Annual review of Drug Prevention

The National Collaborating Centre for Drug Prevention

HARRY SUMNALL
LISA JONES
KIMBERLEY BURRELL
KARL WITTY
JIM MCVEIGH
MARK A BELLIS

National Collaborating Centre Drug Prevention
Liverpool JMU Centre for Public Health
NorthWest Public Health Observatory

ACKNOWLEDGEMENTS

This work was funded by the Department of Health through the National Institute for Health and Clinical Excellence [NICE].

The authors would like to express thanks to all those organisations and individuals who have contributed to the production of this document.

Chapter 7 is adapted from a forthcoming report written by Dr Richard Fordham, University of East Anglia, in collaboration with the NCCDP [see The economics of preventing drug use: An introduction to the issues. Fordham RJ, Jones L, Sumnall HR, McVeigh J, Bellis MA [2006]. Liverpool, NCCDP]

We are especially grateful to the Evidence Based Steering Group of the National Young People and Drugs Programme Board; Lynne Wilkinson [NCCDP]; peer reviewers Lynn Brooks [Easington PCT]; Niall Coggans [Strathclyde University]; Terry White [Wirral D[A]AT]; Jason Grugan [Liverpool DAAT]; Dr Jon Cole [University of Liverpool]; Sheila Henderson; and members of the NCCDP Network Group of drug prevention experts who have guided our work.

CONTACT

National Collaborating Centre for Drug Prevention,
Centre for Public Health
Liverpool John Moores University
Castle House
North Street
Liverpool L3 2AY
E-mail: NCCDPinfo@ljmu.ac.uk
http://www.drugpreventionevidence.info

Lead Authors
Dr Harry Sumnall, Senior Research Fellow
E-mail: h.sumnall@ljmu.ac.uk tel: +44 151 231 4545

Lisa Jones, Researcher
E-mail: l.jones1@ljmu.ac.uk tel: +44 151 231 4543

Additional Authors
Kimberley Burrell, Researcher
E-mail: k.j.burrell@ljmu.ac.uk tel: +44 151 231 4545

Karl Witty, Researcher
E-mail: k.witty@ljmu.ac.uk tel: +44 151 231 4545

Jim McVeigh, Reader in substance misuse epidemiology
E-mail: j.mcveigh@ljmu.ac.uk tel: +44 151 231 4512

Professor Mark A Bellis, Director
E-mail: m.a.bellis@ljmu.ac.uk tel: +44 151 231 4511

Reader Information

Document purpose

To build upon the findings of the three NCCDP briefings [*Drug prevention in vulnerable young people, Tiered approach to drug prevention and treatment* and *Universal drug prevention*] by presenting, categorising and grading research findings and identify gaps in the evidence. An additional purpose is to introduce the reader to the economics of drug prevention.

Target audience

The report is of relevance to following three broad groups of professionals:

- Executives, senior managers, commissioners and budget holders.
- Service providers.
- Community-based professionals.
- Academics, designers, planners and evaluators of drug prevention projects.

Description

Presents and grades the evidence in relation to drug prevention in young people across the four tiered model of services. Key recommendations and gaps are presented according to their relevance to different professional groups. Discusses the economics of drug prevention and introduces the methods of economic evaluation in relation to the field.

Reader objectives

- The evidence base underlying key government policy.
- Gain an overview of evidence based approaches to drug prevention.
- Learn about gaps in the current evidence base, and how to resolve them.
- Learn about key issues in economic evaluation of drug prevention.
- Recognise the importance of introducing research and evaluation into practice.

How to use this report

This annual report is comprised of eight main sections. Sections 4 to 7 are colour coded for ease of use.

- **Section 1** is the introduction to the report and includes a diagram signposting the readers to sections in the report presenting research findings relevant to key Health, Education, Criminal Justice and Social Policy aims. This section also describes the methodology used to prepare NCCDP briefing reviews.
- **Section 2** summaries the methodology used in the briefing reviews, upon which this report is based, and provides details of the system used to grade the research evidence.
- **Section 3** summaries the main review findings and key gaps in research and practice to be addressed according to the professional role for which they may be of most relevance. Key research and evidence gaps are also presented in terms of addressing national guidance and policy aims.

Sections 4 to 6 present a summary of evidence for the effectiveness of different types of prevention models and interventions, for example school, family, or community based approaches. Each section represents a different level within the UK tiered system as this is the approach that is most familiar to drugs professionals. For a complete description of the tiered approach to treatment and prevention please refer to *Burrell et al., 2005*.

- **Section 4** covers Tier 1 services, which are universal and targeted at all young people regardless of their level of risk. This section will be of importance to a wide range of professionals working across young people's services [including schools, youth services and other community-based services].
- **Section 5** covers Tier 2 services, which are at the frontline of specialist services. This section will be of importance to professionals working in youth orientated services with specialist youth knowledge and some knowledge of drugs and alcohol [including workers from CAMHS, education, voluntary youth services, social services, Connexions Personal Advisors, accommodation providers, YOT youth workers, counsellors and mentors].
- **Section 6** covers services at Tiers 3 and 4, which are considered together as tier 4 services are an adjunct to those at tier 3. Tier 3 and 4 services are provided by specialist teams to respond to the needs of young people who's tobacco, alcohol and/or drug problems are significantly interfering with other aspects of their life. This section will be of importance to mental health, paediatric and child and adolescent addiction specialists in addition to workers from social services and the voluntary sector.
- **Section 7** provides an introduction to health economics, and describes some of the main drug prevention research findings in this area. This section is of general interest and is intended to give the reader an overview of some of the methods used to evaluate drug prevention interventions and programmes in terms of their value for money. This section is adapted from a more comprehensive review to be published by the NCCDP in 2006.
- **Section 8** considers issues relevant to implementing research evidence, such as is presented here, into practice. Evidence-based practice reduces the reliance on intuition as a basis for decision making and promotes the examination of evidence from scientific and research literature as to 'what works' in order to support best practice. This section will be of interest to a wide range of professionals interested in implementing drug prevention research evidence. For further discussion please see *Sumnall et al., 2006*

Contents

section 1

Introduction

1.1 Self reported drug use in the young UK population consistently exceeds that of many other European countries [*Hibell et al., 2004*], and it has been estimated that almost 3 million people in England and Wales aged 16 to 24 have used illicit drugs in their lifetime [*Roe, 2005*]. Younger age of drug initiation is associated with a potentially greater number of years of ill health, poorer academic performance, and a stronger likelihood of progression into problematic patterns of use. An increased understanding of the reasons why young people use drugs, and the role that drugs play in their lives, has meant that drugs can no longer be considered in isolation. There is a strong relationship between drug use and participation in other risky social and personal behaviours and activities. The most successful prevention interventions therefore provide generic and specific support in response to dynamic biographies.

1.2 It has been argued [*Bardo et al., 1996*] that there are two main types of theory to explain drug use in young people, exposure and adaptive theories. Exposure theories postulate that mere exposure to drugs of abuse is the critical risk factor. This assumes that all humans are biologically predisposed to the rewarding effects of drugs and therefore all humans are at risk of becoming drug users or drug dependent. Preventative strategies based on this theory concentrate on demand and supply reduction. Adaptive theories postulate that individual differences [e.g. biological, social, familial] that existed prior to drug exposure are the critical risk factors for initiating drug abuse and developing problems with drugs. Preventative strategies based on this theory concentrate on reducing those individual and population risk factors that might predispose towards drug use.

1.3 It is apparent that, regardless of particular vulnerabilities, many young people choose to take drugs to fulfil specific, often sophisticated, functions [*Boys et al., 1999; Sumnall et al., 2006*]. On a behavioural level, rational drug choices must maximise expected benefit from the outcomes available and minimise the costs involved in doing so. For example, young people may decide to use controlled drugs because they have made a rational analysis of the positive [e.g. pleasurable prosocial effects] and negative [e.g. health risk] consequences of doing so [*Gamma et al., 2005*].

1.4 Rational choice models assume that the individual has alternatives from which to choose [e.g. cocaine versus sport], considers these alternatives at the same time, understands the utility of each alternative [e.g. prosocial and euphoric effects of cocaine, versus fitness and prosocial effects of team sports], can quantify this utility, and then assign a probability to this utility occurring [e.g. "taking cocaine will definitely make me feel good" versus "I'll need to practice a lot to become good at tennis and start enjoying it"]. The introduction of biological and social influences [c.f. adaptive and exposure theories] further complicates the decision making process. These include [*Rhodes et al., 2003*]:

- Parental education: there is some association between parental education and adolescent substance misuse, but this association is far from simple and the use of cigarettes, alcohol, and cannabis ranges from being significantly negative to being significantly positive.

- Family structure: a large body of research has found that young people who reside with both biological parents are less likely to be drug users. While this research generally finds all types of substance misuse to be more prevalent among young people who live with a single parent, single parent homes are sometimes associated with a variety of problem behaviours and contextual factors.
- Economic situation: The economic status of the family has generally not been found to be consistently associated with young people's substance misuse. In the US for example, substance misuse is often more prevalent in affluent towns and neighbourhoods [e.g. powdered cocaine], whilst in England, some types of substance use are positively associated with neighbourhood deprivation [e.g. crack cocaine].
- Parental style: Generally, the two extremes of over protective and unsupportive, as well as poorly defined and combative parental relationships can be associated with drug use. Strong parental support and monitoring has been found to be associated with less substance use among young people.
- Sibling substance use: Substance use by siblings has been argued to be amongst the strongest predictors of problematic use. Merikangas and colleagues [*1992*] reported that in first-degree relatives of opiate dependent patients, 69% of siblings reported using at least one illegal drug, and 63% met diagnostic criteria for substance abuse. For all drugs, over 90% of siblings who tried any illegal drug went on to develop substance abuse.
- Personality and Psychology: experimentation and use of illicit drugs need not indicate psychopathology, but childhood disorders such as Attention Deficit Hyperactivity Disorder [ADHD] and conduct disorder, and personality traits such as impulsivity and sensation seeking, are positively associated with drug use.

1.5 The likelihood of progression to problematic drug use and dependence is closely related to patterns of experimental drug use and the drugs used [*Ridenour et al., 2003*]. Generally, there is a clear and often prolonged progression from periods of experimental or irregular use to dependence on drugs such as cannabis and alcohol [taking place over the course of several years], but not for crack cocaine and heroin, for which both tend to onset in the same year. For individuals who go on to develop drug dependency or problematic use, substance use disorders [DSM IV criteria] are much more likely to have occurred early in their drug using career.

1.6 Age of initiation and female status have also been shown to be strong predictors of shorter latency times between onset of use and dependence. Many additional factors have been found to be associated with the progression from experimental to more problematic drug use [*Hawkins et al., 1992*], including; laws and norms favourable towards drug use; availability of drugs; extreme economic deprivation; neighbourhood disorganisation; physiological characteristics; early and persistent behavioural problems; family history of drug use; poor family management practices; family conflict; low bonding to family; academic failure; lack of commitment to school; early peer rejection; social influences to use drugs; alienation and rebelliousness; and attitudes favourable to drug use.

1.7 Drug use has direct and indirect economic and social costs, and problematic drug use can be a burden on families and communities. Economic evaluation offers the opportunity for planners of drug prevention policy and services to be more efficient with, and to prioritise, the finite resources available for implementation. However, to date, the application of economic principles and analysis in the drug prevention field has not been fully exploited in the UK. In his review of the NHS, Wanless [*2004*] highlighted the paucity of cost-effectiveness evidence in public health generally. Economic thinking is a recent innovation in drug policy and to date few good economic evaluations of drug prevention strategies have been undertaken, particularly in the UK.

1.8 Drug prevention is defined here as those interventions that prevent the onset, delay the initiation, promote cessation, and reduce the harms associated with drug use. Drug prevention is a means of addressing a range of health-related behaviours, and is a means of reducing health inequalities and promoting social inclusion.

1.9 The NCCDP has published a series of briefings focusing on recent government sponsored research, evaluation, and policy related to drug prevention and treatment among young people [defined as under 25 years old]. The purpose of this annual review is to build upon the three previous briefings by presenting, categorising, and grading research findings, and to present their relevance to different professional groups. A discussion of some of the challenges faced in implementing evidence-based practice is also included [section 8].

1.10 The briefings in this series are:

- Drug Prevention in vulnerable Young People.
- Tiered approach to Drug Prevention and treatment among Young People.
- Universal Drug Prevention.

These are available electronically via the NCCDP website [http://www.drugpreventionevidence.info/], or a limited number of printed copies are available via the NCCDP Information Service [see inside cover for contact details].

1.11 This report also includes an introduction to theories of health economics, and describes some of the main drug prevention research findings in this area. Health economics is the branch of economics applied to health and health care. It encompasses several distinct areas of theoretical investigation, all of which may be applied to drug prevention. For example, a service commissioner may be presented with a choice of two prevention initiatives, both of which are theory based and show evidence of outcome effectiveness. By describing which approach presents the best value for money, an economic evaluation could help to prioritise resources. The NCCDP, in collaboration with Dr Richard Fordham of the University of East Anglia, has produced a full review of the health economics of drug prevention [*Fordham et al., 2006*].

1.12 The findings here must all be considered within the context of relevant policy [see figure 1]. Drug prevention and treatment among young people is a key element of the Updated Drug Strategy [*Home Office, 2002*]. In addition, the 2004 Spending Review [*HM Treasury, 2004*] Public Service Agreement [PSA] states that by 2008 there should be a reduction of use of all Class A drugs and the frequency of use of any illicit drugs among all young people under the age of 25, especially by the most vulnerable young people.

1.13 The Every Child Matters, Change for Children programme aims to reform children's services, tackling not only substance use but also the risk factors that may promote it. 'Choose not to use Illegal Drugs' is part of the 'Be Healthy' objective. This work is closely linked to the Updated Drug Strategy and will contribute to the target above. The Every Child Matters Change for Children: Young People and Drugs strategic guidance outlines national expectations for local delivery of young people's substance misuse services[1]:

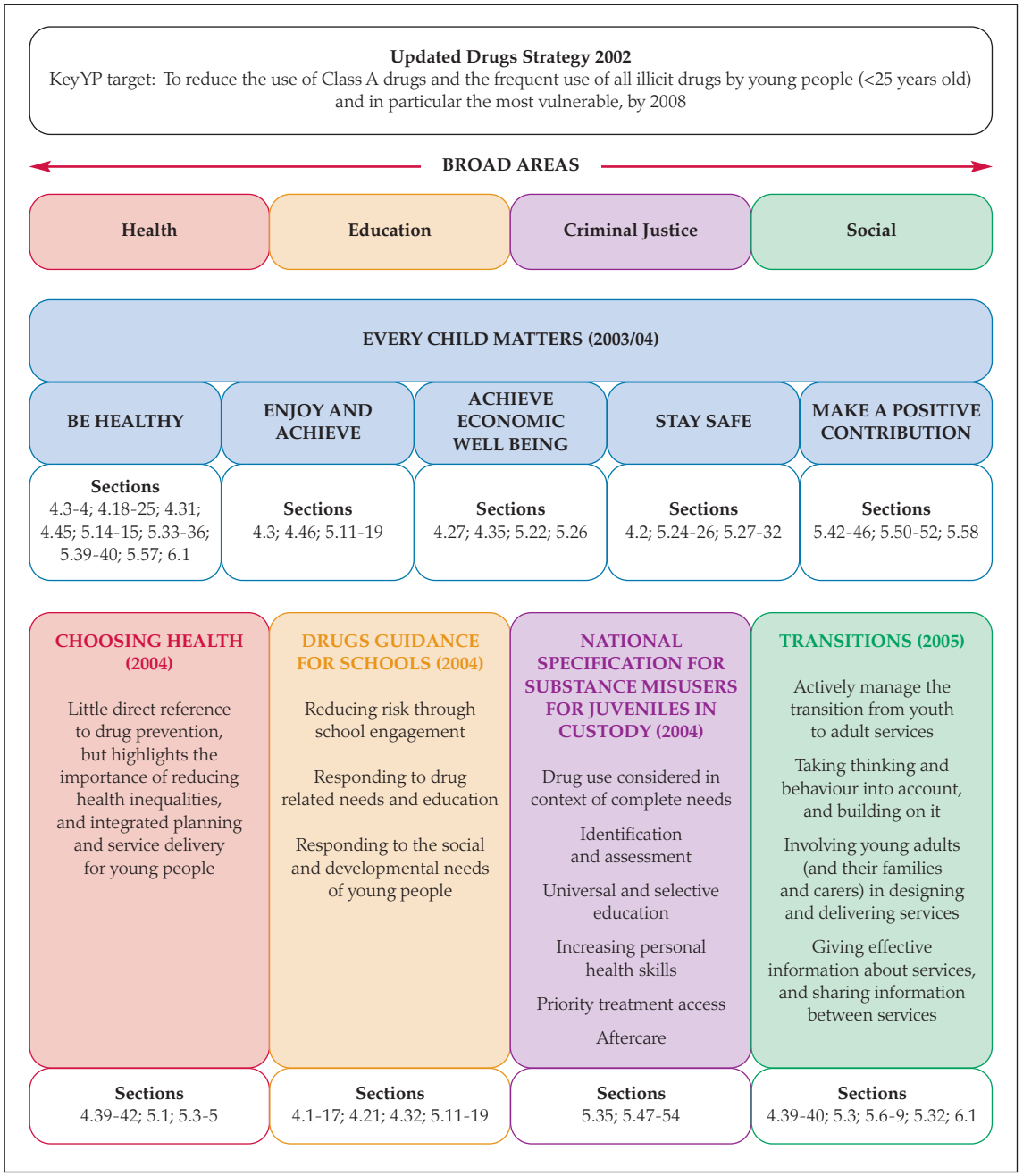
- Children's and Young People's Plans - all areas should produce a single, strategic, overarching 3 Year plan for all local services to children and young people. As referenced in section 17 of the Children's Act. All areas are expected to agree joint drug targets with Children's Services for 2005/2006. See *http://www.everychildmatters.gov.uk/strategy/planningandcommissioning/cypp/?asset=document&id=28094 sections 1.5, 1.14, 1.18, 1.27, 1.40, 2.5*

- Duty to cooperate - statutory framework for local cooperation between local authorities; key partner agencies and other relevant bodies. The Children's Act, reference section 10, requires local authorities and their 'relevant partners' to cooperate to improve children's wellbeing: defined as the five Every Child Matters outcomes.
  See:
  http://www.everychildmatters.gov.uk/strategy/guidance/?asset=document&id=27964 sections 2.21, 2.64, Appendix 1 1.20, 2.48, 2.52, 2.53, 2.54

- Duty to safeguard / local safe guarding boards - Section 11 of the Children Act 2004 placed a statutory duty on key people and bodies to make arrangements to safeguard and promote the welfare of children. This duty took effect on 1 October 2005. Statutory guidance was published in August 2005 and is available from the following link: *http://www.everychildmatters.gov.uk/socialcare/safeguarding/?asset=document&id=28266*

[1] See http://www.drugs.gov.uk/ReportsandPublications/YoungPeople/1111061244/ECM_YPD.pdf

Figure 1.1: Sections in the main report presenting research findings relevant to key Health, Education, Criminal Justice and Social Policy



- Common Assessment Framework (CAF) - documentation is now available. All areas are expected to implement CAF between 2006 - 2008. A package of training and awareness raising materials for local authorities are also available to use.
  See:
  http://www.everychildmatters.gov.uk/deliveringservices/caf

- A practical guide to multiagency working is available from:
  http://www.everychildmatters.gov.uk/deliveringservices/multiagencyworking

1.14 Choosing Health and its associated delivery plan[2], while not specifically focusing on drug use, aims to reduce health inequalities and improve the provision of information and advice to vulnerable groups of young people.

1.15 Drugs: Guidance for schools[3] makes recommendations for schools on how to deal with drugs incidents, deliver drugs education, identify drug use problems and respond appropriately. The tiered model is used to place the work of the school in a wider drug prevention context. The need for a holistic approach is noted.

1.16 National specification for Substance Misuse for Juveniles in Custody[4] sets out the requirements of the Youth Justice Board for the delivery of drug misuse interventions for young people in custody. It was produced in response to the Updated Drug Strategy aim to target action at the most vulnerable young people, such as young offenders.

1.17 Transitions[5] aims to identify how services can best support 16-25 year-olds with complex needs as they make the transition to adulthood. It examines problems faced by young people, sets out principles for effective services and outlines government actions to be taken to improve service delivery for young people with complex problems.

1.18 Whilst recognising that the evidence base is sparse, the National Treatment Agency for Substance Misuse [NTA] is developing a young people's strategy, and is likely to include a briefing document on:

- Care planning and retention;
- Prescribing guidelines for community interventions [in partnership with the Youth Justice Board for England and Wales [YJB]];
- Guidance on assessing drug use;
- The production of a directory of residential services that work with substance misuse issues from both the generic children's field and specialist substance misuse services;
- The identification of appropriate criteria for referring a young person to residential care; and,
- The identification of different forms of service provision that will enable Child and Adolescent Mental Health Service [CAMHS] staff to contribute to the substance misuse system[6].

[2] See http://www.dh.gov.uk/assetRoot/04/10/57/13/04105713.pdf
[3] Available electronically from http://www.teachernet.gov.uk/
[4] Available electronically from http://www.youth-justice-board.gov.uk/Publications/Scripts/default.asp?eP=
[5] See http://www.socialexclusion.gov.uk/downloaddoc.asp?id=785
[6] At the time of writing these had yet to be published, please refer to the NTA website for updates [*http://www.nta.nhs.uk*]

section 2

Methodology

2.1 A full methodology, which has undergone peer review by National Institute for Health and Clinical Excellence [NICE] research specialists, is available upon request from the NCCDP. The purpose of the briefing reviews was to present evidence derived from Government sponsored research in England and Wales to support effective practice in drug prevention. The methodology is summarised in Figure 2.1. The overall aim of this work was to improve practice in the context of key Government young people's policy.

2.2 In this report, the strength and robustness of prevention approaches has been graded by NCCDP researcher consensus according to criteria outlined in the methodology. These ratings are included in the summaries of research findings in sections 4 - 6. For consistency and clarity it must be noted that only key research themes were graded.

2.3 Briefly, the ratings are:

* Based on experience of best practice by health professionals and expert groups (e.g. consensus, nationally produced briefing/guidance documents).

** Only one medium quality study from the UK, two or more studies with inconsistent findings (on balance finding evidence of benefit or harm) or studies of medium quality from outside the UK.

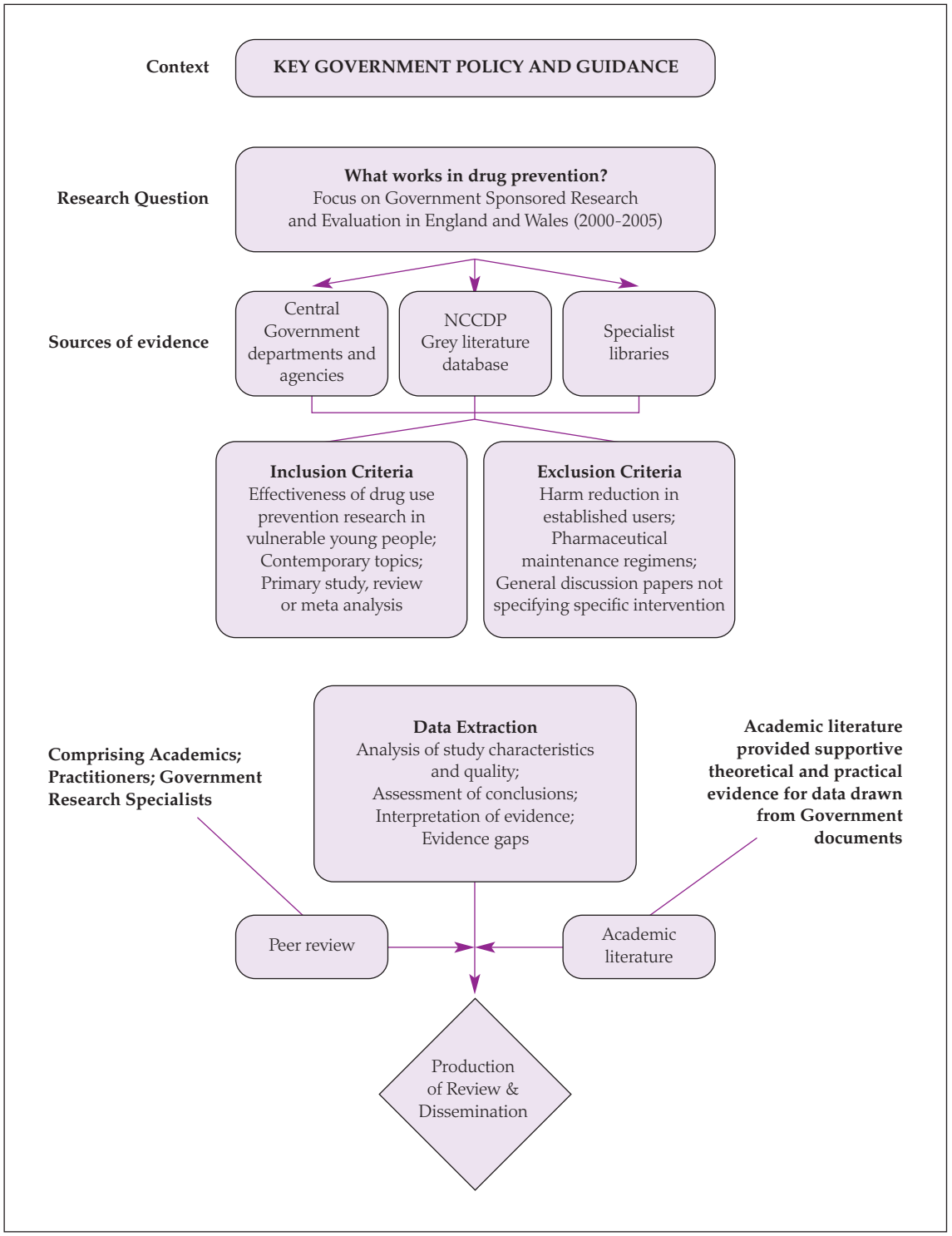
*** One good quality study or consistent findings in two or more studies of medium quality carried out within the UK and applicable to the target population OR 2 or more good quality studies from outside the UK but applicable to the target population.

**** Consistent findings in two or more studies of good quality carried out within the UK and applicable to the target population.

An additional rating criteria was used, which signified prevention approaches that warrant further research, typically because they showed promise in smaller scale research studies.

2.4 Findings based upon practitioner experience were those for which there may not yet be a robust evidence base but have been generated from the experiences of best practice by health professionals and expert groups [e.g. consensus groups, national briefing/guidance documents]. Medium quality findings were defined as being based upon well conducted, non-randomised intervention studies [controlled non-randomised trial, controlled before-and-after, interrupted time series], comparative cohort and correlation studies with a low to medium risk of confounding, bias or chance. Good quality findings were defined as being based upon well-conducted meta-analyses, systematic reviews of randomised controlled trials [RCTs], or RCTs with a low to medium risk of bias. Findings that did not fall under these criteria were either excluded or only included as contextual information.

Figure 2.1: Diagrammatic summary of the methodology used to prepare NCCDP briefing reviews



section 3

Main review findings

Sections 4 - 6 present research into the process, delivery, and outcome of the main types of prevention approaches. Please refer to these sections for descriptions of programme characteristics and published outcomes. This section summarises those findings according to the professional role for which they may be of most relevance.

3.1 Executives, senior managers, commissioners and budget holders

- Public health professionals [for example, Directors of Public Health [DPH] and community development staff].
- Policy and decision makers [for example, those working in regional Government Offices, Strategic Health Authorities [SHAs], the Drug Strategy Directorate [DSD] and cross-governmental drug misuse specialists].
- Commissioners and budget holders [for example, members of primary care trusts [PCTs], drug [and alcohol] action teams [D[A]ATs] chairs, and managers, and joint commissioners working in local authorities and the NHS.
- Children's trusts.

Key evidence for these professionals

- A variety of risk factors have been identified which not only impact upon drug using behaviours, but also key aspects of health development. It is therefore important that drug use is placed within a broader context of personal and social development, linked to other related health, social, and educational issues.
- Generic interventions, bringing together different professions and using multiple techniques target many of those dimensions that also contribute to drug use.
- A greater emphasis should be placed on ensuring effective training for specialist and generic workers.
- Family orientated programmes, with the aim of developing parenting skills and supporting improvements in the home environment, impact upon a wide range of health and social behaviours.
- The mass media is the most frequent source of information about drugs and responses to drugs. Good media relations and a responsive media policy has the potential to contribute to the development of community based initiatives and to engage the population in local services.
- School based social work and monitoring schemes have been shown to have some effect on drug use and attendance.
- The most effective prescribing services [tier 3 and 4] may be those that integrate prescribing into existing young person service provision.

3.2 Service providers

- Drug treatment services.
- Advocate groups.
- Tier 1 and 2 young people's substance misuse services.
- Resource developers.
- Counselling services.
- Youth Offending Teams [YOTs].
- Youth Offender Institutions [YOIs].
- Youth organisations.
- Social workers.
- Leaving care teams.

Key evidence for these professionals

- Drug use must be considered in the context of other vulnerabilities such as disengagement from school; lack of skills; unemployment; not living with parents; long term illness; living in homes where there is drug use by others; and developmental and behavioural disorders.
- Vulnerable groups of young people tend to report higher prevalence and frequency of drug use, and earlier ages of initiation.
- Targeted interventions should also specialise within target groups where there will be different levels of need and responsiveness.
- The key to successful recruitment of young people and their parents and families appears to be via those networks with school and community to which a service is most strongly linked. Target families with positive service experiences are also useful sources of further recruitment. Retention is enhanced by involvement of children or provision of meals, transportation and childcare.
- Less structured work, although still theory based, is often the most productive in working with young people.
- There is a limited amount of evidence to suggest that brief interventions may sucessfully help young people to moderate their drug use.
- Moderately intensive family-based interventions can have a positive effect upon a wide range of outcomes, including drug use, problem behaviours, educational engagement, and offending.
- Community mobilisation [projects which aim to help people feel more positive about community strengths and their potential to tackle problems caused by drugs], whilst a promising technique requires considerable strategic coordination. Such approaches have to look beyond the more obvious routes of youth services and schools, [e.g. media, business, and entertainment/cultural providers].
- Approaches in nightlife settings should promote healthy lifestyles in addition to consideration of drug use.
- Pharmacological interventions [at tier 3 and 4] should only be used after consideration of all risk factors, and in conjunction with other types of therapy.

3.3 Community-based professionals

- Healthcare professionals [for example, general practitioners, practice nurses, health promoters].
- Education specialists [for example, teachers in mainstream education and working with excludees] and school drugs officers.
- Community organisations.
- Youth groups.

Key evidence for these professionals

- Delivery of universal prevention is optimal before the transition period in mid adolescence [11-14 years old] as there is a greater attachment to family and educators than peers.
- Community based truancy interventions have significant effects upon psychosocial factors that subsequently modulate drug use.
- Schools play an important role in the delivery of universal drug interventions as they offer an efficient means of targeting a large number of people and have been identified as an important protective factor against drug use and social exclusion.
- The greatest barriers to school based interventions are poor implementation and dissemination.
- There is fairly good evidence to support interventions based on life skills approaches, normative education, commitment not to use drugs, and intentions not to use.
- There is often little consideration of non drug-related outcomes in prevention projects [e.g. health].
- Interventions that aim to improve the school environment make a positive contribution to reducing drug use.
- Healthcare professionals are ideally placed to contribute to family and community based interventions.
- Interventions preventing and delaying pregnancy in drug using young women, will reduce the likelihood of the foetus and infant being exposed to the harmful effects of drugs and drug use.
- Parenting in the context of problematic drug use places children at increased risk of physical harm and negative social and developmental outcomes.

3.4 Academics, designers, planners and evaluators of drug prevention projects

- Health professionals and drugs experts based in universities, government departments, D[A]ATs, PCTs, LEAs and SHAs.

Key evidence for these professionals

- In general, there is a poor culture of evaluation and research in the UK relating to drug prevention.
- There has been little work performed addressing the prevention needs of primary school aged children. Effective, theory based interventions need to be developed and evaluated.
- There is emerging, but promising, US based work on the effectiveness of strategies targeted at the years prior to birth, infancy, and childhood.
- The development of screening tools aimed at identifying those young people most at risk from drug use is required. These might include prodromes of problematic behaviour, personality traits, risk taking behaviours, attitudes to drug use and education.

3.5 Key gaps in research and practice

Based upon the literature sources and NCCDP reviewer consensus, important gaps in the research and practice evidence, which require further investigation, have been described. The whole field would benefit from the long term, longitudinal, outcome evaluation of drug prevention projects, something which is currently lacking. Table 3.1 describes key general gaps in particular prevention approaches according to professional role, and Table 3.2 extends this and considers gaps at different tiers. Table 3.3 presents key gaps in the context of Choosing Health; Drugs: Guidance for Schools; Every Child Matters; National Specification for Substance Misusers; and Transitions. The ordering of gaps does not represent perceived priorities.

Table 3.1: Gaps to be addressed by key professional groups across the tiered model. These have been chosen on the basis of the research reviews presented in sections 4 - 6, and are not intended to be exclusive.

GAP	EXECUTIVES, SENIOR MANAGERS, COMMISSIONERS AND BUDGET HOLDERS	SERVICE PROVIDERS	COMMUNITY BASED PROFESSIONALS	ACADEMICS, DESIGNERS, PLANNERS, EVALUATORS
RESEARCH AND EVALUATION	Allocation of resources to support development of pilots for new or innovative, evidence based interventions, through effective working of Local Strategic Partnership.	Working at all levels to disseminate intervention and research outcomes through a variety of media and presentation techniques.		General need for improved research and evaluation, and to foster a culture of research, particularly with regard to tiers 2 to 4.
LONG-TERM SUCCESS OF UK-BASED DRUG PREVENTION APPROACHES	As above.	Approaching research and evaluation [process, fidelity and outcome] as a means of improving practice, and fully integrating the evaluation from the intervention's conception.	Assessment of needs, resources and capacity to develop and deliver community based drug prevention programmes.	Undertake long-term research [>2 years] using robust outcome measures [e.g. reduction in drug use] of most approaches in the UK, particularly of drug prevention interventions for vulnerable young people and harm reduction interventions for problematic young drug users.
MULTI-AGENCY WORKING	Independent monitoring of multi-agency working.	Monitoring sources of referral, and appropriate use and quality of external providers.		Effectiveness of inter-agency and cross departmental working.
TIERED MODEL OF DRUG PREVENTION	Commissioning of needs assessment and health impact assessments to determine intervention needs across the four-tiered model for local populations.		Assessment of needs, resources and capacity to develop and deliver prevention programmes across the four-tiered model for local populations.	Undertake research to establish the relative effectiveness and cost-effectiveness of different approaches between and within the different levels of the tiered model.
COMMUNITY-BASED PROGRAMMES	Allocation of resources to support development of pilots for new or innovative, evidence based universal and targeted drug education programmes based in the community.		Engaging communities in the development of community based drug prevention programs through health promotion, health education, awareness raising and other community development activities.	Further research into the effectiveness of drug education delivered to young people in the community. Considering the relative effectiveness of universal and targeted programmes.
PARENT DRUG EDUCATION PROGRAMMES	Allocation of resources to support development of pilots for new or innovative, evidence based universal and targeted drug education programmes for parents and carers.	Maintaining an awareness of individual and group barriers to engagement with services and supporting young people in identifying, managing, and resolving risky [drug related] behaviours.	Engaging communities in development of community based drug prevention programs through health promotion, health education, awareness raising and other community development activities.	Further investigation of effective means of engaging and retaining parents and carers in drug education programmes.
		Approaching research and evaluation [process, fidelity and outcome] as a means of improving practice, and fully integrating the evaluation from the intervention's conception.		Further evaluation of UK-based drug education programmes for parents and carers including the relative effectiveness of targeted and universal approaches.

Table 3.2: Gaps to be addressed by key professional groups across Tiers 1 to 4. These have been chosen on the basis of the research reviews presented in sections 4 - 6, and are not intended to be exclusive.

GAP	EXECUTIVES, SENIOR MANAGERS, COMMISSIONERS AND BUDGET HOLDERS	SERVICE PROVIDERS	COMMUNITY BASED PROFESSIONALS	ACADEMICS, DESIGNERS, PLANNERS, EVALUATORS
TIER 1				
MULTI-COMPONENT UNIVERSAL DRUG PREVENTION PROGRAMMES	Allocation of resources and development of local implementation strategies to support pilot community-based multi-component ('holistic'), prevention programmes for young people through effective working of Local Strategic Partnerships.		Assessment of needs, resources and capacity to develop and deliver multi-component drug prevention programmes as a whole and as individual components.	Effectiveness of multi-component programmes and the relative effectiveness of individual components.
PRIMARY SCHOOL BASED DRUG PREVENTION	Allocation of resources to support development of pilots for new or innovative, evidence based interventions for the delivery of drug prevention to primary school-aged children.	Approaching research and evaluation (process, fidelity and outcome) as a means of improving practice, and fully integrating the evaluation from the intervention's conception.		Undertake further evaluation of the effectiveness of different approaches for the delivery of drug education to primary school aged children. Focusing on the recommendations in Section 3.
TRANSITION BETWEEN PRIMARY AND SECONDARY SCHOOL			Maintaining an awareness of the vulnerabilities that children may face during the transition period between primary and secondary school.	Further investigation of interventions that provide continuity during the transition period between primary and secondary school.
DEVELOPMENT AND IMPLEMENTATION OF SCHOOL DRUG POLICIES	Allocation of resources to support development and implementation of effective, evidence-based drug policies in schools.		Assessment of needs, resources and capacity to develop, deliver and support the implementation of evidence-based, effective school drug policies.	Further evaluation of effective ways of supporting schools to implement evidence-based, effective school drug policies.
MASS MEDIA AND SOCIAL MARKETING CAMPAIGNS	Allocation of resources to support development of pilots for new or innovative, evidence based mass media and social marketing campaigns.	Approaching research and evaluation (process, fidelity and outcome) as a means of improving practice, and fully integrating the evaluation from the intervention's conception.		Further evaluation of the effectiveness and cost-effectiveness of mass media and social marketing campaigns.
GENERIC AND EARLY YEARS INTERVENTIONS		Considering drug use within the broader context of young people's biographies (generic health, social, and education improvements may be more important than specific health outcomes).		Further research into the impact of generic and early years interventions (targeting broader themes such as social inclusion and health) on drug use.
TIER 2				
DIVERSIONARY/ INCLUSION PROGRAMMES	Allocation of resources to support development of pilots for new or innovative, evidence based diversionary/ inclusion programmes.	Approaching research and evaluation (process, fidelity and outcome) as a means of improving practice, and fully integrating the evaluation from the intervention's conception.	Assessment of needs, resources and capacity to develop and deliver appropriate diversionary and inclusion programmes.	Undertake longitudinal research on the impact of diversionary/inclusion interventions (e.g. Positive Futures) on drug use and other related social and health behaviours.

continued.....

GAP	EXECUTIVES, SENIOR MANAGERS, COMMISSIONERS AND BUDGET HOLDERS	SERVICE PROVIDERS	COMMUNITY BASED PROFESSIONALS	ACADEMICS, DESIGNERS, PLANNERS, EVALUATORS
EARLY INTERVENTION FOR HIGH RISK YOUTH	Commissioning of needs assessment to determine intervention needs for local populations of young people with early onset drug use.		Maintaining an awareness of the high-risk behaviours that may indicate future problematic drug use in a young person (e.g. educational underachievement, sensation seeking, risk taking).	Undertake further research into effective interventions for young people with early onset drug use.
TRUANTS AND SCHOOL EXCLUDEES	Commissioning of needs assessment to determine intervention needs for local populations of truants and excludees.		Assessment of needs, resources and capacity to develop and deliver appropriate services (e.g. alternative education provision, access to employment) for school excludees.	Evaluation of drug education provision for school excludees and the transition to alternative education provision, including long term strategic approaches to absenteeism and exclusion.
YOUNG OFFENDERS	Commissioning of needs assessment and health impact assessments to determine intervention needs for local populations of young offenders.		Assessment of needs, resources and capacity to develop and deliver appropriate services for young offenders.	Further research into the needs of young offenders. Consideration of appropriate drug treatment interventions and other behavioural and social interventions.
LOOKED AFTER CHILDREN AND CARE LEAVERS	Allocation of resources to support development of pilots for new or innovative, evidence based programmes for drug-using parents and their children.	Becoming active participants in training and professional development in order to address the need for standardised drug education for those caring for young people in residential units and foster care. There is a need for focus on transferable skills.	Identification of training needs and delivery of training programmes for the development of standardised drug education for those caring for young people in residential units and foster care. Maintaining an awareness of the challenges that care leavers may face.	Further research into the provision of standardised drug education (including VSA) for those caring for young people in residential units and foster care.
CHILDREN IN DRUG USING FAMILIES	Commissioning of needs assessment and health impact assessments to determine intervention needs for local populations of children in drug using families.	Mainstream statutory services need to investigate whether current interventions and services, which may have only been evaluated in small populations, would be effective in the wider population of drug using families.	Assessment of needs, resources and capacity to develop and deliver appropriate services for drug-using parents and their children.	Undertake further research on the effectiveness of services supporting families and carers of problematic drug users. Consider the transferability of US and Australian-based programmes. Investigate the needs of drug-using parents in terms of treatment and support.
BME POPULATIONS	Commissioning of needs assessment and health impact assessments to determine intervention needs for BME communities.	Need for capacity building within BME communities alongside the development of local partnerships to deliver culturally appropriate services, including the delivery of drug prevention services within wider non-specialist services (e.g. GP surgeries).	Engaging BME communities in the development of community based culturally appropriate drug prevention programmes through health promotion, health education, awareness raising and other community development activities.	Further investigation of the effectiveness of BME targeted drug prevention programmes e.g. prevention effects of programmes with cultural components.

continued.....

GAP	EXECUTIVES, SENIOR MANAGERS, COMMISSIONERS AND BUDGET HOLDERS	SERVICE PROVIDERS	COMMUNITY BASED PROFESSIONALS	ACADEMICS, DESIGNERS, PLANNERS, EVALUATORS
TIERS 3 AND 4				
TIER 3 AND 4 INTERVENTIONS	Allocation of resources to support development of pilots for new or innovative, evidence based interventions at tiers 3 and 4, through effective working of Local Strategic Partnership. Commissioning of needs assessment and health impact assessments to determine intervention needs for local populations of children in drug using families.	Approaching research and evaluation (process, fidelity and outcome) as a means of improving practice, and fully integrating the evaluation from the intervention's conception.	Assessment of needs, resources and capacity to develop and deliver appropriate tier 3 and 4 services.	Undertake evaluation of the effectiveness of interventions and approaches at tiers 3 and 4, particularly with regards to: • Needs of young people referred to tier 4 services; • Effectiveness of harm reduction strategies in reducing risk-taking behaviour. • Pharmacological management of drug dependence. • Factors determining successful retention, outcomes and relapse prevention. • Relative effectiveness of pharmacological agents for the management of uncomplicated detoxification. • Effective models of care at tier 4 e.g. residential versus foster care placements.

Table 3.3: Key research and evidence gaps, which if addressed, would help to support and achieve the aims of national guidance and policy. These have been chosen on the basis of the research reviews presented in sections 4 - 6, and are not intended to be exclusive.

CHOOSING HEALTH	• Understanding how clusters of risk factors lead to an increase in individual vulnerabilities to poor health and increase health inequalities. • Exploration of how drug use is perceived as a stigmatising factor in marginalised groups and how this may prevent young people from seeking help for a broad range of health related problems. • Understanding how strengthening of generic protective factors leads to protection against a variety of risky behaviours. • Understanding how resilience to drug use in some young people raised in environments of social and health inequality relates to personal, psychological, and emotional factors. Understanding the importance of healthy behavioural choices in these young peoples' lives when balanced against all other available behavioural choices. • Longitudinal research on the impact of intervention approaches such as diversionary/social inclusion projects, self efficacy strategies, parenting skills, on healthy lifestyles.
DRUGS: GUIDANCE FOR SCHOOLS	• An examination of the effectiveness of current drug related curricula in school, and the skills needs of teachers tasked to deliver it. • Investigation of how drug use becomes a barrier to school attendance and re-engagement. • Examination of how exclusion may lead to an escalation of drug use, with particular respect to prevalence and causation. • Strategies to improve the whole school environment and how this affects risk factors such as educational aspiration, truancy and absenteeism, and parental engagement. • How transition to alternative education provision and/or employment affects drug use and behaviour. • Description and effectiveness of long term strategic approaches to absenteeism and exclusion.
NATIONAL SPECIFICATION FOR SUBSTANCE MISUSERS FOR JUVENILES IN CUSTODY	• Investigation of the effectiveness of [early] family and social interventions upon offending behaviour. • Further surveys on drug use in young offender populations, including additional analyses that allow a greater understanding of differences in drug use on the basis of sex and ethnicity. • Examination of the initiation of drug use in young offenders after they have entered the criminal justice system, and effective responses to such uses.
TRANSITIONS	• Examination of models of multi-agency working and the development of toolkits to assist local strategies. • Optimum transition stage between youth and adult services. • Examination of changes in drug using behaviours, and support pathways in those leaving youth services. • Service provision for marginalised groups within the care system should be explored, and research conducted into effectiveness and appropriateness. • Research is needed into the most appropriate way of incorporating drug prevention interventions within broader programmes targeted towards this population.
EVERY CHILD MATTERS	• Specific gaps for previous policies are relevant. • Modelling of drug using careers. • Development of tools for assessing drug use within young people's services. • Longitudinal evaluation of youth orientated projects on a range of health behaviours, including drug use.

section 4

Tier 1

Interventions

Tier 1 services are universal drug education and interventions targeted at all young people, regardless of their level of risk. Any professional group in contact with young people delivers tier 1 services; specialist knowledge about drugs is not necessarily needed.

Intervention	Evidence Grading					Nature of evidence
	🏳	*	**	***	****	
School-based drug prevention [aged 11+]				✔		Effectiveness shown but more effective in those at low risk. Programmes based on life skills show most consistent effects.
Primary school-based drug prevention	✔		✔			Should focus upon family intervention and parent education, and school organisation and behavioural management.
Peer education	✔		✔			Findings are mixed.
Family intervention	✔		✔			Little UK research has been undertaken.
Community-based drug prevention	✔	✔				Lack of research evaluating universal approaches.
Mass media	✔		✔			Standalone interventions are not effective.
Parent education	✔			✔		Some evidence for effectiveness based on related factors.

🏳 warrants further research; * based on practitioner experience [i.e. good practice]; ** medium quality finding; *** medium to good quality finding; **** consistent, good quality finding.

SCHOOL-BASED UNIVERSAL PREVENTION PROGRAMMES

Understanding drug use

4.1 Recent surveys of drug use indicate that approximately 18% of pupils [aged 11 to 15 years] have taken drugs within the last year and 10% within the last month [*Department of Health, 2005*], highlighting the need for ongoing drug prevention initiatives for young people.

4.2 Schools have an important role to play in the delivery of drug education as they offer an efficient means of targeting a large number of young people and have been identified as an important protective factor against drug use [*Lloyd et al., 2000*].

Effective practice

4.3 Review level evidence has identified that school-based intervention programmes aimed at young people can delay the onset of substance use by non-users for a short time, and temporarily reduce use by some current users [*Canning et al., 2004; McGrath et al., 2006*]. School or curricular-based drug prevention appears to be more effective in lower-risk young people than those at higher risk, which may have implications for cost-effectiveness.

4.4 Life Skills Training [LST], or approaches based upon it, is one of the few programmes that has demonstrated a small but positive effect on reducing indicators of drug use. However, it should be noted that the programme is only effective when fidelity and completeness of delivery are high, and that the longevity of the effect may also be questionable [*Coggans et al., 2003*].

4.5 A recent systematic review published by the Cochrane Collaboration [*Faggiano et al., 2005*] found that programmes based on life skills were the most consistent at reducing some aspects of drug use in school settings, indicating that there is fairly good evidence to support drug programmes based on the social influence model. Normative education, students' commitment not to use drugs and intention not to use drugs are also reported to be important mediators of drug use [*Cuijpers, 2002a, b*].

4.6 There is weak evidence to support the finding that effective programmes tend to include booster sessions [*White and Pitts, 1998*]. For example, most of the programmes found to have a positive impact on cannabis use had booster sessions [or similar extra components] that aimed to reinforce the effects of the programme [*Skara and Sussman, 2003*].

4.7 Based on weak evidence, school-based programmes may be more effective when they are delivered to pupils between the ages of 11 to 14 years [*Gottfredson and Wilson, 2003*]. Therefore, it may be suggested that delivering prevention programmes to primary school pupils does not have long-term positive effects that outweigh the benefit of providing such programmes to middle/high school students.

4.8 There is no convincing evidence to indicate that intensive programmes are more effective than non-intensive programmes [*Gottfredson and Wilson, 2003; White and Pitts, 1998*].

4.9 There is little supportive evidence for the effectiveness of primary school based prevention [i.e. children aged 5-10 years]. However, this may largely be due to the lack of pertinent research in this area, and social attitudes opposing drug education in young children. Evaluation suggests that primary school education that focuses upon knowledge, attitudes, and values has limited benefit [*Godfrey et al., 2002*]. Review of the limited literature available suggests that primary school interventions should focus upon family intervention and parent education, and school organisation and behavioural management [*Lloyd et al., 2000; Toumbourou et al., 2005*].

4.10 Compared to the US, where the majority of the research evidence originates from, the effectiveness of different elements within multi-componented programmes have not been sufficiently examined in the UK. Due to the poor methodology of the studies that have examined multi-component programmes there is little evidence that combining 'social environment change' [such as parent training, mass media and community-wide programmes] with school-based interventions is more effective than delivering school-based interventions alone [*Flay, 2000*].

4.11 Findings are mixed with regard to the effectiveness of peer-led education [*Canning et al., 2004; McGrath et al., 2006a; McGrath et al., 2006b*]. It appears that the child or young person delivering the intervention tends to benefit most from the experience. Based on results from one meta-analysis [*Cuijpers, 2002b*] the use of peer educators was found to be an effective characteristic of multi-component programmes that had 'strong evidence' of effectiveness. However, this positive effect only seems to be supplementary. Evidence suggests that peer educators can only help increase the effectiveness of an already successful programme, and that the effect may be relatively short-lived.

4.12 Drama or theatre has been used in the UK as a method for drug prevention and education, and during the 1990s was promoted as an innovative approach to drug education. Whilst there is a lack of evidence regarding the efficacy of such methods in changing health-related behaviour, there is some evidence to suggest that they may appear to be more effective at changing attitudes to drug use than traditional information dissemination approaches [*Canning et al., 2004; McGrath et al, 2006a*].

4.13 There is a lack of research evaluating the effectiveness of primary prevention interventions, such as the introduction of random drug testing in schools [*reviewed by McKeganey, 2005*]. The introduction of such programmes raises a wide range of concerns including undermining of trust between staff and pupils. A large scale national study of the rates of drug use in the US, comparing schools with and without testing, showed no difference in reported prevalence, indicating that the intervention was not responsible for reducing drug use [*Yamaguchi et al., 2003*].

Delivery

4.14 Interactive approaches to drug education [e.g. role-play] are more effective than non-interactive approaches [e.g. a lecture] [*Faggiano et al., 2005*]. According to one meta-analysis [*Tobler et al., 2000*] there was 'strong evidence' to suggest that interactive methods of delivering drug prevention interventions were more effective than non-interactive methods in reducing drug use.

4.15 Research undertaken in the US indicated that although schools were implementing evidence-based, effective school programmes the quality of implementation was often low because of lack of teacher training, lack of materials and the failure to deliver lessons to age appropriate groups [*Hallfors and Godette, 2002*].

4.16 Schools need support to enable them to develop and implement effective drug policies and education. Approved community-based agencies may usefully support schools and successful implementation may be linked to the whole school viewing drug education as a priority [*Evans et al., 2001*].

4.17 An emphasis should be placed on ensuring effective teacher training as drug education is more effective when taught by teachers who have acquired the necessary subject knowledge.

FAMILY-BASED UNIVERSAL PREVENTION PROGRAMMES

Understanding drug use

4.18 Family factors play an important role in young people's choices around drug use. For example, a cohesive family unit and high parental supervision have both been shown to be protective against drug use [*Best and Witton, 2001*]. Research on the effects of parenting styles has frequently distinguished between parental support, monitoring, and rule-setting. In general, strong parental support and monitoring has been found to be associated with less drug use. In contrast, studies of parental rule-setting have either found no such association, or a positive association. Generally, the two extremes of over-protective and unsupportive, as well as poorly defined and combative parental relationships can be associated with drug use.

4.19 Serious difficulties have been found in recruiting and retaining families in drug prevention programmes [*Velleman et al., 2000*].

Effective practice

4.20 Canning and colleagues [*2004*] found that British parent-orientated programmes have not been adequately evaluated. There is an indication that such programmes may be poorly attended, particularly among parents who drink and smoke more heavily.

4.21 Following evaluation of five drug prevention programmes for parents, Velleman and colleagues [*2000*] found that the key to successful recruitment of parents appeared to be the networks within the school or community to which a project was most strongly linked. Following engagement in these programmes parents reported that they were more knowledgeable about licit and illicit drugs, and felt more able to communicate with their children about drugs. Parents also reported an impact in terms of more broad support including increases in self-confidence, and in general communication and parenting skills.

4.22 Behavioural parent training, family skills training and family therapy have been identified as effective family strengthening interventions [*Kumpher and Alvarado, 2003*], although it is unknown whether they are significantly more effective other types of approaches.

4.23 Examples from the international literature demonstrate that there is early evidence that moderately intensive family-based interventions can reduce risk factors for drug use in children. For example, The Strengthening Families Program For Parents and Youth was aimed at 10-14 year olds, and provided guidance to parents on family management skills, communication, academic support, and parent-child relationships [*Spoth et al., 2002*]. Evaluation found delayed initiation of alcohol and cannabis use at six-years follow up. Other findings showed improved youth resistance to peer pressure to use alcohol, reduced affiliation with anti-social peers, and reduced levels of problem behaviours.

4.24 There are promising indications in the international literature that parent education programmes may impact on cannabis use and may be a potentially useful strategy to assist families facing a high number of risk factors for harmful adolescent drug use [*Loxley et al., 2004*].

Delivery

4.25 Evidence from the US indicates that interactive approaches are a more effective method for delivering family focused interventions [*Kumpher and Alvarado, 2003*]. Programmes delivered in an interactive manner were well received, particularly by parents with low socio-economic status.

COMMUNITY-BASED UNIVERSAL PREVENTION PROGRAMMES [INCLUDING MASS MEDIA INTERVENTIONS]

Understanding drug use

4.26 Community-based interventions may be described as a combined set of activities organised in a specific region or town, aimed at adolescents, as well as parents and other people and organisations [*Burkhart and Matt, 2003*]. However there is a lack of a uniform concept of the term.

4.27 An important role for businesses was identified as part of the Updated Drug Strategy [*2002*], maximising the potential of the workplace as a setting for awareness raising, education and support for employees through the introduction of drug and alcohol policies and the distribution of information.

4.28 The media is the most frequent source of drugs information for young people. The most appropriate roles for media communications campaigns are raising awareness of messages and interventions, and encouraging attitudinal change. Television could be a useful medium through which to communicate with young people, as they are heavy media consumers, particularly of mainstream television shows [*Stead et al., 2002*]. However, research from the US, where mass media campaigns are long established have shown mixed results, and whilst parents received them favourably, they have no distinguishable effects on youth [drug-related] behaviour.

Effective practice

4.29 Community interventions have been commonly delivered in combination with other drug prevention initiatives such as those based in schools. While there is evidence that additional components, including community-wide programmes, can be effective, there is little evidence of the added effects of these approaches over and above the school-based programmes [*Flay, 2000*]. Few studies have been able to separate the added effects of community interventions, and of those that have, the findings are inconclusive.

4.30 The international literature demonstrates that although community mobilisation may require considerable coordination, there is some evidence in favour of this type of strategy [*Loxley et al., 2004*]. In a small-scale study in the UK, Smith [*2001*] found that consulting and engaging the community helped people to feel more positive about the strengths of their community and its potential to tackle problems caused by drugs. The research identified that communities may have to be creative in building effective partnerships, such as looking beyond the 'obvious routes of youth services [and] schools', in order to deliver drug prevention activities.

4.31 Currently, youth work practice does not appear to be a particularly appropriate setting for universal drug prevention, especially in young children. A survey of drug education policies and practice in the youth service in England found that provision of drug education was diverse and that there were a number of different models of intervention [*Drugscope, 2003*]. Most services were addressing drug issues at tier 1 and 2. 'Holistic' programmes, using an interactive approach and combining health and lifestyle elements with drug issues, may be the most appropriate method of drugs prevention education in youth work practice [*Ward and Rhodes, 2001*].

4.32 The working environments of some youth workers and the responsive nature of youth work have proved to be barriers to the implementation of projects in youth work settings [*Shaw, 2001*]. Ward and Rhodes [*2001*] identified that project workers felt it was inappropriate to place too much emphasis on drug use and, in particular, schools were identified as a more appropriate setting for drugs education in younger children [8-12 years].

4.33 Universal drug prevention initiatives are unlikely to be an effective means of delivering drug education to the majority of those participating in the nightlife environment, as drug use is already likely to be high [*Deeham and Saville, 2003*]. However, universal initiatives may potentially exert effects on younger individuals, new to the nightlife environment and contemplating taking drugs for the first time.

4.34 Universal approaches in the nightlife environment should promote consideration of health related behaviours surrounding drug use and lifestyle [*Panagopoulos and Ricciardellis, 2005*]. Environmental variables play an important role in drug-related harm and so need to be regulated and monitored. There is also the potential to provide accurate information on safer drug use [*Webster et al., 2002*], although, as with other information-based approaches, there is no evidence that this approach influences behaviour.

4.35 Drug testing in the workplace has not been shown to be an effective deterrent against drug use [*Independent Inquiry into Drug Testing at Work, 2004*], which largely takes place outside the work environment. Work-based prevention initiatives could potentially stress the impact of acute and sub-acute drug [and alcohol] intoxication upon performance and safety.

4.36 Media interventions have not been shown to be effective in preventing drug use if they are used as a stand-alone intervention [*McGrath et al., 2006b*]. Evaluation of the US National Youth Anti-drug media campaign [launched in 1997 and primarily targeting 10 year olds] found that although the campaign had a favourable effect on parents, it was not effective in preventing drug use, or changing beliefs or attitudes in young people [*Hornik et al., 2003*].

4.37 Media advocacy has the potential to contribute to community-level drug prevention initiatives and to actively engage young people in local and community-based projects. In addition, media can be a useful method to raise an intervention or agency profile, and assist in securing support from key stakeholders and investors [*Eadie et al., 2002*].

Delivery

4.38 In a meta-analysis that examined the relative effectiveness of different media sources in the US [*Derzon and Lipsey, 2002*], messages communicated via video were associated with the largest positive effect on three drug related outcomes, behaviour, attitudes and knowledge. In addition, supplementing the media message with other components [such as group discussion, role play or supportive services] was associated with a positive effect on these outcomes.

GENERIC UNIVERSAL PREVENTION PROGRAMMES

Understanding drug use

4.39 Factors associated with both a greater and a reduced potential for drug use have been identified and these may impact on the psychological and social development of young people [*Best and Witton, 2001*]. Many of these risk factors also predict other adolescent problem behaviours and it is important that the delivery of drug prevention is set within a broader context of personal and social development, linking to other related health, social and educational issues.

4.40 A number of prevention strategies may target drug use as one component within a broader set of prevention goals, they may target drug use explicitly or contribute to the reduction of drug use by addressing common developmental determinants [*Loxley et al., 2004*].

Effective practice

4.41 Research evidence is limited, but US evaluation of universal interventions targeted at years prior to birth, infancy and childhood have shown some promise [*reviewed by Loxley et al., 2004*].

4.42 Sure Start is a government programme supporting children and their families from birth up to age 14 [up to age 16 for children with special needs or disabilities]. The programme aims to increase the supply of good quality early learning, childcare and health, and family support, as well as encouraging the development of integrated and joined up services. Early evaluation of the programme indicated that when variation within Sure Start Local Programmes [SSLP] and comparison areas was considered, SSLP areas were more than twice as likely to show evidence of better-than-expected functioning across multiple outcomes related to child development and parenting [*National Evaluation of Sure Start, 2004*].

4.43 Universal services may play an important role in identifying mothers with substance-related needs and/or drug-exposed children through screening and assessment. Small-scale studies have shown that pregnant women accept screening and assessment, but that no behavioural outcomes have yet been established [*Loxely et al., 2004*].

4.44 The international literature demonstrates a promising role for family home visiting in reducing family-level risk factors for drug abuse [*Loxley et al., 2004*]. However, intensive home visits are only cost effective when provided as a selective or indicated intervention, and may provide no benefit when applied universally.

4.45 The international literature demonstrates the value of childhood parent education programmes for tackling child behaviour difficulties [*Loxley et al., 2004*]. A systematic review of parent education programmes in children aged 0 to 4 years showed that these programmes have moderate effects, with short-term improvements observed in two thirds of participants [*Mitchell et al., 2001*]. These programmes focused on developing strong bonds between parents [generally mother] and child, and ensuring parenting competency to meet developmental needs.

4.46 Engagement in school is a protective factor against harmful drug use and international research, mainly US-based, indicates that interventions to improve the school environment may make a contribution to reducing risk factors for drug use [*Loxley et al., 2004*]. Preparing children for school is only a practical strategy for vulnerable families, where it has shown positive effects on indicators such as academic achievement and readiness.

4.47 Although interventions have been successful in preventing and delaying pregnancy in young women [*Swann et al., 2003*], their outcome in preventing pre-birth exposure to drug use and drug use problems in further generations has yet to be demonstrated.

section 5

Tier 2

Interventions

Tier 2 services are at the frontline of specialist services. Youth orientated services are delivered by practitioners with specialist youth knowledge and some knowledge of drugs and alcohol. Examples of practitioners include Child and Adolescent Mental Health Services (CAMHS) staff, voluntary youth services, paediatric and psychology staff, Connexions personal advisors, YOT workers, and others with a specialist role within universal services.

Intervention	Evidence Grading					Nature of evidence
	⚑	*	**	***	****	
Generic interventions	✔		✔			Interventions that simultaneously address individual, familial, and extrafamilial determinants of behaviour and risk factors in naturalistic environments have shown success at reducing drug use.
Individually targeted interventions	✔			✔		Less cost effective for number of individuals reached compared with group or programme approaches but are tailored to the specific needs of the individual.
Family-based intervention [including early intervention and interventions with children of drug using parents]	✔		✔			High intensity programmes have shown effects on drug related behaviours.
Targeted community based interventions	✔					Some success in preventing escalation of drug use.
Targeted/selective school based interventions	✔					Short term effects. Life skills approaches evaluated in the US have shown some small effects.
Counselling	✔					Little evidence of success.

⚑ warrants further research; * based on practitioner experience [i.e. good practice]; ** medium quality finding; *** medium to good quality finding; **** consistent, good quality finding.

Interventions continued

Intervention	Evidence Grading					Nature of evidence
	⚑	*	**	***	****	
Peer led education	✔		✔			Is insufficient alone, should be part of co-ordinated strategy.
Interventions to reduce absenteeism/exclusion	✔	✔				School-based social work schemes have some effect on drug use. Indirect effects of absenteeism monitoring.
Specialist interventions for young BME populations	✔	✔				Many general prevention approaches should be successful in this population. Key is accessibility and relevance of services.
Interventions for cared for youth	✔		✔			Substance use behaviour may be modified by involvement in multi-component programmes.
Interventions for young offenders	✔		✔			May reduce rates of offending, reoffending and imprisonment.

⚑ warrants further research; * based on practitioner experience [i.e. good practice]; ** medium quality finding; *** medium to good quality finding; **** consistent, good quality finding.

GENERIC INTERVENTIONS FOR VULNERABLE OR AT-RISK YOUNG PEOPLE

Understanding Drug Use

5.1 There is generally no difference between more vulnerable young people[7] and their peers in adaptation to drug use, and in the ability to reduce levels of drug use. However, opportunities of exposure to drugs, and attitudes to drugs and their use are often different.

5.2 Drug use must be considered in the context of other vulnerabilities such as; disengagement from school; lack of skills; unemployment; not living with parents; living in families where drugs are used regularly; living in violent circumstances; long term illness; developmental and behavioural disorders; physical and/or sexual abuse; bereavement; pregnancy, or responsibility for pregnancy.

Effective Practice

5.3 Less 'structured' work is often the most productive in encouraging young people to discuss sensitive or personal issues [*Bauld et al., 2004*]. Drug focused interventions are most successful when delivered in conjunction with other intervention techniques appropriate to the given group. A flexible approach, which allows for unplanned issues to be addressed, is vital when working with this group. A successful intervention is often as likely to be determined by the quality of the care as adherence to any particular model of care. However, individual client focused skills must still be placed in the context of theories about the prevention techniques being used and how prevention aims with the intended target group can be achieved. This will support the sharing of success and good practice.

[7] See Edmonds et al., 2005

5.4 Generic interventions, bringing together different professions and using multiple techniques, target many of those dimensions that contribute to the wider spectrum of risky/problematic behaviours [e.g. involvement in crime, sexual risk taking], and have shown success at reducing drug use [*e.g. August et al., 2001; Bushell et al., 2002; Vimpani and Spooner, 2003*]. There is the growing recognition that much of the association between different problem behaviours arises from the influence of common risk factors, so if an intervention only addresses drug use then co-morbid behavioural problems may re-emerge, often in conjunction with higher levels of drug use. In general, most research concerning generic interventions has not examined drug use *per se*. However, interventions that simultaneously address individual, familial, and extrafamilial determinants of behaviour and risk factors in naturalistic environments [e.g. home, school, community] have exhibited some success in preventing drug use and other problematic behaviours [e.g. Multisystemic Therapy in the US targets those factors in an individual's social network that contribute to problematic behaviour]. Such programmes may also encompass employment programmes, mentoring, and community regeneration. There is also some weak evidence for the long-term effectiveness of generic early interventions, although most of the few evaluations of programmes for primary school age children have shown ineffective results so far. Where success has been observed, parental involvement/ partnership has been shown to be an essential determinant. Most of those exhibiting positive outcomes have been selective interventions and focussed on young children who exhibit emotional or behavioural problems. One example of a US project that has shown positive outcomes for drug use is the Early Risers Skills for Success, which included child and family intervention targets. Social development and social ecology theories provided the conceptual foundation for content of the major intervention components CORE and FLEX, respectively. CORE was a coordinated set of standardised child-focused interventions that promoted healthy development by teaching skills pertinent to emotional regulation, prosocial peer affiliation, and school adjustment. This component was delivered within the context of child- and parent-focused education and skills training programmes during summer and regular school year periods. The FLEX component was a family support, empowerment, and service-brokerage intervention that was individually tailored in response to the needs of individual families. Access to services was organised by home-visiting family advocates who provided consultation, support, and brief interventions to assist families in solving daily hardship and stress-related problems. When more serious basic living and health problems were identified, family advocates brokered specialised services with community-based agencies.

5.5 Individually targeted interventions are more [cost] effective for vulnerable groups who have initiated drug use [*Becker and Roe, 2005*]. Successful targeted interventions also specialise within targeted groups, as successes at a group level may not indicate success in the most vulnerable. Whilst tier 2 services generally do not target drug naive individuals [but may target those at high risk of initiation] research from the US has suggested that sometimes grouping users and non users together in intervention sessions has positive outcomes on behaviour [*Catalano et al., 1998*]. For example, targeting high and low risk individuals together may have the advantage of enabling high risk individuals to observe and learn positive behavioural patterns from low risk peers.

Delivery

5.6 Delivery timing is optimal before the transition period in mid adolescence [*Bushell et al., 2002*]. This is because more protective factors exist in early adolescence, and with age peer relationships are likely to be stronger and commitment to family activities weakens.

5.7 Multisite evaluations allow analysis of variations in method and place, and improve design and implementation of interventions [*Sambrano et al., 2005*]. These types of evaluation are designed to compare programme characteristics, their relation to programme effectiveness, and common primary data across sites. They lead to the identification of the relative effectiveness of different intervention and implementation strategies in real world settings. They may represent a more efficient approach to knowledge generation than multisite trials of particular programme models, as they are placed in the context of real world practice. They may also overcome some of the [quality] limitations of community-generated data when evaluating prevention by meta-analysis. Common instruments on drug use, prevention exposure, programme fidelity, case study narratives, and data collection protocols are used across sites. Interventions are characterised according to the type of prevention; e.g. behavioural skills, information focussed, diversionary, affective programmes. Implementation measures categorise high or low fidelity, and intensity measures indicate the number of hours/week participant engaged with intervention. Data are also collected on control group prevention exposure, i.e. universal or specialist services not incorporated into the multisite evaluation. One such example was a large multisite evaluation in the US, the National Cross Site Evaluation [*Sambrano et al., 2005; Springer et al., 2002*]. Overall, the evaluation found no significant effects of programme participation upon recent drug use, but the subsequent analyses suggested ways of locally delivering services and improving approaches.

PEER LED EDUCATION

Effective Practice

5.8 Peer based education, delivered as part of a multicomponented or comprehensive approach needs careful consideration of the facilitator used [peer] and comprehensive training must be provided [*Erhard, 1999; Gottfredson and Wilson, 2003; Midford et al., 2000; Shiner, 2000*]. Interventions fail in the absence of good quality training. Peer outreach and education alone is insufficient to affect drug use intentions or behaviours, and so should be part of a co-ordinated strategy. Generally, peer delivery should only be considered as an addition to already successful interventions. Where used, peers should be well matched to the target population [e.g. [ex-] heroin dependent users are unsuitable for drug abstaining or a clubbing population]. Inappropriate adult co-facilitation [e.g. teacher] reduces the effectiveness of peer education. Poorly implemented peer interventions have the potential to increase affiliations between youth with a high number of risk factors, reinforcing attitudes favourable to drug use. All evidence suggests that this type of approach may be more beneficial for peer educators than recipients.

Delivery

5.9 Evaluated community-based peer education projects delivered in the UK have aimed to recruit educators from socially excluded areas or from targeted BME communities [*Shiner, 2000*]. These interventions have aimed to benefit both peer leaders and recipients of the peer-led sessions. A strong emphasis is placed on the personal development of the peer educators [e.g. personal support in housing, skills and career development]. On the other hand, school-based interventions tend to recruit peer educators from participating schools rather than the wider community. They usually have relatively more stable background than the peer leaders of the community projects and tend to focus more on the delivery of peer-led sessions than personal development of the peer leaders.

5.10 Process evaluation highlights several key issues for implementation of peer-led projects [*Shiner, 2000*]. Firstly, it is important to support peer educators with non-educational but essential issues in facilitating a group, for example, by influencing group dynamics and discipline without seeming authoritarian. Secondly, it is important to develop a policy on confidentiality and personal disclosure about drug use. Peer educators commonly feel uncomfortable about personal disclosure of drug use as this may lead to the risk of being labelled as a drug user [regardless of current abstinence status] and the danger of giving the impression to the audience that using drugs is an acceptable activity. Similarly, the policy should cover a procedure for when and how to intervene if a member of the target group discloses information about personal drug use. Peer educators may not be trained counsellors but it is important that are able to make appropriate suggestions for suitable sources of help and information. Thirdly, it is important to consider that the presence of a class teacher in a peer-led session could inhibit an open and honest

dialogue among students. External contributors such as youth workers, drugs workers, or health professionals could be present during a peer-led session, instead of a classroom teacher [*White et al., 2005*]. These groups are perceived to maintain confidence more than teachers, although appropriate action should be taken if the health and welfare of an individual is of concern. Fourthly, peer leaders may have a lack of knowledge and experience in leading drug prevention sessions. Therefore, there is a possibility of peer leaders providing misinformation and/or missing opportunities to provide relevant information during a session. Having an external contributor in a peer-led session, which can help maintain the quality of the sessions, can also solve this problem

5.11 Shiner [*2000*] also discussed four valuable aspects of peer-based approaches. Firstly, drug prevention messages or information can often also be successfully disseminated through peer educators' informal networks, such as school friends. On the other hand, educators can fill in a role of semi-formal deliverers. For example, a peer educator from one of the community-based projects described by Shiner distributed clean needles from a drug dealer's flat. It is difficult for those who are not actively involved in the drug scene to carry out this type of operation. Secondly, the findings indicated that peer educators recruited from a target BME population increase the profile of drug prevention services within the community. Thirdly, the study suggested that young people commonly regard peer leaders as more credible than adult educators, which is a valuable promoter of engagement and retention. Five types of credibility for a peer educator were described; person-based [e.g. a role model or respected individual]; role-based [e.g. a youth educator]; knowledge-based [e.g. accurate and balanced academic or colloquial knowledge]; approach/message-based [e.g. interactive techniques]; and experience-based credibility [e.g. ex-user]. Student peer educators were rated highly on the first four types of credibility. In contrast, teachers were lacking in all types of credibility except person-based credibility. Ex-users and drug workers were rated highly on knowledge-based credibility. However, some younger students [12 years old] reported a low credibility for ex-users, who saw ex-users as 'untrustworthy'. Holding credibility or adding value does not necessary mean that the approach is effective in preventing drug use.

5.12 The use of peer leaders or educators to deliver life skills approaches increases effectiveness compared with teacher led programmes [*Coggans et al., 2003*]. However, LST peer leaders [but not teachers] had received intensive drug-related training and on-going briefing sessions. These special inputs may have resulted in an increase in the fidelity of implementation[8], which in turn influenced the outcome. In support of this, there is meta-analytical evidence to suggest that providing they received equivalent training, different types of peer providers are equivalent in terms of their effectiveness [*Black et al., 1998*].

SPECIALISED SCHOOL AND ALTERNATIVE EDUCATION PROVISION

Understanding drug use

5.13 Research conducted in a variety of countries has found that drug use is associated with higher levels of truancy and other measures of school performance [*Hallfors et al., 2002; Lloyd, 1998; MORI, 2004; Osler et al., 2002; Powis et al., 1998*]. Individual students are more likely to initiate substance use in schools where truancy is high and student commitment to school is low. For example, some UK studies have shown that pupils excluded from conventional school education are four times more likely to have used illicit drugs, and five times more likely to be current drug users than pupils who have not been excluded [*Goulden and Sondhi, 2001; MORI, 2004*]. Truants are thought to be twice as likely to be users of cannabis or solvents, and three times as likely to report use of Class A drugs.

5.14 There is no indication that the frequency of problematic drug use is greater in truants and school excludees than in the general population. However, drug users in alternative education provision may face additional family and social problems [e.g. lack of family members acting as carers], which may make drug associated problems more difficult to resolve.

[8] Completeness of implementation is an important factor for drug prevention programme effectiveness.

Effective practice

5.15 Studies of school based 'Life Skills' approaches conducted in the US have shown some small effects in vulnerable young people [*e.g. Botvin, 1999*]. However, these may work by modulating factors other than what is generally understood as 'life skills', and so may be difficult to implement [*Coggans et al., 2003*]. These approaches are often school based, and so success is highly dependent upon inclusive school policies and commitment to drug prevention, which may exclude some of the most vulnerable young people. Independent review of RCTs of life skills approaches suggests that some statistical analyses and indicators of success are problematic, and successes may be overstated [*Coggans et al., 2003*]. Generally, there has been no assessment made of outcomes of other [non-drug] factors, such as educational inclusion, offending, employment, health behaviours, which may pose greater concern to the young person than drug use.

5.16 Other interventions for school aged children vulnerable to drug use have also shown short term effects. The Opening Doors programme [based in Canada] was a 10 week indicated prevention intervention delivered to at risk children during the transition between primary and secondary school [*De Witt et al., 1998*]. Programme participants were selected for inclusion by a screening questionnaire. There were four risk factor categories and those children who scored two or more risk factors on at least two of the four indices were invited to participate. The programme consisted of 17 interactive sessions [1 - 2 hours long] delivered to children on drug knowledge and information, skills training, and stress anger management. In addition there were concurrent parallel parent components comprised of evening sessions that aimed to foster a supportive home environment. This, in turn, was expected to strengthen what their children had learned at school and to encourage efforts to make behavioural change. After adjusting for baseline differences, significant programme effects were found for risky drinking behaviour [i.e. five or more drinks per occasion]; cannabis use; attitudes towards drug use [alcohol, cannabis, and cigarettes]; attitudes towards school; peer pressures to commit violent acts; and self-reported theft. However, no significant effects remained at six months follow up which may either suggest spontaneous behavioural improvement in the control group, or a decline in protective programme effects.

5.17 Community based truancy interventions have significant effects upon psychosocial factors, which subsequently modulate drug use [*Milne et al., 2002*]. Assessment of projects conducted in the US show that intensive home support for vulnerable families resulted in prolonged educational and social benefits.

5.18 School based social work schemes have been shown to have some effect on drug use and attendance [*Pritchard and Williams, 2001*]. These aim to assist children and their families to maximise educational and social opportunities, facilitate the teacher's role in educating and socialising the child in school, enhance community-school and other agency collaboration, reduce truancy and criminality, and reduce exclusion from school. Preliminary cost-benefit analysis [see Section 7] of one English scheme indicated a benefit-cost ratio of 2.5:1, indicating a 250% 'saving' above the cost of the project [*ibid*].

5.19 Alternative curriculum projects can raise pupils', parents', and the local communities' perceptions of schooling. Where feasible to implement [considering the requirements of the National Curriculum], these have the potential to promote good attendance and behaviour among groups of less able, deprived, and disaffected pupils. The Yale-New Haven Primary Prevention Project targeted entire schools at risk [including poor attendance] and brought together parents, teachers, pupils and mental health leaders through the use of key components [*Comer, 1988*]:

- The establishment of a school advisory council to manage problems pertaining to school social climate.
- Parent participation was encouraged through participation on the advisory council, and part time employment and volunteer activity opportunities in the school.
- Mental health teams were developed to provide assessment and treatment planning for children referred for academic or behavioural problems.

The alternative curriculum and staff development programme were developed based on student achievement and concerns from school staff and parents. Whilst weak, evidence suggested that for participants, educational achievement increased from 18 months behind year level, to on par with year level.

5.20 Monitoring schemes [e.g. 'Traffic light'] reduce exclusion and identify those at risk of substance use [*Reid, 2003*]. This type of system monitors attendance and categories of absenteeism are colour coded; red group represents the most serious cases; blue, less serious or erratic attendance, yellow, occasional absenteeism, green, regular attendance. Using such a staged approach has been shown to reduce exclusion rates.

INTERVENTIONS FOR CARED FOR YOUTH

Understanding drug use

5.21 Studies conducted in the US suggest that most of the increase in demand for foster care seen over the last 15 years is due to parental drug use [*Magura and Laudet, 1996*]. The largest increases in fostering incidence have been observed in the 0-2 years age category, which would include infants exposed to drugs in utero who may subsequently be at risk from developmental problems. In US studies, two thirds of children placed into foster care soon after birth as a result of maternal drug use were still in care two years later [*Smith, 2003*].

5.22 Looked after children tend to report higher levels of drug use, consume drugs more frequently, and are initiated into drug use at a younger age than the general population [*Ward, 1998*]. Compared with the general youth population, young people in care have relatively high levels of illicit drug use. Use of crack cocaine and heroin is significantly higher among young people in care than the general population. Looked after young people initiate drug use at an early age, which has been correlated to problematic drug use.

5.23 Steadily lower levels of drug consumption have been reported as young people assumed/approached independent living status [*Ward, 1998; Ward et al., 2003*]. When planned as part of the care leaving transition, practical responsibilities such as household management and childcare responsibilities may encourage more responsible levels of drug consumption. However, periods of transition in hostels, and premature or poorly planned movement to independent living can lead to increased levels of drug use.

5.24 Introduction of screening questions by care institutions during 2005/06 will help to identify those young people with drug misuse related needs. The DfES recommends that data collected includes the number of all children looked after for at least 12 months who were identified as having a substance misuse problem during the year; the number of these children who received an intervention for their substance misuse problem during the year; and the number of these children who refused an offered intervention [*DfES, 2004*].

Effective practice

5.25 Provision of suitable training for staff in residential units can have a measurable impact on how drug related issues are addressed [*Bauld et al., 2004*]. In one analysis, differences were demonstrated between staff who had been on a dedicated training course and those who had not in relation to their approach and levels of confidence in dealing with drugs and young people in care. The former group preferred harm reduction approaches, whilst the latter abstinence.

5.26 The substance use behaviour of institutionalised youth, including those in foster care, may be modified by involvement in multi-component programmes incorporating group education, counselling and outreach work. In a large, multi-site intervention Morehouse and Tobler [*2000*] reported short-term efficacy of the Residential Student Assistance Program [RSAP] across a broad age range of 13 to 19 years within foster care, youth justice and psychiatric facilities. RSAP was effective in both reducing and preventing alcohol and other drug use across the settings studied. A dose-response relationship was also established with young people in the high dose treatment group showing significantly larger reductions in frequency and intensity of substance use. However, the intensity of a programme does not generally correlate with programme outcomes [*Cuijpers, 2002a, b*].

Delivery

5.27 Holistic approaches are responded to with more enthusiasm than those focussing solely on drug use [*Ward et al., 2003*]. In the context of other problems facing young people within the care system or leaving care, drug use may be considered less important. Any interventions should be part of more general planning, embracing issues such as housing, employment and training based on a comprehensive needs assessment.

FAMILY BASED INTERVENTIONS [INCLUDING INTERVENTIONS AIMED AT CHILDREN IN DRUG USING FAMILIES]

Understanding drug use

5.28 It is estimated that there are between 250,000 and 350,000 children in the UK affected by parental drug abuse, representing 2-3% of all under 16 years olds [*ACMD, 2003*]. In such families it has been estimated that approximately 37% of fathers are still living with their children, compared to 64% of mothers [*Meier et al., 2004*]. The more severe the drug use disorder, the more likely it is that a parent would be separated from their children. In studies from the US examining characteristics of parenting status by sex it was indicated that, although a greater proportion of women were the parent of at least one biological child, there were far more fathers than mothers within the study cohort [*Johnson and Pandina, 2001*]. Among the parents, fathers were more likely to have been abusing opioids when they first became a parent, and they were more likely to be living away from their children. There were no significant sex differences in the number of children or the average age of children. Similarly, in England and Wales, of drug users presenting to treatment services over a five-year period [1996-2000], on average there were 2.07 children per father and 2.05 per mother [*Meier et al., 2004*].

5.29 Drug use in the family influences future individual drug using behaviours, although the exact relationship is unclear. Research indicates that generally, children of drug-dependent parents experience a heightened risk of substance use, abuse, and dependence in later adolescent [*Barnard, 2005; Johnson and Pandina, 2001*]. Drug use *per se* is not necessarily increased directly; it is most likely through complex indirect means such as family drug use influencing the child's choice of peer group and/or drug using behaviours [*Bancroft et al., 2004*]. For example, although parental problematic drug use is associated with adolescent use, this association is attenuated by strong family cohesion [*Hoffman and Cerbone, 2002*]. Affective disorders among parents [e.g. anxiety, depression] are associated with a higher risk of alcohol, but not drug use in offspring [*Kelley and Fals-Stewart, 2004*]. The associations are stronger in the presence of lower stress and higher self-esteem in the children. Paradoxically, problematic drug use is also associated more strongly with offspring drug and alcohol use when levels of parental use are lower. Hence, some unobserved mechanism that may involve physiological sensitivities to drugs and alcohol appears to put children of parents with drug problems at particular risk of drug and alcohol use.

5.30 Siblings of problem drug users may be at an elevated risk of developing problems with drugs. Research undertaken in the US has identified that younger brothers or sisters of drug users are at an increased risk of drug exposure and drug initiation, but this is through complex means not entirely related to exposure opportunity [*Bahr et al., 2003*]. Qualitative studies undertaken in the UK of problem drug use within families found that most siblings of problem drug users questioned had been exposed to drug use in some form [*Bancroft et al., 2004; Barnard, 2005*]. However, despite this, exposure did not necessarily result in a greater risk of initiation of drug use.

5.31 Parenting in the context of problematic drug use places children at increased risk of physical harm and negative social and developmental outcomes [*for reviews see ACMD, 2003; Barnard and McKeganey, 2003; Keen and Alison, 2001*]. Illegalities and uncertainties associated with problematic drug use greatly complicate the provision of a safe and nurturing environment for children to grow up in. Household routines may be undermined and children's needs accorded less priority, leaving them vulnerable to not being properly fed, clothed or cared for. The medical needs of children may be left unattended by parents. Associations between child neglect or abuse and substance misuse by parents have regularly been observed by practitioners in the UK and the US. Parental problem drug use, alongside parental misuse of alcohol, has been shown to be one of the most likely reasons for children being received into the care system [see section 5.21]. Children of drug users are at elevated risk of behavioural problems in childhood. There is evidence that children may also be increasingly likely to develop behavioural disorders such as Attention Deficit Hyperactivity Disorder [ADHD]. Population studies from the US suggest that children who live with drug using fathers may be more likely to have a lifetime psychiatric diagnosis compared with other types of family [e.g. 53% versus 25% in alcohol abusing homes and 10% in non-substance-abusing homes] [*Hoffman and Cerbone, 2002*]. Compared to children in the other groups, children in drug using homes were more than twice as likely to exhibit clinical levels of negative behavioural

symptoms. Children living with drug using fathers were more likely to experience a lifetime psychiatric disorder and more negative behaviours compared to children living with an alcohol abusing father or non-substance-abusing parents [*Cooke et al., 2004*].

5.32 There is an acknowledgement that parental preoccupation with drugs can be detrimental for parent-child relationships [*Hoffman and Cebone, 2002; Cooke et al., 2004*]. For example, children of drug users may report reduced quality of attachment to their parental figures, and with siblings. Children of drug users also have higher rates of separation from parents, because of the long-term nature of recovery from drug dependence and the potential for relapse. This may be repeated due to cycles of abstinence and relapse. Drug using parents have been reported to be more likely to display aggressive parenting, and this is amplified when linked to other risk factors such as maternal domestic abuse.

5.33 Parental drug abuse has long term implications for a child's development and transition into adult life [*Bancroft et al., 2004; Brook et al., 2003*]. Children are at risk from emotional and physical neglect as they grow up and are at risk from developing emotional and social problems later in life. Drug use within pregnancy also has developmental consequences [*see Nulman et al., 1994*]. The timing of teratogenic insults in relation to foetal development is critical in determining the type and extent of the damage produced. Women who are dependent upon drugs may not cease use when they become pregnant. Drug exposed newborns may exhibit reductions in birth weight and head circumference [an indirect measure of brain size], and be at increased risk from structural malformations. Exposure to some drugs during pregnancy may lead to long lasting cognitive changes in the newborn, who may show abnormalities in learning and other behavioural changes, including sensory modalities. Offspring of opiate dependent mothers show withdrawal syndromes, although this has not yet been demonstrated with cocaine [*Neuspiel and Hamel, 1991*].

Effective practice

5.34 In the US, family focussed interventions have been found to have some success, or additive effects to already successful interventions [*Kumpfer and Alvarado, 2003; Vimpani, 2005*]. High intensity, family focussed prevention [e.g. Adolescent Transition Program, Multidimensional Family Therapy] can improve family relationships, and often have positive effects on school behaviour. Whilst not all have positive or direct effects on drug use they may target those family factors that make young people vulnerable in the first place. In addition, a focus on parental skills often affects parental drug use more than children's, which may reduce some of the associated burdens in the family. However, it is still important to incorporate child-focussed sessions into programmes, as familial factors are an important determinant of young people's subsequent [drug using] behaviour. Parent management training [based on cognitive social learning theory] is the most widely used parent education technique. Using these approaches, studies report improvements in outcomes such as child development, relationships, clarity of family rules, increased knowledge of child behavioural management principles, and increased family communication of problems [*Vimpani, 2005*]. There are some suggestions of greater cost effectiveness compared to other evaluated early intervention approaches. However, these, studies, like most in the field, have relied on small sample size and there is a lack of assessment of anything other than post treatment effects [i.e. not longitudinal or prospective study designs].

5.35 There are always difficulties in family recruitment and retention, particular with early interventions [*Kumpfer and Alvarado, 2003; Vimpani, 2005*]. Engagement is often dependent upon the extent to which families feel empowered by the intervention. Compliance is often lower in high risk families, but retention rates have been reported to be higher for family skills training than parent-only programmes. This could be attributed to the involvement of children or attempts to reduce barriers by including meals, transport and free childcare in family programmes.

5.36 Targeting programmes to multiple risk parents or families in juvenile justice settings may be effective at reducing offending [*reviewed by Loxley et al., 2004*]. Intensive interventions based on behavioural, social learning principles and behavioural parent training have been demonstrated to reduce offending and incarceration, and have indirect effects upon drug use. Functional Family Therapy [a brief [eight hour] family based therapy using a staged family counselling programme] has demonstrated reductions in youth justice expenditure. Critical components of this approach involve reframing problem attribution away from individual blame, to a mismatch in family needs. Multisystemic Therapy [see section 5.4] offers a large component of preventative case management based on family systems principles including strategies to enhance individual competence, tackle peer relationship issues, and to ensure access to work, education and community resources. Multisystemic Therapy has also shown reductions in offending and re-arrests [also refer to interventions for young offenders].

5.37 Strategies aiming to prevent or delay pregnancy in young and vulnerable mothers may be an effective way of reducing the risks of teratogenic insults in pregnancy, so that women can choose to become pregnant when drug use is under control or being treated. Current sexual health services aim to delay initiation of sexual activity, encourage the use of contraception, reduce risky sexual behaviour and provide access to pregnancy termination [*reviewed by Ellis and Grey, 2004*]. Preventative strategies such as school-based sex education and community mobilisation have been most successful [*Wight et al., 2002*]. There is some evidence to suggest that these programmes also reduce harmful drug use in vulnerable young women, which suggests that common risk factors drive the two types of behaviour [*ibid*].

5.38 Although well researched, there is limited evidence for the effectiveness of home-based visits for young drug using mothers, or drug using women in fertile years. This type of approach involves a professional developing a relationship with a family over a period of time, offering support on infant health and development, maternal health, and advocacy for service access [*Dore et al., 1999*]. Research findings warrant cautious optimism regarding the efficacy of early home intervention among drug-using women in promoting positive behaviours. In general, few interventions for drug-using parents have been subject to rigorous evaluation. However, the authors of those studies performed have noted that these interventions have shown that it is possible to recruit and retain parents, and that some robust and positive behavioural changes in the domains of drug use and family management have been reported [*Ernst et al., 1999*]. Although most programmes have originated in the US, experiences of residential, home-visiting, non-residential programmes and playgroup-based clinics have led to an outline of issues and dilemmas faced by this population that are applicable to the UK [*Bauld et al., 2004*]. These include balancing trust and acceptance with intervention when problems are identified, harmonising accessibility and flexibility with the provision of child-focused activities and adult education, finding a location that is both suitable and affordable, appropriately supporting staff, collaborating with other services and securing adequate funding, including for ongoing evaluation and monitoring [*Bauld et al., 2004, Vimpani and Spooner, 2003*]. Such approaches promote positive attachment with child, and teaching parenting skills. There is some evidence for a reduction in parental substance use and some evidence for lower rates of early initiation of alcohol and tobacco. The US based Seattle Birth to 3 programme, for example, which involved intensive home visitation by paraprofessionals, and demonstrated positive outcomes for participating mothers and their children [*Grant et al., 2005*]. In these type of approaches there is a need to incorporate constructivist adult learning principles [i.e. learners construct knowledge for themselves, each learner individually constructs meaning as they learn], promoting clients' growth through their 'zone of proximal development' [i.e. what is learned with help and what can be achieved without guidance], and use of enabling techniques such as scaffolding [i.e. the learner is seen as constructing an edifice that represents their cognitive abilities], motivational interviewing and modelling, and the development of an agenda for change by the nurse in partnership with the mother.

5.39 Diversionary pursuits in conjunction with 'issues-based' work can provide a valuable environment for 'older' young people affected by parental drug use to voice their concerns [*Bauld et al., 2004*]. Such interventions can provide young people an outlet to discuss issues around their parent's substance misuse, whilst also learning more about drug-related issues. Similarly, for younger children, playgroup based clinics [e.g. based on health, welfare, and advocacy] assist children in developing skills, and allows parents to share information and to play with their children [*Denton et al., 2000*]. In existing programmes no demands are usually made regarding drug use, but support is available to those who request it.

5.40 Intensive family focussed interventions for children of methadone treated parents have shown positive effects upon parenting skills and parental drug use [*Catalano et al., 1999*]. These type of interventions supplement methadone treatment with sessions [> 30] of family training combined with nine months of home-based case management. The training involved individually tailored structured cognitive-affective behavioural skills curriculum, incorporating motivation, discussion, guided practice, independent practice, and generalisation to everyday life. Skills training for parents was developed and included relapse prevention and coping, anger management, child development, holding family meetings, and setting clear expectations. Parents were also taught how to teach their children drug refusal and problem solving skills and strategies for succeeding in school. Some skills training sessions involved children in order to allow parents to practice their new skills in a controlled environment. One year after the family skills training, results indicated significant positive changes among parents, especially in the areas of parent skills, parent drug use, deviant peers, and family management. However, few changes were noted in children's behaviour or drug related attitudes, although other positive effects were reported in younger children, who were observed to have greater family involvement with their parents at the 6 month follow up.

Delivery

5.41 Holistic family approaches, including integration of courses on parenting skills, may present a way to engage drug using parents and/or families in programmes targeted towards children [*Banwell et al., 2002*]. Involvement may improve adult self-esteem and parent-child interactions. However, such approaches are likely to be difficult to manage and implement, and are resource intensive. Research shows that women with dependent children are more likely to be retained in treatment where services provide specialist support for child care and parenting [*Copeland and Hall, 1992*]. Such projects that aim to work with both adults and children will require staff with specialist skills and knowledge. For example, adult workers in treatment agencies are rarely knowledgeable about child protection issues and recruitment of skilled workers is rarely straightforward [*Bauld et al., 2004*]. Adult workers are likely to require training in relation to identifying appropriate clients for referral, and more general child protection issues [*Fraser and Seddon, 2003*].

INTERVENTIONS FOR YOUNG OFFENDERS

Understanding drug use

5.42 Surveys of young offenders often indicate high levels of drug use compared to the general population [*e.g. Hammersley et al., 2003*]. Some studies have shown that male offenders are more likely to be Class A drug users but the generalisability of these results are limited by relatively small sample sizes. A proportionate number of injectors have been identified, but severity of drug use and offending often varies according to the survey source. For example, surveys within Youth Offending Institutions or based on YOT data cannot be accurately compared with estimate obtained from self-declared offenders in general population data sets [i.e. Youth Lifestyle Survey].

5.43 Prolificacy of offending may be significantly associated with drug use, with persistent offenders having the highest prevalence of use [*Goulden and Sondhi, 2001*].

Effective practice

5.44 This population particularly benefits from specific targeting. Whilst specialist drug workers will generally have access to offenders in police stations, they need to quickly establish rapport and credibility with the client, as contact time may be particularly short. There is also the need for appropriate multi-agency needs assessment and practice outside the criminal justice system.

5.45 Early preschool interventions combined with home visits [behavioural family interventions] have been found to be effective in reducing later onset of criminal behaviour and drug use [*Loxley et al., 2004; Vimpani, 2005*]. For example, the Perry Preschool project in the US offered four half days of structured pre-school experience combined with weekly home visits over two years to disadvantaged 3-4 year olds. It aimed to improve a broad range of parenting skills, particularly non-coercive parenting techniques. This was an adaptable programme so that the intensity of the programme could be tailored to the needs of the client group. In a longitudinal analysis, improved outcomes in criminal behaviour and conduct disorder were noted in adolescence/young adulthood. However, despite these apparent successes, poor family compliance was reported in particularly high risk groups [10-50%], which may lead to an overestimation of the success of this type of approach.

5.46 Diverting young offenders into early intervention services may reduce rates of re-offending and imprisonment, and have some impact on drug use. US-based programmes which have demonstrated some evidence of short-term effectiveness, have included [*Loxley et al., 2004*]:

- The Residential Student Assistance Program [RSAP], a large multi-site intervention aimed at modifying the substance use behaviour of young people in criminal justice institutions. Short-term follow-up of the programme indicated that RSAP was effective in both reducing and preventing alcohol and other drug use across settings including juvenile justice facilities. Participants in the 'high dose' treatment group showed significantly better reductions in alcohol and other drug use.
- The Family Empowerment Intervention, which directly targeted family functioning in young offenders. At two years follow up, the programme was shown to be relatively more beneficial at reducing the frequency of emotional/psychological problems and cannabis use in cases of serious versus non-serious offending. Significant reductions in cannabis use were also reported in the non-serious offending group.
- Mandated entry into family intervention programmes, such as Functional Family Therapy and Behavioural Parent Education [see below]. Research has demonstrated that these programmes may bring about longer-term reductions in crime and custodial sentences.

5.47 Targeting programs to multiple risk parents or families in juvenile justice settings may be effective at reducing offending [*Loxley et al., 2004*]. Intensive interventions based on behavioural, social learning principles and behavioural parent training have been demonstrated to reduce offending and incarceration. These types of intervention often have indirect effects upon drug use by reducing risk factors associated with initiation. Functional Family Therapy [a brief [8 hour] family therapy using a clearly-staged family counselling programme], for example, has demonstrated reductions in juvenile justice expenditure. A critical component of this type of approach involves reframing problem attribution away from individual blame to a mismatch in family needs.

5.48 A qualitative evaluation of the named drug worker [NDW] scheme found no clear evidence that the programme had an impact on drug use [*Dillon et al, 2005*]. The scheme provided young people in contact with a Youth Offending Team access to a specialist or 'named' drugs worker. Assessing the impact of the scheme on young people's drug use and offending was seen to be problematic and it was perceived to be difficult to attribute behaviour change to participation in the NDW programme. Of note, successful impacts upon offending were only evident if there was an accompanying reduction or cessation of drug use.

5.49 Local evaluation of 27 drug and alcohol projects across the UK highlighted the following interventions as 'not working particularly well' with young offenders: group work rather than individual counselling, outreach work and arrest referral [*Hammersley et al., 2004*].

Project workers offering group interventions found them difficult to implement and reported that inclusion of substance misuse issues within generic groups for drug users or offenders would be more appropriate. Outreach work did not prosper in the projects evaluated. Two projects offered arrest referral for young people, and neither reported success. Due to the unique needs of young offenders, it was concluded in this study that arrest referral schemes based on the adult model were unlikely to succeed.

INTERVENTIONS WITH YOUNG PEOPLE IN BME COMMUNITIES

Understanding drug use

5.50 Some young people from Black and Minority Ethnic [BME] communities have an increased number of risk factors that have been shown to predict vulnerability to drug use, e.g. higher rates of unemployment and lower levels of household income [*ONS, 2005; Bashford et al., 2003; Wanigaratne et al., 2003*]. It is important to note that drug use and patterns of use varies considerably across different ethnic groups. One survey of drug use across these populations identified that drug use by South Asians was more characterised by use of heroin than crack, and a wide range of other drugs including ecstasy and LSD; Black Africans' drug use was characterised by use of heroin and crack, compared to Black Caribbean use which was characterised by crack, amphetamine and ecstasy. Cannabis was the most widely used drug across all populations. Compared to White British populations, surveys have indicated generally lower rates of self-reported BME drug use, but often different patterns of use, compared to their white peers and young people of mixed ethnicity. However, under reporting is expected due to stigmatisation of drug use within some communities.

Effective Practice

5.51 There are clear barriers to service engagement for BME populations [*Fountain et al., 2003*]. Services may lack an understanding of BME cultures and languages, and therefore, be perceived as inappropriate or inaccessible. There may be a lack of acknowledgement of drug use problems within some BME communities and they may also lack awareness of treatment and prevention services and/or an understanding of their functions.

5.52 Social influences approaches with 'bicultural competence' elements [teaching of coping skills for negotiating between mainstream and traditional cultures to increase a sense of self-efficacy in both cultures] have shown effectiveness [*see Bledsoe, 2002; Hawkins et al., 2004; Schinke et al., 2000*]:

- The teaching of coping skills for negotiating between mainstream and traditional cultures to increase a sense of self-efficacy in both cultures elements has been shown to be effective.
- Young people who received culturally sensitive skills training showed positive changes in drug using behaviour, drug-related knowledge and attitudes, decision-making skills and interactive abilities compared to controls. There was also some evidence for a long term impact on drug use behaviour. However, the components of individual programmes were diverse [e.g. presence of booster sessions and some community involvement], so it is difficult to ascertain which features were more effective than others.
- Meta-analysis [of US studies] found that there was no significant difference in programme effectiveness in changing drug using behaviour, knowledge or attitudes between programmes with and without cultural components. However, studies were included in this analysis if at least 50% of the sample were youth from BME populations. This leaves a possibility that 50% of the sample in these studies was White youth and the cultural components of the programmes might have had little effect on them.
- This analysis concluded that there were significant prevention effect differences, according to ethnicity. Students from African American background benefited more from programmes that provided culturally focused activities than those that did not. Likewise, they received the most positive impact from programmes with extracurricular activities. Programmes were more effective among Hispanic/Latino youth when the programmes provided refusal skills training. Some cultural components were more effective in improving drug-related knowledge than others. Programmes with 'culturally organised activities' and 'cultural and spiritual well-being' were significantly more effective for knowledge gain than programmes without these components.

- Programmes that featured traditional prevention approaches were not significantly superior to programmes that did not use them. These comprised of a range of common drug prevention interventions such as affective education [programs and curricula which attempt to change the values and behaviour of students], refusal skills training, life skills training, safety skills training, and extracurricular activities. Nevertheless, there were some exceptions; programmes with affective education were significantly less effective at preventing drug use than programmes without this component. Conversely, programmes with refusal skills training had significantly greater prevention effects than those without this type of training.
- Theory-based programmes were not more effective at preventing drug use behaviour or drug-related attitudes than programmes that were not based on theories. When each theoretical model was considered in the context of each outcome, only problem behaviour theory produced results indicating ineffectiveness, especially on the outcome of behaviour. However, it should be noted that this meta-analysis did not examine the fidelity of implementation or the quality of these programmes. Therefore, there is a possibility that low fidelity of implementation, rather than inappropriateness of theories, could have affected the result.

Delivery

5.53 Research with Asian communities has identified that engaging them in drug prevention activities might best be achieved through a whole community approach [*Fountain et al., 2003*]. The following issues should be addressed:

- Cultural ownership and leadership.
- Understanding of the communities needs.
- Appropriately trained BME drug workers.
- Services that are in and for the community.

Other Approaches

5.54 There is little evidence for the success of counselling based interventions in reducing drug use [*Durlak, 1998; Roe and Becker, 2005*]. Research evaluations have shown no effects [community based counselling], decreased drug use [individual or group based counselling], or increased use [individual, paired, or grouped based counselling].

5.55 Community based and community empowerment/ mobilisation programmes have been found to have some success in preventing escalation of drug use in the US when delivered as part of a comprehensive multicomponent programme [*Hawkins et al., 2004*]. These types of approach, comprising various strategies [e.g. curriculum-based skills training, training for teachers, health education for community members, school-wide environment changes and coordinated care for users], can take place in several settings with ties to the community [school, community and youth services]. Adding a community based case manager can improve co-ordination of necessary services. These approaches include campaigns to initiate or strengthen an explicit strategy of coordinated community action aiming to promote healthy development and prevent harmful drug use. For example, involving vulnerable young people in community based activity programmes [e.g. youth club] enhanced by prevention components, confers protection against more problematic drug use [e.g. crack cocaine] at individual and settings levels. Parental engagement is often increased in communities where such provision already exists, but not necessarily in prevention settings enhanced by drug prevention components. There is some evidence to suggest that community approaches have a positive impact on young people's alcohol and cannabis use. However, the poor methodology of evaluation studies, including a lack of appropriate control groups, makes judgements of effectiveness inconclusive.

section 6

Tiers 3 & 4

Interventions

Interventions delivered at tiers 3 and 4 are services provided by specialist teams to respond to the complex needs of the young person. Tier 4 services are aimed at providing specialist intervention[s] for a particular period of time and for a specific function.

Intervention	Evidence Grading					Nature of evidence
	⚑	*	**	***	****	
Pharmacological management			✔			Whilst there is a growing literature for effectiveness from studies in adult opiate users, little is specific to young people. The evidence suggests that pharmacologically driven approaches in adults may also be suitable for younger age groups.
Detoxification			✔			See above.
Harm reduction services			✔			Evidence from adult services is generally favourable towards the acceptance and utility of harm reduction. However, no work has investigated the role of harm reduction approaches in reducing problematic drug use in young people.
Psychological therapies				✔		Family based therapy has been shown to be effective in reducing prevalence and frequency of drug use.
Brief interventions				✔		Some evidence of effectiveness. For example, short session of motivational interviewing can produce short term reductions in frequency of cannabis and stimulant use.
Tier 4 interventions			✔			No specific literature on preventative role of tier 4 interventions.

⚑ warrants further research; * based on practitioner experience [i.e. good practice]; ** medium quality finding; *** medium to good quality finding; **** consistent, good quality finding.

Understanding drug use

6.1 Use and misuse of drugs occurs in a developmental and environmental context and many children and young people who use substances often have multiple antecedent and co-occurring mental health, social and educational problems [*Health Advisory Service, 2001*].

6.2 Young people in need of tier 3 and 4 services may present with a complex array of needs and problems, including homelessness, poor school attendance, offending, experience of sexual abuse, prostitution, deliberate self-harm, psychotic illness, anxiety, depression and suicidal feelings [*Crome et al., 2000*], in addition to their drug-related needs.

Effective practice

6.3 Pharmacological interventions should be used only after consideration of all risk factors [e.g. risk of overdose] and in conjunction with other types of therapy. Treatment should be designed to meet the needs of the young person [*Health Advisory Service, 2001; National Treatment Agency, 2005a*].

6.4 Psychological therapies, in combination with other interventions, may be relevant to the treatment of young substance users [*Health Advisory Service, 2001*]. There is growing evidence from the international literature supporting the effectiveness of supplementing drug treatment for young people with manualised[9] forms of family therapy [e.g. US-based Addicts and Families Project] [*Loxley et al., 2004*]. In addition, out-patient cognitive-behavioural therapy[10] [CBT] has been shown to be effective in reducing adolescent substance use and related problems [*Waldron and Kaminer, 2004*].

6.5 In the US, community-based treatment programmes [including residential, outpatient and short-term inpatient programmes] for adolescents have shown some effectiveness in reducing drug use, including cannabis and other illicit drug use [*Hser et al., 2001*]. In addition, participants in the programmes reported better psychological adjustment and school performance following treatment. Longer stays in treatment were associated with better outcomes.

[9] An intervention guided by a formal manual

[10] Including components such as self-monitoring, avoidance of stimulus clues, altering reinforcement contingencies and coping skills training to manage and resist urges to use drugs. The use of modelling, behaviour rehearsal, feedback and homework assignments during treatment are characteristic of CBT.

6.6 Emphasis should be placed on retaining young people in treatment. Younger drug users, males and those with no previous experience of treatment have been shown to be at a higher risk of dropping out of treatment programmes. Review of a service for adolescent drug misusers in Stoke-on-Trent found that patients who dropped out of treatment were more likely to have had episodes of deliberate self harm, a history of psychiatric illness, a family history of substance abuse problems, familial dysfunction, a forensic history and to have left school early [*Crome et al., 2000*].

6.7 National guidance recommends that harm reduction services should be available to young people, separate from adult services [*National Treatment Agency, 2005a*]. Information and advice should be provided in relation to a young person's needs which might include safer drug use, safer injecting, blood borne viruses, hepatitis B vaccination, overdose prevention and response to overdose, and related sexual or physical health advice [*Drugscope and Colin Wright Associates, 2004*].

6.8 Evidence suggests that brief interventions may successfully help young people to moderate their drug use [*McCambridge and Strang, 2004; Marsden et al., 2004*], as well as increasing their knowledge of local services.

6.9 National guidance recommends that tier 4 services should not be solely about rehabilitation or dependency, they should also address issues of safety, security or respite and be flexible services commissioned or purchased around the needs of the young person [*National Treatment Agency, 2005a*]. Further research is needed to identify which models of care [including residential placements and foster care] are most effective.

Delivery

6.10 Family therapy has been found to be effective in engaging and retaining adolescents in treatment.

6.11 Based on responses from 97 DAT areas [*Didlock et al., 2005*], the most effective prescribing services were identified as those that integrated prescribing into existing service provision [that is, young people received preparation, interventions, intensive and consistent support during treatment, and aftercare from a single service].

section 7

Introduction to the economics of drug prevention

7.1 The consequences of illicit drug use cost the UK economy billions of pounds each year and divert resources away from other productive uses [*Godfrey et al., 2002*]. For problematic and dependent drug users in England and Wales, total economic costs range from £2.9 - 5.3 billion. Including social costs, this rises to between £10.1 - 17.4 billion. Young, non-dependent users, cost health and criminal justice services around £6 million in 2000, total social costs have been estimated at £28.8 million. Costs are not only incurred by individuals, but also by the NHS, social services, the Police, and the criminal justice system. Although not yet subject to investigation, the families and relatives of drug users also bear associated costs.

7.2 From an economic point of view, the drug problem has an important opportunity cost, the diversion of money that could have been spent on desirable alternatives. For example, in the UK it is estimated that illegal drug taking requires a workforce of about 5,000 customs officers and 18,000 police personnel who are subsequently unavailable for other duties [*Maynard, 1992*].

7.3 Economics has been defined as "the science which studies human behaviour as a relationship between given ends and scarce means which have alternative uses" [*Robbins, 1935*]. Hence, economics is concerned with how society uses the resources at its disposal to improve the welfare of individuals among infinite competing potential uses.

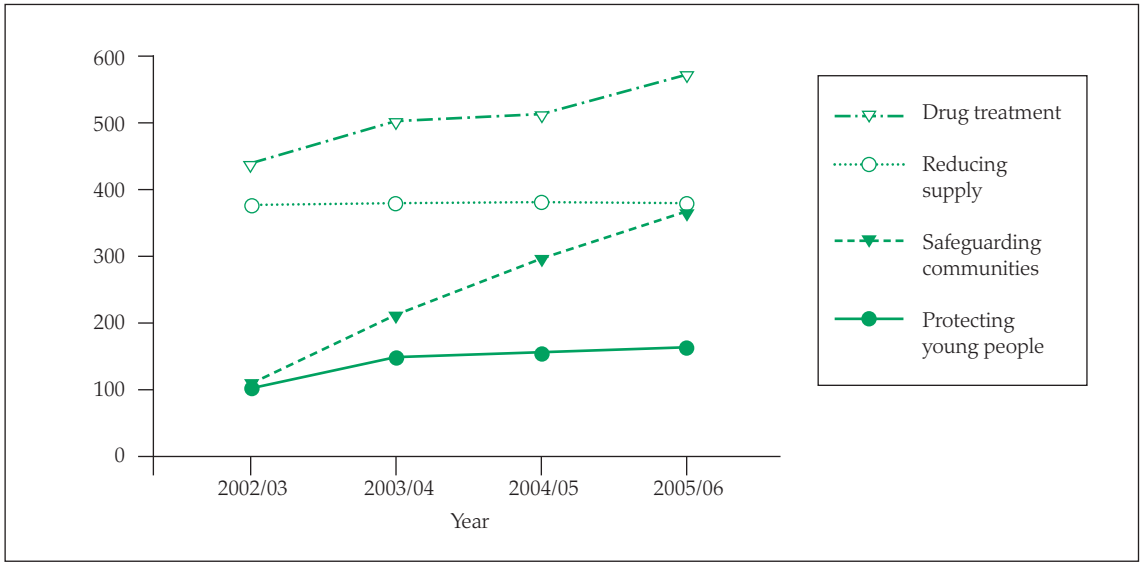
7.4 Health economics is the branch of economics applied to health and health care. At its simplest, economic evaluation asks whether an investment of all resources will be less than the stream of benefits that are predicted to flow from it. If this is the case then social welfare is improved by such an investment, provided the resources used could not be better used elsewhere. Putting this in monetary terms is crucial because it enables comparison of different programmes even beyond healthcare [for example, criminal justice programmes].

7.5 Economic thinking is a relatively recent innovation in drug policy and to date, few good economic evaluations of drug prevention strategies have been undertaken. This is despite opportunity costs and the associated trade-offs often being very apparent in policy making.

7.6 There has been relatively less investment in drug prevention compared to other ways of addressing drug problems in the UK, with the largest proportion of investment channelled towards drug treatment. Figure 7.1 shows the Government's direct annual expenditure on meeting the aims of the Updated Drug Strategy. Successful prevention initiatives in young people would reduce the financial burden of treating problematic drug use in adulthood.

7.7 Economic evaluation provides an assessment of the cost-effectiveness/benefit of specific interventions, which can in turn inform future spending decisions. As well as deciding the best use of resources it can also help with finding the best mix of drug prevention programme inputs [e.g. universal versus targeted prevention] as well as the optimal level of programme output [e.g. cessation versus reduction of drug use].

Figure 7.1: Trends in government direct annual expenditure on the Drug Strategy



7.8 As more drug prevention programmes may be implemented in competition with drug treatment and other approaches, it is becoming increasingly important to determine which programmes make the best use of resources.

Personal and external costs of drug use

7.9 The nature of both personal [e.g. health] and external [e.g. criminal justice, NHS] costs is central to drug policy and it is important to understand their range and significance before employing specific economic evaluation techniques. External costs related to the consequences of an action by one individual or group as they fall on others. For example, changes in the patterns of consumption of illegal drugs, alcohol and tobacco can determine demands that are made on the healthcare system related to treatment and ill health.

7.10 Drug and alcohol use also has third-party consequences [e.g. victims of drug-related acquisitive crime]; in economic terms these are called external costs. The costs of drug and alcohol use may also include wider, intangible costs such as fear about drugs and crime in the community, which may have a negative impact on the quality of life of many individuals and communities. Figure 7.2 shows the costs and benefits included in the evaluation of the Midwestern Prevention Project, a large US-based community prevention trial [*Pentz, 1998*].

Figure 7.2: Costs and benefits included in the evaluation of the Midwestern Prevention Project

MIDWESTERN PREVENTION PROJECT	
BENEFITS	**COSTS**
• Reduction in daily smoking. • Reduction in monthly drunkenness. • Reduction in need for treatment (including outpatient and inpatient treatment, counseling, emergency room admission). • Reduction in family member need for treatment (including outpatient and inpatient treatment, counseling, emergency room admission). • Reduction in perceived smoking at school related to school policy.	• Programme development. • Training. • Implementation. • Institutionalisation. • Research / Evaluation.

7.11 Drug markets follow similar economic principles to normal markets and price in particular acts on both the supply and the demand for drugs. Like conventional consumers, non dependent drug users are sensitive to changes in price [*e.g. Sumnall et al., 2004*]. However, other aspects of drug misuse means that additional economic considerations have to be made when examining 'drugs' as a commodity.

7.12 Some population groups [e.g. young adults], show a greater preference for using drugs than others. This conflicts with traditional economics theories, as with normal market goods individuals are assumed to look after their own personal well-being [e.g. not undertaking activity that could have serious consequences for health] and posses the full information to do so [e.g. purity of a drug preparation]. Due to their illicit nature, such information is not always available regarding the dangers and problems that can arise from taking drugs.

7.13 Drug dependence also goes against classic economic theory, as dependent individuals may consume up to a point where the personal costs resulting from use exceeds the [perceived] benefits obtained from use [e.g. pleasurable mental states].

7.14 Preventing drug use raises some interesting dilemmas for economic evaluation. Individuals may feel that there is no need for prevention and in economic terms this may lead to under demand for prevention goods, but prevention is also sometimes seen as a merit good [a good that society thinks people should consume or receive, e.g. drugs education].

7.15 The timing of prevention poses a problem, as unlike drug treatment, the benefits of success are not [relatively] immediate or visible. Economic analysis treats future costs and benefits differently to present ones, and they are harder to identify and quantify. This may work against prevention.

Economic evaluation

7.16 There are four main types of economic evaluations, cost-effectiveness analysis, cost-utility analysis, cost-benefit analysis and cost-minimisation analysis, as shown in Table 7.1.

7.17 The results of all types of economic evaluation are sensitive to the ways in which costs and outcomes are measured, and caution should be applied when comparing results across studies.

Table 7.1: Main types of economic evaluation [from Hoch and Dewa, 2005]

NAME	MEASUREMENT UNITS FOR EFFECT(S)	STRENGTHS	LIMITATIONS
COST-EFFECTIVENESS ANALYSIS	One effect measured in natural units.	There is one outcome and it measured in natural units.	• Only one outcome will represent the effects of a programme or intervention; however other outcomes may be relevant.
COST-UTILITY ANALYSIS	Two effects [quality and length of life] whose product is taken as quality-adjusted life years [QALYs].	Patient outcomes involving both quality and length of life can be incorporated in the analysis.	• QALY measures vary by method. • QALY measures vary by respondent. • Society may value a QALY for different patient groups differently.
COST-BENEFIT ANALYSIS	All effects measured in monetary terms.	The net present value [NPV] is easy to interpret.	• It is difficult to measure the value of all health outcomes in monetary terms. • There may be moral objections about the impact of ability to pay in the process of valuing the effects.
COST-MINIMISATION ANALYSIS	No effects measured.	There is only a need to collect cost data.	• Few treatments have identical outcomes. • Effect data would need to be collected to verify the equivalence assumption.

Cost-effectiveness analysis

7.18 Cost-effectiveness studies use specific end-points and generally measure parameters in natural units to define a 'successful' outcome [e.g. cost per additional life saved, cost per prevented drug user].

7.19 It can sometimes be difficult to determine which measure is most representative of an improvement in outcome and therefore, a single effectiveness measure does have limitations.

Cost-utility analysis

7.20 The results of cost-utility analysis [a method derived from cost-effectiveness analysis] are usually expressed as a cost per quality adjusted life year [QALY] gained.

7.21 QALYs are a measure of both the quality and quantity of the years of life a person is expected to have. For example, 10 years in a health state with quality of life rated at 0.5 [where 1 is equal to perfect health and 0 is equal to death] would result in 5 QALYs [equivalent to 5 years in perfect health over the next 10 years].

box 7.1 Example of cost-effectiveness analysis

Table 7.2: Results from an economic evaluation of the Midwest Prevention Project

VARIABLES		MMP	TRADITIONAL DRUG EDUCATION	EXTRA COST (△C)	EXTRA EFFECT (△C)
AVERAGE COST	C	$31	$6	$25	-
AVERAGE EFFECT					
REDUCTION IN DAILY SMOKING	E_1	12%	0	-	12%
REDUCTION IN MONTHLY DRUNKENNESS	E_2	2.5%	0	-	2.5%
REDUCTION IN CANNABIS USE	E_3	2.5%	0	-	2.5%
INCREMENTAL ANALYSIS					
ICER$_1$	$\triangle C/\triangle E_1$	$25/12 = $2.08		-	-
ICER$_2$	$\triangle C/\triangle E_2$	$25/2.5 = $10		-	-
ICER$_3$	$\triangle C/\triangle E_3$	$25/2.5 = $10		-	-

△ Is used to denote incremental costs and effects.

Example 1. A cost-effectiveness analysis

The Midwest Prevention Project [MPP] was a large, US community-based prevention trial funded by NIDA involving communities and schools in the states of Kansas, Missouri and Indiana [*Pentz, 1998*]. Briefly, the programme consisted of a mass media campaign, a school programme, a parent programme, community organisation and local policy changes. The costs and effects of the MPP compared to usual drug education are shown in Table 7.2. The cost of the project was estimated at around $31 per family unit per year compared to 'traditional drug education', which was estimated to cost $6 per student per year. The effects of the MPP were reported at 5 year follow-up; there was a 12% reduction in daily smoking, 2.5% reduction in monthly drunkenness and a 2.5% reduction in heavy cannabis use. Traditional drug education was assumed to have little or no effect on these outcomes.

From the results shown in Table 7.2, we can calculate the incremental cost-effectiveness ratio [ICER], which allows us to examine the additional costs that the MPP imposes over traditional drug education, compared with the additional effects it delivers. In this example, compared with traditional drug education, the Midwestern Prevention Programme costs an average of $2.08 additional dollars to achieve a net reduction in daily smoking, $10 additional dollars to achieve a net reduction in monthly drunkenness and $10 additional dollars to achieve a net reduction in heavy cannabis use.

box 7.2 Example of cost-utility analysis

Table 7.3: Results from an economic evaluation of the co-prescription of heroin and methadone

VARIABLES		METHADONE PLUS HEROIN	METHADONE ALONE	EXTRA COST (△C)	EXTRA EFFECT (△C)
AVERAGE COST	C	€37,767	€50,560	-€12,793	-
AVERAGE EFFECT [QALY]	E	0.79	0.73	-	0.06
INCREMENTAL ANALYSIS					
ICER[1]	△C/ △E		<€0	-	-

△ Is used to denote incremental costs and effects.

Example 2. A cost-utility analysis

Results from two Dutch heroin trials comparing co-prescription of heroin with prescription of oral methadone [*Dijkgraaf et al., 2005*] are shown above. The study found that co-prescription of heroin cost less [total cost savings of €12,793] and provided more QALYs compared to oral methadone alone.

Co-prescription of heroin generated 0.79 QALYs and methadone alone, 0.73 QALYs, giving a difference of 0.06 QALYs. This is equivalent to an additional 21 days of perfect health [0.06 x 365] for those receiving co-prescription of heroin. Compared to the prescription of methadone alone, co-prescription of heroin was cost saving as savings for law enforcement and victim damage offset the higher costs of treatment.

Cost-benefit analysis

7.22 A common method used to evaluate drug prevention studies is cost-benefit analysis, which relies on the conversion of all benefits into monetary values. This type of analysis usually provides a 'return on investment' estimate, in the form of a benefit-cost ratio [BCR] or net present value [NPV], which can be useful for investment decisions.

7.23 The BCR is simply a ratio of benefits to costs and an NPV is calculated by subtracting costs from benefits, taking into account the discount factor [used to value future costs and benefits in terms of present values]. An NPV>0 indicates that a programme is worthwhile. Both formulations rely on capturing all the relevant costs and benefits of an intervention or programme.

7.24 Table 7.4 presents an overview of 12 cost-benefit analyses, which have been undertaken in the field of drug and alcohol prevention. All but one of these studies [the Focus on Families programme] showed positive BCRs or NPVs, meaning that the benefits of the programme to society outweighed its costs.

7.25 Table 7.4 also shows the different types of costs avoided and unit programme costs incurred. BCRs at the whole programme level ranged from 1.69 to 19.64 with NPVs of <0 to ~$2,386. That is, for every dollar spent on prevention it is expected to save between $1.69 and $19.64 in benefits gained for this selection of studies.

7.26 This table is intended to give an overview of the cost-benefit analyses in the field of drug and alcohol prevention and examples of how costs and benefits are calculated. The variability in the savings arises because of [amongst other issues] the differences in how costs and benefits were calculated, which costs and benefits were included in the studies, and the differences in the populations targeted. For this reason the findings of the individual analyses should be not compared to one another or used as a means to select the most efficient programme.

Table 7.4 Examples of cost-benefit analyses in the drug and alcohol prevention field

STUDY	AUTHOR(S)	TARGET SUBSTANCE(S) OR CONSUMER	TYPE OF INTERVENTION	UNIT COST (US$)	SAVING BENEFIT CATEGORIES	REPORTED BCR
IOWA STRENGTHENING FAMILIES PROGRAMME	Spoth et al., 2002	Alcohol [Parents and students]	Family skills training	$880/family	Not reported	$9.60 per $1
PREPARING FOR THE DRUG-FREE YEARS	Spoth et al., 2002	Alcohol [Parents]	Family skills training	$710/family	Not reported	$5.85 per $12
NEEDLE AND SYRINGE PROGRAMME IN AUSTRALIA	Health Outcomes International Pty Ltd	Intravenous drug users	Needle/Syringe Exchange	Av. 0.72 A$cents/needle	HIV/HCV treatment costs avoided; QALYs gained	NPV [A$million] 2386 [5% discount rate]
LIFE SKILLS TRAINING	Swisher 2001	Cigarette Smokers	Smoking cessation hypothetical model	$2,850	Health care costs	19.64
COMMUNITY TRIALS PROJECT	Holder et al., 2000	Alcohol	Environmental control in local community	Not reported	Legal, medical and administrative caused by RTAs [over 4 years]	2.88
'AN OUNCE OF PREVENTION, A POUND OF UNCERTAINTY'	Caulkins et al., 1999	Cocaine, cannabis & alcohol	School-based drug prevention based on Alert & LST programmes.	$150	Healthcare, productivity and crime	Cocaine: 2.40 Cannabis: 5.60 Alcohol: 2.00
'FOCUS ON FAMILIES' PROGRAMME [NIDA]	Plotnick et al., 1998	Heroin	Prevention of relapse by methadone treatment using social development model	~$3,400	Healthcare, productivity, accidents, domestic violence, crime	At 6 months NPV<0
ELMIRA PRENATAL EARLY INFANT PROJECT [PEIP]	Karoly et al., 1998	All drugs	Home-based parental education by nurse	$14,700/child	Productivity gains, tax revenue, crimes avoided, Social care savings	400
PERRY PRESCHOOL PROJECT [PPP]	Karoly et al., 1998	All drugs	Special educational activities in schools	$14,700/child	Productivity gains, tax revenue, crimes avoided, Social care savings	2.0
MACROSCOPIC ECONOMIC APPROACH	Kim et al., 1995	All illicit drugs	Regression and longitudinal analysis of US Household Survey data	N/A	Healthcare, crime, productivity and premature death	15.0
MID-WESTERN PREVENTION PROGRAMME [MPP] 'PROJECT STAR'	Pentz 1998	Cigarettes, alcohol and cannabis	School-based drugs prevention programme in 200 communities over 6 yrs	$108/ participant $800/family	Savings based on standard costs per smoker, alcohol and marijuana abuser	At 5 yrs Cigarettes: 8.12 Alcohol: 1.69 Cannabis: 1.69
HIGH/SCOPE PERRY PRE-SCHOOL	Schweinhart et al., 1993	All drugs	School and home-based educational information for high-risk families	$12,356	Productivity gains, tax revenue, crimes avoided, social care savings	8.74

Full references available in the forthcoming report [Fordham et al, 2006]

Implications and recommendations

7.27 Economic evaluation offers the opportunity to inform planners of drug prevention policy and services, and enable them to be more efficient with, and to prioritise, the finite resources available for future implementation. However, to date, the application of economic principles and analysis in the drug prevention field has not been fully exploited in the UK.

7.28 There are still a number of unresolved issues and challenges which may continue to hinder the development of economic methods in the drug prevention field, particularly around determining suitable programme outcomes, and which costs and benefits to include in evaluations.

7.29 Further investment in research into the economics of drug prevention may help to address the issues outlined. There is the need for clear guidance to be developed on which techniques should be used and in what circumstances to evaluate the costs and benefits of drug prevention programmes.

7.30 Policy and decision makers in the drug prevention field should be encouraged to develop an understanding of good practice in economic evaluation, in addition to relevant critical appraisal skills. The methodology for undertaking evaluations of healthcare interventions is well developed and applicable to public health interventions such as drug prevention.

This chapter is adapted from a forthcoming [*2006*] report written by Dr Richard Fordham, University of East Anglia, in collaboration with the NCCDP [see *Fordham R, Jones L, Sumnall HR, McVeigh J & Bellis MA* [*2006*] *The economics of drug prevention: An introduction to the issues. Liverpool, NCCDP*].

section 8

Evidence into practice

8.1 Evidence-based practice reduces the reliance on intuition or unsystematic experience as grounds for professional decision-making, and emphasises the examination of evidence from research. Evidence-based practice requires new skills of the drug professional, including efficient literature-searching, and critical appraisal. For many years there was the assumption that when research information was made available it was accessed by practitioners, appraised and then automatically applied in practice [*Centre for Reviews and Dissemination, 1999*]. In a review of evaluation reports of prevention initiatives conducted by many local drug prevention projects [*McGrath et al., 2006b*] it was evident that most were evidenced on an intuitive level about effective practice, or otherwise referenced questionable research evidence and approaches.

8.2 Whilst this report, and others like it, presents recommendations and statements about the most effective means of conducting drug prevention, it is important to consider how this information can subsequently be used to inform current practice and how it can be used to develop initiatives in the future. An approach which is evidence-based *per se* may not automatically succeed if the environment in which it is to be used has not been fully considered.

8.3 The research literature makes a distinction between communications that increase awareness and those that actually bring about changes in practice. Whilst knowledge of a practice guideline or a research based recommendation is important, it is rarely, by itself, sufficient to change practice. Extrapedagogical barriers may also arise through strategic directives and inter-professional politics. This distinction is helpful in understanding that dissemination and implementation may be considered as a spectrum of activity, where dissemination involves raising awareness of research messages [such as receipt of briefings and reports such as this] and implementation involves getting the findings of research adopted into practice [i.e. evidence-based practice].

8.4 Although the evidence base highlights [small to moderate] successes in some prevention approaches, it is pertinent to consider whether theory and research driven programmes can be successfully implemented in practice. This has been described as the efficacy-effectiveness interface [i.e. referring to the power of an intervention to produce an effect and subsequent production of the desired effect in practice] and requires investigation in its own right [*August et al., 2004*]. Key factors characterising research based practice and its application are discussed in Evidence into Practice: drug prevention review authored by the NCCDP [*Sumnall et al., 2006*], and published by NICE. Briefly, to improve the chances of successful implementation there are a series of factors, drivers, barriers, and challenges that need to be considered. These include:

- Client factors - e.g. the nature of the target group and their specific needs, comparison with the population that the original research data was collected from.
- Practitioner factors - e.g. training needs and work focus of service deliverers; process and fidelity of implementation.
- Structural factors - e.g. current service provision and gaps, local strategies, partner organisations and champions, multi-agency working.
- Political factors and national drivers - e.g. National Drugs Strategy, local priorities.

Table 8.1: Summary of considerations when implementing evidence based drug prevention [adapted from Sumnall et al., 2006]

CONSIDERATION	ISSUES
DOES THE APPROACH CORRESPOND TO NATIONAL GOVERNMENT STRATEGIES AND PRIORITIES?	This includes: the National Drugs Strategy, The Drugs Bill; Every Child Matters: Change for Children; Hidden Harm; Choosing Health: making healthier choices easier; National Service Framework for children, young people and maternity services; Drugs Guidance for Schools; D[A]AT young people's plans; National Healthy Schools Programme; National Curriculum.
DOES THE APPROACH CORRESPOND TO LOCAL GOVERNMENT STRATEGIES AND PRIORITIES?	Co-ordinated local working is needed to ensure consistency in the evidence based approach across organisations and to link in with relevant local strategies including: Children's Fund delivery plans, parenting strategies, the young people's substance misuse strategy; the alcohol harm reduction strategy; Connexions business plans, Healthy Schools partnership plans, crime reduction strategies, Prevent and Deter strategy, Education Development Plans; Teenage Pregnancy strategy; Children and Young People's Plan.
IS THE APPROACH TAKEN FROM CURRENT EVIDENCE? HOW HAS THAT EVIDENCE BEEN APPRAISED?	Reviews and summaries of data are available to drugs professionals from organisations such as the NCCDP, NICE and the Drug Strategy Directorate, as well as from the academic literature and databases like EMCDDA and NIDA. Critical appraisal and review skills are needed in order to successfully extract practice theory from primary research papers.
EXISTING EXAMPLES OF 'BEST PRACTICE'	Find out if strategies are based on evidence-based interventions [via peer reviewed sources such as DEPIS and EDDRA]. Despite their apparent success, consider whether US programmes [where the majority of evidence is generated] can be transferred to a UK context because of differences in social and community structures, population characteristics, policy etc.
WILL THE APPROACH ADDRESS GAPS IN SERVICE PROVISION	Needs assessment studies and consultation with target groups will identify any gaps. Inclusive, creative thinking will offer solutions to fill these gaps.
LOCAL PARTNER ORGANISATIONS	Existing strategic partnerships and delivery plans need to be taken into account when introducing new ways of working.
LOCAL CHAMPIONS	These need to be identified and supported. They include members of community groups, youth workers and teachers.
KEY INFLUENCES	Include the effectiveness of the primary/secondary care interface, economics, judicial policy and practice and local education.
RESOURCES	Implementation of evidence-based practice is likely to have funding implications and there will be areas where money can be saved [for example, by closing ineffective programmes]. Start-up, staff recruitment and continued professional development, evaluation and dissemination of findings all need to be well resourced.
BARRIERS	Interventions may need to overcome cultural, organisational and individual barriers to change.
WORKFORCE ISSUES	Who is likely to be involved and what are their skills and competencies? Do they need additional training and education? Do people need to be recruited? Will new roles and career paths be required?

8.5 Careful consideration of these factors provides a framework for strategic planning and programme delivery [*Kelly et al., 2003*]. Success often depends upon practitioner knowledge of local population groups/ settings and health improvement needs. Whilst the scientific evidence often provides a framework of plausibility for prevention interventions, practitioner knowledge and utilisation provide a basis for understanding the likelihood of success of particular interventions. However, it is not always possible to rely on traditional sources of evidence [i.e. peer reviewed academic texts] in order to complete our understanding of these, as they are rarely available.

section 9

Next steps

The purpose of this annual review was to build upon the three previous NCCDP briefings [*Edmonds et al., 2005; Burrell et al., 2005; Jones et al., 2006*] by presenting, categorising, and grading research findings.

Overall, the report highlights the general need for improved research and evaluation in the field of drug prevention. In particular, there is a need to foster a culture of research in relation to interventions and programmes that are delivered at tiers 2, 3 and 4, as currently few recommendations can be made about effective practice at these levels in the UK. Gaps in the evidence base have been highlighted, and suggestions made as to how different professional groups may address them. Despite this cautionary note, this report has highlighted strategies and interventions with the potential for, or proof of effectiveness. Whilst much excellent work is taking place with young people in the UK it is important that successes are shared in a robust and systematic way and that new projects are designed with reference to the evidence base. It is clear that a combination of professional skills and adherence to prevention theory are pre-requisites for success. Intuitive practice may offer short-term successes, but in order to maintain success and share learning across the field then it is important that more comprehensive approaches to prevention practice are developed. It is important that not only do we challenge current practice, but also the evidence from which it may have been derived. Some interventions may be adhering to models that have been shown to be ineffective, or even to have opposite effects than intended, others may offer chance for success but be economically unfeasible.

Over the next 12 months, the NCCDP aims to support drug prevention in the UK by offering:

- A web site offering drug prevention resources to a wide range of professionals.
- An information service providing tailored overviews of the drug prevention evidence base.
- Reports on key drug prevention issues, such as the role of employers, media, and the work place.
- A decision making tool enabling quick and easy access to evidence underpinning key interventions and national policies.
- Research and evaluation toolkits, offering guidance and advice to assist drug services to conduct their own project evaluations.

section 10

References

Advisory Council on the Misuse of Drugs [ACMD] [2003] *Hidden Harm: Responding to the Needs of Children of problem Drug Users, Report of an enquiry by the ACMD. London: Home Office*

August GJ, Realmuto GM, Winters KC & Hektner JM [2001] *Prevention of adolescent drug abuse: Targeting high-risk children with a multifaceted intervention model - The Early Risers "Skills for Success" Program. Applied and Preventative Psychology 10:135-154*

Bahr SJ, Hawks RD & Wang G [2003] *Family and religious influence on adolescent substance abuse. Youth and Society 24:443-465*

Bancroft A, Wilson S, Cunningham-Burlery S, Backett-Milburn K & Masters H [2004] *Parental drug and alcohol misuse: Resilience and transition among young people. York: Joseph Rowntree Foundation*

Banwell C, Denton B & Bammer G [2002] *Programmes for children of illicit drug using parents: issues and dilemmas. Drug and Alcohol Review 21:381-386*

Bardo MT, Donohew RL & Harrington NG [1996] *Psychobiology of novelty seeking and drug seeking behaviour. Behavioral Brain Research 77: 23-43*

Barnard M [2005] *Drugs in the family. York: Joseph Rowntree Foundation*

Barnard M & McKeganey N [2003] *The impact of parental problem drug use on children: what is the problem and what can be done to help? Addiction 99: 552-559*

Bashford J, Buffin J & Patel K [2003] *The Department of Health's Black and minority ethnic drug misuse needs assessment project: Report 2 - The findings. Preston: Centre for Ethnicity and Health*

Bauld L, Butler R, Hay G & McKeganey N [2004] *Drug prevention for vulnerable young people in England: Final report. London: Department of Health*

Becker J & Roe S [2005] *Drug use among vulnerable groups of young people. Findings from the 2003 Crime and Justice Survey. London: Home Office*

Best D & Witton J [2001] *Guidelines for drug prevention: consultation draft. London: Department of Health*

Black DR, Tobler NS & Sciacca JP [1998] *Peer helping/involvement: an efficacious way to meet the challenge of reducing alcohol, tobacco, and other drug use among youth? Journal of School Health 68: 87-93*

Bledsoe KL [2002] *Effectiveness of drug prevention programs designed for adolescents of color: A meta-analysis. United States: Claremont Graduate University*

Botvin GJ [1999] *Prevention in schools. In: Ammerman RT, Ott P [eds] Prevention and societal impact of drug and alcohol abuse. Mahwah: Lawrence Erlbaum Association*

Boys A, Marsden J, Griffiths P, Fountain J, Stillwell G & Strang J [1999] *Substance use amongst young people: the relationship between perceived functions and intentions. Addiction 94:1043-1050*

Burkhart G & Matt B [2003] *Community-based drug prevention programmes from EDDRA. http://eddrapdf.emcdda.org/community_projects_from_EDDRA.pdf [accessed 09/05/06]*

Burrell K, Jones L, Sumnall H, McVeigh J & Bellis MA [2005] *Tiered approach to drug prevention and treatment among young people. Liverpool: NCCDP*

Bushell HD, Crome I & Williams R [2002] *How can risk be related to interventions for young people who misuse substances? Current Opinion in Psychiatry 15:355-360*

Canning U, Millward L, Raj T & Warm D [2004] *Drug use prevention among young people: a review of reviews. London: Health Development Agency*

Catalano RF, Gainey RR, Fleming CB, Haggerty KP & Johnson NO [1999] *An experimental intervention with families of substance abusers: one-year follow up of the focus on families project. Addiction 94: 241-254*

Catalano RF, Haggerty KP, Gainey RR, Hoppe MJ & Brewer DD [1998] *Effectiveness of Prevention Interventions With Youth at High Risk of Drug Abuse. In Cost-Benefit/Cost-Effectiveness Research of Drug Abuse Prevention: Implications for Programming and Policy. NIDA Research Monograph, Number 176*

Centre for Reviews and Dissemination [1999] *Getting evidence into practice. London: Royal Society of Medicine Press*

Coggans N, Cheyne B & McKellar S [2003] *The Life Skills Training drug education programme: a review of research. Scottish Executive Effective Interventions Unit, Scottish Executive Drug Misuse Research Programme. Edinburgh: University of Strathclyde*

Comer JP [1988] *Educating poor minority children. Scientific American 259: 42-48*

Cooke C, Kelley ML, Fals-Stewart W & Golden J [2004] *A comparison of the psychosocial functioning of children with drug versus alcohol dependent fathers. American Journal of Drug and Alcohol Abuse 30: 695-710*

Copeland J & Hall W [1992] *A comparison of predictors of treatment dropout of women seeking drug and alcohol treatment in a specialist women's and two traditional mixed-sex treatment services. British Journal of Addiction 87:883 - 890*

Crome IB, Christian J & Green C [2000] *The development of a unique designated community drug service for adolescents: policy, prevention and education implications. Drugs: education, prevention and policy 7: 87-108*

Cuijpers P [2002a] *Effective ingredients of school-based drug prevention programs: A systematic review. Addictive Behaviors 27: 1009 - 1023*

Cuijpers P [2002b] *Peer-led and adult-led school drug prevention: a meta-analytic comparison. Journal of Drug Education 32: 107-119*

Deeham A & Saville E [2003] *Calculating the risk: recreational drug use among clubbers in the South East of England. Home Office Online Report 43/03 http://www.homeoffice.gov.uk/rds/pdfs2/rdsolr4303.pdf [accessed 09/05/06]*

Denton B, Banwell C & Bammer G [2000] *A welcome place: a health service for drug using parents and their children nine years on. Canberra, National Centre for Epidemiology and Population Health: Australian National University*

Derzon JH & Lipsey MW [2002] *A meta-analysis of the effectiveness of mass communication for changing substance use knowledge, attitudes, and behavior. In: Burgoon M, Crano WD [Eds], Mass media and drug prevention: Classic and contemporary theories and research. [pp.231 258] Mahwah, NJ, US: Lawrence Erlbaum Associates*

De Witt D, Ellis K, Rye BJ, Steep B, Braun B, Heathcote J, Silverman G, Smyte C, Lavigne S & Wild C [1998] *Evaluations of "opening doors", a drug prevention programme for at-risk youth: three reports. ARF research document, series no 143. Totonto: Addiction Research Foundation*

DfES [2004] *Every Child Matters: Change for Children in Social Care. London: DfES*

Didlock N & Cheshire R [2005] *Developing the evidence base: young people with substance misuse problems. London: Turning Point/Addaction*

Dijkgraff MGW, van der Zanden BP, de Borgie AJM, Blanken P, van Ree JM, van den Brink W [2005] *Cost utility analysis of co-prescribed heroin compared with methadone maintenance treatment in heroin addicts in two randomised trials. BMJ 330: 1297-1303*

Dillon L, Graham J & Murphy J [2005] *The Named Drug Worker Programme: A qualitative evaluation. London: Home Office*

Dishion TJ & Kavanagh K [2000] *A multilevel approach to family-centered prevention in schools: Process and outcome. Addictive Behaviors 25: 899-911*

Dore MM, Kauffman E & Nelson-Zlupko L [1999] *"Friends in need": Designing and implementing a psychoeducational group for school children from drug-involved families. Social Work 44:179-190*

Drugscope [2003] *Drug education policies and practice in the Youth Service in England: a report for Drugscope and the National Youth Agency. London: Drugscope*

Drugscope [2005] *Media Messages: A review of drug related messages reaching young people. London: Drugscope*

DrugScope & Colin Wright Associates [2004] *Assessing local need: planning services for young people. London: DrugScope*

Durlak JA [1998] *Common risk and protective factors in successful prevention programmes. American Journal of Orthopsychiatry 68: 512-520*

Eadie D, Stead M & Hastings G [2002] *Tackling drugs in disadvantaged communities: an investigation into the role and potential of media advocacy. Edinburgh: Centre for Social Marketing, University of Strathclyde*

Edmonds K, Sumnall H, McVeigh J, Bellis MA [2005] *Drug Prevention among vulnerable young people. Liverpool: NCCDP*

Ellis S & Grey A [2004] *Prevention of sexually transmitted infections [STIs]: a review of reviews into effectiveness of non-clinical interventions. London: Health Development Agency*

Erhard R [1999] *Peer led and adult led programs - student perceptions. Journal of Drug Education 29:295-308*

Ernst CC, Grant TM & Streissguth AP [1999] *Intervention with high-risk alcohol and drug-abusing mothers: II. 3-year findings from the Seattle Model of Paraprofessional Advocacy. Journal of Community Psychology 27: 19-38*

Evans R, Spencer I & O'Connor L [2001] *DPAS Briefing Paper 11: An evaluation of four projects supporting the development of school drug policies. London: Home Office*

Faggiano F, Vigna-Taglianti FD, Versino E, Zambon A, Borraccino A & Lemma P [2005] *School-based prevention for illicit drugs' use. The Cochrane Database of Systematic Reviews 2005, Issue 2*

Flay BR [2000] *Approaches to substance use prevention utilizing school curriculum plus social environment change. Addictive Behaviors 25: 861-885*

Fordham R, Jones L, Sumnall HR, McVeigh J & Bellis MA [2006] *The economics of drug prevention: an introduction to the issues. Liverpool: NCCDP*

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

Fraser P & Seddon T [2003] *Drug Prevention for Vulnerable Young People: Issues for Planning, Evaluation and Practice, Research Briefing 3. London: Nacro*

Gamma A, Jerome L, Liechti M & Sumnall HR [2005] *Is ecstasy perceived to be safe? A critical survey. Drug and Alcohol Dependence 77:185-193*

Godfrey C, Toumbourou JW, Rowland B, Hemphill S & Munro G [2002] *Drug education approaches in primary schools. Technical Report 4. South Melbourne: Australian Drug Foundation, Drug Info Clearinghouse*

Gottfredson DC & Wilson DB [2003] *Characteristics of effective school based substance abuse prevention. Prevention Science 4:27-38*

Goulden C & Sondhi A [2001] *At the margins: drug use by vulnerable young people in the 1998/99 Youth Lifestyles Survey. Home Office Research Study 228. London: Home Office*

Grant T, Ernst C, Streissguth A & Stark K [2005] *Preventing alcohol and drug exposed births in Washington State: Intervention findings from three Parent-Child Assistance Program sites. American Journal of Drug and Alcohol Abuse 31: 471-490*

Hallfors D & Godette D [2002] *Will the "principles of effectiveness" improve prevention practice? Early findings for a diffusion study. Health Education Research 17: 461-470*

Hammersley R, Reid M, Oliver A, Genova A, Raynor P, Minkes J & Morgan M [2004] *Drug and alcohol projects: The national evaluation of the Youth Justice Board's drug and alcohol projects. London: Youth Justice Board*

Hawkins JD, Catalano RF & Miller JY [1992] *Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: implications for substance abuse prevention. Psychological Bulletin 112: 64-105*

Hawkins EH, Cummins LH & Marlatt GA [2004] *Preventing Substance Abuse in American Indian and Alaska Native Youth: Promising Strategies for Healthier Communities. Psychological Bulletin 130: 304-23*

Health Advisory Service [2001] *The substance of young needs: review 2001. London: Home Office*

Hibell B, Andersson B, Bjamasson T, Ahlström S, Balakireva O, Kokkevi A & Morgan M [2004] *The ESPAD Report 2003 Alcohol and Other Drug Use Among Students in 35 European Countries. Stockholm: The Swedish Council for Information on Alcohol and Other Drugs (CAN) and the Pompidou Group at the Council of Europe*

Hoch JS, Dewa CS [2005] *An introduction to economic evaluation: What's in a name? Canadian Journal of Psychiatry 50: 159-66.*

Hoffman JP & Cerbone FG [2002] *Parental substance use disorder and the risk of adolescent drug abuse: an event history analysis. Drug and Alcohol Dependence 66: 255-264*

Home Office [2002] *Updated Drugs Strategy. London: Home Office*

Hornik R, Maklan D, Cadell D, Barmada CH, Jacobsohn L, Prado A, Romantan A, Orwin R, Sridharan S, Zanutto E, Baskin R, Chu A, Morin C, Taylor K & Steele D [2003] *Evaluation of the National Youth Anti-Drug Media Campaign: Fifth Semi-Annual Report of Findings. Pennsylvania: Westat and Annesberg School for Communication*

Hser Y, Grella CE, Hubbard RL, Hsieh S, Fletcher BW, Brown BS & Anglin D [2001] *An evaluation of drug treatments for adolescents in 4 US cities. Archives of General Psychiatry 58:689-695*

Independent Inquiry into Drug Testing at Work [2004] *Drug testing in the workplace: The Report of the Independent Inquiry into Drug Testing at Work. York: Joseph Rowntree Foundation*

Johnson V & Pandina RJ [2001] *Effects of family environment on adolescent substance abuse, delinquency, and coping styles. American Journal of Drug and Alcohol Abuse 17: 171-188*

Jones L, Sumnall H, Burrell K, McVeigh J & Bellis MA [2006] *Universal Drug Prevention. Liverpool: NCCDP*

Kelley ML & Fals-Stewart W [2004] *Psychiatric disorders of children living with drug-abusing, alcohol-abusing, and non-substance-abusing fathers. Journal of the American Academy of Child and Adolescent Psychiatry 43: 621-628*

Keen J & Alison LH [2001] *Drug misusing parents: key points for health professionals. Archive for Diseases in Childhood 85: 296-299*

Kumpher KL & Alvarado R [2003] *Family-strengthening approaches for the prevention of youth problem behaviors. American Psychologist 58:457-465*

Lloyd C [1998] *Risk factors for problem drug use: identifying vulnerable groups. Drugs: Education, Prevention, and Policy 5:217-232*

Lloyd C, Joyce R, Hurry J & Ashton M [2000] *The effectiveness of primary school drug education. Drugs: education, prevention and policy 7: 109-126*

Loxley W, Toumbourou JW, Stockwell T, Haines B, Scott K, Godfrey C, Waters E, Patton G, Fordham R, Gray D, Marshall J, Ryder D, Saggers S, Sanci L & Williams L [2004] *The prevention of substance use, risk and harm in Australia: a review of the evidence. Perth, WA: National Drug Research Institute and the Centre for Adolescent Health.*

Magura S & Laudet AB [1996] *Parental Substance Abuse and Child Maltreatment: Review and Implications for Intervention. Children and Youth Services Review 3: 193-220*

Marsden J, Stillwell G, Barlow H, Taylor C, Boys A & Hunt N [2004] *An evaluation of a brief intervention model for use with young injecting stimulant users. London: NTA*

Maynard A [1992] *The Economics of Drug Use and Abuse. In: Bock GR & Whelan J (Eds) Cocaine: scientific and social dimensions. Chichester: John Wiley & Sons, England*

McCambridge J & Strang J [2004] *The efficacy of a single session motivational interviewing in reducing drug consumption and perceptions of drug related risk and harm among young people: results from a multi-site cluster randomised trial. Addiction 99:39-52*

McGrath Y, Sumnall H, McVeigh J & Bellis MA [2006a] *Drug misuse prevention among young people: a review of reviews. Evidence Briefing Update. London: NICE*

McGrath Y, Sumnall H, Edmonds K, McVeigh J & Bellis MA [2006b] *Review of grey literature on drug prevention among young people. London: NICE*

McKeganey N [2005] *Random drug testing of school children. A shot in the arm or a shot in the foot for drug prevention? York: Joseph Rowntree Foundation*

Meier PS, Donmall MC & McElduff P [2004] *Characteristics of drug users who do or do not have care of their children. Addiction 99: 955-961*

Merikangas KR, Rounsaville BJ & Prusoff BA [1992] *Familial factors in vulnerability to substance abuse. In: Glantz, M., and Pickens, R., eds. Vulnerability to Drug Abuse. Washington, DC: American Psychiatric Association Press*

Midford R, Lenton S & Hancock L [2000] *A Critical Review and Analysis: Cannabis Education in Schools. Sydney, NSW Department of Education and Training*

Milne BJ, Chalmers S, Waldie KE, Darling H & Poulton R [2002] *Effectiveness of a community-based truancy intervention: A pilot study. New Zealand Journal of Educational Studies. 37:191-203*

Mitchell P, Spooner C, Copeland J, Vimpani G, Toumbourou JW, Howard J & Sanson A [2001] *A Literature Review of the Role of Families in the Development, Identification, Prevention and Treatment of Illicit Drug Problems. Melbourne: Commonwealth of Australia*

Morehouse E & Tobler N [2000] *Preventing and reducing substance use among institutionalised adolescents. Adolescence 35:1-28*

MORI [2004] *MORI Youth Survey 2004. London: Youth Justice Board for England and Wales*

National Evaluation of Sure Start [2004] *The impact of sure start local programmes on child development and family functioning: a report of preliminary findings. London: Birkbeck University of London*

National Treatment Agency for substance misuse [2005a] *Young people's substance misuse services - essential elements. London: NTA*

National Treatment Agency for substance misuse [2005b] *Retaining clients in drug treatment. A guide for providers and commissioners. London: NTA*

Neuspiel DR & Hamel SC [1991] *Cocaine and infant behavior. Developmental Behavioural Pediatrics 12:55-64*

Nulman I, Rovet J, Altmann D, Bradley C, Einarson T & Koren G [1994] *Neurodevelopment of adopted children exposed in utero to cocaine. Canadian Medical Association Journal 151: 1591-1597*

Office for National Statistics [ONS] [2005] *Focus on ethnicity and identity. London: HMSO*

Osler A, Street C, Lall M & Vincent K [2002] *Not a problem? Girls and Social Exclusion. London, National Children's Bureau*

Panagopoulos I & Ricciardelli [2005] *Harm reduction and decision making among recreational ecstasy users. International Journal of Drug Policy 16: 54-64*

Pentz MA [1998] *Costs, benefits and cost-effectiveness of comprehensive drug abuse prevention. In: Bukoski WJ & Evans RI (Eds) Cost-Benefit/Cost-Effectiveness Research of Drug Abuse Prevention: Implications for Programming and Policy. NIDA Research Monograph, No. 176. Rockville, MD: NIDA, US Department of Health and Human Services.*

Powis B, Griffiths P, Gossop M, Lloyd C & Strang J [1998] *Drug Use and Offending Behaviour Among Young People Excluded from School. Drugs: Education, Prevention, and Policy 5:245-256*

Pritchard C & Williams R [2001] *A three year comparative longitudinal study of a school based social work family service to reduce truancy, delinquency and school exclusions. Journal of Social Welfare and Family Law 23:23-43*

Reid K [2003] *Strategic Approaches to Tackling School Absenteeism and Truancy: the traffic lights [TL] scheme. Educational Review 55:305-321*

Rhodes T, Lilly R, Fernandez C, Giorgino E, Kemmesis WU, Ossebaard HC, Lalam N, Faasen I & Spannow KE [2003] *Risk Factors Associated with Drug Use: the importance of 'risk environment'. Drugs: Education, Prevention and Policy 10: 303-329*

Ridenour TA, Cottler LB, Compton WM, Spitznagel EL & Cunningham-Williams RM [2003] *Is there a progression from abuse disorders to dependence disorders? Addiction 98: 635-644*

Roe S & Becker J [2005] *Drug prevention with vulnerable young people: A review. Drugs: education, prevention and policy 12:85-99*

Sambrano S, Springer JF, Sale E, Kasim R & Hermann J [2005] *Understanding Prevention Effectiveness in Real-World Settings: The National Cross-Site Evaluation of High Risk Youth Programs. The American Journal of Drug and Alcohol Abuse 31:491-513*

Schinke S, Cole K & SR Poulin [2000] *Enhancing the Educational Achievement of at-Risk Youth. Prevention Science 1:51-60*

Shaw C [2001] *DPAS Briefing 7. Drugs Scene: an evaluation of a drugs prevention project in South London. London: Home Office*

Shiner M [2000] *Doing it for Themselves: an evaluation of peer approaches to drug prevention. London: Home Office*

Skara S & Sussman S [2003] *A review of 25 long-term adolescent tobacco and other drug use prevention programme evaluations. Preventive Medicine 37: 451-74*

Smith BD [2003] *How parental drug use and drug treatment compliance relate to family reunification. Child Welfare 82: 335-365*

Spoth RL, Redmond C, Trudeau L & Shin C [2002] *Longitudinal substance initiation outcomes for a universal preventive intervention combining family and school programs. Psychology of Addictive Behaviors 16: 129-134*

Springer J [2002] *The National Cross-Site Evaluation of High-Risk Youth Programs. US Department of Health and Human Services*

Stead M, MacKintosh AM, Eadie D & Hastings G [2001] *NE Choices: the results of a multi-component drug prevention programme for adolescents. 2001. Glasgow: Centre for Social Marketing, The University of Strathclyde*

Sumnall HR, McGrath Y, McVeigh J, Burrell K, Wilkinson L & Bellis MA [2006] *Drug use prevention among young people. Evidence into Practice Briefing. London: NICE*

Sumnall HR, Tyler E, Wagstaff GF & Cole JC [2004] *A behavioural economic analysis of alcohol, amphetamine, cocaine, and ecstasy purchases by recreational polydrug users. Drug and Alcohol Dependence 76: 93-99*

Sumnall HR, Cole JC & Jerome L [2006] *The varieties of ecstatic experience: an exploration of the subjective experiences of ecstasy. Journal of Psychopharmacology, in press*

Swann C, Bowe K, McCormick G & Kosmin M [2003] *Teenage pregnancy and parenthood: a review of reviews. London: HDA*

Tobler NS, Roona MR, Ochshorn P, Marshall DG, Streke AV & Stackpole KM [2000] *School-Based Adolescent Drug Prevention Programs: 1998 Meta-Analysis. The Journal of Primary Prevention, 20: 275-336*

Toumbourou JW, Williams J & Patton G [2005] *What do we know about preventing drug-related harm through social developmental intervention with young people? In: Stockwell T, Gruenewald PJ, Toumbourou JW, Loxley W [Eds], Preventing harmful substance use: the evidence base for policy and practice [pp 87-100] Chicester: John Wiley and Sons Ltd*

Velleman R, Mistral W & Sanderling L [2000] *DPAS Paper 5: Taking the message home: involving parents in drugs prevention. London: Home Office*

Vimpani G [2005] *Getting the mix right: family, community and social policy interventions to improve outcomes for young people at risk of substance misuse. Drug and Alcohol Review 24: 111-125*

Vimpani G & Spooner C [2003] *Minimizing substance misuse by strategies to strengthen families. Drug and Alcohol Review 22:251-254*

Waldron HB & Kaminer Y [2004] *On the learning curve: the emerging evidence supporting cognitive-behavioral therapies for adolescent substance abuse. Addiction 99 [Supplement 2]:93-105*

Wanigaratne S, Dar K, Abdulrahim D & Strang J [2003] *Ethnicity and Drug Use: exploring the nature of particular relationships among diverse populations in the United Kingdom. Drugs: Education, Prevention & Policy 10: 39-55*

Ward J [1998] *Substance use among young people 'looked after' by the social services. Drugs: Education, prevention and policy 5: 257-268*

Ward J, Henderson Z & Pearson G [2003] *One problem among many; drug use among care leavers in transition to independent living. London: Home Office*

Ward J & Rhodes T [2001] *DPAS Briefing 12: Drugs prevention through youth work. London: Home Office*

Webster R, Goodman M & Whalley G [2002] *Safer Clubbing Guide. London: Home Office*

White D, Buckley E & Hassan J [2004] *Literature review on the role of external contributors in school drug, alcohol and tobacco education. London: Department for Education and Skills*

Wight D, Raab GM, Henderson M, Abraham C, Buston K, Hart G & Scott S [2002] *The limits of teacher-delivered sex education: interim behavioural outcomes from a randomised trial. British Medical Journal 324: 1430*

Yamaguchi R, Johnston LD & O'Malley PM [2003] *Relationship between student illicit drug use and school drug testing policies. Journal of School Health 73: 159-64*

National Collaborating Centre for Drug Prevention
Centre for Public Health
Liverpool John Moores University
Castle House
North Street
Liverpool
L3 2AY
E-mail: NCCDPinfo@ljmu.ac.uk
www.drugpreventionevidence.info

ISBN 1-902051-87-4

National Collaborating Centre Drug Prevention

Liverpool JMU Centre for Public Health

NorthWest Public Health Observatory