect. These factors also operate at several levels (individual, school and family, for example) and may influence vulnerable young people in several arenas.

9.3 Discussion and patterns of research

These results should be interpreted with caution, for several reasons. Primarily, it is not known if risk factors have a causative relationship with the outcomes, and therefore it is essential not to overstate the case.

Several gaps have been identified in the research through this exercise. However, part of the searching was non-systematic (e.g. the risk factor search was cumulative rather than systematic), and research may have been missed. Gaps may also reflect the search strategy and inclusion criteria, or the division of the risk factors into levels. More risk factors for some outcomes were addressed than for others; for example, almost no risk factors were addressed for NEET, and a far greater proportion for youth offending. This may simply reflect that

more research has been carried out in that area, so saturation of risk factors is more likely.

Without further research, we cannot know the relative importance of different risk factors for the outcome, or of the importance of the levels. Are individual or peer risk factors more influential than community risk factors when individuals make choices about their behaviour? It is also difficult to unpick the relationship between the risk factors; they may interact in ways that we do not understand.

Finally, since structural/environmental factors did not feature prominently in our review of risk factors, they are not part of the conceptual framework for the review of reviews. They may have as big an effect on people's behaviour: for example, legislative impact, such as employment protection for mothers; financial factors such as benefits provision; or environmental, such as provision of local, accessible leisure facilities. Further research is required to elucidate this relationship and ascertain whether their lack of prominence is an artefact of the questions asked in the risk factor studies, or whether structural/environmental issues are not significant risk factors for the TYS outcomes.

9.4 Implications

Interesting gaps were identified through this exercise. For example, a great deal of research is carried out in school settings but without specifically targeting school risk factors. This may suggest that an outcome which has a health focus may be affected by risk factors traditionally addressed by the education professionals and/or academics. This could be seen to justify the current policy to promote connectedness in youth services, especially for vulnerable young people.

Theories of behaviour differ in the degree of importance they attach to different risk factors. For example, some people consider that personal choice and history to be the greatest determinants of individual behaviour, while others believe that the structural and local environments are more influential. These factors undoubtedly interact in a complex and unique way for different people, adding to the challenge faced by social scientists in addressing behavioural outcomes. Currently, more risk factors have been identified (and more are addressed) at the individual and family levels. This may reflect the greater importance of these levels in determining behaviour. Equally, this may reflect the greater emphasis placed on individualism and personal responsibility by policymakers and scientists alike. Research to explore the implications of community and environmental level factors would be welcomed, as would interventions targeting the risk factors which operate at this level.

This research also underlines the importance of considering known risk factors before designing interventions. It seems likely that by targeting known risk factors (assuming the 'correct' ones have been identified), greater efficacy could be achieved. Clearly not all risk factors can be alleviated (for example, being male), and interventions may be found to be more effective if they are targeted at these at-risk populations.

The majority of the interventions reported by the systematic reviews aimed to reduce the incidence of an outcome. While most interventions addressed one or more risk factors, none used a combined approach targeting all known risk factors in a multi-faceted intervention. Another interesting approach, which has not been identified within the systematic reviews in this report, is targeting a specific risk factor, such as social alienation, through a range of interventions and providers, and examining the outcomes known to be associated with it; in this case, poor

mental health, NEET, and youth crime. This approach might require a different type of intervention, and require more research on the relationship between different risk factors and their associated outcomes, their strength of association and the interactions between them. It may prove a fruitful approach. A systematic review examining multi-provider interventions would make the utility of such an approach explicit and could provide guidance to policymakers.

10 Discussion

10.1 Interventions can have unintended consequences

Even though policymakers and practitioners aim to improve the lives of the recipients of their interventions, sometimes interventions can have surprising results. In a non-exhaustive examination of the 57 reviews in this study, four reviews report interventions that had harmful effects (as well as two others which were identified but not included in the final report).

Oakley *et al* (1995) describe an abstinence education intervention targeted at a group of low income minority group youths in Arizona, USA. The programme had high rates of attrition and appears to have increased the number of young men claiming to have initiated intercourse by the time it was completed – so had the opposite effect to the one intended. DiCenso *et al* (2002) also report a harmful sexual health intervention. This time the outcome was pregnancy – and they found that the intervention was responsible for an increase, rather than a decrease, in reported pregnancies.

Similarly, the intervention termed 'Scared Straight' (Petrosino *et al* 2003) also had the opposite effect to that intended. This intervention aims to 'scare' young people away from criminal behaviour by exposing them to the harsh realities of prison life. When evaluated, however, the intervention was shown to *increase* crime. Finally, the review by Godley and Velasquez (1998) contained an intervention that was found to have *increased* participants' use of marijuana.

Some take the view that ineffective interventions are also harmful, since resources are committed to them that might be better used elsewhere. Using this definition of harmful, a great many interventions found in this REA would be considered to be harmful.

As well as having the opposite effect to those intended, interventions can have knock-on effects on the use of services. For example, Elliott (2002) found that when counselling and residential care was offered to parents and young people in respect of drug use, their use of medical services increased. Clearly, a greater uptake of service use can have implications for their resources – something that needs to be anticipated when a given intervention is considered.

One of the reviews – DiCenso *et al* (2002) – provides a cautionary note in terms of its outcomes. While the interventions, overall, did not appear to have any impact on reducing teenage pregnancy rates, some suggested that intervening among young men might actually lead to increases in the number of pregnancies. This is a reminder to consider that interventions can have different effects on different sub-groups (e.g. males versus females), and that a generally targeted intervention – such as sex education in schools – might well produce different effects among different people.

10.2 Multi-provider interventions

Our analysis of multi-component interventions (described in Chapter 8) did not reveal any definite patterns. While this may be partly due to the reporting issues discussed in Chapter 8, other factors contributing to this is the heterogeneity of outcomes and populations, study designs and components. A systematic review of multi-component or multi-provider interventions may prove more useful in

exploring patterns of delivery, target populations, effectiveness and outcomes. A sustained and systematic examination of the theoretical and logistic barriers to implementing multi-component interventions and their impact could be used to inform policy in a range of areas and promote cross-sector working. However, the majority of the multi-component interventions appear to show beneficial effects.

While this does not provide a concrete justification for greater communication between youth services, it does not appear that this would be harmful. Moreover, a high-quality map or review would assist in developing evidence-based policy and practice recommendations for TYS.

10.3 Strengths and limitations of this work

10.3.1 The rapid review of reviews (Component 2)

One notable feature of this REA, compared with other REAs (and some systematic reviews) is the quantity and robustness of the evidence it contains. It is a wide-ranging review of the literature, covering many topic areas and, because its conclusions are based on systematic reviews, the evidence behind its findings can, on the whole, be considered to be high quality and robust. However, this was a rapid review of reviews, and therefore has some weaknesses due to this design which are detailed below.

One cautionary methodological note to sound concerns the difficulty of drawing conclusions on multi-component interventions based on a review of reviews. By their very nature, systematic reviews aim to answer specific questions – e.g. the effectiveness of interventions to reduce substance misuse. However, while many interventions aim to impact on multiple outcomes, systematic reviews have to be careful to only report on those outcomes for which they have searched. If they did not, bias could easily creep in. Thus, most reviews in this report only appear in one section – e.g. youth offending – even though some the interventions they contain may well have reported outcomes relevant to other areas (e.g. sexual health, substance misuse etc). This means that it has been difficult for this review to draw conclusions regarding multi-component interventions that are able to improve a number of outcomes simultaneously because: a) most systematic reviews report single outcomes (or outcomes in one domain); and b) because very few cross-cutting systematic reviews appear to have been commissioned.

In addition, and more generally, many of the included reviews overlapped chronologically, or in terms of scope, or included papers. Some studies were therefore included in several reviews and/or meta-analyses, and for the review-of-reviews undertaken here were therefore counted several times. Although this is likely to have had a very limited effect, if any bias at all, it is important to be aware that this is a potentially problematic methodological feature of reviews of reviews.

The quality of the included reviews was in general, high. Ample information was offered on the process and methods, and on the characteristics of the included studies. Another common feature was the limited information given on the content (i.e., what actually happened to the participants) of the interventions included in each of the systematic reviews. This offers particular challenges to a review-of-reviews synthesis, as was attempted in this case.

In the clinical and medical science literature, interventions tend to be single-component and are compared to other single component comparisons, e.g. Drug A vs Drug B, or surgery type A vs none. Meta-syntheses of these are

therefore simpler to undertake, and implications easier to reach, given ease with which these interventions can be defined. In the social sciences, interventions may be delivered by several discrete providers, the content may vary in style, modality, setting, theory; even if all interventions included in a review aimed to effect the same outcome (for example, the number of teen pregnancies) so many variables are employed that carrying out a synthesis is a challenge. This challenge is increased when, as was found when attempting to identify the multi-component interventions, little information about intervention contents is reported in systematic reviews (possibly reflecting a similar trend in primary studies).

This finding emphasises the need for authors of primary studies to report sufficiently detailed information about the intervention itself, in order that replication is possible (and for reviewers subsequently to include detailed descriptions), and to allow cost effectiveness analyses to be undertaken. More information about interventions would also allow more meaningful syntheses to be completed, and stronger conclusions about the characteristics of a successful intervention to be drawn.

Finally, while being a systematic examination of the evidence base in this area, this Rapid Evidence Assessment is not a full systematic review and differs significantly from a full systematic review in the scope and depth of its searches. Searching for a full systematic review can often take more than three months, while the searches for this report took approximately one month. The searches we conducted depended almost exclusively on electronic databases and were not accompanied by the usual practice of searching key journals by hand. We also utilised more specific search terms than usual. Even so, we screened many thousands of references and the fact that we found few reviews that we'd missed (when examining included systematic reviews for other relevant reviews), suggests that we have located most relevant evidence.

10.3.2 The description of risk and protective factors (Component 1)

We have a considerable number of studies included in Component 1. However, the evidence in this Component is not the result of a full systematic search, and therefore should not be taken as being exhaustive. Gaps do not necessarily highlight a lack of research; they may indicate simply that a relevant study was not included or that the relevant question was not asked.

It is also important to reiterate the point made in Section 7.1 above: that whilst evidence may exist of a correlation between a risk or protective factor and a particular outcome, this does not necessarily mean that there is a causal link between the two, particularly when there is no other evidence to support a link.

11 Recommendations and implications

The following recommendations were those identified by our expert panel during a day of discussion about the findings presented in Section 6 of this report.

11.1 Research Recommendations

These refer to specific questions developed using expert opinion and the evidence base.

11.1.1 General

- What increases social engagement of vulnerable young people?
- What is the relationship between, and relative importance of, different risk factors?
- How do we measure the relationship between risk and outcome? We need more modelling of inputs>outputs> outcomes
- More evidence is needed about the long-term outcomes of interventions; the Government needs to fund long term evaluations
- We need to know more about the resource implications of different interventions
- We need to develop systems for tracking outcomes from ongoing research
- Research/ policy needs to better distinguish outputs from outcomes

11.1.2 Youth offending / anti-social behaviour

- Authorities need to identify need in the local area and be clear about desired outcomes
- Engagement and relationships need to be explored

11.1.3 Drug or alcohol misuse

- Research needs to explore the distinction between universal versus targeted interventions
- Parental attitudes towards alcohol and drug use and their approaches should be researched
- Peer-led interventions require further research

11.1.4 Teenage pregnancy / poor sexual health

- A review of effective programmes that are more relevant to this age group should be carried out, around issues such as raising awareness of sexually transmitted diseases, and the rise of Chlamydia
- We need more of an international focus/non-English speaking focus. There has historically been an emphasis on countries with the highest teen pregnancy rates, but there is a need to know more about those countries that do not; what are they getting right?
- How should we engage with young people at risk?

  and how to draw them into the services
- Research also needs to look at outcomes for parents themselves, not just parents as vessels for

11.1.5 Poor outcomes for teenage parents and their children

- More research is needed on who would benefit from interventions

their children's development e.g. focusing on work, education, quality of life

11.1.6 NEET and Low attainment

- NEET should link to housing interventions
- This report underlines the importance of understanding transition issues from primary to secondary school, out of home, or family structure
- We need more evidence on whether early intervention is crucial
- There should be a review of existing primary research on NEET
- What is the sustainability of positive activities?
- More focus on outcomes for young people is needed
- We need to know more about tackling the lack of knowledge about opportunities, mentoring, information and advice
- More research on outcomes of CBIs to assess impact on young people is required

11.1.7 Youth homelessness

- There is a clear lack of evidence from systematic reviews in this area.

11.1.8 Mental health

- The 'mental health' agenda applies to a wider age-range than 13-19; it should include early years children and mothers
- We should look holistically at needs of young people across all areas of risk
- The lack of evidence about raising aspirations and self-esteem should be addressed
- We need to make sure primary prevention is also on the agenda
- A clearer articulation of what is meant by 'poor mental health' would be valuable - at present the term is used to too broadly to be useful
- We need to link into the 'Think Family' agenda
- A rigorous evaluation of UK Programmes is required

11.2 Reporting Recommendations

These recommendations are for researchers and practitioners who deliver and report interventions for vulnerable young people:

- There needs to be more reporting of inconsistent results and negative findings of evaluations of interventions, and recognition of the harm that interventions can do
- Reports need to describe interventions in more detail so that they can be evaluated, replicated and costed
- The detail of what the programmes do needs to be more explicit, as do their theories of change: why and how are the interventions designed to work?
- Fidelity of implementation, including attrition, must be reported.
- It is argued that there is much effective practice which has simply not been reported - if evaluated and publicised, this

would be valuable for a wider audience.

11.3 Practice and Commissioning Recommendations

These recommendations refer to policy, practice, and joined-up service delivery and are derived from comments made across all outcome areas; they are therefore relevant and important for practitioners and researchers in all areas.

11.3.1 General

- It is important to recognise that there is no holy grail out there waiting to be discovered; that practice is a constant learning process. Interventions interpreted as 'not working' may just be less effective for certain groups
- There is a need for more joint planning and collaboration between various agencies working in each area
- Government needs to recognize that engaging with 'hard to reach groups' takes time. This needs to be reflected in programme funding, monitoring and performance measures
- We emphasise the importance of joint commissioning focused on specific defined outcomes
- Improved transparency of the process of moving from evidence to recommendations would be welcomed

11.3.2 Workforce

- Local agents need to be flexible, not protective over their area/ agencies, and need to consider who is best placed to deliver a given service
- A skilled workforce for interventions and referral might have a bigger impact, and would also clarify who delivers what
- Training for teachers should be evaluated
- Sustainable workforce development is essential

11.3.3 Service delivery

- How can we personalize service from a menu of different options available to the practitioner?
- We recognise the need to be aware of the whole process before even the delivery of the intervention.
- Authorities need to identify need in the local area and be clear about desired outcomes
- More communication of risk concerns is required amongst difference agencies, to trigger timely targeted response. For example, schools need to recognise bad behaviour as a risk factor with wider implications than immediately apparent, and be in communication with other agencies about those at risk
- Improved school buy-in is required. They could be commissioning agents themselves

11.3.4 Working with young people

The following were all considered important for people working with vulnerable young people:

- Promoting of sense of belonging in schools
- Highlighting the importance of early identification of young people at risk
- Empowerment of young people

- Person-centred relationships are key; broader educational policy would address this
- Relationships between underlying factors need to be considered for individuals
- Extensive long term engagement strategy and relationship building would improve services
- Different services may have conflicting priorities; for example, addressing parenting skills doesn't necessarily address NEET and schooling
- Structural issues play a role

12 Potential conflicts of interest

There were no conflicts of interest.

Part II: Technical description of the rapid evidence assessment

13 Methods for Component 1 (identification of risk factors)

13.1 Identifying and describing studies

Since the aim of this Component was to provide a conceptual framework for Component 2, and not be a systematic review in its own right, studies were identified through a series of targeted web searches of key organisations. These included: Ministry of Justice, Home Office, Teenage Pregnancy Unit, DCSF, DfES, Every Child Matters, Department of Health, Connexions, Cabinet Office (Social Exclusion Unit), Basic Skills Agency, DWP, Drug Education Forum, Centrepoint, Scottish Executive, Welsh Assembly, ESRC, Office for National Statistics, Centre for Longitudinal Studies (CLS), the UK Data Archive and other university websites. This was not intended to be a systematic indexing of the risk factors known to affect the types of outcomes identified as being of interest. However, using a semi-iterative method, relevant longitudinal studies and associated evaluations were identified through the publications lists of the websites above (the CLS website in particular), and papers associated with datasets of interest.

Surveys and longitudinal studies of young people in the UK were located and included if they describe risk or protective factors associated with the TYS outcomes. Included studies were entered into a spreadsheet and a narrative detailing the relationship between the risk factor and outcome written. The list of outcomes is static (defined in the TYS guide), but the list of factors grew as more studies were added to the matrix. It is important to stress that although these included studies described a relationship between risk factors and the outcomes of interest, it is not appropriate for this review to posit causality or suggest different strengths of association in this report. The aim was to identify a conceptual framework, not to provide an exhaustive map of the relationships between risk factors and outcomes, and caution must be employed in utilising the findings presented here. However, some studies did discuss strength of association (e.g. CTC/youth justice discussed a change in odds ratio) which is welcome, and reporting this information is to be encouraged. Similarly, strength of effect (likelihood of developing an outcome based on one, or a combination of risk factors) must be viewed with caution, since there may always be unknown risk factors not identified as part of the analysis, or thresholds of risk, which nevertheless contribute to the development of the outcome in question.

14 Methods for Component 2 (the rapid review of reviews, or REA)

The EPPI-Centre tools and guidelines for undertaking systematic reviews were used throughout the conduct of the REA, in order to limit bias at all stages (EPPI-Centre 2007). All data were entered into EPPI-Reviewer: the EPPI-Centre's bespoke software for conducting systematic reviews (Thomas and Brunton 2007). As well as streamlining the review process, this software aids sustainability and means that we will have a descriptive database of all the reviews that can be utilised in the future.

The rapid evidence assessment is a limited search review using the review of reviews approach. In this approach:

- where a comprehensive set of search terms would result in thousands of references to screen (an unmanageable amount in the time available), the search was restricted in scope and uses only key terms rather than extensive search of all variants;
- a simple descriptive map of included studies is produced to aid decisions on finalizing scope for the in-depth aspect of REA; the map was used to focus a discussion with the DCSF in February 2008;
- electronically available abstracts and texts were prioritised and no 'hand searching' was conducted.

The first stage of the REA produced a descriptive 'map' of research evidence that contained a description of the type of intervention, the subjects and the contexts. The map was used to help make decisions about where to focus efforts in the second stage of the REA.

14.1 User involvement

Consultations between the DCSF policy team and the research team at the EPPI-Centre throughout the REA ensured that the review addresses the most important issues. As well as consultation via the protocol, a key consultation point for this Component was the discussion of the finalised mapping of reviews in February 2008. The scope of the map was set quite broadly to encompass the dual focus of outcome interventions and risk/ protective factors. Once the results of the map had been discussed with the policy team the nature and focus of the in-depth stage of the REA was agreed.

14.2 Identifying and describing studies

14.2.1 Defining relevant studies: inclusion and exclusion criteria

An explicit search strategy was developed and applied systematically to relevant databases and search engines. For a systematic review to be included in the map, it had to meet the following criteria:

Inclusion criteria:

- The review had to have been published in 1995 or after. (It was decided not to go back further than this because of time limitations and the need to ensure that the interventions had relevance to current policy.)
- The review had to state that it was a systematic review or meta-analysis in its title or abstract).

- The study population had to be young people (defined in Section 5)
- The review had to focus on studies that seek to prevent the TYS outcomes listed in Section 5.

The search was also restricted to reviews written in English, as members of the team did not have access or ability to search databases in additional languages and did not have the resources to screen and translate documents into English.

14.2.2 Identification of potential studies: search strategy

The exclusion and inclusion criteria were applied to the papers identified using the search strategy.

General strategy

The search was as exhaustive as possible, but could not be as extensive as would be carried out in a full systematic review. Chiefly, the search was limited by:

- not 'hand searching' journals
- not emailing all authors of included reviews to ask for further relevant references
- restricting search terms to key terms only in cases in which unmanageable numbers of references are retrieved by a comprehensive set of terms
- having an early cut-off date for document retrieval – meaning that documents that could be sourced electronically were prioritized

There are three components to our REA question: the type of research we looked for (systematic reviews), the population (young people) and the outcomes (see Section 5). Breaking the question down into these components made it possible to operationalise a search strategy that was both sensitive and acceptably specific. Each part of the search has a set of terms associated with it, linked by OR (e.g. "YOUNG PEOPLE" OR "YOUTH" OR "TEENAGERS" OR "ADOLESCENTS" etc). This ensured we captured all the relevant literature in that area. Guidelines developed by the Scottish Intercollegiate Guidelines Network were used to help identify systematic reviews[1].

Each component was then brought together with AND in order to identify the set of literature that meets each one of the requirements of our REA. This strategy is captured graphically in Figure 1.

A search string was developed for each of the three components and separately for each of the outcomes. For the purposes of this review a list of key words was developed to capture reviews with a focus on one or more of the outcomes. Initial pilot searches were run and a sample screening of abstracts revealed whether further filtering of key words was necessary. The preliminary screen was also used to 'pearl grow' additional search terms.

After establishing a base group of reviews belonging to group 1 and 2 (see Figure 1), each outcome filter was applied to the base group, followed by a combined search using the Boolean operator OR to eliminate duplication and at the same time ensure inclusion of studies addressing multiple outcomes.

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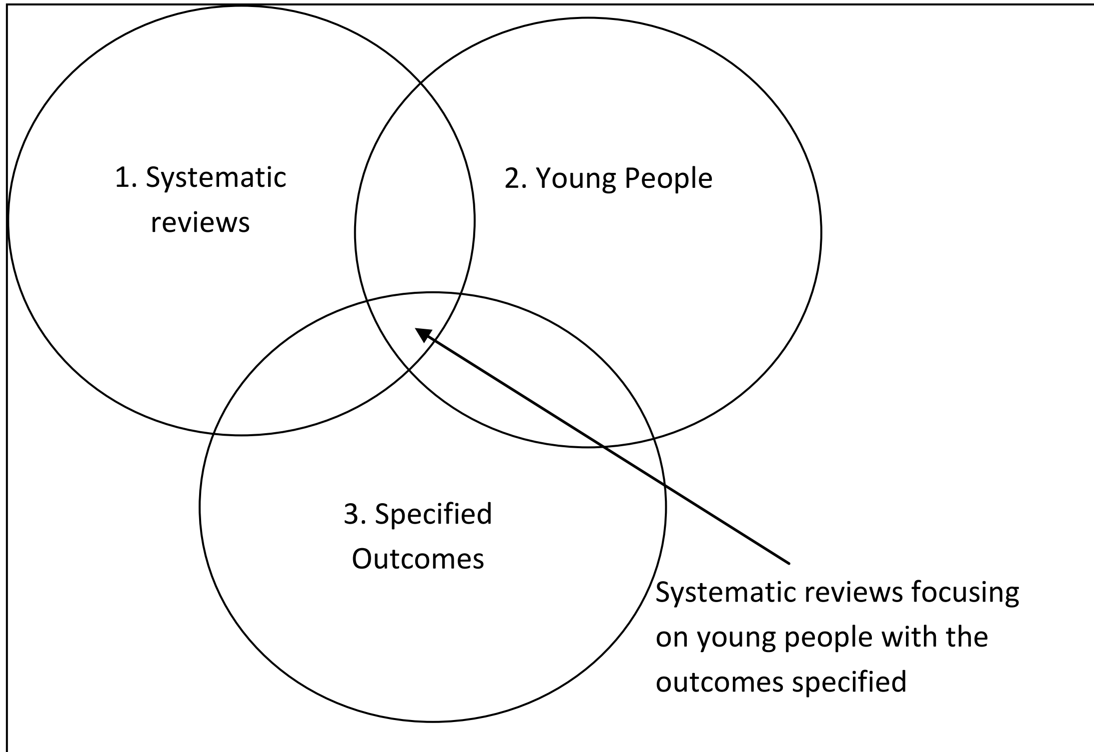
1 http://www.sign.ac.uk/methodology/filters.html

Figure 1: Overlap of literatures to be identified in the search



The outcome 'Under 18 conceptions and poor sexual health' was separated into two subgroups ('under 18 conceptions) and ('poor sexual health'), as it was suspected that a number of important studies might deal with the former or latter outcome aspect, though not necessarily both. A limited key terms search was applied to 'poor sexual health' with a reduced search string of (sex* behaviour OR sex* health OR sex* relation* OR sex* active OR sex* education) after a more extensive search string (including synonyms of 'poor' and other negative outcome terminology, as well as key terms to capture sexually related illnesses and diseases) resulted in unmanageable numbers of irrelevant hits from Medline and Pubmed.

The outcome category 'Poor outcomes for teenage parents and their children' proved to be difficult to operationalise, as key search terms required assumptions about what might constitute such poor outcomes. Further, differentiating between poor outcomes for the teenage parents in contrast to poor outcomes for the children of teenage parents would have severely limited the effectiveness of the searches. A decision was therefore made to execute a broadened search encompassing systematic reviews on teenage parenthood (and pregnancies) and children of teenage/young parents, with an aim to identify sub groups of poor outcomes in the screening process.

The search string on '16-18 year-olds not in education, employment and training (NEET)' posed different issues as the terminology of 'NEET' and the surrounding keyword phrases (e.g. 'not in Employment, Education or Training' are of relatively recent origin (DfES 2000) and not necessarily reflected in the research literature around and before this time). A proximity search allowed for a broader initial search focus, which was narrowed in later searches. The set of search terms for each component of the search are recorded in Appendix A.

Search strings: These were tailored to the individual databases in order to accommodate the variations in Boolean

operators and search combinations where relevant.

Searches were carried out between December 2007 and January 2008.

Databases searched

Given the wide range of topic areas in this review, a range of bibliographic databases were searched which covered the range of topics of interest. The following data bases were included:

ASSIA: Applied Social Sciences Index and Abstracts, BHI: British Humanities Index, Cinahl, The Cochrane Library, Criminal Justice Abstracts, Embase, The EPPI-Centre knowledge library, ERIC, IBSS, MEDline, National Criminal Justice Reference Service Abstracts, PAIS International, Physical Education Index, Psychinfo, Sociological Abstracts, Social Services Abstracts.

A hand search of the Campbell collaboration yielded an additional 2 studies which had not been captured though the Cochrane Collection.

In addition, a search of Google Scholar and key academic websites was conducted in order to pick up reports that are not indexed on the large databases and other grey literature. Search strings were simplified to accommodate the Google search functions which could not replicate the complex search pattern established for this review. Basic internet search queries resulted in excessively high numbers of hits but upon examination did not add any new studies to the review.

In addition to the electronic searches detailed here, the reference lists of included reviews were scanned for other potentially relevant systematic reviews.

14.2.3 Screening studies: applying inclusion and exclusion criteria

Title and abstracts of identified studies were imported and entered into EPPI-Reviewer - which has online reference screening functionality that can be used in place of external reference software. Inclusion and exclusion criteria were applied successively to titles and abstracts.

Studies that clearly did not meet the criteria for the review were excluded at this stage. Full reports were obtained for all the remaining studies that appeared to meet the criteria or where we had insufficient information to clearly exclude them. The inclusion and exclusion criteria were then re-applied to the full reports, and those which did not meet the full criteria were excluded.

Bibliographies of relevant reviews were scanned for other potentially relevant systematic reviews to provide a quality control mechanism. The low return rate of the citation search reflected the highly sensitive level of the trilateral search strategy.

14.2.4 Characterising included studies

The studies remaining after application of the criteria were data extracted using a set of questions developed specifically for this Rapid Evidence Assessment. All data extraction was carried out on EPPI-Reviewer. There were two levels of coding for data extraction. The first level for all studies included in the map provided data for the purposes of describing or mapping the overall field of research on the topic area. This map formed the basis of our discussion with the DCSF outlined in Section 14.1. The second level of coding provided detailed information about studies included in the in-depth REA necessary for the purpose of description, quality assessment and synthesis and the identification of relevant reviews from the map.

Data were extracted by a first reviewer and confirmed by a second reviewer. Data extraction tables were used to present information about the systematic reviews included in the REA. Reviews are presented according to setting and data

were extracted concentrating on the following issues:

Area of extraction (Details)
General study characteristics (e.g. year, country of publication)
Methodological characteristics (e.g. search strategy, quality assessment)
Participant characteristics (e.g. age, ethnicity)
Outcome characteristics (e.g. which outcomes targeted)
Interventions (e.g. description of interventions)
Type of intervention (e.g. strategy and approach)
Setting of intervention (e.g. secure establishment, classroom)
Outcome measures (e.g. how effectiveness was measured)

14.2.5 Identifying and describing studies: quality assurance processes

The REA followed standard EPPI-Centre procedures for maintaining quality. At the screening stage an initial sample of titles and abstracts/ studies was screened independently by all the team members. The results were shared and discussed to ensure consistency of application of the inclusion criteria. The decision for inclusion and exclusion was then made by one assessor who referred to another whenever they were unsure about the relevance of a given study. If there was any doubt, the decision for identifying and describing studies was made by the EPPI-Centre senior researcher. Any differences were resolved through discussion and recorded. All extraction of data, whether for the map or synthesis, was conducted by two researchers working independently and then meeting to resolve any differences.

14.3 Assessment of quality and relevance

Reviews were assessed for methodological quality and relevance to this REA using the EPPI-Centre's assessment tools: The EPPI centre Weight of Evidence framework.

WOE A the soundness of reviews (internal methodological coherence), based upon the review only;

WOE B the appropriateness of the research design and analysis used for answering the REA question; and

WOE C the relevance of the review topic focus (from the sample, measures, scenario, or other indicator of the focus of the study) to the REA question (i.e. an assessment of generalisability).

WOE D An overall weight taking into account A, B, C

WOE A was judged according to whether or not the review is a good systematic review. In particular, we checked: their search strategies, methods of data extraction, quality assessment (in order for selection bias in the primary studies they contain not to be biasing their results), and synthesis. An existing tool used at the EPPI-Centre, for the quality assessment of health promotion reviews, was adapted and used to judge WOE A for each included systematic review.

WOE B is important in reviews that contain different types of research. Since we are focusing on systematic reviews, this aspect of quality and relevance is being taken care of in the inclusion criteria for the REA. We expect all included reviews to score highly on this criterion.

It was also important to consider the relevance of sample, measures and other contextual factors (WOE C) to the Rapid Evidence Assessment. A review of primary studies undertaken in, for example, Finland may be viewed as less relevant than one of primary studies conducted in the UK.

The results of assessing the reviews for quality and relevance fed through into

the synthesis. Only reliable conclusions were synthesised, and reviews with greater relevance to this work were accorded more weight than less relevant reviews.

14.4 Synthesis

The aim of the final synthesis was bring together the findings from Components 1 and 2. Component 1 formed the framework on which Component 2 sat. Each completed cell of the matrix (see Appendix F) was examined in turn to ascertain whether there was evidence of effective interventions – from Component 2 – that target the given outcome / risk factor. However, while some interventions clearly target particular risk factors, many are not described in those terms and thus, the main structure of the synthesis centres around each outcome area. The possibility of cross-cutting strategies was not overlooked, and themes that recur across the matrix were also identified, as was information on multi-component interventions, since these are particularly relevant to TYS.

The first stage of the synthesis was to generate summary tables of each review entered into EPPI-Reviewer. We then wrote ‘evidence statements’ for each review which summarised the context, review question and findings of the review. We then examined the evidence statements across each outcome area and wrote a narrative to bring them together. Since there is a danger of becoming too far removed from the context of the actual studies, examples of interventions are also given.

14.5 Interpretation

An important part of this work was interpreting the findings and understanding which aspects might be most important for future policy and practice. Discussions with our expert panel were critical in giving the wider context in which this work is located. Given that this is a Rapid Evidence Assessment, and not a full systematic review, we also had to ensure that its findings are not over-interpreted. The meeting with our expert panel at the end of the REA was designed to discuss its findings and to draw up conclusions and recommendations; these recommendations are reported in full in Section 11.

15 Results: 'Mapping' exercise

This section contains the results of our first examination of the reviews we identified as being potentially relevant. The numbers reflect the scope of research reviewing activity in this area. We then narrowed down our scope to examine only the high quality and most relevant reviews – described in the next section.

15.1 Identified Studies

In total, 7,958 references were identified from 16 bibliographic databases, plus further handsearching of websites and citation searches. 2,217 duplicates were removed leaving 5,741 studies to be screened for relevance to this review. The results of the initial search and where the studies were found are given below in Table 2.

Table 2: sources of identified studies

SOURCE database e.g. ERIC/OVID	# Of Imported Items
Embase	2,247
Medline	1,995
Assia	150
BHI	1
Criminal Justice	46
ERIC	211
NCJRSA	76
PAIS International	9
PhysEdu	25
Social Services Abstracts	796
PsychInfo	717
IBSS	38
Cinahl	610
Sociological Abstracts	875
Cochrane Collaboration	60
Full report from review: Fonagy	1

Home Office papers	1
EPPI-centre reviews	2
Full report from review	2
Citation search- evaluation of Childrens Fund paper (Birmingham & IOE)	1
Handsearch - from risk factor searches	1
Handsearches – other citation searches	4

15.2 Selecting studies

The remaining 5,741 studies were screened against the following inclusion/ exclusion criteria for relevance to this review. Where it was not possible to be certain of its relevance by the title and abstract alone the full text was obtained.

Table 3: Exclusion criteria

Criterion	*Number*
EXCLUDE Study is not written in English	54
EXCLUDE Study is published before 1995	46
EXCLUDE Study is not a systematic review	1436
EXCLUDE study population is not ages 13-18	290
EXCLUDE not social intervention/ TYS outcomes	3710
INCLUDE meet all criteria	177
INCLUDE for full text screening	269
Total	**5741**

Studies that were obtained for full text screening or for inclusion were obtained via the Institute of Education library, Senate House Library or by searching the Google search engine. Studies not available by these means were ordered from the British Library.

Table 4: Countries in which the reviews were conducted

Country	Number
Australia	5
Belgium	1
Canada	10
Germany	2
The Netherlands	5
Norway	2
South Africa	1
Spain	1
Tanzania	1
UK	30
USA	104

The majority of reviews (64 percent) were conducted in the United States, followed by reviews conducted in the UK (19 percent). Two reviews (Donkoh (2006) and Fisher (2008) had no included studies and were therefore not allotted countries.

Table 5: population groups (not mutually exclusive)

Population	Number
young people	158
children	54
adults	16
general population	4
older people	1
mixed sex	140
female	6

Many studies included had a population focus of children and adolescents and did not separate out results for the two groups. Where it could be identified from the individual studies included in the review, we included the study if the average age of the young people was within our age range of 13-19. The majority of reviews reported on interventions for both boys and girls.

Table 6: TYS outcome targeted (not mutually exclusive)

TYS outcome	*Number*
Youth offending/anti-social behaviour	54
Youth offending only	34
Anti-social behaviour only	37
Youth offending AND anti-social behaviour	10
Drug or alcohol misuse	30
Drug misuse only	14
Alcohol misuse only	5
Drug misuse AND alcohol misuse	10
Under 18 conceptions and poor sexual health	24
Under 18 conceptions only	8
Poor sexual health only	9
Under 18 conceptions AND poor sexual health	6
Poor outcomes for teenage parents and their children	11
16-18 year olds not in education, employment or training	4
Low attainment	16
Running away and youth homelessness	2
Poor mental health	46
Entry into care	4

As can be seen in the table above, the youth offending and antisocial behaviour, drug and/or alcohol misuse and the under-18 conceptions and poor sexual health have been recorded separately.

There was only one review that looked at interventions related to the TYS outcome of running away and youth homelessness, but by contrast there was a wealth of reviews on youth offending and antisocial behaviour.

The quality of the reviews was assessed by recording whether the reviews' search strategy, inclusion criteria, data extraction methods and quality assessment were all described adequately. The search strategy was coded as 'stated' if the authors described the sources of their studies and any keywords or search strings used to locate them, whether they searched published and unpublished material and which these were. The inclusion criteria was coded as 'stated' if the authors reported on the conditions that a study had to meet in order to be part of their analysis, this might be a cut-off date before which a study would not be included, or it might include a decision about the type of intervention that would be included in the review. The quality assessment criteria was coded as 'stated' if the authors' were explicit about how the review team made decisions about the quality standard of studies to be included in their review. Authors may also report inter-rater reliability coefficients and strategies for reaching consensus between coders where there were disagreements. Finally, data extraction methods was 'stated' where authors reported on any coding tools or guidelines they may have used, and which variables were extracted from the studies included in their review.

Sixty-one papers stated each of these elements of a good systematic review and these are the reviews reported in Part I of this report. Approximately half of these reviews were carried out in the USA, with 20 being carried out in the UK. The following table summarises the countries in which the reviews were carried out.

Table 7: countries in which the included reviews were conducted (not mutually exclusive)

Country	*Number*
Canada	4
Germany	1
Norway	2
The Netherlands	3
UK	20
USA	35

The majority of reviews included interventions that targeted both boys and girls. No Good quality review looked at interventions that targeted only boys.

Table 8: TYS outcome targeted by the included reviews

TYS outcome	Number
Youth offending/anti-social behaviour	19
Drug or alcohol misuse	11
under 18 conceptions and poor sexual health	11
poor outcomes for teenage parents and their children	6
low attainment	6
poor mental health	16
16-18 year olds not in education, employment or training	1
Youth homelessness and running away	1

There were few good quality reviews where the focus was on poor outcomes for teenage parents and their children, or low attainment. No good quality reviews were identified where the focus was about running away and/or youth homelessness or entry into authority care.

16 References

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Appendix A: Search terms

The precise strategy varies from database to database; recorded here are the free-text terms that aim to capture the systematic reviews for inclusion in Component 2. Clearly, a large number of irrelevant reports will also be found: these will be screened manually to ensure we do not miss reviews that should be included.

16.3 Young people

"young person" OR "young people" OR adolescen* OR student OR pupil OR teen* OR "school age" OR juvenile OR minor OR youth* OR "emerging adult" OR "high school" OR "secondary school" OR "middle school" OR "early adulthood" OR "older child*" OR "sixth form" OR apprentice OR "FE college" OR "young man" OR "young men" OR "young woman" OR "young women" OR "young male*" OR "young female*" OR "young adult"

16.4 Systematic review

systematic review OR meta analysis OR meta-analysis OR data extraction OR hand-search* OR handsearch* OR manual search OR research integration OR research synthe* OR monthly searches OR quarterly searches OR search strategies

16.5 Outcomes

16.5.1 Young offenders and anti- social behaviour

abusive OR aggress* OR alienat* OR anger OR anti social OR antisocial OR anti-social OR arrest* OR assault OR conviction OR court OR crim* OR custodial sentence OR delinquent OR school exclusion OR final warning* OR gang OR hard to reach OR high-risk OR illegal OR incarcer* OR isolat* OR law OR offen* OR officer OR parole OR police OR prison OR punish* OR reoffend* OR resettlement OR sentenc* OR violence OR YOT OR ASBO OR young offender* OR reprimand

16.5.2 Drug or alcohol misuse

addict* OR alcohol* OR attitude to health OR cannabis OR cigarette* OR "class a" OR "class b" OR "class c" OR cocaine OR glue OR heroin OR intoxicat* OR morphine OR multiple drug use* OR narcotics OR nicotine OR opiates OR prescription drug* OR smok* OR sniff* OR tobacco OR drug* OR harmful OR substance abuse OR substance misuse

16.5.3 Under 18 conceptions

Alter young people search string to limit to under 18, e.g. younger than 18/ under 18/ 18 and younger, under-18

AND

pregnan* OR conception* OR abort*

16.5.4 Poor sexual health

sex* behaviour OR sex* health OR sex* relation* OR sex* active OR sex* education

ISSUE: sex* isolated throws up any mention of sex to identify ‘gender’, so must be combined with other search term.

16.5.5 Poor outcomes for teenage parents and their children

This search is difficult to operationalise in terms of outcomes: we are therefore simply searching for reviews which concern interventions to help teenage parents. This strategy should cover all the necessary components of this outcome.

teenage mother* OR teenage father* OR teenage parent* OR adolescent mother* OR adolescent father* OR adolescent parent* OR under 18 mother* OR underage mother* OR under 18 father*

16.5.6 16-18 year-olds not in education, employment and training (NEET)

"not" near education near training near employment OR drop out OR dropout or truant OR NEET

16.5.7 Low attainment in education

(low attain* OR underachiev* OR under-achiev* OR low achiev* OR barrier* near attain* OR barrier* near education OR barrier* near achiev* OR fail* near qualification* OR fail* near education OR few qualification* or poor exam results or low exam results or poor attain* OR poor achiev*)

16.5.8 Running away and youth homelessness

runaway OR run* away OR ran away OR homeless OR without home OR no home OR temporary* home OR housing OR hardship OR leaving home OR liv* on street* OR sleep* rough OR homelessness

16.5.9 Poor mental health

(suicid* OR stress* OR depress* OR mental health OR mental* ill* OR mental disorder OR disorder OR anxi* OR counsel* OR therapy OR therapist OR psych* OR isolation OR alienation OR helplessness OR loneliness OR low self esteem OR low self-esteem OR negative self image OR negative self-image

16.5.10 Entry into care

foster* OR social service* OR care near foster OR entering care near foster OR leaving care near OR social worker* OR parent* near neglect* OR looked "after" OR looked-"after" OR adopt OR Child protection OR child abuse

Appendix B: Keywording tool

Section A: Generic keywords (Health promotion)

A.1 How were the keywords allocated?	A.1.1 abstract A.1.2 full report A.1.3 title
A.2 What type of study does this report describe? *You have to make a JUDGEMENT for yourself. Do NOT rely on what the authors indicate, but make a judgement by using the following definitions.*	A.2.1 meta analysis *A meta analysis combines statistically the results from a number of previous experiments or studies examining the same question, in an attempt to summarise the totality of evidence relating to a particular issue.* A.2.2 review *A review discusses a particular issue bringing together the opinions/ findings/conclusions from a range of previous reports; the authors do not attempt to include all relevant reports, nor do they analyse any data further or in a different way to the original reports.* A.2.3 systematic review *A systematic review discusses a particular issue bringing together the opinions/findings/conclusions from a range of previous reports. A systematic review is explicit in its reporting of the search for studies (i.e. reports the search strategy for (a) specified database(s) and/or the list of handsearched journals) and the criteria for including and excluding studies; it may include meta-analysis.* A.2.4 Review of reviews A.2.5 other design *If there is only ONE group i.e. post-test only; pre- and post test; time series; or other design different from trial/rct*

	A.2.6 not stated *If there is not enough information provided to classify the evaluation design*
A.3 In which country/countries was the study carried out?	A.3.1 Europe A.3.2 Africa A.3.3 Developing countries A.3.4 Armenia A.3.5 Australia A.3.6 Austria A.3.7 Bahrain A.3.8 Belgium A.3.9 Belize A.3.10 Botswana A.3.11 Brazil A.3.12 Bulgaria A.3.13 Canada A.3.14 Chile A.3.15 China A.3.16 Columbia A.3.17 Congo A.3.18 Czechoslovakia A.3.19 Denmark A.3.20 Ecuador A.3.21 Egypt A.3.22 Estonia

	A.3.23 Ethiopia A.3.24 Europe A.3.25 Finland A.3.26 France A.3.27 Germany A.3.28 Ghana A.3.29 Greece A.3.30 Guatemala A.3.31 Holland A.3.32 Honduras A.3.33 Hong Kong A.3.34 Hungary A.3.35 Iceland A.3.36 India A.3.37 Indonesia A.3.38 Iran A.3.39 Ireland A.3.40 Israel A.3.41 Italy A.3.42 Ivory Coast A.3.43 Jamaica A.3.44 Japan A.3.45 Kenya A.3.46 Korea

	A.3.47 Kuwait A.3.48 Latin America A.3.49 Latvia A.3.50 Lebanon A.3.51 Lesotho A.3.52 Luxembourg A.3.53 Mali A.3.54 Malaysia A.3.55 Mallorca A.3.56 Mexico A.3.57 Micronesia A.3.58 Mozambique A.3.59 Namibia A.3.60 Nepal A.3.61 The Netherlands A.3.62 New Zealand A.3.63 Nigeria A.3.64 Northern Ireland A.3.65 Norway A.3.66 Pakistan A.3.67 Papua New Guinea A.3.68 Peru A.3.69 Philippines A.3.70 Poland

	A.3.71 Portugal A.3.72 Puerto Rico A.3.73 Romania A.3.74 Russia A.3.75 Rwanda A.3.76 Samoa A.3.77 San Marino A.3.78 Saudi Arabia A.3.79 Scandinavia A.3.80 Scotland A.3.81 Senegal A.3.82 Serbia A.3.83 Singapore A.3.84 South Africa A.3.85 Spain A.3.86 Sri Lanka A.3.87 St Lucia A.3.88 Swaziland A.3.89 Sweden A.3.90 Switzerland A.3.91 Taiwan A.3.92 Tanzania A.3.93 Thailand A.3.94 Turkey

	A.3.95 Uganda A.3.96 UK A.3.97 USA A.3.98 Venezuela A.3.99 Vietnam A.3.100 West Indies A.3.101 Yugoslavia A.3.102 Zaire A.3.103 Zambia A.3.104 Zimbabwe
A.4 Characteristics of the study population	A.4.1 general population A.4.2 children A.4.3 young people A.4.4 adults A.4.5 older people A.4.6 female A.4.7 male A.4.8 mixed sex

Section B: Assessment of systematic reviews (Dopher)

B.1 Search	B.1.1 SEARCH NOT STATED B.1.2 SEARCH STATED B.1.3 SEARCH UNCLEAR
B.2 Inclusion Criteria	B.2.1 INCLUSION CRITERIA NOT STATED B.2.2 INCLUSION CRITERIA STATED B.2.3 INCLUSION CRITERIA UNCLEAR
B.3 Quality Assessment	B.3.1 QUALITY ASSESSMENT NOT STATED B.3.2 QUALITY ASSESSMENT STATED B.3.3 QUALITY ASSESSMENT UNCLEAR
B.4 Data Extraction	B.4.1 DATA EXTRACTION METHODS STATED B.4.2 DATA EXTRACTION METHODS UNCLEAR B.4.3 DATA EXTRACTION METHODS NOT STATED
B.5 Analysis/Synthesis of Data	B.5.1 NARRATIVE SYNTHESIS B.5.2 WEIGHTED ANALYSIS B.5.3 SUMMARIZED ANALYSIS

Section C: TYS specific questions

C.1 Which broad outcomes does this review target?	C.1.1 Youth offending/anti-social behaviour C.1.2 Drug or alcohol misuse C.1.3 under 18 conceptions and poor sexual health C.1.4 poor outcomes for teenage parents and their children C.1.5 16-18 year olds not in education, employment or training C.1.6 low attainment C.1.7 running away and youth homelessness C.1.8 poor mental health C.1.9 entry into care
C.2 If youth Offending/ anti-social behaviour...	C.2.1 Youth offending C.2.2 Anti-social behaviour
C.3 if drug or alcohol misuse...	C.3.1 Drug misuse C.3.2 alcohol misuse
C.4 if under-18 conceptions and poor sexual health...	C.4.1 Under 18 conceptions C.4.2 poor sexual health

Appendix C: Data extraction tool

Section A: Weight of Evidence A - Quality of review

only high weights of evidence score on WoE A will be data extracted

a) WoE A needs to be exhaustive search=yes, QA=yes and either a A4.1 - a meta analysis where appropriate to do so, or A4.3a summary analysis

Question	Response
A.1 Did the reviewers conduct an exhaustive search to try and identify all relevant studies?	A.1.1 Yes A.1.2 No A.1.3 Can't tell
A.2 Did the review include quality assurance at the screening, coding or quality assessment stages of the review? *such as: double screening of reviews or a sample of reviews. Inter-rater reliability coefficients*	A.2.1 yes A.2.2 No A.2.3 Can't tell
A.3 Did the reviewers assess the quality of the included studies? *e.g.: a scoring system for type of study*	A.3.1 Yes A.3.2 No A.3.3 Can't tell
A.4 If results of the studies have been combined, was it reasonable to do so? *Consider whether:* *-the results of each study are clearly displayed* *-the results were similar from study to study (look for tests of heterogeneity)* *- the reasons for any variation in results are discussed*	A.4.1 Studies were combined, it was reasonable to do so A.4.2 Studies were combined, it was not reasonable to do so A.4.3 Studies not combined - Summary analysis A.4.4 Can't tell

Section B: Weight of evidence B - Relevance of method

Question	Response
B.1 Did the review include the right type of study? *Consider if the included studies:* *-Address the review's question* *-Have an appropriate study design*	B.1.1 Yes B.1.2 No B.1.3 Can't tell

Section C: Weight of evidence C - Relevance of population

C.1 Does the review focus on the 13-19 age range and/or have findings that relate to this age range specifically? *is it possible to work out the average age of the young people from the included studies, and whether this falls within our age range of 13-19?* *By grades:* *1st grade 6-7 1st year of school after kindergarten* *2nd grade 7-8 year of primary education* *3rd grade 8-9 part of elementary school* *4th grade 9-10 next-to-last or final year of elementary school/ first year of junior high school.* *5th grade 10-11 first year of middle school* *6th grade 11-12 usually the second or third year of middle school, or the 1st year of junior high school.* *7th grade 12-13 second or third year of middle school, or the first year of junior high school.* *8th grade 13-14 now usually the last part of middle school.* *9th grade 14-15 final year of junior high school/middle school* *10th grade 15-16 some parts of the USA it is the first year of high school* *11th grade 16-17 Eleventh grade is the next-to-last year of secondary school* *12th grade 17-18 senior year, final year of secondary education*	C.1.1 Yes C.1.2 No C.1.3 Can't tell

Section D: Weight of evidence D - overall weight of evidence

D.1 What is the overall weight of evidence?	D.1.1 High *Weights of Evidence will be High when* *a) WoE A needs to be exhaustive search=yes, QA=yes and either a A4.1 - a meta analysis where appropriate to do so, or A4.3a summary analysis* *b) WoE B needs to be right type of study for review =Yes* *c) WoE C needs to be age range of interest = Yes* D.1.2 Medium *Weights of Evidence D will be medium when* *a) WoE A needs to be exhaustive search=yes, QA=yes and either a A4.1 - a meta analysis where appropriate to do so, or A4.3a summary analysis* *b)WoE B is right type of study = no or can't tell* *OR* *c) WoE C is relevance of population= can't tell* D.1.3 Low *a) WoE A is A1= not exhaustive searched or can't tell, and/or QA=No or can't tell and/or A4.1 - a meta analysis where not appropriate to do so*

Section E: Detailed inclusion criteria

E.1 which dates are covered by the review? date as the review's inclusion criteria (rather than included studies)	E.1.1 details E.1.2 not stated
E.2 Which ages are covered by the review? as described in the inclusion criteria	E.2.1 Under 13 years E.2.2 13 -19

	E.2.3 20 + E.2.4 unclear
E.3 what are the stated inclusion criteria? e.g. population, country, study type, intervention, outcome	E.3.1 details
E.4 how many studies does the review include? for specific TYS outcome(s), and whole review if different	E.4.1 details E.4.2 Not stated
E.5 how many participants are included in the review? *state total number of participants in included studies, if known*	E.5.1 details E.5.2 not stated

Section F: Details of review findings

F.1 What is the review question?	F.1.1 details
F.2 What are the review findings? *Descriptive summary of main findings, to include the following information: interventions/outcomes covered; results i.e. effective/ineffective/mixed results/unclear; statistical results if appropriate; authors' comments e.g. on quality of primary studies; any other relevant information.*	F.2.1 details
F.3 are research priorities/knowledge gaps identified?	F.3.1 details
F.4 what is the context of the review? *- participants (age, SES, whether mainstream or e.g. SEN)* *- environment (country, rural/urban etc)* *anything which might suggest that the findings might or might not be applicable to various contexts in the UK*	F.4.1 details

Appendix D: Summary tables

Youth offending / antisocial behaviour

Study	*Review question*	*Evidence statement*
Anderson DW (1996) A meta-analysis of cognitive intervention, parent management training, and psychopharmacological intervention in the treatment of conduct disorder.	Among the three treatment interventions (i.e. cognitive interventions, parent management training, and pharmacological interventions, which does the literature show to have the greatest effect size in treating conduct disorder in children and adolescents?	In a US-based meta-analysis of 26 studies, Anderson (1996) evaluated the relative effectiveness of cognitive interventions, parent management training and pharmacological interventions to treat conduct disorder. He found that all interventions were effective, with parent management training showing the greatest effect by a small margin.
Beelmann A, Lösel F (2006) Child social skills training in developmental crime prevention: effects on antisocial behaviour and social competence.	Are social skills training programmes effective in preventing antisocial behaviour and promoting social competence?	In a German and UK meta-analysis of 136 studies, Beelman (2006) evaluated the relative effectiveness of social skills training for preventing and treating behavioural problems in childhood and adolescence. He found that intensive CBT programmes were most effective for treating anti-social behaviour and social competence, especially when delivered by authors, project staff, or supervised students, rather than teachers or other psychosocial practitioners.
Donkoh C, Underhill K, Montgomery P (2006) Independent living programmes for improving outcomes for young people leaving the care system	What effect do independent living programmes have on outcomes for young people leaving the care system?	Studies were only included if they were explicitly targeted at improving at least one of the following: educational attainment; employment; health status (e.g. teenage pregnancy/fatherhood rates, drug use, mental health); housing (inc. homeless); life skills including behaviour outcomes (inc. involvement with criminal justice). Conclusion: No studies met their criteria, but 18 excluded studies are discussed.
Fisher H, Gardner FEM, Montgomery P (2008) Effectiveness of	What is the effectiveness of cognitive-behavioural interventions for	Fisher *et al* (2008) reviewed cognitive-behavioural interventions aimed at preventing youth gang involvement for children and young people aged 7-16. The

cognitive-behavioural interventions for preventing youth gang involvement for children and young people (ages 7-16).	preventing youth gang involvement for children and young people (ages 7-16)?	researchers -based their review on the well documented relationship between gang membership and involvement in crime. Their main outcomes of interest were gang membership status and convictions for gang-related offences. Secondary outcomes included other forms of "delinquent" behaviour, drug abuse, truancy, school attainment and employment status. The authors identified several evaluations of "gang resistance education and training" but all had to be excluded on study design. They were unable to find any evidence from randomized controlled trials, or quasi-randomized controlled trials, about the effectiveness of cognitive-behavioural interventions for gang prevention. They conclude that there is an urgent need for primary research in this area
Garrard WM, Lipsey MW (2007) Conflict resolution education and antisocial behaviour in US schools: A meta-analysis.	Does participation in school-based conflict resolution education (CRE) contribute to reduced antisocial behaviours among youth in Kindergarten through twelfth grade in US schools?	In a US -based meta-analysis of 36 studies Garrard & Lipsey (2007) evaluated the effectiveness of Conflict Resolution Education programmes in US schools in reducing antisocial behaviour. They found CRE to be effective in reducing antisocial behaviour particularly in mid- and early adolescence.
Hahn RA, Bilukha O, Lowy J, Crosby A, Fullilove MT, Liberman A, Moscicki E, Snyder S, Tuma F, Corso P, Schofield A (2005) The effectiveness of therapeutic foster care for the prevention of violence: A systematic review	Is therapeutic foster care effective in reducing violence in youth?	In a US -based systematic review of 5 studies, Hahn *et al* (2005) evaluated the effectiveness of Therapeutic Foster Care in reducing violence in. They found a significant decrease in violence in youth with a history of chronic violent behaviour. Aggressive behaviour and self-reported felonies were reduced. The authors also found the intervention to be cost effective compared to standard treatments. However, certain studies reviewed indicated a potentially negative effect of therapeutic foster care among females.
Hahn R, Fuqua-Whitley D, Wethington H, Lowy J, Liberman A, Crosby A,	What is the effectiveness of universal school-based programmes in reducing or preventing	In a US -based systematic review of 53 studies, Hahn *et al* evaluated the effectiveness of universal school --based programmes in reducing or preventing violent or aggressive behaviour in children

Fullilove M, Johnson R, Moscicki E, Price L, Snyder SR, Tuma F, Cory S, Stone G, Mukhopadhaya K, Chattopadhyay S, Dahlberg L (2007) The effectiveness of universal school-based programmes for the prevention of violent and aggressive behaviour	violent and aggressive behaviour among children and adolescents?	and adolescents. They found that results consistently indicated that universal school-based programmes in low SES communities or those characterised by high crime rates, were effective in reducing violence in young people. Program effects were demonstrated at all grade levels. On the basis of this strong evidence of effectiveness, the authors recommend the use of universal school-based programmes to prevent or reduce violent behaviour.
Littell, JH, Popa, M, Forsythe, B (2005) Multisystemic Therapy for social, emotional, and behavioural problems in youth aged 10-17.	What is the impact of Multisystemic Therapy on out-of-home living arrangements, crime and delinquency, and other behavioural and psychosocial outcomes for youth and families?	In a US -based meta-analysis of 8 studies Little *et al* (2005) evaluated the impact of MST on reducing young people's out of home living arrangements, crime and delinquency and other behavioural and psychosocial outcomes. They found no conclusive evidence of the effectiveness of MST compared with other interventions with youth, but also no evidence that MST has harmful effects.
Macdonald GM, Turner W (2008) Treatment Foster Care for improving outcomes in children and young people. Cochrane Database of Systematic Reviews 2008, Issue 1.	What is the impact of TFC on psychosocial and behavioural outcomes, delinquency, placement stability, and discharge status for children and adolescents who require out-of-home placement?	MacDonald & Turner (2008) conducted a review that aimed to assess the impact of Treatment Foster Care (TFC) on psychosocial and behavioural outcomes, delinquency, placement stability and discharge status for children and adolescents requiring out-of-home placement. They describe TFC as "a foster family-based intervention that aims to provide young people with a tailored programme designed to effect positive changes in their lives". The authors analysed 5 studies, four of which focused on young offenders or children with behavioural problems, whilst the fifth included young people in a state mental hospital. The findings suggest that TFC may be a useful intervention for children and young people with complex emotional, psychological and behavioural needs, who are at risk of placement in non-family settings such as hospital, secure residential or youth justice settings.

Mytton JA, DiGuiseppi C, Gough DA, Taylor RS, Logan S (2002) School-based violence prevention programmes – Systematic review of secondary prevention trials	What are the effects of school-based violence prevention programmes for children identified as aggressive or at risk of being aggressive?	In a UK review and meta analysis of 44 US and UK RCTs, Mytton *et al* 2002 evaluated school –based interventions designed to reduce aggression, violence, bullying, conflict or anger amongst children in mandatory education at risk of violence & aggression. They found an overall reduction in aggression. Results suggested that interventions may be more effective in older groups and when administered to mixed sex groups rather than boys alone, but the authors suggest that the results need to be confirmed in large, high-quality trials.
Mytton J, DiGuiseppi C, Gough D, Taylor R, Logan S (2007) School-based secondary prevention programmes for preventing violence	Are school-based programmes aimed at children who are considered at risk of aggressive behaviour, effective in reducing violence?	In a UK review and meta-analysis of 34 US & UK RCTs, Mytton *et al* 2007 evaluated school-based interventions designed to reduce aggression, violence, bullying, conflict or anger amongst children in mandatory education at risk of violence & aggression. They found an overall reduction in aggression both in primary and secondary school immediately after the intervention. Longer term follow- up results did not show a benefit in the primary school group but did in the secondary school age group Subgroup analyses suggested that interventions designed to improve relationship or social skills may be more effective than interventions designed to teach skills of non-response to provocative situations, but that benefits were similar when delivered to children in primary versus secondary school, and to groups of mixed sex versus boys alone. This contrasts with the findings by the same researchers in 2002.
Newman M, Vigurs C, Perry A E, Hallam G, Schertler E, Johnson M, Wall R (2007) A systematic review of selected	What selected interventions work in preventing reoffending in young offenders?	A UK –based review and meta-analysis of 26 mainly US –based studies that evaluated interventions targeting young people (aged under 20) in the care of the juvenile justice system (Newman *et al* 2007). A large number of intervention types were

interventions to reduce juvenile offending		not eligible for inclusion in the review. They measured effects on re-offending. Of those interventions that were included they found that: Pre-sentencing diversion that included personal skills training plus other elements e.g. reparation was more effective than caution and monitoring alone. Community-based family residential placement was more effective than 'standard residential placement for female juvenile offenders They found limited or inconsistent evidence of positive effects for: • teen courts compared to standard diversion • Community-based family residential placement compared to 'standard' residential placement for male juvenile offenders Authors found insufficient evidence of effect for: • Psycho-dynamic counselling compared to 'normal Court interventions' (USA) • Pre-sentence diversions compared to court community sentence Multi component diversion for persistent offenders • Multi-component diversion for mixed groups of offence severity • Supported transition from secure incarceration to community compared to no or limited support • Probation plus sports counselling compared to probation only • Violence re-education programme compared to court imposed community service
Petrosino, A *et al* (2000) Well-	Do "scared Straight" prison aversion	A US –based review of 9 RCTs evaluated interventions in which 14-19 year olds

Meaning Programmes Can Have Harmful Effects! Lessons from Experiments of Programmes Such as Scared Straight	programmes work in diverting youth at risk of (re)offending?	were taken on a visit to prison to 'scare them straight'. (Petrosino *et al* 2000) They found that the intervention increased the percentage of the treatment group committing new offences anywhere from 1% to 30%; therefore, the programme was not effective.
Reitzel LR, Carbonell JL (2006) The effectiveness of sexual offender treatment for juveniles as measured by recidivism: a meta-analysis	What is the effectiveness of treatments for juvenile sex offenders?	A US –based review and meta-analysis 0f 9 studies evaluated treatments for juvenile sex offenders (Reitzell *et al* 2006) The authors found a positive effect on reducing re-offending, but state that the quality of the included studies is such that caution is need in interpreting this result.
Romeo R, Byford S, Knapp M (2007) Economic evaluations of child and adolescent mental health interventions: A systematic review	What is the economic impact of child and adolescent mental health problems and the cost-effectiveness of interventions?	A UK –based review of 21 studies evaluated the cost – effectiveness of health therapies for prevention and treatment of psychiatric problems in children and young people (Romeo *et al* 2007) The results suggest tentatively that parent and child training programmes lead to child behavioural gains and parent satisfaction. The authors report that there was little good evidence about the issue of cost effectiveness in the field.
Wilson SJ, Lipsey MW (2000) Wilderness challenge programmes for delinquent youth: a meta-analysis of outcome evaluations	Do wilderness challenge programmes reduce delinquent behaviour in youth?	A US –based review and meta-analysis of 28 US studies evaluated the effectiveness of 'wilderness challenge' programmes. (Wilson and Lipsey 2000) These programmes had both a physical challenge element and an interpersonal element and targeted antisocial or delinquent youth between the ages of 10 and 18. The authors found a modest positive effect of the interventions on antisocial behaviour and delinquency outcomes. They suggest that longer programmes and/or programmes with greater 'treatment' (as opposed to personal challenge) elements may be more effective.

Wilson SJ, Lipsey MW, Soydan H (2003) Are Mainstream Programmes for Juvenile Delinquency Less Effective with Minority Youth than Majority Youth? A Meta-Analysis of Outcomes Research	Do mainstream interventions for juvenile delinquency that are not culturally tailored for minority youth have positive outcomes on their subsequent antisocial behaviour, academic performance, peer relations, behaviour problems, and other outcomes?	A US –based meta analysis of 305 studies evaluated the impact of interventions targeting youth aged 12 to 21 years, with delinquent or anti-social behaviour as an outcome, on 'majority' (white) and minority youth (ethnic minority) (Wilson *et al* 2003) They found that overall, service programmes were equally effective for minority and white delinquents, with no statistically significant differences between these groups. The mainstream interventions represented in these studies, on average, had positive effects on both subsequent delinquency and a number of other important outcomes.
Wilson SJ, Lipsey MW (2005) Effectiveness of School-Based Violence Prevention Programmes for Reducing Disruptive and Aggressive Behaviour	What is the effectiveness of school-based programmes for preventing or reducing aggressive and disruptive behaviour?	In a US -based meta- analysis of 219 studies, Wilson, S. J. (2005) evaluated the effectiveness of school-based programmes for preventing or reducing aggressive disruptive or problem behaviour. They found that universal, selected/indicated, and comprehensive programmes were generally effective at reducing the more common types of aggressive behaviour seen in schools.
Woolfenden SR, Williams K, Peat J (2004) Family and parenting interventions in children and adolescents with conduct disorder and delinquency aged 10-17	Do family and parenting interventions improve the child/adolescent's behaviour?	In a UK-based systematic review Woolfenden *et al* (2004) evaluated family and parenting programmes to improve the behaviour of juveniles with conduct disorder or delinquency. They found that family and parenting interventions significantly reduced time spent by juveniles in institutions. There was a further reduction in the risk of a juvenile being rearrested and in the rates of subsequent arrests. However, the authors state that the results need to be interpreted with caution due to their heterogeneity. Authors found insufficient evidence that family and parenting interventions reduce the risk of being incarcerated and no significant difference was found for psychosocial outcomes such as family functioning, and child/adolescent behaviour.

Drug or alcohol misuse

Study	*Review question*	*Evidence statement*
Becker J, Roe S (2005) Drug prevention with vulnerable young people: a review	What works to prevent drug use amongst high-risk groups?	In a UK -based systematic review of 16 studies, Becker & Roe (2005) evaluated interventions to reduce drug use in vulnerable or high-risk young people. They found that universal, school -based life skills training programmes have some success in preventing drug use in high risk subgroups, but more so when targeted interventions are nested within the universal programmes. The Intensive multi-component Children at Risk programme produced positive results
Elder RW, Nichols JL, Shults RA, Sleet DA, Barrios LC, Compton R (2005) Effectiveness of school-based programmes for reducing drinking and driving and riding with drinking drivers: a systematic review	Are school -based programmes that aim to reduce drink driving and riding with drunk drivers effective at reducing the numbers of adolescents who ride with drink drivers, reducing deaths caused by drink driving and reducing injuries caused by drink driving?	In a US-based systematic review of 9 studies Elder *et al* (2005) evaluated the effectiveness of school -based programmes in reducing young people who drink drive or ride with drink drivers. Due to the small numbers of studies, only one included study provided sufficient evidence to demonstrate that school -based instructional programmes are effective in reducing riding with drink drivers, but insufficient evidence regarding its effectiveness in reducing drink driving.
Elliott L *et al* (2002) Drug treatment services for young people: a systematic review of effectiveness and the legal framework.	1) How effective are drugs services in reducing drug use among young drug users? 2) How effective are drugs services in reducing the physical harms associated with drug use among young drug users? 3) How effective are drugs services in improving the family and social relations of young drug users? 4) How effective are drugs services in encouraging the up-	In a UK -based Systematic review of 18 studies Elliott (2002) evaluated the effectiveness of drug services in reducing drug use, reducing harms associated with drug use, improving family and social relations of young drug users and encouraging the uptake of other health and social services. They found that Behaviour therapy; Culturally sensitive counselling; Family therapy; and the 12-step Minnesota programmes were most successful in reducing drug use, whilst family therapy was most successful in reducing psychological problems of young drug users. Interventions that were most successful in improving family and social interventions were Family therapy;

	take of other health and social services?	Family teaching; Non-hospital day programmes; Residential care services; School life skills interventions. Counselling and residential care offered to parents and young people increased their use of medical services.
Elliott L, Orr L, Watson L, Jackson A (2005) Secondary prevention interventions for young drug users: a systematic review of the evidence	What interventions are successful in preventing further drug use in young people?	In a US-based systematic review of 16 studies Elliott *et al* (2005) evaluated the effectiveness of interventions to prevent further drug use in young drug users. They find that some interventions are effective in reducing further drug use, whilst others have mixed or no effect. Successful interventions in reducing further drug use in young drug users are: behaviour therapy, culturally sensitive counselling in residential settings, family therapy, Minnesota 12-step programmes, residential care, and general treatment programmes. Programmes that are successful in addressing the associated problems with drug use are: behaviour therapy, family therapy, school interventions particularly life-skills interventions, residential care, and non-hospital day programmes.
Foxcroft DR, Lister-Sharp D, Lowe G (1997) Alcohol misuse prevention for young people: A systematic review reveals methodological concerns and lack of reliable evidence of effectiveness	What is the methodological quality and effectiveness of evaluations of alcohol misuse prevention programmes for young people?	In a US -based systematic review of 33 studies Foxcroft *et al* (1997) evaluated the effectiveness of alcohol misuse prevention programmes for young people. They found that not only were very few studies well designed and evaluated (with the exception of some school-based programmes), but also that none of the programmes were convincingly effective. Where effectiveness was reported this was limited to partial effectiveness of some self-reporting measures being influenced by the programme.
Foxcroft DR, Ireland D, Lowe G, Breen R. (2002) Primary prevention for alcohol misuse	What is the effectiveness of psychosocial and educational primary prevention interventions of	In a UK -based systematic review of 56 studies, Foxcroft *et al* (2002) evaluated longer term effectiveness of primary prevention interventions of alcohol misuse. They found that the evidence base was weak for short and medium-

in young people	alcohol misuse by young people over the longer-term (> 3 years)?	term effectiveness and a significant proportion of evaluations showed signs of ineffectiveness. Some few studies showed promise of longer term effectiveness.
Gates S, McCambridge J, Smith LA, Foxcroft DR (2006) Interventions for prevention of drug use by young people delivered in non-school settings	What is the current evidence about the effectiveness of interventions delivered in non-school settings intended to prevent or reduce drug use by young people? and Are intervention effects modified by the type and setting of the intervention, and the age of young people targeted?	In a systematic review of 17 studies Gates *et al* (2006) evaluated evidence of effectiveness of interventions delivered in non-school settings to prevent drug use in young people. They found a lack of evidence for effectiveness to prevent or reduce drug use across the wide range of included interventions, with possible benefits of motivational interviewing and some family interventions.
Stanton MD, Shadish W (1997) Outcome, attrition, and family-couples treatment for drug abuse: A meta-analysis and review of the controlled, comparative studies	What are the outcomes, attrition rates and effectiveness of family-couples treatment for drug abuse?	This review synthesizes drug abuse outcome studies that included a family-couples therapy treatment condition. The meta-analytic evidence, across 1,571 cases involving an estimated 3,500 patients and family members, favours family therapy over (a) individual counselling or therapy, (b) peer group therapy, and (c) family psychoeducation. Family therapy is as effective for adults as for adolescents and appears to be a cost-effective adjunct to methadone maintenance. Because family therapy frequently had higher treatment retention rates than did nonfamily therapy modalities, it was modestly penalized in studies that excluded treatment dropouts from their analyses, as family therapy apparently had retained a higher proportion of poorer prognosis cases. Re-analysis, with dropouts regarded as failures, generally offset this artefact. Two statistical effect size measures to contend with attrition (dropout d and total attrition d) are offered for future researchers and policymakers.

Vaughn MG, Howard MO (2004) Adolescent substance abuse treatment: a synthesis of controlled evaluations	What are the outcome findings and methodological characteristics of controlled evaluations of adolescent substance abuse treatments?	In a US -based meta analysis of 18 studies, Vaughn and Howard (2004) evaluated the outcome findings and methodological characteristics of controlled evaluations of adolescent substance abuse treatments. They found the highest level of effectiveness evidence in multidimensional family therapy and cognitive-behavioural group treatment. The authors concluded that in addition several other interventions were effective for treating adolescent substance abuse. All these treatments have similar characteristics, in that they were psycho-social in nature, exist within a structured framework, and were appealing to social work practitioners
White D, Pitts M (1998) Educating young people about drugs: a systematic review	What is the effectiveness of interventions directed at the prevention or reduction of use of illicit substances by young people or those directed at reducing harm caused by continuing use?	In this UK-based systematic review White and Pitts (1998) evaluated the effectiveness of interventions directed at the prevention or reduction of use of illicit substances by young people or those directed at reducing harm caused by continuing use. They found that both meta-analyses on attitudes and behaviour showed that the effects of interventions were small and that effects declined with time. Exposure to drug education was associated with lower drug use but intensity of programmes did not guarantee its effectiveness. Project ALERT was more successful in the short term in influencing the behaviour of young people who were non-users compared to those who had already experimented with drugs
Wood E, Shakeshaft A, Gilmour S, Sanson-Fisher R (2006) A systematic review of school-based studies involving alcohol and the community.	What is the methodological quality and effectiveness of drug prevention interventions, specifically alcohol abuse, in high-school settings which involve a broader community initiative?	In a UK -based systematic review Wood *et al* (2006) evaluated US -based alcohol abuse intervention studies which included an element of community involvement. The authors found limited effectiveness for school-based interventions, poor methodological quality in the studies included and heterogeneity of outcome measures. Effect sizes for continuous and binary

		outcomes were relatively small, undermining long term follow up value,

Under 18 conceptions and poor sexual health

Study	*Review question*	*Evidence statement*
DiCenso A, Guyatt G, Willan A, Griffith L (2002) Interventions to reduce unintended pregnancies among adolescents: systematic review of randomised controlled trials	What is the effectiveness of primary prevention strategies aimed at delaying sexual intercourse, improving use of birth control, and reducing incidence of unintended pregnancy in adolescents?	In a Canada-based systematic review of 22 studies, incorporating 26 trials, DiCenso, A. et. al. (2002) evaluated the effectiveness of primary prevention strategies aimed at delaying sexual intercourse, improving use of birth control, and reducing incidence of unintended pregnancy in adolescents. They found that the interventions showed no effect on delay in initiation of sexual intercourse by young men or women, no improvement in use of birth control among young men or women and no reduction in pregnancy rates.
Dicenso A (1996) Systematic overviews of the prevention and predictors of adolescent pregnancy.	What is the effectiveness of primary prevention strategies in delaying sexual intercourse, improving consistent birth control use, improving responsible sexual behaviour, and reducing the incidence of pregnancy in the adolescent population?	In a Canada-based meta-analysis of 25 studies, DiCenso, A. et. al. (1996) evaluated the effectiveness of primary prevention strategies in delaying sexual intercourse, improving consistent birth control use, improving responsible sexual behaviour, and reducing the incidence of pregnancy in the adolescent. In their analysis of randomised controlled trials, no significant effects were found on the initiation of sexual intercourse, consistent birth control use, responsible sexual behaviour or pregnancy in females or males.
Harden A, Brunton G, Fletcher A, Oakley A, Burchett H, Backhans M (2006) Young People, Pregnancy and Social Exclusion: A systematic synthesis of research evidence to identify	What research has been undertaken that is relevant to informing policy and practice in the area of young people, pregnancy, parenting and social exclusion? And What is known about effective, appropriate	In a UK -based systematic review Harden *et al* (2006) evaluated interventions that 1) prevent unintended pregnancies (10 studies) and 2) provide support to teenage parents (38 studies). They found that early childhood interventions and youth development programmes can reduce teenage pregnancy rates among young women but were less successful with young men. In addition, young people who had received early childhood and youth development interventions did

effective, appropriate and promising approaches for prevention and support	and promising interventions that target the social exclusion associated with teenage pregnancy and parenting, which might therefore have a role to play in lowering rates of unintended teenage pregnancy and supporting teenage parents?	better at school and had better attitudes to school, and were more likely to be employed and financially independent. Interventions to improve young people's experiences of school, interventions to broaden young people's expectations/aspirations for the future and interventions to tackle poor material circumstances and prevent unhappy childhoods were effective in reducing pregnancy rates among young women.
Kirby D, Obasi A, Laris BA (2006) The effectiveness of sex education and HIV education interventions in schools in developing countries.	1) What are the effects, if any, of curriculum-based sex and HIV education programmes on sexual risk behaviours, STI and pregnancy rates, and on mediating factors such as knowledge and attitudes that affect those behaviours? 2) What are the common characteristics of the curricula-based programmes that were effective in changing sexual risk behaviours?	In a US-based systematic review of 83 studies worldwide, Kirby *et al* (2006) evaluated the impact of curriculum-based sex and HIV education programmes on sexual risk behaviours, STIs and pregnancy rates. They found that the studies demonstrate that on the whole sex and HIV education programmes did not increase sexual behaviour and a substantial percentage of programmes significantly decreased one or more types of sexual behaviour.
Johnson BT, Carey MP, Marsh KL, Levin KD, Scott-Sheldon LAJ (2003) Interventions to reduce sexual risk for the human immunodeficiency virus in adolescents, 1985-2000: A research synthesis.	What is the efficacy of human immunodeficiency virus (HIV) sexual risk-reduction interventions in adolescents?	In a US-based meta-analysis of 56 studies, Johnson, B.T. et. al. (2003) assessed the efficacy of human immunodeficiency virus (HIV) sexual risk-reduction interventions in adolescents. They found that these interventions significantly enhanced participants' skills for negotiating condom use, condom use skills, communications with sexual partners, condom use and sexual frequency. However, the magnitude of sexual risk reduction was small for the two most critical risk-reduction outcomes, sexual frequency and condom use.

Moos M-K, Bartholomew NE, Lohr KN (2003) Counselling in the clinical setting to prevent unintended pregnancy: An evidence-based research agenda.	What is the evidence for the effectiveness, benefits and harms of counselling in a clinical setting to prevent unintended pregnancy in adults and adolescents and what research agenda should be proposed?	In a US -based systematic review of 13 studies, Moos, M. K. et. al. (2003) examined the evidence for the effectiveness, benefits and harms of counselling in a clinical setting to prevent unintended pregnancy in adults and adolescents. On the basis of the studies reviewed, the authors were unable reliably to identify specific influences on contraceptive use and adherence. Furthermore, the quality of existing research did not permit any strong recommendations to be made about clinical practice, although it did suggest directions for future investigations. They found that knowledge of correct contraceptive methods may be positively associated with appropriate use, but reservations about the method itself, partner support of the method, and women's beliefs about their own fertility are important determinants of method adherence that may attenuate the knowledge effect. They also point out that the quality of the existing research does not provide strong guidance for recommendations about clinical practice.
Mullen PD, Ramirez G, Strouse D, Hedges LV, Sogolow E (2002) Meta-analysis of the effects of behavioral HIV prevention interventions on the sexual risk behaviour of sexually experienced adolescents in controlled studies in the United States	What are the effects of behavioural and social interventions on sexual risk of HIV among sexually experienced adolescents in the US and what are the factors associated with variation in outcomes?	In a US -based meta analysis of 20 studies, Mullen, P. D. et. al. (2002) evaluated the effects of behavioural and social interventions on sexual risk of HIV among sexually experienced adolescents in the US and the factors associated with variation in outcomes. They found that these interventions had a significant protective effect on sexually experienced adolescents. More protective outcomes were found in interventions carried out in groups that were ethnically similar.
Oakley A, Fullerton D, Holland J, Arnold S, France-Dawson M, Kelley P, McGrellis S (1995) Sexual	What is the methodological quality of reports on sexual health education interventions for young people and what is the	In a US -based systematic review of 65 studies, Oakley, A. et. al. (1995) assessed the methodological quality of reports on sexual health education interventions for young people and evaluated the effectiveness of different

health education interventions for young people: A methodological review.	evidence with respect to the effectiveness of different approaches to promoting young people's sexual health?	approaches to promoting young people's sexual health. They found that only 12 (18%) of the 65 outcome evaluations were methodologically sound. Of these, only three recorded interventions that were effective in showing an impact on young people's sexual behaviour, including: a sex education programme for high school students; a course about AIDS and other STIs for middle and high school students; and an HIV/AIDS education programme for runaways at a residential shelter. One abstinence programme intervention was found to have harmful effects, with none of the desired changes in attitudes or behaviour being achieved. More young men in the intervention group than in the control group claimed to have initiated intercourse by the end of the programme.
Song EY, Pruitt BE, McNamara J, Colwell B (2000) A meta-analysis examining effects of school sexuality education programmes on adolescents' sexual knowledge, 1960-1997	What is the effect of school sexuality education on adolescent's sexual knowledge?	In a US -based meta-analysis of 67 studies, Song, E.Y. et. al. (2000) evaluated the effect of school sexuality education on adolescent's sexual knowledge. They found that school -based sexuality education programmes for adolescents contribute to increasing sexual knowledge, with large effects on all outcomes except knowledge of sexually transmitted diseases. The outcomes measuring family life knowledge showed the largest effect.
Swann C, Bowe K, McCormick G, Kosmin M (2003) Teenage pregnancy and parenthood: a Review of Reviews	What works to prevent teenage pregnancy and what works with improving outcomes for teenage mothers and their children?	In a U.K. -based review of reviews, (22 reviews), Swann et. al. (2003) assessed what works to prevent teenage pregnancy and to improve outcomes for teenage mothers and their children. They found strong evidence for the effectiveness of four types of interventions to prevent teenage pregnancy: school-based sex education, particularly when linked to contraceptive services; community -based education, development and contraceptive services; youth development programmes and family outreach programmes. On the

		whole, abstinence programmes were found not to work. Based on three reviews, the following interventions were found to improve outcomes for teenage mothers and their children: Good antenatal care, home visiting, improved housing, parental and psychological support, clinic-based healthcare programmes for teenage mothers and early educational interventions for disadvantaged children. These are cost effective and may prevent or delay repeat pregnancies. Support for young parents to continue education will improve educational and employment outcomes.
Underhill K, Operario D, Montgomery P (2007) Abstinence-only programmes for HIV infection prevention in high-income countries	What are the effects of sexual abstinence only programmes for HIV prevention among participants in high-income countries?	In a US -based systematic review of 13 trials, Underhill, K. et. al. (2007) evaluated the effects of sexual abstinence only programmes for HIV prevention among participants in high income countries. They found that programmes for prevention of HIV infection do not decrease or exacerbate sexual risk among youths in high-income countries. The findings suggest that abstinence programmes are ineffective, but the results may not be generalisable to young people outside the US.

Poor outcomes for teenage parents and their children

Item	***Review question***	***Evidence statement***
Akinbami L, Cheng T, Kornfeld D (2001) A Review of Teen-Tot Programmes: Comprehensive Clinical Care for Young Parents and Their Children	Which programmes that provide medical care, counselling, contraception, guidance for parenting, and assistance with staying in school, are successful in preventing repeat pregnancies, helping teen mothers continue their education, and improving teen and infant health over 6 to	In a US -based review of four studies, Akinbami *et al* (2001) evaluated the effectiveness of four teen-tot programmes. They found that all four programmes reported a decrease in repeat pregnancy rates among participants, compared to controls between 12 and 26 months postpartum. Two evaluations reported significant success in helping teen mothers continue their education and/or find employment, compared to controls. Three of the four programmes that

	18 months?	reported outcomes for infant health found a positive impact, but results for other important outcomes such as parenting skills, knowledge of child development and outcomes for child development were disappointing. A composite score calculated for 10 outcomes found a significantly better result for participants than for controls at both the 12 and 26 month evaluations
Bakermans-Kranenburg M, van IJzendoorn, M, Bradley R (2005) Those Who Have, Receive: The Matthew Effect in Early Childhood Intervention in the Home Environment	Are preventive early childhood interventions effective in improving home environments, as assessed with the HOME inventory?	A US and Holland -based review of 39 studies, Bakermans-Kranenburg *et al* (2005) evaluated the effectiveness of early childhood interventions which aim to improve home environments for adolescent mothers. They found that interventions with middle-class, non-adolescent parents showed higher effect sizes than interventions with low-SES or adolescent samples. The most effective interventions comprised a limited number of sessions and were home - based.
Baytop CM (2006) Evaluating the Effectiveness of Programmes to Improve Educational Attainment of Unwed African American Teen Mothers: A Meta Analysis	Are secondary teen pregnancy prevention programmes effective in raising educational attainment for teenage mothers aged 13-19?	In a US -based meta-analysis of 27 studies, Baytop, C. M. (2006) evaluated the effectiveness of secondary prevention programmes for teenage mothers in raising educational attainment for teenage mothers. The authors found that that secondary teen pregnancy prevention programmes and comprehensive care programmes had minimal effect on increasing educational attainment among teen mothers.
Coren E, Barlow J, Stewart-Brown S (2003) The effectiveness of individual and group-based parenting programmes in improving outcomes for teenage mothers and their children: A systematic review	What is the effectiveness of individual and group-based parenting programmes in improving outcomes for teenage mothers and their children?	In a U.K. -based systematic review of 14 studies, Coren, E. et. al. (2003) assessed the effectiveness of individual and group-based parenting programmes in improving outcomes for teenage mothers and their children. The results show that parenting programmes can be effective in improving a range of psychosocial and developmental outcomes for teenage mothers and their children, but the conclusions are limited by the small number of included studies and high participant drop-out.

Coren E, Barlow J (2001) Individual and group-based parenting programmes for improving psychosocial outcomes for teenage parents and their children.	What is the effectiveness of individual and/or group -based parenting programmes in improving psychosocial and developmental outcomes in teenage mothers and their children?	In a U.K. -based systematic review of 4 studies, Coren, E. and Barlow, J. (2001) evaluated the effectiveness of individual and/or group -based parenting programmes in improving psychosocial and developmental outcomes in teenage mothers and their children. They found that individual and/or group -based parenting programmes were significantly effective in improving in parenting knowledge, causing changes in parent attitudes to mealtimes, maternal mealtime communication, improvement in mother-infant interaction, in maternal self-confidence and identity, in maternal sensitivity in interaction and improvement in cognitive growth fostering capacities of the mothers. However there were no significant effects on infant outcomes.
Harden A, Brunton G, Fletcher A, Oakley A, Burchett H, Backhans M (2006) Young People, Pregnancy and Social Exclusion: A systematic synthesis of research evidence to identify effective, appropriate and promising approaches for prevention and support	What is known about effective, appropriate and promising interventions that target the social exclusion associated with teenage pregnancy and parenting, which might therefore have a role to play in supporting teenage parents?	In a UK -based systematic review 18 studies, Harden *et al* (2006) found that the evidence points both to daycare and to education and career development programmes as promising ways of supporting young parents. Holistic support programmes also appear to be appropriate but have not yet been shown to be effective in translating into better employment prospects. Interventions using either welfare sanctions or bonuses, or education and career development programmes resulted in a significant increase in numbers of teenage parents in education or training. High quality programmes without sanctions appeared to be more effective.

16-18 year-olds not in education, employment and training (NEET)

Study	*Review question*	*Evidence statement*
Cobb B, Sample P L, Alwell M, Johns NRAF (2006) Cognitive-Behavioural Interventions, Dropout, and Youth with Disabilities: A Systematic Review	To explore the relationship between cognitive-behavioural interventions and school dropout (and behaviours that lead to school dropout) for secondary-age youth with disabilities	In a US -based systematic review of 16 studies Cobb *et al* (2006) evaluated the effectiveness of cognitive behavioural interventions (CBIs) to reduce school dropout of young people with disabilities. They found that CBIs that included a behavioural component were effective in reducing school dropout and that young people found CBIs relatively easy to learn. Evidence was not clear on the length of time an intervention should take to be effective. The authors conclude that, based on the studies in this review, cognitive-behavioural interventions work well to reduce dropout and physical and verbal aggressive behaviour in youth with disabilities

Low attainment

Study	*Review question*	*Evidence statement*
Baytop, Chanza M (2006) Evaluating the Effectiveness of Programmes to Improve Educational Attainment of Unwed African American Teen Mothers: A Meta Analysis	Are secondary teen pregnancy prevention programmes effective in raising educational attainment for teenage mothers aged 13-19?	In a US -based meta-analysis of 27 studies, Baytop and Chanza (2006) evaluated the effectiveness of secondary prevention programmes for teenage mothers in raising educational attainment for teenage mothers. The authors found that that secondary teen pregnancy prevention programmes and comprehensive care programmes had minimal effect on increasing educational attainment among teen mothers.
Cornelius-White, Jeffrey (2007) Learner-centred teacher-student relationships are effective: A meta-analysis.	Are learner centred teacher-student relationships effective in promoting positive student outcomes?	In a US -based meta-analysis of 119 studies, Cornelius-White, J. (2007) evaluated the effectiveness of learner centred teacher-student relationships. The author found that that person-centred teacher variables have an above-average finding-level association with positive student outcomes on measures of cognition, affect and behaviour.
Lauer PA, Akiba M, Wilkerson SB,	What is the effectiveness of Out of	In a US -based meta-analysis of 69 studies (47 reading, 22 mathematics),

Apthorp HS, Snow D, Martin-Glenn M (2004) The Effectiveness of Out-of-School-Time Strategies in Assisting Low-Achieving Students in Reading and Mathematics	School Time strategies (OSTs) in assisting low-achieving or at-risk students in reading and mathematics?	Lauer, P. A. et. al. (2004) evaluated the impact of Out of School Time strategies (OSTs) in assisting low-achieving or at-risk students in reading and mathematics. They found that OSTs had a significant positive effect on raising student achievement in both reading and mathematics.
Wilson SJ, Lipsey MW (2005) Effectiveness of School-based Violence Prevention Programmes for Reducing Disruptive and Aggressive Behaviour	What is the effectiveness of school-based programmes for preventing or reducing aggressive and disruptive behaviour?	In a US -based meta- analysis of 219 studies, Wilson, S. J. (2005) evaluated the effectiveness of school-based programmes for preventing or reducing aggressive disruptive or problem behaviour. They found that universal, selected/indicated, and comprehensive programmes were generally effective at reducing the more common types of aggressive behaviour seen in schools.

Youth Homelessness and Running Away

Study	***Review question***	***Evidence statement***
Donkoh C, Underhill K, Montgomery P (2006) Independent living programmes for improving outcomes for young people leaving the care system	What effect do independent living programmes have on outcomes for young people leaving the care system?	Studies were only included if they were explicitly targeted at improving at least one of the following: educational attainment; employment; health status (e.g. teenage pregnancy/fatherhood rates, drug use, mental health); housing (inc. homeless); life skills including behaviour outcomes (inc. involvement with criminal justice). Conclusion: No studies met their criteria, but 18 excluded studies are discussed.

Poor mental health

Study	Review question	Evidence statement
Bjornstad G and Montgomery P (2005) Family therapy for attention-deficit disorder or attention-deficit/hyperactivity disorder in children and adolescents.	What determines whether family therapy reduces symptoms of inattention, impulsivity and hyperactivity for children with ADHD or ADD when compared to no treatment or standard treatment?	In a US -based review of 2 studies, Bjornstad G and Montgomery P (2005) aimed to determine whether family therapy reduces symptoms of inattention, impulsivity and hyperactivity for children with ADHD or ADD when compared to no treatment or standard treatment. They found that 1 study showed no detectable difference between the efficacy of behavioural family therapy and treatment as usual in the community and 1 study only marginally favoured treatment over the medication placebo.
Cartwright-Hatton S, Roberts C, Chitsabesan P, Fothergill C and Harrington R (2004) Systematic review of the efficacy of cognitive behaviour therapies for childhood and adolescent anxiety disorders.	What is the effectiveness of cognitive behaviour therapy (CBT) as a treatment for anxiety disorders of childhood and adolescence?	In a UK -based systematic review of 10 studies, Cartwright-Hatton *et al* (2004) evaluated the effectiveness of cognitive behaviour therapy (CBT) as a treatment for anxiety disorders of childhood and adolescence. They found CBT is a promising intervention for childhood and adolescent anxiety. This is especially true when the evidence for the efficacy of CBT is compared to that which is available for alternative approaches.
Chu B and Harrison T (2007) Disorder-specific Effects of CBT for Anxious and Depressed Youth: A Meta-analysis of Candidate Mediators of Change.	Does CBT when implemented with anxious or depressed youth populations demonstrate positive and significant effects for anxiety and depression outcome measures?	In a US -based meta analysis of 28 studies, Chu B and Harrison T (2007) asked does CBT when implemented with anxious or depressed youth populations demonstrate positive and significant effects for anxiety and depression outcome measures. They found that Cognitive Behavioural Therapy produced moderate effect sizes across anxiety, depression, and general functioning outcomes.
Cornelius-White J (2007) Learner-centred teacher-student relationships are effective: A meta-analysis.	What is the degree of association between person-centred teacher variables and positive student outcomes?	In a US -based meta-analysis of 119 studies, Cornelius-White J (2007) evaluated the effectiveness of learner-centred relationships. The author found that person-centred teacher variables have an above-average finding-level association with positive student

		outcomes including reductions in drop out, disruptive behaviour and absences and increased participation/ initiation, satisfaction, and motivation to learn.
Donkoh C, Underhill K, Montgomery P (2006) Independent living programmes for improving outcomes for young people leaving the care system	What effect do independent living programmes have on outcomes for young people leaving the care system?	Studies were only included if they were explicitly targeted at improving at least one of the following: educational attainment; employment; health status (e.g. teenage pregnancy/fatherhood rates, drug use, mental health); housing (inc. homeless); life skills including behaviour outcomes (inc. involvement with criminal justice). Conclusion: No studies met their criteria, but 18 excluded studies are discussed.
Durlak JA, Taylor RD, Kawashima K, Pachan MK, DuPre EP, Celio CI, Berger SR, Dymnicki AB, Weissberg, RP (2007) Effects of positive youth development programmes on school, family, and community	What is the impact of PYD programmes that target children's personal and social competence?	In a US -based systematic review of 205 studies, Durlak, J. A. et. al. (2007) evaluated the impact of Positive Youth Development programmes that target children's personal and social competence. They found that the programmes had a significant effect on variable related to School setting (psycho-social environment of the school and classroom and classroom level change), Family (Parenting practices and family environment), Community (Bonding to community adults) and mesosystemic changes (Family-school relationships).
Ekeland E, Heian F, and Hagen K (2005) Can exercise improve self esteem in children and young people? A systematic review of randomised controlled trials.	Can exercise interventions improve self esteem in children and young people?	In a Norwegian -based systematic review of 23 studies, Ekeland *et al* (2005) evaluated the impact of exercise on the self esteem of children and young people. They compared studies which looked at exercise as a single intervention versus no intervention. They found that eight studies which looked at exercise only and the four that looked at exercise combined with other aspects both showed a small overall significant treatment effect between the intervention and the control group.
Elbaum B and Vaughn S (2001) School--based	Do school--based interventions enhance the self-concept of	In a US -based meta analysis of 64 studies, Elbaum B and Vaughn S (2001) looked at the effect of school -based

interventions to enhance the self-concept of students with learning disabilities: A meta-analysis.	students with learning disabilities?	interventions on self esteem for students with learning disabilities. They found that it was possible to increase students' academic, self and general self concept, but not personal and physical.
Kraag G, Zeegers M, Kok G, Hosman C, Abu-Saad H (2006) School Programmes Targeting Stress Management in Children and Adolescents: A Meta-Analysis	What is the effect of school programmes which target stress management coping skills in school children?	In a UK and Holland -based meta-analysis of 19 studies, Kraag *et al* (2006) looked at the effect of school programmes targeting stress management coping skills in school children. They found that primary prevention programmes for schools (i.e. interventions designed specifically to promote mental health and reduce the incidence of adjustment problems in currently normal child and adolescent populations) show promising results. Findings indicate that although several issues have to be resolved, primary prevention programmes focusing on promoting mental health through school-based stress management training are most likely effective.
Larun L, Nordheim L, Ekeland E, Hagen B, Heian F(2006) Exercise in prevention and treatment of anxiety and depression among children and young people.	Do interventions reduce or prevent anxiety or depression among children and young people compared to other treatments or no treatment? If so, what are the characteristics of the most effective interventions?	In a Norwegian review of 16 studies, Larun *et al* (2006) evaluated the impact of exercise in the prevention and treatment of anxiety and depression among children and young people. They found that whilst there appears to be a small effect in favour of exercise in reducing depression and anxiety scores in the general population of children and adolescents, the small number of studies included and the clinical diversity of participants, interventions and methods of measurement limit the ability to draw conclusions regarding effectiveness.
Littell H, Popa M, Forsythe B (2005) Multisystemic Therapy for social, emotional, and behavioral problems in youth aged 10-17.	What is the impact of multisystemic therapy on 'out-of-home' living arrangements, crime and delinquency, and other behavioural and psychosocial outcomes for youth and families?	In a US -based systematic review of 8 studies, Littell *et al* (2005) aimed to provide unbiased estimates of the impacts of multisystemic therapy on restrictive out-of-home living arrangements, crime and delinquency, and other behavioural and psychosocial outcomes for youth and families. However, they concluded that it is not clear whether MST has clinically

		significant advantages over other services
Michael KD, Crowley SL (2002) How effective are treatments for child and adolescent depression? A meta-analytic review.	Are psychosocial or pharmacological treatments in children and adolescents effective in treating depression and depressive symptoms?	In a US -based meta analysis of 24 studies, Michael and Crowley (2002) evaluated the effectiveness of psychosocial or pharmacological treatments on depression and depressive symptoms for 5-18 year olds. They found that both psychosocial (and pharmacological) interventions were more effective for adolescents than for children and these results were durable over time (median 36 weeks) where follow up data was reported.
Taylor T and Montgomery P (2007) Can cognitive-behavioural therapy increase self-esteem among depressed	How affective are cognitive-behavioural interventions in improving self-esteem among depressed adolescents aged 13–18 years?	In a UK -based study of 2 trials Taylor and Montgomery (2007) evaluated the effectiveness of cognitive behaviour interventions in improving self esteem among depressed adolescents aged 13-18 years old. They found that the use of cognitive behavioural therapy for adolescents suffering from unhealthy, low levels of self-esteem may be an appropriate and effective treatment for increasing global and academic self-esteem when compared to wait-list controls.
Weisz JR, Jensen-Doss A, Hawley KM (2006) Evidence-based youth psychotherapies versus usual clinical care: a meta-analysis of direct comparisons.	Do evidence -based youth psychotherapies produce better outcomes than the usual care interventions employed in clinical care?	In a US -based review of 32 studies, Weisz *et al* (2006) looked at whether evidence -based therapies (EBT) produce better outcomes than the usual care interventions employed in clinical care. They found that although evidence-based therapist have a medium effect size this relatively modest magnitude suggests that there is considerable room for improvement for EBT’s.
Weisz R, McCarty A, Valeri, S (2006) Effects of psychotherapy for depression in children and adolescents: a meta-analysis.	What are the effects of psychotherapy on depression in adolescents	In a US-based meta analysis of 35 studies, Weisz *et al* (2006) evaluated the effectiveness of psychotherapy for depression in children and adolescents. They found that psychotherapeutic treatments appear to produce significant but modest effects on youth depression. Results showed that anxiety was reduced but externalizing behaviour was not.

		Youth depression treatments appear to produce effects that are significant but modest in their strength, breadth, and durability

Appendix E: Systematic review topic clusters and levels of influence

Outcome and number of reviews (categories not mutually exclusive)	*Intervention types for the systematic reviews which addressed this outcome*	*Levels of influence*
Youth Offending & anti-social behaviour (19) Youth offending (11) Anti-social behaviour (14)	Parenting and family therapy-based Interventions School-based violence reduction programmes Community-based residential placement/ foster care Social and cognitive skills interventions Two additional reviews focused on specific intervention or populations. Reitzel *et al* (2006) examined cognitive, behavioural, psychological and multisystemic therapies for juvenile sex offenders. Anderson (1996) evaluated psychopharmacological intervention to treat conduct disorder	It is clear that these interventions focus primarily on individual or family behaviour change. This identifies a research gap of interventions which target the community, or built/structural environment, although these are known risk factors.
Drug/Alcohol misuse (11) Drug (7) Alcohol (4)	Drug misuse Alcohol Misuse	Many of these reviews included multi-component interventions, challenging easy characterisation of included interventions. A range of settings were used - school, community, or family-based settings. Virtually all operate at the individual or family level.
Under 18 conceptions/poor sexual health (11) Under 18 conceptions (6) Poor sexual health (5)	The systematic reviews looking at the effectiveness of programmes to reduce unintended pregnancy and improve young people's sexual health fall into three main areas: general sex education, HIV prevention and the interventions specifically targeting prevention of unintended pregnancy.	All of the programmes described here take place either in the school or the community. There appears to be little distinction made in terms of theories of behaviour change that underpin interventions in either setting, rather the more important distinction

		appears to be the purpose of the intervention – particularly whether it is aimed at preventing HIV infection, or unintended pregnancies.
Poor outcomes for teenage parents and their children (6)	Community-based interventions focused on providing parenting skills and support to young parents and also on the social exclusion that can accompany teenage parenthood.	Operate at the individual and community levels.
NEET (1)	Cognitive behavioural therapy. Only one systematic review was found to address this outcome directly	
Low attainment (6)	teaching strategies for young people at risk of the other poor outcomes	By their nature, all the interventions described for this outcome operated at the school level
Youth homelessness (1)	One review found but no evidence could be extracted from it.	
Mental health (16)	School-based interventions Family intervention Community interventions Social and cognitive skills interventions	Most of the interventions operated at the individual or family level and targeted risk factors at this level. School, family and community settings were used.

Appendix F: Risk factors and their associated outcomes

Table 1: 'family' risk factors mapped against their associated outcomes

	TYS OUTCOMES					
RISK FACTORS	Poor mental health	Youth offending / anti-social behaviour	Drug or alcohol misuse	Under-18 conceptions and poor sexual health	NEET, school attendance and attainment	Poor outcomes for teenage parents and their children
Poor parental Supervision and Discipline	X	X	X			
Family Conflict (inc physical and sexual abuse)	X	X	X		X	X
Family history of problem behaviour (inc poor mental health)	X	X	X	X	X	
Parental Involvement/ attitudes condoning problem behaviour		X	X	X		
Low income and poor housing (inc family structure and size)	X	X	X	X	X	X
Caring responsibilities					X	
Experience of authority care	X	X	X	X	X	

Table 2: 'school' risk factors mapped against their associated outcomes

	Poor mental health	Youth offending / anti-social behaviour	Drug or alcohol misuse	Under-18 conceptions and poor sexual health	NEET, school attendance and attainment	Poor outcomes for teenage parents and their children
Low achievement beginning in primary school	X	X	X	X	X	X
Aggressive behaviour, including bullying		X			X	
Lack of commitment, including truancy	X	X	X	X	X	X
School exclusions	X	X	X		X	
School disorganisation		X			X	X

Table 3: 'community' risk factors mapped against their associated outcomes

	Poor mental health	Youth offending / anti-social behaviour	Drug or alcohol misuse	Under-18 conceptions and poor sexual health	NEET, school attendance and attainment	Poor outcomes for teenage parents and their children
Community disorganisation and neglect (inc lack of suitable leisure facilities)		X		X		
Availability of drugs		X	X	X		
Disadvantaged neighbourhoods	X			X	X	X
High turnover and lack of neighbourhood attachment		X				

Table 4: 'individual and peer' risk factors mapped against their associated outcomes

	Poor mental health	Youth offending / anti-social behaviour	Drug or alcohol misuse	Under-18 conceptions and poor sexual health	NEET, school attendance and attainment	Poor outcomes for teenage parents and their children
Alienation and lack of social commitment	X	X			X	
Personal attitudes that condone problem behaviour		X	X			
Early involvement in problem behaviour		X		X		
Friends involved in problem behaviour		X	X			
Cognitive function and mental health	X	X	X	X	X	X
Age		X	X			
Gender	X	X	X		X	
Ethnic background		X	X	X	X	

Table 5: protective factors mapped against their associated outcomes

	Poor mental health	**Youth offending / anti-social behaviour**	**Drug or alcohol misuse**	**Under-18 conceptions and poor sexual health**	**NEET, school attendance and attainment**	**Poor outcomes for teenage parents and their children**
Strong bonds with family, friends and teachers		X				X
Healthy standards set by parent, teachers and community leaders			X			
Opportunities for involvement in families, school and community		X	X			X
Social and learning skills to enable participation		X	X			
Recognition and praise for positive behaviour		X				

The results of this work are available in two formats:

SUMMARY Explains the purpose of the review and the main messages from the research evidence

REPORT **Includes the background, methods and main findings**

These can be downloaded or accessed at
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