



Identifying Effective Interventions for Preventing Underage Alcohol Consumption

Final Report Prepared for Wirral Drug and Alcohol Action Team

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Aim

To identify a range of effective interventions aimed at preventing/reducing alcohol use in young people, and particularly underage drinkers.

Method

A review of a selection of published systematic reviews which had been carried out on this subject area was made in order to identify those interventions which had been well run, subjected to evaluation, and had produced successful outcomes.

Key Findings

- Information campaigns using a counter-marketing strategy could appeal more to young people.
- Lesson-based interventions within schools can reduce alcohol-use both in the short and medium term.
- Family-based interventions are more effective if they provide parent-training, family skills training, and children's activities together.
- Interventions aimed at preventing underage drinking which challenge the social norms of drinking and involve the community as a whole, are effective.
- Raising the price of alcohol, and/or the minimum legal drinking age are both effective methods of reducing alcohol consumption and related harms.
- Brief interventions for alcohol provided in A&E settings may be a useful treatment tool for young people with risky drinking patterns.
- Routine health checks for teens provide an opportunity to deliver information about alcohol use and other health-related behaviours.
- Other information relating to the Public Service Agreements and interventions which aim to reduce and/or prevent alcohol consumption and related harms can be found at: <http://www.nwph.net/psa/>

Background

Alcohol misuse in young people and the harms associated with this have been a top public health concern in most Western countries for some time and the United Kingdom (UK) has some of the highest figures in Europe for teenage alcohol consumption. For example, 54% of 15 to 16 year olds report binge drinking¹ in the last 30 days compared with 43% in Europe overall. Further, whilst the proportion of young people drinking has declined in recent years, the quantities consumed have more than doubled (Fuller, 2008). Within England, the North West experiences a disproportionate number of alcohol-related harms compared with other regions and currently has the highest rate of alcohol-related deaths in both males and females aged between 15 and 34 (NWPFO, 2008). Rates also vary with regions, and within Merseyside, the Wirral has the second highest rate of alcohol-related hospital admissions in young people aged under 20, and this rate has been steadily rising since 2002 (NWPFO, 2008).

Alcohol misuse during adolescence often co-occurs with a range of other problem behaviours (Jessor and Jessor, 1977; Jessor, 1991; Hughes et al, 2008), such as anti-social behaviour and crime (Roberts and Fox, 2001); smoking (Atkinson et al, 2009); truancy, low attainment rates at school and school dropout (Best et al, 2006; Wichstrom, 1998); and risky sexual practices and teen pregnancy (Bailey et al, 1999; Alcohol Concern, 2002; Coleman and Cater, 2005). Thus young people in the UK are more at risk of experiencing alcohol-related harms than teenagers in Europe overall. Because of such risks, the Chief Medical

¹ Binge drinking here is defined as drinking five or more alcoholic drinks on one occasion (Hibbell et al, 2009).

Officer has recently recommended that children under the age of 15 should not consume alcohol at all (DCSF, 2009). However, it is worth noting that only a small percentage of adolescents who consume alcohol will develop problems with its use.

Onset of consumption is particularly important in preventing harm: early initiation of alcohol use (before the age of 14) increases the risk of developing problem behaviours (Hawkins et al, 1997), and problem drinking in adulthood (Pitkänen et al, 2005). Further, lifetime alcohol abuse and dependence are four times more likely in those who initiate alcohol use by the age of 14 compared with at 20 years or older, with the odds of lifetime dependence decreasing by 14% with every year initiation is delayed (Grant and Dawson, 1997). There are also a number of external and internal factors which may influence a young person's behaviours and attitudes, including those relating to alcohol use (Jessor and Jessor, 1977; Jessor, 1991). These can act either as a risk or protective factor for the development of problem behaviours (Rutter, 1985). These are briefly outlined in Table 1 below (for a review see Hawkins et al 1992):

Table 1. Risk and Protective Factors for Problem Behaviours

Influence on Child	Risk Factors	Protective Factors
Familial/parental	<ul style="list-style-type: none"> Permissive parental attitude/behaviour towards alcohol Poor/inconsistent parental control Harsh parenting Family conflict Low bonding to family 	<ul style="list-style-type: none"> Authoritative parenting style (both responsive and demanding) A supportive family environment Strong bonds/ attachment to parent(s) Parent conventionality An external support system which encourages the child's own coping efforts Parental interest in, and support of, school activities
Personal	<ul style="list-style-type: none"> Genetic susceptibility Sensation seeking/low harm avoidance Early and persistent problem behaviours Alienation and rebelliousness Favourable attitude towards drug/alcohol use Early onset of drug/alcohol use 	<ul style="list-style-type: none"> Intolerance of deviance Effective social problem solving skills High levels of self-efficacy Involvement in a hobby/pastime
Peer	<ul style="list-style-type: none"> Associating with drug/alcohol-using peers 	<ul style="list-style-type: none"> Peer models for school achievement
School	<ul style="list-style-type: none"> Academic failure Low levels of commitment to school Peer rejection in early school years 	<ul style="list-style-type: none"> Involvement with extra-curricular activities (Eccles and Barber, 1999)
Environmental	<ul style="list-style-type: none"> Laws and norms which encourage alcohol consumption Availability Extreme economic deprivation Neighbourhood disorganisation 	

(Source: Hawkins et al,1992)

Many interventions aimed at preventing/reducing alcohol misuse in young people seek to either reduce risk factors, and/or increase protective factors. In order to maximise effectiveness, these may be aimed specifically at those most at risk of developing patterns of problematic alcohol use. The optimal time for preventative interventions is thought to be during childhood and pre-adolescence, before problem behaviours start to develop

(Lochman and van den Steenhoven, 2002). Interventions which address young people's alcohol misuse can be classified in the following ways:

1. **Information Campaigns**
2. **School Settings**
3. **Family-Based**
4. **Community-Based**
5. **Treatment**

1. Information Campaigns

A recent review assessed how public health campaigns proven successful for other health-related behaviours (smoking, driving, gambling, and sexuality) could be applied to alcohol (Stead et al, 2009). The success of such campaigns is relevant to work surrounding alcohol because the behaviours involved are similar in terms of being widely-practised, socially acceptable/condoned, possibly addictive, and harmful to the individual, family and society. Further, the desired alternative behaviour could be viewed as unappealing or difficult. Each of the campaigns aimed to change people's attitudes, knowledge and behaviours, and promote healthier alternatives. The review recommended that public health campaigns which address alcohol-misuse should avoid extreme, judgemental or moralistic messages and focus on messages which appeal to, and are easily understood by, the target groups. It also emphasised that changing public opinions and behaviours can take a considerable amount of time, as in the case of smoking this took 50 years to achieve.

1.1 The Florida 'Truth' Campaign

The anti-smoking 'Truth' campaign in Florida is of particular relevance in addressing alcohol misuse in young people as this group typically experiment with both tobacco and alcohol consumption (Stead et al, 2009). This was a mass media anti-tobacco campaign targeted towards young people aged 12-17, which aimed to de-normalise smoking and prevent initiation. The campaign was piloted in Florida in 1998 and then extended throughout the United States of America (USA) in 1999. A counter-marketing strategy² was used to educate young people about the reasons why people of their age smoked, focusing on peer influence, role models, and marketing by teaching them life skills and competencies to enable them to resist these influences. The theory was that although adolescents are influenced by their peers, conversely they are also keen to be autonomous. Teaching people how they can be manipulated by various forces, whilst also showing them how they can develop skills to negate these are two central themes of counter-marketing. The intervention included in-school education, a school-based youth organisation, a community-based organisation, and a state-wide youth tobacco survey. It provided the message that young people should choose the 'truth' and support the campaign rather than smoke and be manipulated by the tobacco industry. A range of merchandise including t-shirts, were designed to complement the intervention.

Outcomes

A number of evaluations have been conducted. For example, following the pilot in Florida, stronger anti-tobacco attitudes and improved patterns of behaviour were reported in comparison with a national control population (Sly et al, 2001a, 2001b), as well as considerably lower rates of smoking amongst Florida teenagers than prior to the campaign (Niederdeppe et al 2004). Evaluation of the national campaign reported that smoking prevalence among all students decreased from 25.3% to 18.0% between 1999 and 2002 and this was significant for 13-14 year olds (Farrelly et al, 2005). However, researchers acknowledge that this may not be entirely attributable to the campaign, and that external

² Counter-marketing uses methods to attempt to permanently reduce demand for a product or service that may reflect poorly on the product itself, such as efforts by a group to discourage the use of a product the group deems unhealthy or bad for society (CDC, 2003).

influences may be involved. Stead et al, (2009) suggest that whilst a counter-marketing strategy could be effectively used in an alcohol-prevention campaign aimed at young people, such an approach could become problematic due to current partnerships with the alcohol industry.

2. School Settings

A systematic review by Jones et al, (2007) examined the effectiveness of interventions to prevent or reduce alcohol use by young people. Of those identified which delivered interventions as part of a lesson-based format, Botvin's Life Skills Training (LST), and the School Health and Harm Reduction Project (SHAHRP) provided evidence of reductions in alcohol use, both in the short and medium term. Of the interventions based outside this format, only the Start Taking Alcohol Risks Seriously (STARS) for Families brief intervention provided evidence of any effects on drinking. These programmes are outlined below. Jones et al, (2007) also examined classroom-based interventions delivered by non-teaching staff (for example research staff, police officers), but concluded that these provided inconsistent effects on alcohol use. Thus, details on these interventions are not presented here.

2.1 Classroom-based interventions led by teachers or external contributors

2.1.1 Botvin's LST Programme

This was developed in the USA for students aged 12-13, with booster sessions during the following two years (Botvin, 1983, cited by Botvin et al, 1990). The overall aim was to improve personal and social skills, with particular emphasis on developing the skills necessary to resist social influences to smoke, drink, or use drugs. The intervention consisted of 12 curriculum units taught over 15 class periods relating to smoking, drinking and drug use. The study involved 56 schools and 4,466 students who were randomly assigned to one of two intervention groups, one of which received the videotaped training together with a training workshop and feedback (Group 1), whilst the other group received the videotaped training alone (Group 2), or the control group.

Outcomes

The cumulative effects of the intervention after three years' delivery of the programme³ were assessed using a sample of 3,684 students who had received at least 60% of the programme (Botvin et al, 1990). Key findings showed:

- a) **Substance use:** Both intervention groups reported significantly less cigarette smoking and marijuana use compared with the control group. The frequency of getting drunk was significantly less in Group 2; however there were no significant effects for either drinking frequency or amount.
- b) **Knowledge concerning substance use:** Both intervention groups showed significant improvements for knowledge about substance use. Students in Groups 1 and 2 had significantly more knowledge about actual drinking prevalence rates, the negative consequences of drinking, and the declining social acceptability of drinking.
- c) **Substance use attitudes:** Both intervention groups showed significantly improved normative expectations of substance use, for example perceived substance use by adults and peers, than controls.
- d) **Skills knowledge:** Both intervention groups had significantly higher scores on interpersonal skills knowledge than controls, together with a marginally significant improvement for both groups on communications skills knowledge, compared with controls.
- e) **Personality:** There were no improvements on any of the personality variables (higher self-esteem, self-efficacy, social anxiety).

³ There were 15 sessions in seventh grade (age 12-13), with booster sessions in eighth and ninth grades (ages 13-14 and 14-15 respectively).

A further evaluation was conducted six years after collection of baseline data. Results showed no differences between intervention and control students on weekly or monthly alcohol use, however the prevalence of being drunk was significantly lower in intervention students. In the sample receiving 60% of the programme, both intervention groups had significantly lower rates of weekly, heavy, and problem drinking than controls (n=1,142) (Botvin et al, 1995).⁴

An evaluation of a 20 session LST delivered at age 12-13 years with booster sessions in the following year, found significantly lower levels of weekly and monthly drinking, and frequency of drinking in the intervention groups compared with controls at one year follow-up (Botvin et al, 1990b, cited by Jones et al, 2007). Students in the peer booster group reported consuming less alcohol per occasion than other groups (teacher booster, non-booster, or control). Interestingly, the teacher booster group reported the worst results in terms of weekly and monthly alcohol consumption and drinking frequency, compared with controls reporting significantly lower scores than this intervention group.

2.1.2 SHAHRP (School Health and Harm Reduction Project)

SHAHRP is a curriculum-based intervention to reduce harm experienced due to own or other people's alcohol use. The intervention involved 2,300 students from 14 schools in Perth (Australia) and was carried out over two years:

- Phase one was delivered when the students were 13 years old and consisted of 17 skills-based activities delivered over eight to ten weeks.
- Phase two was implemented one year later at age 14, consisting of 12 activities delivered over five to seven weeks.

All activities were interactive and focused on identifying alcohol-related harm and developing harm reduction strategies. Teachers attended two days of training prior to each phase and were provided with a training manual detailing the lesson plans. The intervention students completed a workbook for each phase. Comparison schools provided alcohol education classes over the course of one term during phase two.

Outcomes

Evaluation took place at three stages following baseline assessment: a) following implementation of phase one (8 months from baseline), b) following implementation of phase two (20 months from baseline), and c) one year later (32 months from baseline) (McBride et al, 2003). Questionnaires measured students' knowledge and attitudes towards alcohol, patterns and context of alcohol use, and harm/risk associated with other people's alcohol use.

- a) **Knowledge:** The intervention group demonstrated significantly greater alcohol-related knowledge than the controls at eight months by 21.5% and at 20 months by 9.2%; however at 32 months, differences were no longer significant.
- b) **Attitude:** The intervention group developed significantly safer alcohol-related attitudes at a) and this effect was maintained throughout both b) and c), with the greatest effect size being found at a).
- c) **Alcohol consumption:** The intervention group consumed significantly less alcohol than controls at both a) (31.4%), and b) (31.7%) however, levels were converging by c) (9.2%). Students in the intervention condition reported consuming alcohol less often than controls and this difference was significant at a) and b) but not c). Intervention students also consumed less alcohol per occasion from a) onwards but this was only significant at b).

⁴ The sample size for Group 1 receiving 60% of the intervention was 762 and for Group 2, it was 848 (Botvin et al, 1995). These groups were compared with 1,142 controls.

- d) **Risky consumption patterns:** Intervention students were significantly less likely to report drinking at risky levels⁵ at all follow up periods (differences of (a) 25.7%, (b) 33.8%, and (c) 4.2%).
- e) **Context of use:** There were significant differences in the context of alcohol use between the intervention and control groups over the course of the study. The intervention groups reported smaller increases in both supervised and unsupervised drinkers compared with controls, the greatest effect size for unsupervised drinkers was shown at a) (9.6% difference), whilst at b) and c) the intervention group had 18.9% and 36.3% more non-drinkers respectively than the control group.
- f) **Harms associated with own use of alcohol:** Intervention students reported experiencing less harm associated with their own use of alcohol than the control group and these effects were significant for all follow-up times (differences of (a) 32.7%, b) 6.7%, and c) 22.9%).
- g) **Harms associated with others' alcohol use:** The intervention group experienced less harm as a result of other people's alcohol use at both b) (10%) and c) (12.8%), than controls, although neither result was significant.

2.2 Interventions delivered outside lesson format

2.2.1 STARS (Start Taking Alcohol Risks Seriously) for Families

This was a universal⁶ brief intervention programme delivered by a nurse (Werch et al, 2003). The nurse received a one day training course which included demonstrations, role play and feedback from project staff. The programme was implemented over three school years (age range 11-13), in two schools (one neighbourhood and one magnet)⁷ in a disadvantaged inner city (USA). It involved 650 students who were initially aged 11-12, 58% were African American and 34% were Caucasian. Students were randomly allocated to either the intervention, or control group (alcohol information booklets only). During the first year, intervention students received a one-to-one health consultation lasting about 20 minutes and which focused on risk and protective factors and provided information about why and how to avoid alcohol use. In the following term, a number of prevention postcards (maximum of ten) endorsed by a local paediatrician were sent to parents/guardians providing information on issues such as how to talk to their child about avoiding alcohol. In the following year (age 12-13) students received a follow-up consultation, followed by four family lessons to take home, providing activities designed to promote parent-child communication in terms of prevention skills and knowledge. Parents and children were asked to complete each of the lessons together, with a chance to win a prize by returning completed lessons.

Outcomes

An evaluation showed significantly fewer intervention students at the magnet school (5%) were planning to drink alcohol in the next six months than controls (18%). No significant differences were identified between intervention students and controls regarding being in a more advanced stage of alcohol consumption (contemplating using alcohol or maintaining alcohol use), or consumption in the last 30 days, six months, or more. For the neighbourhood school, there were no significant differences. Werch et al, (2003) recommended that the intervention be repeated annually to maximise effects, or to use the intervention alongside other programmes for example: Botvin's Life Skills Training (see Section 2.1.1) or Project Northland (see Section 4.4.2).

Conclusion

Reviews of interventions designed to prevent or reduce alcohol use among young people have consistently found a lack of clear evidence of effectiveness (Lochman and van den

⁵ Defined as drinking more than two/four (female/male) drinks containing 10g of alcohol per occasion, once per month or more often (based on Australian adult guidelines at that time in the absence of guidance for young people.).

⁶ 'Universal' interventions target children/young people in general, rather than those most at risk.

⁷ A magnet school where students were brought in by bus.

Steenhoven, 2002; Jones et al, 2007; Gates et al, 2006). However, as suggested by Jones et al, (2007), SHAHRP, Botvin's LST, and STARS for Families all showed evidence of reductions on alcohol use, and particularly heavy alcohol use. Whereas STARS showed only short-term effects, both SHAHRP and Botvin's LST programmes showed medium-term effects, with the latter also showing long-term effects. Nevertheless, there are a number of limitations with the evaluations of the programmes involved which must be considered:

- Vulnerable groups may not attend school (for example, truants, runaways, homeless, and those subject to an exclusion order). This is important as in the case of excluded children, who may be almost twice-as-likely to drink alcohol regularly than those attending school (Bamford et al, 2000, cited by Gilvarry et al, 2001). Therefore these groups may not receive any intervention or support in this setting.
- There is often a high drop-out rate of young substance users from programmes, and although this will reflect on both intervention and control groups (Botvin et al, 1990), the effects of this on reported results are unknown.
- The interventions described were performed in schools outside the UK. Therefore their transferability and applicability to the UK is uncertain.

3. Family-Based Interventions

Parents and family have both a direct and indirect influence on their children's substance use/misuse and associated behaviours (Chassin et al, 1996). Thus, family-based interventions focus on reducing risk factors, and/or strengthening the associated protective factors (see Table 1) and the young people's social competencies. These can either involve parent training only, or may also include family skills training, and/or child training.

3.1 Parent and family skills training

Parent and family skills training interventions aim to improve family functioning and are classed as being either selective or universal⁸. Sessions can be delivered to parents alone, parents and children separately, or parents and children together. Information on substance use is provided, but parents are also taught parenting skills such as discipline, supervision, problem-solving, improving parent-child bonding and communication. Parental involvement in school is also promoted. Children's sessions focus on improving behaviour through learning skills such as problem solving, academic skills, conflict management, and resisting peer-pressure, with activities in the form of instruction, skills training/practice, role-play, videotape-based training, and modelling sessions. The second approach, Family Therapy and In-Home Support are typically less structured and are tailored to the individual's needs. These usually include participation by all family members, and aim to reduce maladaptive family functioning, reduce negative behaviours, and improve family interactions. In-Home Support provides a wide range of intensive services within the home setting.

3.1.1 Parent training only - PARTNERS

In their review, Lochman and van den Steenhoven (2002), found PARTNERS to be the most effective parental training intervention. This selective intervention involved families with pre-school children⁹ who were all part of the Head Start programme¹⁰ and considered to be at high risk for developing conduct problems through factors such as socio-economic deprivation, single parenthood, parental criminal history or substance abuse (Webster-Stratton, 1994). The intervention used videotaped modelling, a cost-effective method allowing large numbers of parents to be involved at once, or self-administered (Webster-Stratton, 1994; Webster-Stratton et al, 1989). Families were randomly assigned to either a Head Start centre providing the intervention, or a centre providing usual Head Start services

⁸ 'Selective' interventions target children/young people at risk, or already showing signs of problem behaviour, whereas 'universal' interventions target children/young people in general.

⁹ Children had a mean age of four years, eight months.

¹⁰ The Head Start Programme provides grants for multiple agencies to supply child development services in areas such as educational, health, nutritional, and social services to economically disadvantaged children and families (ACF, 2009).

only (control group). The intervention took place over eight to nine weeks and consisted of parenting skills and discipline strategies. Parents were also taught how to improve their children's social skills and pro-social behaviours.¹¹ Sessions included weekly parent group meetings lasting approximately two hours where videotaped vignettes of parent-child interactions were viewed and then discussed. Home assignments were also provided. The intervention was led by a group of Family Service Workers, with four parents trained to act as group leaders.

Outcomes

In total, 394 families and their children completed both baseline and post-intervention assessments (264 intervention families and 130 controls) for the evaluation. These families were assessed on three measures: parenting competencies; parent school involvement; and child social competencies and conduct problems (obtained through reports from mothers and teachers, and observations). Results indicated significant improvements in the intervention group compared with controls on all three measures. Approximately 12-18 months later, 296 families (75%) were reassessed through home observations, and parent and teacher reports. This indicated that improvements had been maintained over the period (Webster-Stratton, 1998).

3.1.2 Parent and family skills training

Two universal interventions addressing risk and protective factors associated with adolescent substance use were assessed (Spoth et al, 1998). These were carried out in 33 rural schools (USA). Both aimed to delay substance use initiation, and progression through parent and family skills training. Three outcome measures were tested: intervention-targeted parenting behaviours, general child management, and parent-child affective quality. The final assessment was made on 523 families who had been randomly assigned to either the Preparing for the Drug-Free Years Programme (PDFY) (n=166), the Iowa Strengthening Families Programme (ISFP, Kumpfer et al, 1996) (n=178), or a control group (n=179). The targeted children were aged 11-12, and the majority were Caucasian (98.6%).

3.1.2.1 Preparing for the Drug-Free Years Programme (PDFY)

PDFY (or Guiding Good Choices) is a family competency training programme¹² to improve protective parent-child interactions and delay children's substance use initiation (Catalano et al, 1998). It provides five, weekly two-hour sessions, four of which are for parents only, consisting of skills training in identifying risk factors for adolescent substance abuse; improving parent-child bonding; developing clear guidelines regarding expected substance-related behaviours; monitoring compliance with guidelines and providing appropriate consequences; anger management and family conflict; and improving positive child involvement in day-to-day family tasks. Videotapes were used to demonstrate parent-child and family interactions. The child attends the fifth session, which includes training in peer pressure resistance skills.

3.1.2.2 The Iowa Strengthening Families Programme (ISFP)

The ISFP aims to improve family protective and resiliency processes and reduce family risk (Kumpfer et al, 1996). It involves seven, one-hour, consecutive weekly sessions with separate sessions for parents and their child. Following these, a one-hour family interaction session for both parties is provided. The parent sessions involve learning effective methods for communicating with their child regarding their expectations of substance use and other behaviours; effective disciplinary methods; and managing strong emotions in connection with these issues. The child sessions correspond with these, but also include topics such as resisting peer pressure and other personal and social skills. The family sessions allow practice of skills learned. Delivery of the parent skills training is by videotape. Each group is

¹¹ Pro-social behaviours in young children include: understanding and responding appropriately to others' emotions, sharing, taking turns, and controlling one's own emotions.

¹² This is based on the social development model (Catalano and Hawkins, 1996).

led by three team leaders and consists of between three and 15 families (mean number of families was eight, 20 persons per group).

Outcomes

In the evaluation, self-reported and observational data were collected for both groups (PDFY and ISFP) on measures of parent-child affective quality, general child management, and intervention-targeted parenting behaviours. Results showed significant effects on all these measures for both intervention groups in comparison with controls. Both interventions resulted in positive effects on children's pro-social behaviour, and their substance use. Although no direct comparison of the interventions was made, patterns of results were similar for both. Data from interviews were analysed at one and two-years' follow-up¹³ to assess progression from (a) non-use of substances to initial use of alcohol or tobacco; and (b) initial to more advanced use (Spoth, et al, 1999a; 1999b). At one year, outcome (a) was not significant for either intervention group, however it was noted that substance use is generally low within this age group. At two years, outcome (a) was significantly lower for both intervention groups compared with controls. These findings are particularly important, as at this age the children were at high risk for initiation, and as previously mentioned, delayed onset of alcohol initiation has been linked to positive effects on other related outcomes. In addition, PDFY showed a positive effect on outcome (b) in that adolescents in this intervention group who had already initiated substance use at one-year follow-up, had not increased their use in comparison with controls. ISFP did not show significance on outcome (b). Evaluation of the updated ISFP (SFP 10-14)¹⁴ indicated that the Number Needed to Treat (NNT)¹⁵ for the SFP over four years on measures of alcohol use, alcohol use without permission, and first drunkenness was nine (Foxcroft et al, 2002).

The SFP was adapted for use in the UK (Allen et al, 2007) and has been run in areas such as Barnsley and Greenwich. In Barnsley, participating families (n=50) rated the intervention as successful in a number of ways. However, data are limited due to small sample sizes, lack of comparison/control group, and lack of valid and reliable outcome measures (Coombes et al, 2006). Nevertheless, the evaluation indicated improvements in the following:

- Preventing alcohol/drug use through learning about alcohol and drugs, using skills and knowledge to reduce associated behaviours, and resisting peer pressure.
- Having a positive influence on families' emotional health and wellbeing by developing skills including problem solving, increased respect for self and others, improved self-esteem, and better stress management.
- Changing young people's behaviours such as knowing/learning rules, setting boundaries for behaviour, monitoring/managing behaviour, dealing with peer pressure, and learning how to keep out of trouble.
- Improving family functioning through for example: strengthening the family unit, improving communication, using a more consistent approach, and developing a better understanding of what parents/young people are saying.

3.2 Parent, family and child training

3.2.1 Families in Action (FIA)

The FIA is a short-term intervention (six, consecutive weekly two-and-a-half hour sessions) designed to prevent substance use and increase resiliency and protective factors in children aged 11-13, especially those at high risk (Popkin, 1980; Pilgrim et al, 1998). The child is targeted at multiple levels: the individual, family, peer, school, and community. The programme includes parent-child communication, positive behaviour management, and interpersonal relationships for adolescents. It also promotes school success by increasing

¹³ At this point 329 young people and their families were involved: 101 in the PDFY, 91 in the ISFP, and 137 controls.

¹⁴ SFP 10-14 indicated the age range of children suitable for the intervention.

¹⁵ An NNT of nine indicates that one in nine people receiving the intervention will benefit from its outcome.

attachments between the student, their family, school, and peers. The main areas targeted are: positive attachment to family, school, and peers; willingness to talk to counsellors if needed; and appropriate attitude towards alcohol, tobacco and other drugs. Areas targeted for parents are similar, but also include sessions on enjoying time spent on family activities, and involvement in child's school. The programme teaches the students basic life skills and social resistance skills, along with an opportunity to practise these. The intervention encourages all families in the target age group to take part not just those at high risk, in order to avoid stigmatising, encourage participation by families in particular need, and to provide role models. Social events were organised for FIA graduates and other families to attend. In total the FIA was run in eight schools and was evaluated in four. Participants completed surveys at four stages: baseline, six weeks later (following the intervention, ten weeks from baseline, and one year from start of intervention).¹⁶

Outcomes¹⁷

- a) **Students:** There were four significant results for improvements on measures relating to programme participation for boys, but not girls. These were: "appropriate attitudes towards alcohol"; "age reported that it is "OK to drink alcohol"; "school attachment"; and "peer attachment" compared with controls. Improvement on the measure "talking to a counsellor if necessary" was significant for both genders.
- b) **Parents:** Parents who had participated in the intervention showed improvements on measures of "involvement in school activities", and "involvement in family counselling" both of which were significant compared with controls.

Conclusion

Interventions which provide parent training alone produce some positive effects on problem behaviour in young people including reducing alcohol misuse. However when family skills training are added the effects are increased. These effects are even more pronounced when the target children also receive a programme of activities (Lochman and van den Steenhoven, 2002).

4. Community-Based Interventions

4.1 Price control

An independent review of systematic reviews, on effects of price of alcohol on consumption and related harms, found strong and consistent evidence to suggest that alcohol price increases and taxation significantly reduced alcohol consumption (Booth et al, 2008). Evidence for this was gathered from studies carried out in the USA, Australia, Switzerland, and the UK. The review also reported evidence that young drinkers, binge drinkers, and harmful drinkers typically choose cheaper drinks and that introducing minimum pricing as a targeted public health policy might effectively reduce consumption in these groups. This might be particularly effective in the case of underage drinkers who do not have access to large amounts of spending money and often choose to drink cheap drinks with a high alcoholic content such as cider. The excise duty by ABV (alcohol by volume) on cider is lower than any other drink¹⁸ making it more affordable for those on a restricted income such as children and can be purchased for as little as 11 pence per unit (Bellis et al, in prep). A study in the North West in 1995 estimated that one-in-three 15 year olds usually drink strong cider (Measham, 1996).

Laixuthai and Chaloupka (1993) examined the relationship between frequencies of youth drinking and beer excise tax in the USA during 1982 and 1989. They reported that

¹⁶ Evaluation one year later involved 43 students and 61 parents who had completed the intervention programme in comparison with a control group of 363 students and 169 parents.

¹⁷ Scores at one year follow-up controlled for initial differences identified at baseline.

¹⁸ As from April 2009, the excise duty payable per 100 litres was: cider (up to 7.5% ABV) - £31.83; wine - £214.02; beer - £16.47 for every 1% of strength; and for spirits £22.64 for every 1% of strength (The Wine and Spirit Trade Association, 2009).

increased excise taxes reduced drinking in both years. In another US sample¹⁹ binge drinking was found to be responsive to the price of alcohol, with a one percent increase in the local price of alcohol more than halving the probability of a young person engaging in heavy binge drinking (Keng and Huffman, 2006). However, it is unknown as to how effective such a strategy would be in the UK for young people, especially considering that alcohol may sometimes be provided to children by their parents (Bellis et al, 2007).

4.2 Raising minimum legal age for drinking (MLDA)

Following the end of prohibition, almost all US States set the MLDA at 21 years (Mosher, 1980, cited by Toomey et al, 1996). Between 1970 and 1975 however, 29 States lowered this to either: 18, 19, or 20. Subsequently, reports emerged of significant increases in traffic accidents involving teenagers (Douglass et al, 1974; Wagenaar, 1983; Wagenaar, 1993, cited by Wagenaar, et al, 2001; Whitehead et al, 1975; Williams et al, 1974). By 1988, due to legislation and citizen advocacy groups, all States had an MLDA of 21 years (King, 1987). Examination of US data from 1979-94²⁰ found re-introduction of the higher MLDA had reduced heavy binge drinking in teenagers (Keng and Huffman, 2006) and also decreased the number of vehicle crashes (Shults et al, 2001).

4.3 Tackling underage Sales

4.3.1 Operation Buzzer

Operation Buzzer was a pilot scheme introduced by West Yorkshire Police in October 2008 to curb underage alcohol sales. The scheme provided off-licences with hard-to-remove labels containing a unique barcode enabling illegally sold bottles and cans of alcohol to be traced. The scheme led to an 18% decrease in the number of calls regarding incidents of anti-social behaviour in an area of North East Leeds from 707 for the period 13 October 2007 - 12 Jan 2008 to 579 in the same period the following year. The scheme also provided off-licences with carrier bags, and distributed flyers with anti-underage drinking messages and warnings about the consequences of adults buying alcohol for underage drinkers (West Yorkshire Police, 2009).

4.3.2 Proof of age schemes

The Proof of Age Standards Scheme (PASS) is the national proof-of-age accreditation scheme and is endorsed by the Government. Information provided on cards includes: date of birth, full name, photo, holder's signature, and a PASS forge-proof hologram. Local programmes are also in operation. For example, Hertfordshire County Council teamed up with Validate UK to offer 16 to 18 year olds in full-time education voluntary proof-of-age cards. These were subsidised (costing £2.50). The cards aimed to encourage a "no ID, no sale" culture amongst alcohol retailers, and to help restrict the sale of other age-restricted items such as cigarettes. The cards have PASS accreditation (Hemel Gazette, 2008). No details are available on effectiveness.

4.4 Community interventions

4.4.1 The Communities Mobilising for Change on Alcohol (CMCA)

CMCA is an American community-organising intervention designed to change the policies and practices of community institutions (Wagenaar et al, 1999; 2000a; 2000b). It aims to change the local environment in order to make it harder for young people to access alcohol (including sales and provision by parents/siblings/peers), and to make underage drinking less acceptable through challenging cultural norms. Measures used included more frequent police patrols and increased media coverage of alcohol-related issues. The whole community was targeted through the involvement of local public officials, enforcement agencies, alcohol retailers, retail associations, media, schools, and other community institutions. For the purpose of evaluation, a total of 15 communities were matched for:

¹⁹ The NLSY79 is a nationally representative sample of 12,686 young men and women who were 14–21 years of age when first surveyed in 1979 (surveyed until 1994). It collected information on the labour market experiences of young American adults and oversamples blacks, Hispanics, and economically disadvantaged white youth (Keng and Huffman, 2006).

State, presence of a residential college/university, population size (mean = 20,836), and information collected from a baseline alcohol purchase survey. Communities were then randomly assigned to either the intervention (n=7) or control group (n=8). The intervention ran for two-and-a-half years.

Outcomes

Pre- and post-intervention data (1992 and 1995) included student surveys for those aged 14-15 (n=5,885), and 17-18 (n=4,506) in 1992, and those aged 17-18 in 1995 (n=4,487); telephone surveys of 18-20 year olds (1992 n=3,095, 1995 n=1,721); telephone surveys of alcohol outlet owners/managers (n=502, n=556); test purchases of alcohol (n=1,004, n=1,112); content analyses of newspaper coverage for alcohol-related issues; community-level data on, for example, alcohol-related arrests and car crashes; and process evaluation data (Wagenaar et al, 1999). Overall treatment effects were reported for 18-20 year olds and on-sale alcohol outlets, improvements were also seen in off-sale alcohol outlets, but there was no effect on younger adolescents (Wagenaar et al, 2000a).

- a) **Attempts to buy alcohol:** There was a decrease (25%) in the proportion of 18-20 year olds, but an increase (30%) in the 17-18 year olds, attempting to buy alcohol, with both groups reporting increased difficulty in obtaining alcohol from outlets. However, none of these effects were significant. There was a significant decrease in the proportion of 18-20 year olds who provided alcohol to younger teenagers (by 17%).
- b) **Drinking behaviour:** There were decreases in the drinking behaviour in the intervention communities compared with the control communities, for example: those who reported drinking alcohol in the past 30 days decreased by 7% for 18-20 year olds. However, this was not significant and episodic heavy drinking was not affected.
- c) **Selling and serving practices:** Improvements were seen in the selling and serving practices in all intervention communities in comparison with controls. For example, an increased proportion of both on-and off-sale premises checked for proof-of-age (by 17% and 15% respectively), however none of these were significant.
- d) **Other alcohol-related issues:** There were decreases in the number of drink-driving arrests among 18-20 year olds following baseline assessment in both the intervention and control communities. However rates became higher in the control groups during follow-up whilst they continued to decrease in the intervention groups (the overall significant difference was a decrease of 30.30 arrests per 100,000 population per year). Similarly, both groups had declining rates of drink-driving arrests among 15-17 year olds at baseline, but rates subsequently declined at a faster rate in the intervention communities; however this was not significant (Wagenaar et al, 2000b). The number of disorderly conduct arrests decreased in the intervention communities whilst increasing for the 18-20 year olds in the controls but the difference was not significant. A similar pattern was observed for 15-17 year olds.

Overall these results suggest that a community approach to public policy and institutional practices can help to tackle underage alcohol consumption and related harms; however as the intervention only showed effect for those aged 18-20 years, it is unclear how this would generalise to the UK, where it is legal to buy alcohol at 18 years old.

4.4.2 Project Northland

Project Northland is a community-wide research programme, which was conducted in northeast Minnesota (USA) to prevent adolescent alcohol use (Perry et al, 1996). A total of 24 school districts and their communities were involved and 20 combined districts were assigned to either the intervention or control group. Baseline assessments were collected on 11-12 year olds in 1991 (94% white ethnicity). The project tested the effectiveness of a multilevel intervention implemented in 1991-94 with this group and their communities. The intervention included parental involvement and education, behavioural elements, peer

participation, and community task-force activities.²⁰ In each year, the programme was alcohol-related and had an overall theme tailored to the developmental stage of the students. At age 11-12, students were taught how to talk to their parents about alcohol; at age 12-13, how to deal with peer influence and expectancies of alcohol; and at age 13-14, they were taught how to understand methods that bring about community-level changes for alcohol-related programmes and policies. Simultaneously, parents were taught how to communicate effectively with their children, how peer influence works, and how communities responded to young alcohol use. In the control communities, the usual alcohol and other drug education programmes continued to run.

Outcomes

The students (n=1,901) were surveyed and assessed for alcohol use prior to the intervention and annually until 1994 (Perry et al, 1996). Key findings showed:

- a) **Psychosocial factors:** Those in the intervention groups reported significantly lower scores on scales relating to 'Peer Influence'.
- b) **Alcohol use:** At 13-14 years, students in the intervention groups had significantly lower scores on alcohol use in comparison with the control groups. There were no significant differences in either the 'Self-Efficacy' or 'Perceived Access' scales. However it was noted that intervention students were significantly more likely to report that they would be able to resist the offer of alcohol at a party or other occasion, compared with controls.
- c) **Parent communication:** At baseline, intervention students were significantly less likely to report that their parents talked to them about alcohol use and the problems it could cause, and marginally less likely to report that their families had rules against young people drinking alcohol, than controls. By age 13-14, however, these students were significantly more likely to report that their parents had told them what would happen if they were caught drinking.

4.5 Alcohol-related crime interventions

4.5.1 The arrest referral scheme

Alcohol arrest referrals were piloted in 2003 in ten areas across the UK (Matrix Research and Consultancy and Institute for Criminal Policy Research, 2007). The scheme aimed to identify young offenders aged 10-17 at risk of substance misuse, and refer them onto the appropriate services in order to reduce their substance misuse and related factors such as involvement in crime. Researchers identified a variety of substance misuse among those in contact with arrest referral, although almost a quarter (23%) reported alcohol use. Frequency of use was high, with over half reporting drinking daily or weekly. Approximately one fifth of 14 and 15 year olds reported being excluded or truanting from either school or pupil referral units. Crime types were mainly theft and burglary.

Outcomes

An evaluation of young offenders involved in five of the pilot areas (n=2,327) reported the following results, and recommended that the scheme be extended to other areas (Matrix Research and Consultancy and Institute for Criminal Policy Research, 2007):

- No changes in which services young people accessed after arrest referral.
- Risk of offending increased amongst both pilot and comparison areas over the evaluation period (which was expected).
- Young people in the intervention areas saw greater decreases in alcohol consumption than the comparison areas.
- There was no significant change in offending rates following the scheme however it was felt that this was due to the evaluation period (three months) being too short.

²⁰ The community task force consisted of representatives from a range of backgrounds for example: government, law enforcement, schools, business, youth workers, parents, clergy, other concerned citizens, and also adolescents.

4.6 Early prevention interventions

4.6.1 DARE to be You

DARE to be you, is an early prevention programme for young children, aimed at preventing adolescent problem behaviours (such as alcohol misuse) from developing. (Miller-Heyl, et al, 1998). The intervention was run in the USA in four sites over five years and was adapted for families of pre-schoolers (aged two to five years), who were considered at high risk for developing problem behaviours. The intervention aimed to reach children at two levels: directly through a children's programme; and indirectly through training for parents, day-care providers, and multi-agency community teams. This was to ensure the children received the same "message" from a variety of sources. The intervention sought to improve parenting skills for later resiliency to substance use. This included improving parents' self-efficacy; effective child rearing; social support; problem solving skills; and also children's development attainments. Two consecutive series of workshops involving 10-25 parents were found to be the most effective. The sessions included a joint session for parents and children, which allowed for skills learned to be practised. Alongside this, a children's programme was provided involving activities to reinforce topics covered in the parents' workshops. Sessions lasting two-and-a-half-hours, spread over a period of ten to twelve weeks were found to be the most effective. Each family received a minimum of 24 hours of programme and follow-up support. No-risk families (7.3% of those involved) were included to provide a diverse sample and to avoid stigmatisation. Over the five year period, successive cohorts were randomly assigned to either the intervention (n=496 parents) or control group (n=301).

Outcomes

Evaluation of parental practices at a follow-up period of two years, showed significant and persistent effects on the three main goals of the intervention, harsh discipline decreased and effective discipline and limit setting increased, whereas scores on these measures for controls remained stable. For children in the intervention group a reduction in oppositional behaviour was found; however no changes were seen in children's social competencies.

5. Treatment

The National Treatment Agency for Substance Misuse (NTA) aims to improve the provision of drug treatment in England. In 2007 the NTA took over responsibility for young people's substance misuse treatment (drugs and alcohol). Its first report states that young people's substance misuse is very different to that of adults, and addiction to Class A drugs is rare (NTA, 2009). The most common substances which young people receive treatment for are alcohol and cannabis. Treatment for young people is therefore different, with interventions being usually psychosocial counselling-based therapies which address the underlying causes and behavioural consequences of substance misuse.²¹ Other contributing factors such as family environment, social pressures, and emotional issues are also taken into consideration. Treatment interventions are now available from specialist services²² in every local authority in England and include: psychosocial interventions (psychological, psychotherapeutic, counselling, and family interventions); pharmacological prescribing (medications for detoxification, stabilisation, relapse prevention); specialist harm reduction (interventions which include services to manage accidental injury, or overdose); and access to residential treatment. In 2007/08 a total of 23,905 young people under the age of 18 were receiving specialist treatment for substance misuse of some kind. Of these 36% were being treated primarily for alcohol (NTA, 2009).

²¹ Interventions may also address offending and attendance at education, employment or training..

²² Delivery of these is commissioned and overseen by the NTA, local authorities and Primary Care Trusts (PCTs).

Outcomes

The majority of young people in treatment services (57%) complete their intervention according to the goals set for them (NTA, 2009).

5.1 Psychosocial interventions

Psychosocial interventions use psychological, psychotherapeutic, counselling and counselling-based techniques to bring about behavioural and emotional change. These include: motivational interviewing, interventions to reduce/stop substance misuse, relapse prevention, and interventions that focus on the associated harms (such as offending, low educational aspirations, and unemployment). This type of intervention accounted for almost half (49%) of all therapies offered to young people in treatment in 2007/08, and were also used in conjunction with a further 17% of other interventions (NTA, 2009).

5.1.1 Cognitive Behavioural Therapy (CBT)

CBT involves changing maladaptive thoughts and behaviours which may be associated with substance-use, and which are unique to the individual. Thus, treatment addresses for example: how to manage and resist alcohol/drugs, problem solving skills, and mood regulation (Waldron and Kaminer, 2004). For young people, the developmental stage they are currently at also needs to be taken into consideration. A review of evidence for the effectiveness of CBT in substance-abusing adolescents, examined a number of randomised controlled trials and summarised that CBT was beneficial in treating adolescent substance use and related problems (Waldron and Kaminer, 2004). Both individual and group therapies were found to be successful. However as adolescents are easily influenced by others, and more likely to consume alcohol in the company of others, group therapy was seen as more relevant and therefore beneficial for a number of reasons: more representative of real-life experiences; helping them to realise they are not the only one experiencing problems; and improving the social skills necessary to avoid relapse through the use of role-play.

5.1.2 Motivational interviewing (MI)

MI is based on client-centred counselling²³, which helps the individual to focus on the risks associated with maladaptive behaviours such as alcohol misuse (Miller and Rollnick, 2002). Although MI has been used in treating a variety of behaviours, it has been shown to be most effective in reducing alcohol consumption and related problems (Burke et al, 2003; 2004; Hettema et al, 2005). Moreover, it can be used to target either those with an existing problem, or as a means of prevention (Gray et al, 2005), and has been shown to have long-term effectiveness with young people. For example, a study examining the effect of MI on an intervention group (n=59) in comparison with a control group who received an assessment only (n=103), recruited students aged 16-18 at three further-education colleges in London. Participants were recruited through their normal contact with youth workers who were trained to deliver the intervention. Inclusion criteria were either: daily cigarette smoking, weekly drinking, or cannabis use. Following baseline assessment, the intervention was provided and consisted of one MI session, with further practice encouraged through peer supervision, and listening to a recording of the intervention.

Outcomes

Three months later, follow-up data were collected for 141 students (87% of the total number). Here, alcohol consumption was assessed by the number of days in the last month where alcohol was consumed, and number of units consumed in the previous week.²⁴ The intervention group had significantly reduced their drinking over the previous month by just under two days in comparison with control students however there was no effect for drinking during the last week. Gray et al. (2005) suggested this could be due to the low levels of drinking within the groups.

²³ Client-centred counselling emphasises the importance of empathy, positive regard, and genuineness within the counselling setting (Rogers, 1967).

²⁴ Those who had reduced/discontinued their consumption for at least one week during the study-period were also considered.

5.1.3 Family interventions

Family interventions use psychosocial methods (see section 5.1) to support parents, carers and other family members to manage the impact of a young person's substance misuse, and enable them to better support them. This includes work with siblings, grandparents, foster carers and other family members and can be provided even if the young person is not accessing specialist treatment.

5.1.3.1 Young Addaction Plus

This scheme was piloted in Buckinghamshire, Cornwall, Halton, Lincolnshire and Liverpool in 2006 for three years (Cook, 2009). The intervention was aimed at young people at high risk due to factors such as: dependent substance misuse; homelessness; being in residential care; poor mental health; involvement in risky behaviour; family breakdown; and exclusion from school. Addaction initiated the project to extend its range of existing services. It is a community-based intensive treatment intervention for young people aged 10-19 years and includes family support. It is hoped the intervention will increase the likelihood of family members seeking support and help from services in the community in the future. The project offers a range of interventions and approaches which focus not only on harm reduction, but also promote healthy personal and social development including improving parent/child interactions. Interventions include: pharmacological; harm reduction; motivational work; access to diversionary activities; structured care planned counselling; referral to housing support/completing housing applications; and support with benefits. Some sessions are held in the family home and involve the young person and their family.

Outcomes

A total of 386 young people and 341 family members participated in the pilot project. The evaluation involved 55 young people and 40 families who completed their treatment between October 2007 and January 2009. This indicated positive outcomes for most families on measures such as: tackling substance misuse; reducing risky behaviours including crime; housing stability; uptake of education and meaningful occupation; and effective family coping, functioning and interactions. The evaluation also indicated that those young people who worked together with their families (n=10) had slightly better outcomes compared with those who worked as individuals. A further 93 clients are still undergoing treatment, and a final evaluation was due at the end of April 2009. This was unavailable at the time of writing.

5.2 Brief interventions

The term brief intervention (BI) covers a range of therapeutic activities and can vary although it usually includes information and advice on how to reduce binge drinking, rather than complete abstinence (Thomas et al, 2007). BIs for alcohol are generally provided in general health care settings and can be delivered by non-specialists such as general medical practitioners, nurses, social workers, and probation officers (Raistrick et al, 2006). Opportunistic delivery of BIs for alcohol delivered in Accident and Emergency (A&E) departments have been shown to be effective with adults (Raistrick et al, 2006), however, there is a lack of research into their suitability with young populations (Thomas et al, 2007). Because many young people are treated in A&E departments for alcohol-related injuries (Morrison et al, 2002) such as accidental alcohol poisoning and alcohol-related road traffic accidents (Thomas et al, 2007), this may be an ideal setting for reaching young people whose drinking patterns are becoming risky, and they may be particularly receptive to help at this time as the events surrounding their injury will be emotionally salient.

5.2.1 Brief interventions in young adults for alcohol-related non-fatal injuries

A study which examined the effectiveness of BIs in young adults (18-19 years) randomly assigned 94 young people (mean age 18.4 years) to either the Brief Motivational Interview condition (MI) which consisted of: introduction and review of the event, exploration of motivation and goals for the future, and a handout on drink-driving; or the Standard Care

(SC) condition consisting of the handout alone. Participants were then followed-up at three and six months (Monti et al, 1999).

Outcomes

A significant reduction in alcohol use was found in both groups, however the MI group (62%) were significantly less likely than the SC group (85%) to report drink-driving, and were also significantly less likely to report receiving an alcohol-related injury compared with the SC group (21% and 50% respectively). The researchers concluded that although the MI group did not drink any less than the SC group, they may have changed the settings in which they drank or reduced risky behaviours such as drink-driving.

5.2.2 Brief interventions for alcohol at Alder Hey Children's Hospital, Liverpool

The A&E department at Alder Hey children's hospital runs an alcohol BI clinic for children/young people attending with alcohol-related injuries. The young person is invited back to talk about the circumstances which led to their injury, how it made them look, how they felt the next day, and about the danger aspects. Alder Hey provide booklets for the young person and their parent/carer providing information about the effects of alcohol and where to go for further advice or help. No evaluation has been conducted on the effects of this service.

5.3 Residential treatment

Any specialist substance misuse intervention (as defined above) provided in a residential setting where the young person has been placed away from their usual home. This is carried out specifically to decrease levels of risk from substance misuse and to gain access to highly intensive young people's specialist substance misuse interventions.

5.4 Preventative treatment

Many of the health problems (including those which are alcohol-related) which are experienced by adolescents are considered preventable, and this can be achieved partly through preventative screening and counselling services provided in health care settings (Klein et al, 2001). Such measures can also be cost effective (Gans et al, 1995; Downs and Klein, 1995; Hedberg et al, 1999). The US Guidelines for Adolescent Preventive Services (GAPS) (Elster and Kuznets, 1993) contains a set of 24 recommendations for all adolescents aged 11-21 which includes an annual, confidential health check where information on health promotion and harm reduction topics (for example: nutrition, exercise, substance use, sexually transmitted diseases, and violence) can be provided, along with targeted screening and counselling for those at risk and/or with concerns, and also an immunisation programme.

Outcomes

An evaluation of GAPS in five health centres indicated that adolescents reported receiving more health education material, counselling on a variety of health issues and were more likely to have completed a screening questionnaire than prior to implementation. The study concluded that overall the services provided via GAPS improved the quality of preventive care, which if sustained could provide help to decrease many preventable problems including early mortality (Klein et al, 2001).

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Appendix 1

Project Northland

Project Northland is a community-wide intervention programme with the overall aim of preventing alcohol use in young adolescents (see Table 1). The intervention was developed in the USA to be run over three school years (UK school years 7-9) with children aged 11-14 years. Each year's programme has a different theme and content, appropriate to the developmental stage of the children. This document provides more details about the intervention programme and also reports the results from an evaluation conducted by Cheryl Perry and her colleagues in 1996.

Table 1: Outline of Project Northland

Aims	Prevention of alcohol use in young adolescents, through: <ul style="list-style-type: none"> • Changing communications between parents and their children about alcohol use • Changing the functional meanings of alcohol use for young people • Improving young people's self-efficacy to resist alcohol • Reducing peer influences to drink • Changing alcohol use norms • Reducing access to alcohol for young people within their community
Type of Intervention	<ul style="list-style-type: none"> • School-based programme designed to increase resistance to peer pressure and also social competence skills • Home-based programme providing support for parents and modelling • Community-based programme aimed at changing the wider environment
Length of Programme	<ul style="list-style-type: none"> • Three school years
Age Range	<ul style="list-style-type: none"> • 11-12 years (UK year 7) • 12-13 years (UK year 8) • 13-14 years (UK year 9)
Intervention Content	<ul style="list-style-type: none"> • Parent involvement through education programmes • Behavioural components • Peer participation • Community task-force activities
Parental Involvement	Parents play an important role in the intervention and are therefore required to provide a major commitment to it. Parents are provided with the necessary skills to: <ul style="list-style-type: none"> • Deal with adolescent alcohol use, prior to early onset • Communicate with their child effectively about alcohol use • Establish rules and consequences for adolescent alcohol use
Community Task Force	Members are recruited and trained on the basis of their roles within the community and their willingness to participate. Members include: <ul style="list-style-type: none"> • Government officials • Law enforcement personnel • School representatives • Health professionals • Youth workers • Parents • Concerned citizens • Clergy • Adolescents

1. First Year's Programme (UK School Year 7) "*The Slick Tracy Home Team*"

Sessions are run over six to eight consecutive weeks (see Text Box 1). The first five sessions are peer-led and are based on the topics contained in four comic-book style story-booklets which feature the characters "*Slick Tracy*" and "*Breathtest Mahoney*" as role models. Booklets are handed out in the classroom for the students to complete as homework tasks with their parents (or another responsible adult such as a relative, neighbour, or teacher). The booklets also contain "*Northland Notes for Parents*" which provide information for parents about young adolescents' alcohol use. In the final three sessions the students are involved in producing posters featuring the topics covered in earlier sessions. These are presented at a poster fair.

Text Box 1. Outline of First Year's Sessions

Session 1: The theme for this session and comic-book is ***myths and facts about alcohol***. The "*Slick Tracy*" programme is introduced, and students play a word game to identify alternatives to drinking alcohol.

Session 2: The theme for this session and comic-book is ***false messages of alcohol advertising***. Students learn how advertisers try to influence young people to drink alcohol and are given the task of designing an advertisement for a non-alcoholic drink.

Session 3: The theme for this session and comic-book is ***dealing with peer pressure to use alcohol***. Students learn about three kinds of peer pressure and talk about how to handle peer pressure in different scenarios.

Session 4: The theme for this session and comic book is ***reasons why teenagers drink alcohol and the consequences of drinking alcohol***. Students play an interactive game to uncover some of the false messages about what alcohol can do for teenagers, and they discuss some of the reasons why teenagers drink.

Session 5: The key concepts of the "*Slick Tracy*" programme are summarised and the students write down their goals for the future, and for no alcohol use, and place these in time-capsules they have made.

Sessions 6-8: Students make posters relating to various alcohol prevention topics. These are presented to parents, other students and community leaders at the "*Slick Tracy Family Fun Night*".

2. Second Year's Programme (UK School Year 8) "*Amazing Alternatives!*"

The focus for this year's programme is on introducing students and parents to ways of resisting and counteracting influences on adolescents to use alcohol. The programme consists of five elements:

1. "*The Awesome Autumn Party*" - a social event for parents and students to launch the programme.
2. Eight 45-minute teacher and peer-led classroom sessions run either once or twice a week over eight or four consecutive weeks to develop positive peer pressure (see Text Box 2). These are delivered through audio-taped vignettes, games, problem-solving activities, and role-play. The students are also split into smaller peer-led groups to discuss themes introduced in the audiotapes.
3. A peer participation programme is formed called "*The Exciting and Entertaining Northland Students*" (T.E.E.N.S) (see overleaf).

4. Four “*Amazing Alternatives!*” booklets posted direct to parents. These booklets contain advice for parents on how to set rules and guidelines for their child relating to alcohol use, along with activities for the parent(s) and child to complete together.
5. Three further issues of “*Northland Notes for Parents*” (see first year).

Text Box 2. Outline of Second Year’s Sessions

Session 1: Students listen to an audiotape about four teenagers who are **dealing with alcohol issues**. They then take part in peer-led discussion groups about the changes they themselves are currently experiencing (students at this age in the USA are making the transition between middle school and junior high school).

Session 2: Students play an interactive “concentration” game to **review basic alcohol facts**, listen to an audiotape of the four teenagers, and then take part in peer-led brainstorming sessions about the **negative consequences of alcohol use**. The students interview adults about alcohol consequences.

Session 3: Students discuss the results of their interviews with adults. Listen to an audiotape of the four teenagers and then take part in peer-led discussions about the **reasons why teenagers use alcohol and possible alternatives to alcohol** that could be used instead.

Session 4: Students listen to an audiotape about **possible ways to say “no” to alcohol**, then in peer-led groups play a “saying no” game with the use of role-play to practise these techniques in different scenarios.

Session 5: Students listen to an audiotape of the four teenagers and then take part in peer-led discussion groups about **how teens can handle drinking situations at a party**. Students are asked to look for advertisements to identify messages promoting the use of alcohol.

Session 6: Students listen to an audiotape and take part in peer-led discussions about the **negative consequences of drinking**. They then rewrite alcohol advertisements to reflect a more truthful message.

Session 7: Students listen to an audiotape about **how the media can influence people**. They take part in peer-led discussions about the role of alcohol advertisements in society, and then pretend to be advertising agents hired to produce advertisements for a healthy lifestyle.

Session 8: The students **make a list of alternative activities to alcohol use** on stickers which are then placed on a large poster. They listen to an audiotape discussing summer activities which do not involve alcohol use. A time-capsule is made containing the students’ personal goals.

The Peer Participation Programme (T.E.E.N.S) is designed to provide peer leadership experience outside the classroom, and alcohol-free activities for the students. Adult volunteers are recruited to help facilitate the T.E.E.N.S. group. Peer leaders are selected by students through an open election. Peer leaders attend a one-day leadership training session which includes: methods in finding the most popular activities for their peers, how to plan a budget for an activity, and how to advertise an activity. Planning booklets are provided.

Community-Wide Task Force Activities: During the project period, three of the participating communities passed five alcohol-related laws and three resolutions regarding the requirement for responsible server-training in order to prevent sales of alcohol to underage youth, and also intoxicated customers (Perry et al, 1996). A “*Gold Card*” scheme, linking local businesses with schools, was also introduced whereby local businesses provided those students pledging to be alcohol-and drug-free, with discounts on goods and services.

3. Third Year’s Programme (UK School Year 9) “*PowerLines*”

The focus for this year’s programme is on the students and their communities. The students are introduced to professional and political groups within their community who hold power over, and can influence adolescent alcohol use and alcohol availability. Students are taught community action and citizen participation skills. They are also given the opportunity to interview parents, teachers, administrators, local government officials, law enforcement personnel, and alcohol retailers about their beliefs and activities relating to adolescent alcohol use. The students carry out a role-play as representatives of community groups at a town meeting and make recommendations for community action on underage alcohol use prevention.

The programme consists of five elements:

1. Eight classroom sessions “*PowerLines*”, lasting 45 minutes each which are run either once or twice a week over eight or four consecutive weeks (see Text Box 3).
2. A theatre production “*It’s My Party*” performed at school by the students for classmates, parents, and members of the community.
3. Three new issues of “*Northland Notes for Parents*” (see year one).
4. Continuation of the T.E.E.N.S. group with the publication of three editions of “*TEENSpeak*”, a newsletter written by the students and sent to parents and peers.
5. Continuation of the community task-force activities.

Community Task-Force: In the example given in the evaluation, 28 task-force meetings were held during the year (Perry et al, 1996). The aim was to create as many links as possible with local groups who have a direct influence on underage drinking. Activities during the year included: discussions with local alcohol retailers about their policies regarding young people; the distribution of materials to support policies preventing the sale of alcohol to young people (for example identification checks and the legal consequences of selling alcohol to underage drinkers); the extension of the “*Gold Card*” scheme initiated during the previous year, to extend links between the school and local businesses; and the continued sponsorship of alcohol-free activities for young people, with the possible establishment of a dedicated “*teen centre*” within the community.

Text Box 3. Outline of Third Year Sessions

Session 1: Students play a game **reviewing the key concepts** from the previous two years' programmes. They discuss the idea of **personal power to make positive choices** and complete a puzzle to learn about how a community can influence adolescent alcohol-use.

Session 2: Students define the word "*community*" and play an interactive game which helps them **discover the ways different groups within a community can influence adolescent alcohol-use**. They read a newspaper article about a teenager who has been involved in a drink-driving accident.

Session 3: Students summarise the newspaper article read during session two and listen to more details about the accident on audiotape. They **discuss the different perspectives of those people involved in the drink-driving accident**.

Session 4: In groups, **students are assigned with different community roles** (for example parents, teenagers, police, and school officials). Groups then brainstorm ways to prevent teenage drinking. Group ideas are presented to the whole class and the best solutions are voted on.

Session 5: Students discuss the outcome of the previous week's vote, **how to encourage others not to drink alcohol in the future and how to avoid being a passenger in a car with someone who has been drinking**. Groups of students begin work on a community alcohol project.

Session 6: The groups continue with their community projects.

Session 7: The groups continue with their community projects. They make a new time-capsule with "*no alcohol-use*" goals for year 9.

Session 8: Students produce a "no alcohol use" goals collage and present their community project to the class and other invited guests.

Evaluation

Project Northland aimed to prevent alcohol use in young adolescents through the implementation of an intervention programme which ran for three years from 1991 to 1994 (Perry et al, 1986). The intervention was implemented through: the school curriculum programme; parent-participation in alcohol education; and through peer-planned, out-of-school, alcohol-free activities. Evaluation at the end of the first year assessed how many students had been exposed to the intervention activities, as most of these took place outside of school. It also sought to discover whether those students considered at higher risk of early onset alcohol use were as likely to have been exposed to the intervention as those considered at lower risk. Evaluation at the end of the three years was to detect changes in alcohol use behaviours between students in the intervention group in comparison with those in the control group.

Communities: Twenty school districts in North East Minnesota, USA, consisting of mostly rural lower-middle-class to middle-class communities (total population 235,000). These were selected because they had "*very high levels of alcohol-related problems*" (Williams et al, 1995, p129). School districts were randomly assigned to either the intervention (n=10) or comparison/control (n=10) condition.

Participants: The intervention was implemented in the USA in 1991 for a period of three years with a cohort of students upon their entry into the equivalent of UK school year 7 (aged 11-12 years) and their communities as a whole over the same period. Students were mainly of European ethnic background, white 94%, American Indian 5.5%.

Assessment Periods: Baseline assessments were made in the autumn of 1991 before the intervention began. Follow-up assessments were made at the end of the following three school years (see Table 2 below). There were no significant differences in baseline assessment scores of alcohol use between those who were present at follow-up and those who were lost to follow-up. Further, for the latter, there were no significant differences in alcohol use between the intervention and control group.

Table 2. Dates of evaluations and participant numbers

	1991	1992	1993	1994
Intervention	1236	not reported	not reported	1005
Control	1115	not reported	not reported	896
Total	2351	2191	2060	1901

Student Questionnaire: This contained items relating to how much of the programme students had been exposed to, psychosocial factors, and behaviour (see Williams et al, 1995). The survey included measures on:

- Alcohol use (as well as tobacco and illegal drug use)
- Peer influences
- Self-efficacy (confidence in ability to refuse offers of alcohol)
- Functional meanings of alcohol use (reasons not to use alcohol)
- Communication with parents
- Normative expectations of alcohol use
- Perceptions of ease of access to alcohol
- Attendance at activities with/without alcohol
- Demographic factors

Results

The intervention was reported as being more effective with students who had not initiated alcohol use at the start of the intervention compared with those who had already begun to drink. In their evaluation, Perry et al, (1996) suggested this may indicate that alcohol use once initiated, is difficult to reverse and students may therefore need to be targeted at a younger age, and with a stronger focus on reasons behind the initiation of alcohol use.

Results indicated that those students in the intervention group who at baseline had not initiated alcohol use were significantly less likely to drink at all levels of use at the end of the three year intervention period. This group reported being strongly influenced by both parents and peers not to initiate alcohol use, and as a result reported the ability to resist offers of alcoholic drinks. They also reported higher scores of self-efficacy in both their ability to refuse the offer of alcohol, and in influencing alcohol-related issues within their community, compared with baseline non-drinkers in the control group. These issues were all key themes of the intervention programme over the three years. However, the intervention was found to have less impact on the wider community in terms of: access to alcohol in the community; perceptions of social groups which influence young people's alcohol use; and on the consequences of drink-driving.

A number of differences between the intervention and control group were found to be statistically significant at various assessment periods (see Table 3 overleaf).

Table 3. Intervention and control students' responses on measures of alcohol use, peer-influence, perceived norms, and parent communication which reached statistical significance (significance values: not significant = n/s; * $p \leq 0.05$; ** $p \leq 0.01$)

Indicator	Explanation of Indicator/Score	1991	1992	1993	1994
Past month alcohol use • Intervention students • Control students	The mean number of occasions students had drunk alcohol in the past month	6.9* 3.9	n/s	n/s	23.6* 29.2
Past week alcohol use • Intervention students • Control students	The mean number of occasions students had drunk alcohol in the past week	3.8* 2.0	n/s	n/s	10.5* 14.8
Peer influence • Intervention students • Control students	Mean score from range of 15 (no peer influence) to 71 (high peer influence)	n/s	n/s	n/s	24.6* 27.0
Perceived norms • Intervention students • Control students	Represents % responding "true" to the statement: "Not many people my age drink alcohol"	41.4* 55.1	n/s	n/s	26.0* 15.5
Parent Communication 1 • Intervention students • Control students	Represents % responding "true" to the statement: "My parents talk with me about problems drinking alcohol can cause young people"	63.5** 70.6	72.6* 64.7	n/s	n/s
Parent Communication 2 • Intervention students • Control students	Represents % responding "true" to the statement: "My parents have told me what would happen if I were caught drinking alcohol"	not reported	not reported	67.5** 56.1	65.3** 55.1

(Source: Perry et al, 1996)

Summary

Project Northland has been shown as effective on a number of measures associated with alcohol use in a young adolescent group aged between 11 and 14 years (Perry et al, 1996). These measures were:

- Reducing alcohol use both in the past month and past week
- Changing the functional meanings of alcohol use
- Reducing peer-norms and peer-influence to use alcohol
- Introducing skills to resist peer-influences
- Increasing parent-child communication about the consequences of drinking.

