Northern Territory Government
Department of Health and Community Services

BEYOND THE PAMPHLET

An overview of evidence for health promotion initiatives to address four risk factors

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INTRODUCTORY NOTES

SUMMARY AND PURPOSE OF OVERVIEW

The tables that comprise the body of this report summarise selected reviews of studies that evaluate the effectiveness of health promotion interventions to promote behaviour change in 4 main areas: alcohol consumption, tobacco smoking, physical activity, and depression. These were 4 areas selected as main modifiable risk factors that influence the major Burden of Disease for the NT, namely cardiovascular disease and mental disorders.

Reviews were studied in a search for evidence that indicates effective interventions across the life course, looking at early years, adolescence, family years and granny years.

The reviews on which this overview is based were selected though advice provided by program managers in the relevant areas.

The findings present interventions that have been demonstrated to be effective in achieving behaviour change in settings where they were evaluated.

The information provided in this report is offered for consideration, alongside local knowledge of existing programs and contexts.

METHODOLOGY

Two reviewers summarised the evidence for effective health promotion interventions of four modifiable risk factors: tobacco, physical activity, alcohol and depression. Sources of evidence were obtained using a pragmatic approach. The information was identified on the advice of key stakeholders from the relevant areas and consisted of existing systematic reviews, evidence summaries and/or Government reports for each risk factor. Evidence from primary studies was not reviewed.

The overview focused on health promotion interventions across the spectrum of intervention approaches (see Figure 1). The overview did not include individually focused interventions such as clinical management or pharmacological interventions.

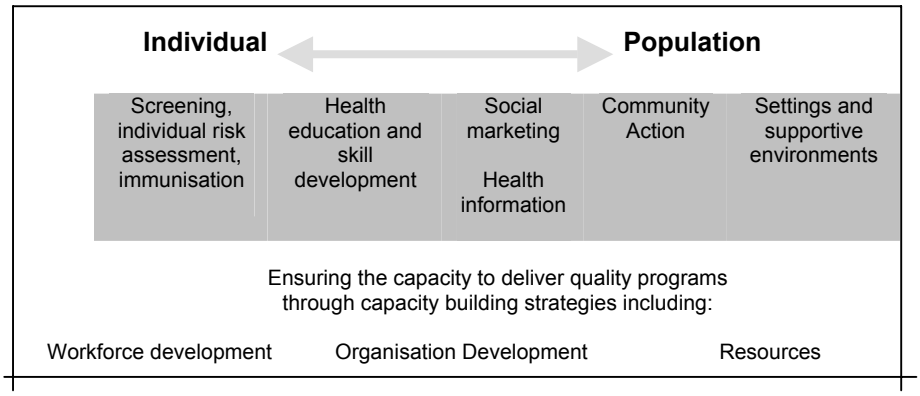

Figure 1: Categories of Health Promotion Interventions (DHS 2003)

Limitations of an evidence based approach

Although an evidence based approach offers the best knowledge available at national and international levels, there are limitations to this approach.

(i) In some areas evidence is scanty and inadequate.
Among the different risk factors addressed in this project, levels of evidence vary. This is partly a matter of time. For example, while links between smoking and ill health have been accepted for decades, those between physical activity and health have been scientifically acknowledged only in the last decade. Consequently, while a body of research has developed evaluating and reporting interventions to reduce smoking, in the field of physical activity, to date there has been relatively little research funded and reported on interventions that successfully promote physical activity.

Within individual fields, quality of evidence also varies. This is partly due to different methodological challenges (eg the challenge of measuring physical activity for young children), but also reflects interests and the focus of funding. There is little gender specific evidence.

(ii) Very little evidence for interventions specifically for Indigenous people, particularly in remote communities
Most evaluations of interventions in Indigenous settings are small scale, reflecting the short-term nature of much project funding. As a consequence evaluations generally focus on process. There are very few rigorous outcome evaluations of interventions in Indigenous settings and hence very little evidence.

(iii) Difficulty of evaluating interventions that occur as part of multi-strategy programs.
The importance of complementary strategies is recognised yet it is difficult to understand and account for potential benefits from specific combinations operating simultaneously.

(iv) Evidence based recommendations focus on the mainstream
Interventions need to be evaluated a number of times before they merit inclusion in evidence based reviews and summaries. Evidence based recommendations omit new or localised approaches.

(v) Challenges with generalisability of evidence based findings.
Evidence reported in reviews does not necessarily translate effectively into local situations. One reason is the potential difference between resources used in studies and those in the local setting. Staff implementing interventions in local settings may not have the same skills or support as those in the study, and/or clients or target group may differ. Studies to assess the efficacy of specific interventions generally focus on well-implemented and well-supported projects or programs, to maximise learning about the potential value of the approach. In more typical settings there are often resource or time constraints or other reasons why the intervention is implemented in a less than optimal way.

(vi) Transferability across countries and culture.
Much of the research summarised in this overview was conducted outside Australia, often in North America. Economic, legal, cultural and other aspects of the setting may influence the effectiveness of an intervention when implemented in a different country. Also, as noted above, there are few studies in Indigenous settings, and for most interventions it is not known whether an interventions will transfer readily from a non-Indigenous to an Indigenous setting.

(vii) Limitations from and in the methodology used for this study.
There are particular limitations that arise from the methodology used for this overview. Because of limited time the overview was conducted by referring only to collated reviews and summaries of research findings, rather than primary studies, and the interpretation of what is considered good enough evidence is not necessarily consistent across studies.

Individual studies indicate the limitations of their research and set provisos on application of their findings. These refinements are lost in summaries and the borderlines between what is and is not considered sufficient evidence is fluid. Closer reading of the literature about interventions for which there is evidence, and those for which evidence is recorded as underdeveloped is needed to uncover the details and diverse applications that are condensed into the broad interventions recorded in this overview.

Notes for reading the tables

Interventions are recorded in the tables that follow according to:

(a) risk factor: alcohol, tobacco, physical activity, depression

(b) life course category (early years, adolescence, family years, granny years)

(c) a category from the following spectrum of interventions:
Screening, individual risk factor assessment, immunisation
Social marketing and health information
Health education and skill development
Community action for social and environmental change
Settings and supportive environments

Interventions are categorised according to the target group for the intended outcome, though the activity may be directed towards a different target group (eg parent education is categorised under early years).

Many interventions are not age-specific and are categorised under family years. For this reason the table Family Years/ General Population is presented first under each risk factor.

Interventions that take a broader focus span more than one of the spectrum categories (for instance community-based programs may include elements of the preceding categories) but are generally presented under the most comprehensive category.

For each intervention a reference is noted in bold to indicate a starting point for more information and/or further references. References for each risk factor are noted at the end of the tables for the relevant risk factor (i.e. after Granny Years).

To be effective many interventions require additional support, and are not effective without it (eg Random Breath Testing is only effective if drivers believe there is a high likelihood of being stopped). Not all these details are presented in this review but they will be found by following the references.

All interventions for which there is evidence rely on sound implementation: the Bush Book provides information on implementation issues.

The reviews on which this overview is based do not necessarily share common criteria for determining evidence (eg the importance placed on cost effectiveness varies). Also standards for determining what constitutes adequate evidence are not necessarily consistent across different review authors or across risk factors.

Some reviews report interventions for which there is insufficient evidence to recommend implementation, due to evaluation findings that are inconsistent, contradictory or insufficient to indicate a link to the intended outcome. These have been recorded in the tables, leaving the Evidence column blank. In many cases these interventions may be the most appropriate approach. Trialling and evaluating their implementation can add to the evidence base in a local context.

For some interventions (eg many of those relating to physical activity) responsibility for implementation does not lie directly with the health sector, though the benefits for health are evident. This emphasises the importance of working intersectorally through sound partnerships and advocacy.

Preceding the risk-specific tables are 6 summary tables that record interventions grouped by life course. The first 3 note the interventions found to be effective for each risk factor, for family years/general population, early childhood, and adolescence.
The next 3 tables note the effectiveness of general approaches across the 3 life course stages, indicating not only strategies for which there is evidence, but also those for which evidence is not fully developed, and those recognised as ineffective (for behaviour change) or harmful.

FINDINGS AND IMPLICATIONS

The summary table that follows presents an overview of interventions for which there is evidence in the reviews included in this overview. The table reflects the relative strength of evidence in the fields of alcohol and tobacco in comparison with depression and physical activity.

It also shows the lack of evidence for issues relating specifically to the elderly, and very limited evidence for interventions aimed at adolescents.

Interventions that aim to influence the setting are strongly supported for the general population, and there is evidence of their effectiveness for addressing most or all risk factors for young children.

The findings emphasise the importance of an integrated comprehensive approach to promoting behaviour change. While indicating that media campaigns alone have minimal impact on behaviour, they can play a significant role in broader campaigns by promoting awareness or teaching skills.

Health information, often used as the sole health promotion approach, may improve knowledge and awareness, but generally has little or no significant impact on behaviour. People from higher socioeconomic groups may make small changes but there is almost no evidence of change in lower socioeconomic groups. Well-designed health information may be of some value in broader campaigns.

The lack of evidence for interventions in remote and Indigenous settings, and the many atypical aspects of the NT mean that evidence of effectiveness from the published literature can form only part of the decision making process. Selected interventions need to complement any others that are already operating successfully in the area, and must be relevant for the specific context. Alternative interventions to those recorded in the mainstream literature will often need to be developed and trialled. Ongoing monitoring and recording can allow evaluation that will add to the evidence base for interventions that are effective in a local setting. If decisions for resource allocation are made only on the basis of published evidence of effectiveness, interventions that currently have little or no supporting evidence will remain that way.

<u>Two final points should be emphasised.</u>

- The evidence base is constantly growing and changing. Evidence needs frequent updating.
-
- The outcomes of any intervention rely on context and implementation

SUMMARY OF INTERVENTIONS FOUND TO BE EFFECTIVE

Age group	**Screening, individual risk factor assessment, immunisation**	**Social marketing and health information**	**Health education and skill development**	**Community action for social and environmental change**	**Settings and supportive environments**
General population/ Family years	• Brief intervention [ATPD]	• Media*(universal or targeted)[ATP]	• Counselling [T] • Behaviour change program (individual or group)[T]	• Multi-strategy community based programs [ATP]	• Supply restrictions [AT] • Pricing policies [AT] • Legal enforcement of health-related regulations [AT] • Advertising restrictions [T] • Provide healthy choice opportunities and incentives [ATP]
Early years					• Parent information on nutrition and development [D] • Family home visits (targeted)[ATD] • Parent education (universal & targeted) [ATD] • Non-parental day care [D] • School preparation program (targeted) [AT] • Supportive school social/physical environment & behaviour management programs [ATP]
Adolescence		• Mass media*(universal or targeted) [AT]	• School based drug education using social influence model [AT]		• Restrict sales to minors [AT] • Increase price [AT] • Whole school system approach [D]
Granny years			• Individual health behaviour change program [P]		KEY A - ALCOHOL D - DEPRESSION T - TOBACCO P - PHYSICAL ACTIVITY

- Effective when part of a broader campaign

EFFECTIVE INTERVENTIONS FOR BEHAVIOUR CHANGE

GENERAL POPULATION/FAMILY YEARS

INTERVENTION

Spectrum/approach	Screening, individual risk factor assessment, immunisation	Social marketing and health information	Health education and skill development	Community action for social and environmental change	Settings and supportive environments
Alcohol	• Brief intervention	• Media*(universal or targeted)	• [counselling for alcohol is generally categorised as treatment rather than health promotion].	• Multi-strategy community based programs	• Reduced hours for alcohol sale • Reduced density of alcohol outlets • Server interventions • Random breath testing • Increased penalties for drink driving
Tobacco	• Brief intervention • Brief intervention for pregnant women	• Media*(universal or targeted)	• Counselling • Inpatient smoking cessation program • (NRT can support smoking cessation programs)	• Multi-strategy community based programs	• No-smoking policies • Tobacco advertising restrictions • Increased tobacco prices
Physical activity	• Brief intervention (targeted)	• Media*(universal or targeted) • Point of choice decision prompts		• Multi-strategy community based programs	• Increased access to opportunities for physical activity
Depression	• Perinatal depression screening				

*Effective when part of a broader program

PLEASE REFER TO TABLE (A1, T1, P1, D1)

EFFECTIVE INTERVENTIONS FOR BEHAVIOUR CHANGE

EARLY YEARS

INTERVENTION

Spectrum/approach	Screening, individual risk factor assessment, immunisation	Social marketing and health information	Health education and skill development	Community action for social and environmental change	Settings and supportive environments
Alcohol					• Family home visits (targeted) • Parent education (universal & targeted) • School preparation program (targeted) • Supportive school social environment & behaviour management programs
Tobacco					• Family home visits (targeted) • Parent education (universal & targeted) • School preparation program (targeted) • Supportive school social environment & behaviour management programs
Physical activity					• School environment supportive of physical activity. • Extended Physical Education classes focussed on activity
Depression					• Parent information to improve nutrition & development • Parent Education • Home-based interventions • Non-parental day care

*****Effective when part of a broader program

Refer to Tables (A2, T2, P2, D2)

EFFECTIVE INTERVENTIONS FOR BEHAVIOUR CHANGE

ADOLESCENCE

INTERVENTION

Spectrum/approach	Screening, individual risk factor assessment, immunisation	Social marketing and health information	Health education and skill development	Community action for social and environmental change	Settings and supportive environments
Alcohol		• Mass media*(universal or targeted)	• School based drug education using social influence model*		• Restrict tobacco sales to minors • Increase price of tobacco
Tobacco		• Mass media*(universal or targeted)	• School based drug education using social influence model		• Restrict alcohol sales to minors • Increase price of alcohol
Physical activity					
Depression					• Whole school system approaches

*Effective when part of a broader program

Please refer to Tables (A3 T3 D3)

EFFECTIVE INTERVENTIONS FOR BEHAVIOUR CHANGE

GRANNY YEARS

Spectrum/approach	Screening, individual risk factor assessment, immunisation	Social marketing and health information	Health education and skill development	Community action for social and environmental change	Settings and supportive environments
Alcohol					
Tobacco					
Physical activity			• Strength resistance training • Individual health behaviour change program		
Depression					

Refer to Tabes (P4, D3)

EFFECTIVENESS OF INTERVENTIONS FOR BEHAVIOUR CHANGE

FAMILY YEARS/GENERAL POPULATION

Type of intervention	Evidence of effectiveness	Underdeveloped evidence	Ineffective	Harmful
Screening, individual risk factor assessment, immunisation	• Brief intervention (universal and targeted)	• Screening for depression		• Brief psychological debriefing after trauma
Social marketing and health information	• Media (universal and targeted)*	• Mental health literacy programs	• Health information (in isolation)#	
Health education and skill development	• Behavioural change programs including counselling (universal and targeted, individual and group)			
Community action for social and environmental change	• Multi strategy community based programs. • Targeted social support strategies			
Settings and supportive environments	• Supply restrictions • Pricing policies • Legal enforcement of health-related regulations • Advertising restrictions • Providing healthy choice opportunities and incentives	• Harm reduction (in isolation) • Sponsorship# • Housing improvements • Income supplementation		

* Effective when part of a broader program
#Outcomes other than behaviour change

EFFECTIVENESS OF INTERVENTIONS FOR BEHAVIOUR CHANGE

EARLY YEARS

Type of intervention	Evidence of effectiveness	Underdeveloped evidence	Ineffective	Harmful
Screening, individual risk factor assessment, immunisation				
Social marketing and health information				• School based drug education, information focussed, delivered too early
Health education and skill development	• School based (drug) education focused on life skills#	• Fundamental movement skills training • School based health education focused on reducing TV watching		
Community action for social and environmental change				
Settings and supportive environments	• Family home visits (targeted) • Parent education (universal & targeted) • School preparation (targeted) • Supportive school social environment and behaviour management programs • School environment supportive of physical activity • Parent information to improve nutrition & development • Non-parental day care	• Family intervention (universal or targeted) • Comprehensive school based physical activity programs		

* Effective when part of a broader program
#Outcomes other than behaviour change

EFFECTIVENESS OF INTERVENTIONS FOR BEHAVIOUR CHANGE

ADOLESCENCE

Type of intervention	Evidence of effectiveness	Underdeveloped evidence	Ineffective	Harmful
Screening, individual risk factor assessment, immunisation				
Social marketing and health information	• Media (universal and targeted)*			• School based drug education focused on information too early • Media reporting of suicide
Health education and skill development	• School based drug education using social influence model	• Cognitive therapy programs	• Classroom based psycho education	
Community action for social and environmental change				
Settings and supportive environments	• Supply restrictions • Pricing policies • Whole school system mental health approaches	• Parent education • Health service reorientation • Accreditation programs recognising good practice		

* Effective when part of a broader program
#Outcomes not related to behaviour change

ALCOHOL

(A1) ALCOHOL:

FAMILY YEARS/ GENERAL POPULATION

The links between excessive alcohol consumption and ill health are well established and there is a sound body of evidence to support the effectiveness of some approaches to reduce alcohol-related harm (eg brief intervention). However the quality of evidence is uneven across the spectrum of interventions (Loxley 2004 p.244) and for some approaches little research has been conducted in Australia.

Traditional approaches to promoting behaviour change focused mainly on the individual. It is now acknowledged that behaviour is shaped by far more than individual choice, but that organisational, economic, environmental and social factors are all influential. It is also recognised that change rarely happens as a result of one specific intervention, but that interventions have a cumulative effect over time. This recognition emphasises the importance of considering interventions over a longer time frame, using a range of approaches across all levels from the individual to the societal. It also emphasises the need to address a range of audiences, with some interventions aimed at the general population and some targeted towards high risk populations (Howat 2004).

SCREENING, INDIVIDUAL RISK FACTOR ASSESSMENT, IMMUNISATION

Intervention Name	Description	Target Group	Evidence	Additional Comments
Brief intervention in primary care setting	Health care provider identifies drinkers and gives advice to stop reduce or stop. Aim: Early detection of risky and problematic drinking. Advice to support lowering alcohol intake. Provider: Doctor, nurse or other health care provider Setting: Primary health care, or workplace or other community setting. Activity: Ask about drinking and provide 2-3 minutes of advice about stopping, sometimes supported with patient literature.	Early stage drinkers in general population	**Loxley (2004 p165-166).** Strong evidence to support this. Brief intervention produces change in only small proportions of the population, but results are consistent across studies. The intervention is inexpensive, takes little time, and can be widespread across health professionals. WHO identifies brief interventions for hazardous drinkers as one of the ten best practice policy options to reduce alcohol related harm (NTG 2004 p.36).	Highly cost effective strategy. The main challenge is addressing the barriers to implementation: lack of time and/or discomfort raising the topic. Brief interventions have similar or better outcomes than more intensive ones for those with moderate substance misuse problems. Brief interventions have also been recommended for workplace settings (Loxley 2004 p.174).

Table A1.1

SOCIAL MARKETING AND HEALTH INFORMATION

Intervention Name	Description	Target Group	Evidence	Additional Comments
Educational strategies	Any form of education, including mass media.	Universal or targeted.		(**Loxley 2004 p174**) Research evidence shows that just providing factual information about harmful consequences of alcohol use has no direct impact on alcohol consumption or related consequences. But education can raise awareness, and increase support for other prevention programs. In this way it can be seen to have a potential indirect impact on alcohol related behaviour. Targeted information is more effective if it is sustained over a longer time period, builds on existing knowledge, values and beliefs, and is reinforced by social and environmental changes (eg server legislation). (NT Government 2004 p.39).
Mass media campaigns	Paid or unpaid advertising to promote health-related behaviour change Aim: Change in alcohol related behaviour. Provider: Various, often government funded, as large campaigns can be costly. Setting: General community or aspects relevant to target group Activity: Advertise on TV, radio, papers, billboards, buses, etc. Example: National Alcohol and Education Awareness Campaign (Loxley 2004 p.176).	Whole population or target groups	(**Loxley 2003 p.175-181**). (NTG 2004 p.39) Mass media strategies effectively disseminate information to a wide audience and typically change knowledge rather than behaviour. There is evidence of their effectiveness, when used for agenda setting and/or in the context of a broader program.	Mass media can be used to orient public to an issue, eg drink driving, teach relevant skills, eg drinks counting or warn of consequences. Mass media campaigns should emphasise benefits of change, rather than negative consequences of target behaviour. Consumers should feel they are offered a way of satisfying their needs, rather than being coerced (Loxley 2004 p.175). Mass media strategies are valuable for counteracting commercial promotion of alcohol.

Table A1.2

COMMUNITY ACTION FOR SOCIAL AND ENVIRONMENTAL CHANGE

Intervention Name	Description	Target Group	Evidence	Additional Comments
Community based interventions to change policy, legislation and practice	Organised, planned, community-wide intervention where wide range of stakeholders implement complementary strategies. Aim: change in way community defines normative patterns of alcohol consumption and responds to problems of use. Provider: range of stakeholders eg health services, police, businesses, drug agencies Setting: community Activity: range of complementary strategies eg public meetings, media campaign, police action on drink driving, server education etc. Example:COMPARI WA Loxley 2004 p.167.	Whole community	**Loxley (2004 p166-168).** Most effective programs have comprehensive targets and strategies; acknowledge causal factors beyond the individual; involve community in all decision making; and use community action as main means of achieving change (Loxley 2004 p. 166).	Evidence shows community based programs are more effective when program involves extensive multiple interventions in a variety of settings and contexts. Such programs require significant funding, social capital, and time for the intervention to develop, practice to be institutionalised and change to be measured. (Loxley 2004 p. 168).

Table A1.3

SETTINGS AND SUPPORTIVE ENVIRONMENTS

Intervention Name	Description	Target Group	Evidence	Additional Comments
Restricted trading hours for alcohol.	Restricting availability of alcohol Aim: Limit supply Provider: Government Setting: Alcohol outlets Activity: Regulating sales Example: Tenant Creek alcohol restrictions, which include banning takeaway alcohol on Thursdays.		**(**Loxley 2004 p.190**). (Howat 2004**) Evidence shows that restriction on hours and days of sales is associated with reduced levels of harm, though not necessarily of consumption. Active enforcement of licensing laws is needed to prevent breaches (NTG 2004 p.46). WHO identifies restrictions on hours or days of sale as one of the ten best practice policy options to reduce alcohol related harm (NTG 2004 p.36).	The power to revoke or suspend a license for breach of sales regulations is an effective strategy for controlling rates of alcohol related problems (Howat 2004). Studies show that small reductions in late hour trading can significantly reduce local levels of alcohol related violence. Local combinations of supply restrictions, including for example pricing strategies, restrictions on days and hours of trading, of products, and/or number of outlets have been shown to measurably reduce alcohol consumption and related harm (NTG 2004 p.45). Community support is essential for implementation of these strategies. (**Loxley 2004 p.191-192**) (NTG 2004 pp.45-47). In Indigenous settings there is evidence of the effectiveness of licensing restrictions that limit hours, days, and availability of types or quantities of alcohol. The process of declaring communities dry is also shown to be effective.
Licensed clubs in remote communities.	Aim is to promote responsible drinking and reduce movement from communities to towns for drinking.			No evidence of effectiveness and there is anecdotal information that clubs promote binge drinking (NTG 2004 p.48).
Reduction in total number or density of licensed outlets in specific area.			**(Loxley 2004 p.189-190)** (NTG 2004 p.44). There is clear evidence that outlet density in a particular location is strongly related to levels of alcohol consumption and related harm, but there is not yet evidence about how to develop policies and approaches for approving liquor licenses that balance consumer demand and health related Nevertheless, WHO identifies outlet density restrictions as one of the ten best practice policy options to reduce alcohol related harm (NTG 2004 p.36).	(**Loxley 2004 p.189-190**). There is no clear evidence that relates total number of outlets for alcohol to levels of related harm. issues.
Server interventions	Providing training for those who serve alcohol in pubs, bars, clubs, often in conjunction with training for managers		**Loxley 2004 p. 190).** (Howat 2004). Evidence shows the effectiveness of server interventions when delivered through face-	International evidence shows that in the absence of monitoring and enforcement, alcohol retailers server frequently ignore the laws

	and door staff. Aim: prevent intoxication and consequences. Provider: Trained facilitators Setting: Pubs, bars, clubs Activity: Train bar staff in techniques to prevent intoxication.		to-face instruction, with strong management support, **and** by local enforcement of alcohol service laws. There is no evidence about the effectiveness of video based training (Howat 2004).	Increased emphasis on server interventions therefore requires more emphasis on enforcing existing laws. (Loxley 2004) Typical practices include slowing service to drinkers showing signs of intoxication, refusing service to intoxicated or underage drinkers, providing food, taking steps to prevent intoxicated drinkers from driving.
Licensee codes of conduct to reduce violence 'Alcohol Accords'	Voluntary codes of conduct ('Alcohol Accords') negotiated between alcohol retailers, police, local government, community representatives etc. Aim: reduce alcohol related harm. Provider: Requires staff to negotiate agreement. Setting: licensed drinking venues Activity: Negotiated agreements around range of possible harm reduction strategies eg regulating serving staff, security staff, advertising, refraining from price discounting etc. Example Surfer's Paradise Safety Action Loxley p.229).	Licensed premises in areas with high levels of violence	(**Loxley 2004 p.229)** (Howat 2004**).** Mixed evidence. Benefits not necessarily sustained, and suggestion that improvements are partly at least, due to displacement of problem elsewhere. Success appears most likely where there is strong leadership by police and strong enforcement of liquor laws.	Proactive visible policing of 'hot spots' has been shown to deter offending by patrons and licensees and reduce alcohol related harm. (NTG 2004 p.46). Specific aspects of some Alcohol Accords that have no supporting evidence but that are highly likely to be effective in reducing alcohol related harm are (i) replacing glasses with plastic or tempered glass (ii) encouraging eating with drinking.
Designated driver schemes	Groups of (usually young) drinkers encouraged to identify a non-drinking driver before they start drinking. Aim: reduce drink driving and subsequent consequences. Provider: usually government sponsored publicity; Drinking establishments provide non-alcoholic drinks. Setting: Drinking establishments Activity: Soft drinks provided cheaply or free for designated driver. Promotion of the scheme. Example: Pick a Skipper, WA (Loxley 2004, p.227). Sober Bob	Groups of (usually young) drinkers.	(**Loxley 2004 p.227**). Weak evidence base but no risks involved so can be supported.	Industry bears costs of soft drinks and the intervention is unlikely to add to risks, so no reason not to support it.
Night patrols	Night patrols (intended to reduce alcohol related violence)			Night patrols are most common approach to harm reduction in Indigenous communities. Qualitative studies are supportive but there is little quantitative evidence (Loxley 2004 p.229). more research is needed.

Sobering up Shelters	Sobering up shelters (intended to reduce harm intoxicated people may do to selves and others)			Two evaluations report positive views about sobering up shelters, but more research is needed (Loxley 2004 p.230).
Staggered closing times	Contra indicative evidence for staggered closing times for bars and pubs			Evidence for staggered closing times for bars and pubs is contra indicative, at least when it results in overall extension of trading hours (Loxley 2004 p.228).
Pricing policies	Increasing price of alcohol through taxation. Aim: Reduced levels of consumption and harm. Provider: Government Setting: Retail outlets Activity: Higher taxation. Example: NT Wine Cask Levy 1995-1997.		(**Loxley 2004, p.188-189**) (Howat 2004) (NTG 2004 p.43-44). There is good international evidence that price increases are effective in reducing total alcohol consumption and alcohol related harm. The size of the effect varies with beverage, but the relationship remains. Increased prices are likely to have a higher impact on young people and heavier drinkers. WHO identifies alcohol taxes as one of the ten best practice policy options to reduce alcohol related harm (NTG 2004 p.36).	There is support from public health advocates for alcoholic beverages to be taxed on their alcoholic content. This would increase costs of cask and fortified wines, which are associated with high levels of consumption and harm. Reduced tax on low alcohol is likely to increase low alcohol sales and reduce alcohol related violence (Loxley 2004 p. 188). There is theoretical support for liquor license authorities banning discounting of alcohol, eg Happy Hours, and evidence from Alcohol Accords supports this (Loxley p.190).
Random breath testing	Stopping and breath testing drivers. Aim: Reduce fatalities, injuries, and crashes. Provider: Govt legislation Setting: All roads Activity: Test drivers, alert community to risk of being caught, maintain perception of high risk of being caught. Example: RBT in NT		. (**Loxley 2004 p.226-227**) (Howat 2004). It is accepted that random breath testing is effective in reducing fatalities and injuries from road crashes. Community perception of chance of being caught influences effectiveness. WHO identifies lowered blood alcohol content limits for drivers, and random breath testing as two of the ten best practice policy options to reduce alcohol related harm (NTG 2004 p.36).	Need to maintain belief that might get caught, generally achieved through high visibility policing eg roadblocks, and frequent advertising campaigns.
Increased penalties for drink driving			(**Howat 2004**). Evidence indicates the effectiveness of suspending or revoking license for general, and specific deterrence of drinking driving. WHO identifies automatic license loss as a penalty for drink driving as one of the ten best practice policy options to reduce alcohol related harm (NTG 2004 p.36).	Little evidence of substantial benefits from increased fines or mandatory imprisonment (Howat 2004).

Table A1.4

(A2) ALCOHOL:

EARLY YEARS

Interventions associated with early childhood are based on the assumption that the risk of developing alcohol problems is influenced by the interaction between personal attributes and environmental circumstances.

The interventions aim to (a) reduce the risks that contribute to development of alcohol problems and (b) promote preventative factors. Identified risk factors include parenting style, family conflict, poor school orientation and poor academic achievement, social and behavioural problems in preschool and primary school, peer rejection, deviant peer groups and poor social skills. No single risk factor has been strongly predictive of later alcohol misuse, but the more risk factors the greater the likelihood of later problems. Preventive factors include family attachment, self-efficacy, resilience and a positive involvement with school, sport and religion.

Risk and protective factors are most influential in very early childhood and at key transition periods across the lifespan. Early childhood interventions are identified as the most cost effective: evaluations show interventions during early primary school years as the most promising, but the years before school entry are also important.

There is increasing evidence that preventive programs delivered early in childhood to those in disadvantaged and vulnerable **families** have potential to contribute to a reduction in harmful use of drugs later in life. A more recent development has been recognition of the value of systematically applying preventive programs to all families and children before problems emerge. Specific measures can then be targeted towards families and children who are at increased risk. (Loxley 2004).

The growing body of evidence to support the value of these interventions comes mostly from the US; there are few studies conducted in Australia.

RELEVANCE OF EVIDENCE TO INDIGENOUS AUSTRALIANS
Although there are a number of programs that aim to promote supportive family environments for infants, very few have been thoroughly evaluated.

Health education and skill development

Intervention Name	Description	Target Group	Evidence	Additional Comments
School-based drug education	Structured social health, drug education curriculum delivered in primary school. Aim: Influence drug related behaviour of primary school children Provider: Classroom teacher or visiting professional. Setting: Primary school Activity: Range of approaches: mainly include information on body and drugs, self esteem and peer pressure, decision-making and problem solving. Example Illawarra Drug Education Program, NSW (Loxley 2004 p.106).	Universal Some programs target higher risk children but little or no evidence to support targeted approach (Loxley 2004 p.107.	**Loxley 2004 p.105-107**) No evidence of lasting behaviour change. Evaluations show the difficulty in maintaining behaviour change through drug education. Early drug education during Year 6 and/or 7 has potential for short-term behavioural change but no evidence yet of longer-term change. Evidence suggests primary school curriculum should focus on building relationships and socio-emotional skills rather than on drug use.	Evidence suggests drug education programs focused on knowledge attitudes and values alone (eg DARE program) are of limited value. Changed attitudes towards drugs amongst primary school students do not appear to be related to their intentions to use or their actual use of drugs. (Loxley 2004 p.107). Optimal time for introducing drug education is when experimentation begins, usually late primary, or early secondary. Drug education programs are not effective when begun too early and can increase drug use.

Table A2.1

Settings and supportive environments

Intervention Name	Description	Target Group	Evidence	Additional Comments
Family home visits (pre-birth and infant).	Health professional visits and develops relationship with a family over time. Aim: reduce pre birth and infant exposure to harmful drug use. Provider: Nurse or other health professional Setting: Family home Activity: Home visits to offer support, information, advice on infant health and development, advocacy for service access. Example: Nurse conducted regular visits from late pregnancy until the child's 2nd birthday for low income, unmarried and adolescent women having their first babies (Loxley 2004 p.97)	At risk families	**Loxley 2004 p.97-98**). Evidence suggests that family home visits, when well implemented, are a cost-effective intervention. Evidence for some studies is based on interventions that include women using illicit drugs as well as alcohol and tobacco.	Outcomes for pre-birth visits were reduced rates of smoking and alcohol use for mothers during pregnancy, leading to reduced cigarette and alcohol related cognitive impairment in children as pre-schoolers. For visits to families of infants, one study found small increases in cognitive scores, but these were not sustained beyond 6 months. Visits may need to continue longer to sustain the benefits. (Loxley 2004 p.97-98). Intensive home visiting is most cost effective when provided selectively to women at increased risk (assessed by young age, poverty, lack of partner support, drug abuse.) This strategy may not show benefits if provided more universally to include low risk mothers.
Parent education (pre-school to late primary years)	One or more parents receiving information and/or course of instruction. Aim: Reduce child behaviour problems, improve parenting practices, reinforce positive child development, and enhance parent-child interactions. Provider: Trained facilitators Setting: Community facility eg day care centre for pre-school, primary school for older children. Activity: Discussion, information, instruction, training, depending on level of risk or dysfunction. Example: Triple P (Positive Parenting Program) (Loxley 2004 p.99, 105).	Universal, but also targeted programs for at risk families (eg child behaviour problem, maternal depression, relationship conflict etc).	(**Loxley 2004 p.99-101;104-105**). Evidence suggests early childhood parent education programs are amongst the more cost-effective of currently evaluated early intervention approaches to address child behaviour problems and enhance parent functioning. Program in US shows reduced youth alcohol use for children of parents attending program, but no evaluation of similar programs in Australia (Loxley 2004 p.105).	Challenge can be getting compliance with the program for high-risk families (Loxley 2004 p.99). Not yet known how important it is to supplement parent education with other strategies eg school intervention. Loxley 2004 p.101)
School preparation programs	Children from disadvantaged families attend organised group pre school program, sometimes with additional home visits. Aim: Prepare children for transition to primary school. Provider: Trained staff. Setting: Home and/or child care centre Activity: Structured pre school experience often combined with home visits.	Target vulnerable or disadvantaged parents	(**Loxley 2004 p.101-102**) Evidence from a number of evaluations show improved cognitive and socio emotional functioning for children, but it is not clear whether any specific aspect of the program is important or whether any pre-school experience is effective. Though rigorous, many of the	Evaluations often show positive outcomes for mothers too. Some programs start very early (from first year of child's life).

	Outcome: Example: Head Start (Loxley 2004 p.102).		evaluations have been based on very small samples.	
Family intervention	One or more parents, children and other family members receive information, Aim: healthy family development Provider: Community health care professionals Setting: Family service centre, school, or other meeting place Activity: Activities eg meals, contests, where parents and children, together and in separate groups, build social support within school context. Outcome: Improved child competence, parent confidence and family relationships. Example: Families and Schools Together (Loxley 2004 p.102)	Can be universal. Targeted approach for families where students are identified by teachers to have behaviour, learning, or attendance problems in late primary school. Or parents in drug treatment.	(**Loxley 2004 p.102-104**) Universal programs show promise, but are more expensive than universal parent education, and there is no evaluation yet to show if these programs are better than parent education alone. Evidence shows that family interventions in primary school may be a useful strategy for reducing risk factors for youth alcohol use.	Universal programs aim to involve families in school health promotion. Evaluations are generally positive but the contribution gained from the family component of the program is difficult to separate out (Loxley 2004 p.103). Specifically targeted approaches include family interventions with parents in drug treatment. Improved parental functioning reduces risks to which children are exposed but no evidence yet of changed outcomes for children.
School organisation and behaviour management.	Range of interventions that modify early primary school environment through specific programs that aim to promote supportive relationships. Programs often accompanied by parent education. Aim: Encourage positive interpersonal relationships at school and maximise learning. Provider: Teachers Setting: Primary school Activity: Interventions vary but generally include social skills instruction sometimes supported by other activities eg playground monitoring, teacher training, parent education. Example: Seattle Social Development program (Loxley 2004 p.107) provides classroom program, training for teachers to use more effective classroom management approaches, and parent education.	Universal, sometimes with selective components for high-risk students.	(**Loxley 2004 p.107-110**). Evidence from many well-controlled studies indicates that influencing the school environment can help reduce the risk factors for drug use. Most evidence comes from studies conducted outside Australia.	Evidence from studies shows the value of impacting on the early primary school environment to provide better support to children who are experiencing difficulties. Encouraging children who are doing well to support those who are struggling has been shown to be effective. There are few studies of similar interventions in Australia.

Table A2.2

(A3) ALCOHOL:

ADOLESCENCE

School based drug education has received much attention as an intervention to delay and/or reduce alcohol consumption among young people. Evidence indicates that drug related information should not be presented too early, and that education that focuses only on information can increase drug use. School based drug education that uses a social influence model is recommended, ideally supplemented by social marketing strategies, parenting strategies and community mobilisation. Price increases and enforcement of minimum drinking age are the most effective means of reducing alcohol related harm among adolescents.

Social marketing and health information

Intervention Name	Description	Target Group	Evidence	Additional Comments
Social marketing	Using mass media to promote a health message that aims to prevent harmful use of alcohol. Aim: Change in drinking behaviour among young people Setting: Radio, TV, internet, cinema, magazines, etc Activity: Advertisements aimed at young people. Example: National Alcohol Campaign in 2000 targeted young people aged 15-17 via TV, radio, cinemas, magazines, website. (Loxley 2004, p.142).	All young people	(**Loxley 2004 p.140-143**). There is good evidence of the effectiveness of mass media campaigns in conveying health information to young people, but no evidence that one-off media campaigns affect their behaviour. There is some evidence for effectiveness of mass media in combination with other strategies, eg school based health education or community campaigns.	Radio may be as effective as other (more expensive) mass media for reaching young people (Loxley 2004 p.140). Alcohol guidelines are not straightforward, presenting a challenge when conveying the information through mass media. There is not yet adequate evaluation of the impact of media messages about harm minimisation on young people's behaviour.

Table A3.1

Health education and skill development

Intervention Name	Description	Target Group	Evidence	Additional Comments
School drug education	School based structured social health education delivered by teachers or visiting professional. Aim: To reduce drug related harm amongst students. Provider: Usually teacher, but sometimes visiting professional. Setting: School Activity: Lessons and/or activities. Example: School Health and Alcohol Harm Reduction Project (Loxley 2004 p.124). Conducted in Australia, 13 lessons were delivered over 2 years. Changes in alcohol related behaviour were demonstrated in the short term and one year after the program. The program was seen as cost effective.	Universal.	(**Loxley 2004 p.118-125**). Evidence supports implementation. There is evidence drug education can increase knowledge and awareness of alcohol effects and related harm, but has little lasting impact on behaviour. Nevertheless knowledge may be an essential component for effective prevention strategies. Evidence shows that drug education that focuses solely on information provision does not promote behaviour change and is not recommended. Interventions that use a social influence approach and focus on harm reduction are more promising for influencing longer term alcohol use, especially if supplemented by social marketing strategies, parenting strategies and community mobilisation.	Drug education, particularly that which focuses solely on information, has the potential to increase drug use, so interventions should be evidence based and carefully evaluated. Time pressures in schools generally require that drug education is generic, rather than focused solely on alcohol. Approaches that are effective for one drug are likely to be effective for others. Provision of drug education must be of sufficient intensity, with booster sessions. General view is that best time is late primary/early secondary school age. Ideally timing should coincide with experimentation with specific drugs. Studies show that some interventions can have short-term benefits but the outcomes are less consistently demonstrated than those for tobacco and there is less evidence of longer-term impacts (Loxley 2004 p.124).

Table A3.2

Settings and supportive environments

Intervention Name	Description	Target Group	Evidence	Additional Comments
Health service reorientation	Reorienting existing health services to better match young people's needs. Aim: To provide increased access for young people and address risk and protective factors. Provider: Varies, eg nurse, doctor. Setting: Varies, eg university, or primary health centre, or school. Activity: Varies, eg self completed questionnaire about drinking patterns, computer generated information, health consultation. Example: US study: school students were given self instructional module on alcohol use, consultation with doctor or nurse, & follow up consultation with trained peer health educator. Instructional messages were tailored to the level of alcohol use the individual indicated. (Loxley 2004 p.139).		(**Loxley 2004 p.137-140**). Limited but adequate evidence to suggest that there is value in developing and evaluating strategies that improve access and relevance of health services to young people, through providing services at accessible places, using effective approaches to engage with them, and maintaining a focus on prevention.	More research is needed.
Youth sport and recreation programs, and Good Sports Accreditation Program (GSAP)	Australian Drug Foundation recently introduced Good Sports Accreditation Program (GSAP) to recognise clubs for their engagement in alcohol policy and practice initiatives, The aim is to weaken the long standing association between sports clubs and excessive alcohol consumption.		(**Loxley 2004 p.130**). Too early to know. Sports clubs are seen as vehicles to model positive social behaviours, but they are also often associated with excessive drinking. GSAP aims to impact on young people's Alcohol and other drug use.	
Laws related to minimum drinking age.	Laws, accompanied by regulation and policing. Aim: Limit access to alcohol for people aged under 18. Provider: Government Setting: Retail outlets Activity: Not selling alcohol to those under 18. Example 18+ cards	All under 18 year olds.	(**Loxley 2004 p.145**). A well evaluated study in the US demonstrated that strict enforcement of existing laws reduces harm. WHO identifies minimum purchase age as one of the ten best practice policy options to reduce alcohol related harm (NTG 2004 p.36).	Increased compliance with laws that prevent sales of alcohol to those aged under 18 has potential to reduce harm.
Pricing policies	Increasing price of alcohol through taxation. Aim: Reduced levels of consumption and harm. Provider: Government Setting: Retail outlets Activity: Higher taxation.		(**Loxley 2004, p.188-189**) (Howat 2004) There is good evidence that price increases are effective in reducing total alcohol consumption and alcohol related harm. The size of the effect varies with beverage; there is some evidence that higher tax on beer reduces the frequency heavy drinking among young people.	Pricing policies are likely to be especially effective for reducing consumption by young people. Reduced tax on low alcohol is likely to increase sales and reduce alcohol related violence (Loxley 2004 p. 188). Increased taxation on alcohol is one of the least popular prevention strategies.
Parent Education				**(Loxley 2004 p.113-116). Although there is evidence to support parent education for younger age groups, and parent education for older students shows promise, this approach has not been adequately evaluated to provide evidence to recommend it for older students.**

Table A3.3

(A4) ALCOHOL:

GRANNY YEARS

There is little evidence about effective prevention strategies in elderly populations, though it is well recognised that health care staff should be aware of the issue of alcohol related problems among elderly people, and have skills to detect them. (Loxley 2004 p.171).

(A5) ALCOHOL:

REFERENCES

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TOBACCO

(T1) TOBACCO:
FAMILY YEARS/ GENERAL POPULATION

Although the prevalence of tobacco smoking in Australia is among the lowest in the world, smoking remains the leading cause of preventable death. It is estimated that 19,000 people died in Australia in 1998 through smoking. Tobacco is said to be responsible for around 12% of the total burden of disease for males and 7% for females. Smoking accounted for 13% of cardiovascular deaths in Australia in 1996, and is associated with increased risk of lung cancer, and respiratory diseases (eg bronchitis and emphysema). (Garrard 2004 p.67)

The proportion of the population who smoke declined from 37% in 1977 to 24% in 2001. In 2001 smoking rates were highest among 25-34 year olds with 32% smoking. Although between 1998-2001 the decline in smoking was greater among men than women, smoking rates remain higher for men with 27% of men smoking compared with 21% of women.

There is evidence to support a range of interventions that aim to reduce demand, though reducing supply through price increases appears to be the most effective.

RELEVANCE OF EVIDENCE TO INDIGENOUS AUSTRALIANS

Smoking rates for Indigenous Australians are much higher than in the population overall. The 2001 Census showed 49% percent of Indigenous men smoking, and 50% of Indigenous women (Garrard 2004 p.67). Data suggest that in some regions, proportions of Indigenous people using tobacco may be far higher (Ivers 2001, p.13).

Many tobacco programs have been run in Indigenous settings, but few have been thoroughly evaluated, so there is little evidence that relates specifically to Indigenous Australians. However, there is no reason to believe that many of the interventions demonstrated to be effective in non-Indigenous settings would not be effective in Indigenous settings.

SCREENING, INDIVIDUAL RISK FACTOR ASSESSMENT, IMMUNISATION

Intervention Name	Description	Target Group	Evidence	Additional Comments
Brief intervention in primary care setting	Health care provider identifies smokers and gives advice to stop smoking. Aim: smoking reduction or cessation Provider: Doctor, nurse or other health care provider Setting: Primary health care. Activity: Ask about smoking and provide 2-3 mins of advice about stopping, sometimes supported with patient literature. Example: Quit for Life: GP driven program (Loxley 2004 p.166).	Tobacco smokers in general population	**Loxley (2004 p165-166).** Strong evidence to support this. Brief intervention produces change in only small proportions of the smoking population, but results are consistent across studies, the intervention is inexpensive, takes little time, and can be widespread across health professionals. Ivers (2001 p. 56-58)	Highly cost effective strategy. The main challenge is addressing the barriers to implementation: lack of time and/or discomfort raising the topic. Training health staff in giving advice to smokers on quitting has small but significant effect on increasing quit rates (Ivers 2001 p.61). Evidence from the US (Guide to Community Preventive Services) shows increased success rates when brief intervention is supported with education for the health care provider, and when self-help materials are given to the smoker. In Indigenous settings implementation should consider cultural, situational and relationship issues (**Ivers 2001 p.61-65**; Garrard 2004 p 76-77). Training packages for health staff exist (Ivers 2001 p.61). Health professionals who smoke may be reluctant to advise patients to stop, but should be supported to take smoking seriously. (Ivers 2001 p.63)
Targeted brief intervention for pregnant women	Smoking cessation programs for pregnant women. Aim: Reduce smoking, low birth weight and pre-term birth. Provider: Health care provider Setting: Antenatal primary health care. Activity: Information about risks of continued smoking, advice to quit, individual or group counselling, sometimes supported by self help manuals, peer support, telephone follow-up etc.	Pregnant women who smoke	Garrard 2004 p.70**). (**Ivers 2001 p.63). **Studies across many countries provide evidence that a formal cessation programme targeted towards women smoking during early pregnancy will reduce smoking, low birth weight and pre-term pregnancy.**	Sustainability of smoking cessation after birth is generally poor. Interventions reviewed vary in their levels of intensity, and the extent to which reminders and reinforcement were provided during pregnancy. Strong Women, Strong Babies, Strong Culture Program piloted in 3 NT communities reported increased birth weight after contact with community workers who included advice on smoking cessation in antenatal care program. Smoking was not measured. Several resources to promote smoking cessation among Indigenous pregnant women have been developed (Ivers 2001 p.64)

Table T1.1

Social marketing and health information

Intervention Name	Description	Target Group	Evidence	Additional Comments
Printed health promotion educational materials	Educational materials, eg pamphlets, flipcharts, with or without brief intervention by health professional.			(**Ivers 2001 p.75**). No significant evidence of the impact of educational materials alone. In combination with other interventions they were more likely to be effective, though they are more likely to change knowledge and attitudes than behaviour. Self help materials may be useful for smokers who are unwilling to have contact with health professionals, and may provide a small increase in quitting compared to no intervention. There was no evidence that they add benefit over other minimal interventions, eg advice from health professional. Materials tailored for individuals are more effective. Ivers 2001 pp75-79 reports various views on heath promotion materials for Indigenous people but there is no more evidence of their effectiveness in Indigenous settings than in the general population.
Mass media anti smoking campaigns	Paid or unpaid advertising to promote health-related behaviour change Aim: Reduce proportion of population smoking. Provider: Various, often government funded, as large campaigns are usually costly. Setting: General community or aspects relevant to target group Activity: Advertise on TV, radio, papers, billboards, buses, etc. Example: Quit campaign (Loxley 2004 p.175).	Smokers in general population, though more effective when targeted at specific groups. Also non-smokers to reduce initiation into smoking.	**(Loxley 2004 p175-176) (Garrrard 2004 p.71**). Campaigns extended over long periods and combined with other interventions are effective. Little or no evidence for effectiveness of short term campaigns alone.	A benefit of mass media campaigns is high population reach. Mass media can be used to orient public to an issue, teach relevant skills, or warn of consequences Mass media campaigns should emphasise benefits of change, rather than negative consequences of smoking. Consumers should feel they are offered a way of satisfying their needs, rather than being coerced (Loxley 2004 p.175). Early campaigns mostly influenced knowledge and had little influence on behaviour. They tended to focus on broad audiences. Recent findings suggest importance of target groups, campaign strategies and specific themes. Not known if mainstream media campaigns have any influence in Indigenous communities though is some evidence they may have impact on young people. (Ivers 2001 p.69). Indigenous people are reported to say that media campaigns should be locally based; with broad community focus; involve elders and significant community members in their design and delivery. (Garrard 2004 p.77).

Table T1.2

Health education and skill development

Intervention Name	Description	Target Group	Evidence	Additional Comments
Telephone, individual or group proactive counselling (ideally supported with other components)	Aim: smoking cessation Provider: Counsellor Setting: Telephone, health or community setting Activity: Individual or group counselling, preferably initiated by counsellor or clinician. Example: Quit lines or Quit courses.		(**Garrard 2004 p.69**). There is good evidence that counselling is effective in smoking cessation. It is most effective when the counsellor or clinician initiates contact or follows up, rather than when the client initiates all contact. There is evidence that telephone quitlines are effective when used as part of a broader anti smoking campaign, and that proactive telephone counselling is more effective than an intervention with no personal contact (Ivers 2001 p.73). There is good evidence of the effectiveness of motivational counselling, to move a person through the stages of contemplating quitting so that in time they do quit. (Ivers 2001 p.58).	Group behaviour therapy programs are more effective than self-help, but there is no evidence to indicate how they compare with a similar intensity of individual counselling. (Ivers 2001 p.72). In the US telephone counselling is strongly recommended, especially if proactive. The greatest effect is achieved when telephone counselling is accompanied with other components, eg printed materials, and possibly individual or group counselling and/or Nicotine Replacement Therapy (**Guide to Community Preventive Services**). No evaluation has been conducted of Indigenous people's use of quitlines (Ivers 2001 p.73). The non-authoritarian approach of motivational interviewing is seen to be sympathetic with Indigenous culture, due to emphasis on autonomy of the individual and non-coercive style (Ivers 2001 p.58).
Hospital based smoking cessation intervention,	Smoking cessation programs with smokers in hospital, with follow-up. Aim: smoking cessation. Provider:). Setting: hospital	Smokers in hospital.	(**Ivers 2001 p.64**). There is evidence that high intensity behavioural interventions with patients in hospital are effective when supported with at least one month of follow up contact.	
Nicotine Replacement Therapy (NRT) patches, gum or inhalers	NRT patches, gum or inhalers are available from pharmacies and can be used to decrease side effects of nicotine withdrawal. Aim: Increase proportion of heavy or addicted smokers who are able to quit. Provider: Pharmacist Activity: .NRT can be recommended as part of a broader cessation program	heavy or addicted smokers who wish to quit.	(**Ivers 2001 pp59-60**). There is good evidence that NRT supports smoking cessation among heavy or addicted smokers.	

Table T1.3

COMMUNITY ACTION FOR SOCIAL AND ENVIRONMENTAL CHANGE

Intervention Name	Description	Target Group	Evidence	Additional Comments
Community based intervention to change policy, legislation and practice	Co-ordinated multi-strategy, community based interventions with community involvement through eg coalitions of planning groups, and/or employment of local staff. Aim: Change in community norms about smoking and in smoking behaviour. Provider: Range of providers Setting: Community Activity: May include mass media, counselling, self-help materials, support groups, quit lines etc.		(**Garrard 2004 p.73**). Evidence shows small rates of success that were not statistically significant yet were still cost effective. High program reach is needed to produce an impact: community awareness rates of about 30% were associated with positive program outcomes. Most successful methods were mass media linked with smoking cessation referral services and resources.	To be effective smoking must be recognised by community as an important issue. It is more effective to target communities that are already motivated. During project development important factors for later success are community organisation, assessment of community capacity, and identification of individuals and organisations interested in supporting smoking interventions. Coalitions need several months to form and a year or more to become effective agents in their community. (**Ivers 2001 p.67**) there are few examples of community interventions in Indigenous settings, and no evaluation. It is suggested that elders may be important for encouraging people to quit, though high smoking rates among elders may detract from their potential to influence.

Table T1.4

Settings and supportive environments

Intervention Name	Description	Target Group	Evidence	Additional Comments
Sponsorships of community or sporting events	Funding to support local smoke-free events, eg sports, motor racing, arts. Aim: Protect non-smokers from environmental smoke. Reduce uptake by non-smokers; promote smoking cessation. Provider: Usually government. Setting: Local venues. Activity: Provide funding or promotional assets Example: NT Tobacco Action Project sponsored football and basketball tournaments.		Limits passive smoking but no evidence about impact on smoking uptake or reduction or cessation of smoking by smokers.	
Restrictions to prevent passive smoking	Legislative and regulatory policies to reduce passive smoking in public places. Aim: Protect non-smokers from environmental tobacco smoke and promote cessation among smokers. Provider: Government, organisations, etc Setting: Restaurants, bars, workplaces, shopping centres, public transport etc. Activity: Passing and monitoring regulations.	Smokers in public places.	(**Garrard 2004 p.74**). (Loxley 2004 p.225) (Ivers 2001 p.72). Regulations do reduce passive smoking in public places. Also, good evidence that smoking bans in workplaces have a modest but significant impact on smoking prevalence if enforced and supported by other measures eg educational strategies.	Policies are simple, inexpensive and effective. They are generally well accepted even by smokers. Total smoke free workplaces are twice as effective in reducing smoking prevalence as those that allow smoking in certain areas. No reported workplace cessation programs evaluated for Indigenous people. But due to Indigenous people's greater exposure to environmental tobacco smoke they are likely to have beneficial impact.

Restrict tobacco advertising and sponsorship	Aim: Remove opportunities for marketing smoking. Provider: Government Setting: Mass media and popular events Activity: Regulations Example: Tobacco Advertising Prohibition Act (1992). All tobacco advertising was removed, including sponsorship of sporting events by tobacco companies in 2000.		(**Loxley 2004, p.186**) Evidence shows that restrictions on advertising can reduce tobacco consumption in the general community. Broad restrictions on advertising and promotion are needed for this to be successful.	Restrictions can be undermined if regulations are not adequately broad, allowing promotion to switch to other media.
Price disincentives	Price increases through taxation or other legislative measures. Aim: Reduce consumption. Provider: Government Setting: Retail outlets Activity: Increase taxation		(**Loxley 2004 p.186**) (Garrard 2004 p. 75). (Ivers 2001 p.83). There is good evidence that price increases are the most effective means to encourage reduced initiation of smoking, increased cessation, and reduce consumption among smokers.	Price increases effectively reduce population consumption of tobacco in the absence of other interventions, i.e. they do not need to be accompanied with media campaigns or anything else. Some evidence suggests that large price increases have greater proportional impact than several small increases. A potential concern about price rises is the impact on people with low income who do not moderate or stop smoking. Store managers in remote communities may be able to determine price of tobacco products (Ivers 2001 p.83).

Table T1.5

(T2) TOBACCO:

EARLY YEARS

Tobacco smoking and harmful use of alcohol share the same risk and protective factors (for more information see Alcohol: Early Years). There is evidence that reducing risks and promoting preventive factors during very early childhood and during early primary school years is especially important, but that the years before school entry are also important.

It has recently been recognised that it is productive to apply preventive programs to all families, but to provide more intensive attention to families and children who are at risk.

Health education and skill development

Intervention Name	Description	Target Group	Evidence	Additional Comments
School-based drug education	Structured social health, drug education curriculum delivered in primary school. Aim: Influence drug related behaviour of primary school children Provider: Classroom teacher or visiting professional. Setting: Primary school Activity: Range of approaches: may include information on body and drugs, self-esteem and peer pressure, decision-making and problem solving. Example Illawarra Drug Education Program, NSW (Loxley 2004 p.106).	Universal Some programs target higher risk children but little or no evidence to support targeted approach (Loxley 2004 p.107.	**Loxley 2004 p.105-107**) No evidence of lasting behaviour change. Evaluations show the difficulty in maintaining behaviour change through drug education. Early drug education during Year 6 and/or 7 has potential for short-term behavioural change but no evidence yet of longer-term change. Evidence suggests primary school curriculum should focus on building relationships and socio-emotional skills rather than on drug use.	Evidence suggests drug education programs focused on knowledge attitudes and values alone (eg DARE program) are of limited value. Changed attitudes towards drugs amongst primary school students do not appear to be related to their intentions to use or their actual use of drugs. (Loxley 2004 p.107). Optimal time for introducing drug education is when experimentation begins, usually late primary, or early secondary. Drug education programs are less effective when begun too early.

Table T2.1

Settings and supportive environments

Intervention Name	Description	Target Group	Evidence	Additional Comments
Family home visits (pre-birth and infant).	Health professional visits and develops relationship with a family over time. Aim: reduce pre birth and infant exposure to harmful drug use. Provider: Nurse or other health professional Setting: Family home Activity: Home visits to offer support, information, advice on infant health and development, advocacy for service access. Example: Nurse conducted regular visits from late pregnancy until the child's 2nd birthday for low income, unmarried and adolescent women having their first babies (Loxley 2004 p.97)	At risk families	**Loxley 2004 p.97-98**). Evidence suggests that family home visits, when well implemented, are a cost-effective intervention. Evidence for some studies is based on interventions that include women using illicit drugs as well as alcohol and tobacco.	Outcomes for pre-birth visits were reduced rates of smoking and alcohol use for mothers during pregnancy, leading to reduced cigarette and alcohol related cognitive impairment in children as pre-schoolers. For visits to families of infants, one study found small increases in cognitive scores, but these were not sustained beyond 6 months. Visits may need to continue longer to sustain the benefits. (Loxley 2004 p.97-98). Intensive home visiting is most cost effective when provided selectively to women at increased risk (assessed by young age, poverty, lack of partner support, drug abuse.) This strategy may not show benefits if provided more universally to include low risk mothers.
Parent education (pre-school to late primary years)	One or more parents receiving information and/or course of instruction. Aim: Reduce child behaviour problems, improve parenting practices, reinforce positive child development, and enhance parent-child interactions. Provider: Trained facilitators Setting: Community facility eg day care centre for pre-school, primary school for older children. Activity: Discussion, information, instruction, training, depending on level of risk or dysfunction. Example: Triple P (Positive Parenting Program) (Loxley 2004 p.99, 105).	Universal, but also targeted programs for at risk families (eg child behaviour problem, maternal depression, relationship conflict etc).	(**Loxley 2004 p.99-101; 104-105**). Evidence suggests early childhood parent education programs are amongst the more cost-effective of currently evaluated early intervention approaches to address child behaviour problems and enhance parent functioning. Program in US shows reduced youth alcohol use for children of parents attending program, but no evaluation of similar programs in Australia (Loxley 2004 p.105).	Challenge can be getting compliance with the program for high-risk families (Loxley 2004 p.99). Not yet known how important it is to supplement parent education with other strategies eg school intervention. Loxley 2004 p.101)
School preparation programs	Children from disadvantaged families attend organised group pre school program, sometimes with additional home visits. Aim: Prepare children for transition to primary school. Provider: Trained staff. Setting: Home and/or child care centre Activity: Structured pre school experience often combined with home visits.	Target vulnerable or disadvantaged parents	(**Loxley 2004 p.101-102**) Evidence from a number of evaluations show improved cognitive and socio emotional functioning for children, but it is not clear whether any specific aspect of the program is important or whether any pre-school experience is effective. Though rigorous, many of the evaluations have been based on very small samples.	Evaluations often show positive outcomes for mothers too. Some programs start very early (from first year of child's life).

	Outcome: Example: Head Start (Loxley 2004 p.102).			
Family intervention	One or more parents, children and other family members receive information, Aim: healthy family development Provider: Community health care professionals Setting: Family service centre, school, or other meeting place Activity: Activities eg meals, contests, where parents and children, together and in separate groups, build social support within school context. Outcome: Improved child competence, parent confidence and family relationships. Example: Families and Schools Together (Loxley 2004 p.102)	Can be universal. Targeted approach for families where teachers identify students as having behaviour, learning, or attendance problems in late primary school, or whose parents are in drug treatment.	(**Loxley 2004 p.102-104**) Universal programs show promise, but are more expensive than universal parent education, and there is no evaluation yet to show if these programs are better than parent education alone.	Universal programs aim to involve families in school health promotion. Evaluations are generally positive but the contribution gained from the family component of the program is difficult to separate out (Loxley 2004 p.103). Specifically targeted approaches include family interventions with parents in drug treatment. Improved parental functioning reduces risks to which children are exposed but no evidence yet of changed outcomes for children.
School organisation and behaviour management.	Range of interventions that modify early primary school environment through specific programs that aim to promote supportive relationships. Programs often accompanied by parent education. Aim: Encourage positive interpersonal relationships at school and maximise learning. Provider: Teachers Setting: Primary school Activity: Interventions vary, but generally include social skills instruction, sometimes supported by other activities e.g. playground monitoring; teacher training, parent education. Example: Seattle Social Development program (Loxley 2004 p.107) provides classroom program, training for teachers to use more effective classroom management approaches, and parent education.	Universal, sometimes with selective components for high-risk students.	(**Loxley 2004 p.107-110**). Evidence from many well-controlled studies indicates that influencing the school environment can help reduce the risk factors for drug use. Most evidence comes from studies conducted outside Australia.	Evidence from studies shows the value of impacting on the early primary school environment to provide better support to children who are experiencing difficulties. Encouraging children who are doing well to support those who are struggling has been shown to be effective. There are few studies of similar interventions in Australia.

Table T2.2

(T3) TOBACCO:

ADOLESCENCE

Much attention has been paid to school based drug education as a means of reducing uptake of tobacco use among adolescents. Evidence shows that well-implemented school based drug education can achieve behaviour change for a small proportion of students, but it more successfully influences knowledge. Extensive and extended mass media campaigns, if well conducted and supplemented by other strategies can be effective, but the most effective reduction strategy is an increase in the unit price of tobacco products.

Social marketing and health information

Intervention Name	Description	Target Group	Evidence	Additional Comments
Mass media anti smoking campaigns	Paid or unpaid advertising to promote health-related behaviour change Aim: Delay/prevent initiation of smoking and promote cessation. Provider: Often government funded. Setting: General community or aspects relevant to target group Activity: Advertise on TV, radio, papers, billboards, buses, etc.	Adolescents and young adults in general population.	(Garrard 2004 p.71). Some evidence that mass media campaigns lasting 2 years or more, supplemented with other interventions, is effective.	No evaluation of impact on Indigenous youth but among Indigenous people, young people are the age group most likely to be influenced by mainstream media campaigns (Avers 2001 p.69).

Table T3.1

Health education and skill development

Intervention Name	Description	Target Group	Evidence	Additional Comments
School drug education	School based structured social health education delivered by teachers or visiting professional. Aim: To reduce drug related harm amongst students. Provider: Usually teacher but sometimes visiting professional. Setting: School Activity: Lessons and/or activities. Example: A program developed in Minnesota was delivered in W. Australia in 1981. It included structured lessons and pupil led discussion and addressed tobacco advertisements, physical effects of smoking and refusal strategies. Outcomes 7years after the program showed ongoing low rates of tobacco use among females but no impact for females. (Loxley 2004 p.122).	Universal.	(**Loxley 2004 p.118-123**). Evidence supports implementation. Many school based drug education programs have been evaluated for their impact on tobacco and a number of reviews conducted. Outcomes vary but overall those using a well-implemented social influence model often demonstrate a delay in smoking for a small proportion up to about 2 years after the intervention.	There is good evidence that school drug education increases knowledge about impacts of drug use. Although this - alone - is rarely sufficient to promote behaviour change, information may be a necessary condition for prevention. Fidelity of implementation is a key issue for school based drug education programs. Teachers often focus on the knowledge aspects of programs, rather than resistance skills training, value clarification and normative education. Interventions demonstrated to be effective in experimental programs risk losing their effectiveness when translated into normal school settings.

Table T3.2

SETTINGS AND SUPPORTIVE ENVIRONMENTS

Intervention Name	Description	Target Group	Evidence	Additional Comments
Laws that prevent retailers from selling tobacco to young people.	Laws, accompanied by regulation and policing. Aim: Limit access to tobacco for young people. Provider: Government Setting: Retail outlets Activity: Not selling tobacco to those under 18.	All under 18 years.	(**Loxley 2004 p.145**). There is evidence of the effectiveness of delaying tobacco use by young people through enforcing laws that prevent sale of tobacco to those under 18. Educational interventions for retailers to ensure compliance with legislation were less effective than legislation combined with education and enforcement (Ivers 2001 p.85).	Strategies to increase compliance with the law include social marketing to ensure regulations are well understood; using minors to monitor retailers' compliance with laws; graded penalties, as enforcement officers can be reluctant to impose large fines; positive feedback for compliance (Loxley 2004 p.145).
Price disincentives	Price increases through taxation or other legislative measures. Aim: Reduce consumption. Provider: Government Setting: Retail outlets Activity: Increase taxation Example:	Universal	(**Loxley 2004 p.186**). There is good evidence that price increases are most effective means to encourage reduced initiation of smoking, increased cessation, and reduce consumption among smokers. Some evidence suggests that large price increases have greater proportional impact than several small increases.	Young people (and women) appear to be most influenced by price rises.

Table T3.3

TOBACCO:

GRANNY YEARS

The decline in the number of smokers in Australia between 1995-2001 was largely due to reduction in smoking among older age groups. In 2001 smoking rates for those aged 65-74 were 11% and 6% for those aged 75 and over (Garrard 2004 p.67). No reported evidence has been found that relates specifically to smoking interventions for this age group.

TOBACCO

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PHYSICAL ACTIVITY

(P1) PHYSICAL ACTIVITY:
FAMILY YEARS/ GENERAL POPULATION

There is strong epidemiological evidence that physical activity impacts positively on health. The greatest reduction in health risks occurs when those who are inactive become at least, moderately active. However a dose response effect has been confirmed, whereby more intense and sustained activity brings added benefits; this is more evident for men than for women (NPHP 2004 p.3).

Evidence shows that physical activity aids prevention of cardiovascular disease, diabetes, colon and breast cancer. Associations are often seen between physical activity and positive mental health but the evidence is only suggestive (Bull et al 2004, NPHP 2004 p.3).

Evidence to indicate the effectiveness of specific interventions to promote physical activity is not so clear. Recent reviews commissioned by NPHP searched the literature for studies on effective interventions, and found limited evidence (Bauman 2002, Bull 2004, NPHP 2004). In N. America, where recent studies have produced some evidence of successful interventions, it is acknowledged that intervention research did not start in earnest until the mid1990s, when the health benefits of physical activity were more broadly recognised, and funding made available for research (Dunn et al 2002). Given the limited evidence available for Australian based intervention studies, some information is provided here about what has worked in the US.

Summing up the evidence, as Bull et al (2004:93) say, there is no 'magic bullet' approach that will make Australians more active. Approaches currently being trialled in Australia and elsewhere have the potential to make small, often short term changes to physical activity, but evidence shows that although independent interventions in some settings may have an impact, a combination of strategies is the most effective (Bauman 2002:43).. The combination of 'community wide' and environmental and policy' strategies recommended in the US, aiming to raise awareness, improve self efficacy and increase access to opportunities for physical activity, appears to be the most promising and effective approach. Work is now needed to trial multi component strategies in Australia among whole communities. For this, it is essential to work beyond the health sector and develop partnerships to achieve environmental and policy changes. Additional work is needed to identify individual strategies that are effective among groups who are least likely to be active, including Indigenous Australians, people with low incomes, middle aged and older adults and women over 30.

Relevance Of Evidence To Indigenous Australians

Much of the health burden among Indigenous Australians is due to preventable diseases that share risk factors that can be partly reduced with increased levels of physical activity. There are no reliable data on physical activity levels among Indigenous Australians, and no reliable and valid instrument for measuring physical activity. There are few published studies to provide evidence about ways of increasing physical activity specifically among Aboriginal and Torres Strait Islander people. The document Be Active Australia (NPHP 2004, p.33) lists key principles to guide programs to promote physical activity (for instance, cultural respect, holistic approach, community control of primary health care services, etc), but recognises the need to develop a plan to support physical activity for Indigenous Australians that will include integration with other relevant services.

Screening, Individual Risk Factor Assessment, Immunisation

Intervention Name	Description	Target Group	Evidence	Additional Comments
Intervention from health practitioner	Assess, provide practical information, support and referral to individuals who may need support to get started or to maintain physical activity Aim: Moderate increases in physical activity. Provider: GPs (and/or other practitioners, nurse practitioner, physiotherapist, health educator). Setting: Primary care Activity: Brief advice or counselling on exercise. Usually supported by additional information, eg health education pamphlet, or written prescription for exercise. Outcome: change in activity levels especially for those with health problems that can benefit from increased physical activity. Example: Active Practice NSW. GPs provided brief verbal advice and a prescription for activity, followed up by a supporting booklet.	Prioritise patients with health problems (hypertension, high blood pressure or cholesterol, overweight, glucose intolerance, depression). Also effective for sedentary people, to initiate behaviour change, and for older adults	Few interventions in routine practice have been tested but there is some evidence that brief and intensive interventions delivered to patients in primary health care can achieve short term (at least 6 month) increases in physical activity especially when supplemented with other advice or reinforcement (**Bull 2004 p. 141-142** NPHP 2004 p. 15). Without supporting strategies effects are short term (Garrard 2004 p.42). Bauman reports evidence of modest short term benefits but identifies the challenge as getting participation from GPs **(Bauman 2002 pp.53-56**) Few interventions have been tested within the time and resource constraints of general practice. This, plus, limited duration of demonstrated outcomes should be taken into account when considering implementation. This may point to the value of GPs undertaking opportunistic brief physical activity interventions among patients with specific risk factors that respond to physical activity.	Although outcomes are modest the approach is recommended for its potential to reach a high proportion population. (Bauman 2002 p.56). Advice should include verbal instruction about physical activity as well as written materials, and be based on behaviour change theory (NPHP 2004 p.15). Longer-term success may be achieved when other health professionals are involved so that patients receive counselling beyond the routine contact time with GP (Bull 2004 p.91), and/or in the context of community-wide interventions.

Table P1.1

Social marketing and health information

Intervention Name	Description	Target Group	Evidence	Additional Comments
Mass media campaigns	Interventions conducted during fixed time periods that aim to increase the focus around specific issues for large numbers of people through range of media e.g. TV, radio, local newspapers, billboards, and mailings. Aim: Increased awareness Provider: Usually government funded. Setting: Television and print media most frequent, though may be telephone/web based. Activity: Provide information that reflects and is appropriate for different cultures and population groups. Provide clear consistent messages, plus information about where to get help Outcome: May impact on stage of change, and thereby mediate later change in behaviour. Example: Active Australia campaign 1998-99. Conducted mostly in NSW with collaboration across sectors and agencies through Premiers Taskforce on Physical Activity. (Bauman 2002 p.80).	Universal, or could target specific groups.	Mass media campaigns increase knowledge but alone, have little lasting impact on participation in physical activity (Bauman 2004 p.79, **Bull 2004 p.175-176**, Garrard 2004 p. 44, (Guide to Community Preventive Services: Systematic Reviews and Evidence Based Recommendations). But mass media campaigns have a clear role to play as a supplementary strategy in broader campaigns, setting the agenda, informing, and focussing attention on the need for change. To be effective they should be part of community-based programs, supported by primed health professionals and environments with access to activity choices. Also media campaigns can raise awareness of new facilities, new information, or new ideas about exercise (e.g. cycling for transport). (Garrard 2004 p.44).	Bauman et al (2002 p.137) notes that programs that rely heavily on enhancing knowledge are known to be ineffective. Material presented in media campaigns is more effective when matched to individuals' stages of readiness (Bauman 2002 p.79). While there have been few positive changes in behaviour following media campaigns more exploration is needed of the role they play in mediating behaviour change (Bauman 2004 p.92). Mass media campaigns can increase awareness and motivation to participate in physical activity, while coordinated community based programs provide opportunities to participate. (Bauman 2002 p.79). Well-planned combinations of 2 or more media, combined with community-based initiatives may be effective (NPHP 2004 p.24). WHO recommends campaigns be conducted over many years to continuously reinforce messages to the public. (Bull 2004 p.175). Advertising is expensive. Media campaigns need to be carefully planned and targeted using social marketing strategies. Free publicity through local radio and newspapers can reduce costs but content is difficult to control. Relationships with local journalists are important (Garrard 2004 p.45).

'Point of decision' prompts.	Signs to encourage people to use stairs. (This is a specifically evaluated example of an environmental intervention.) Aim: to encourage more activity where people live, work, study, shop, travel, play. Provider: Organisations mostly outside direct control of health sector. Setting: Train and bus stations, shopping malls, university libraries, shopping centres. Activity: Requires coordinated approach: initiating, responding to, and working in partnership with other sectors. Example Motivational signs and banners on stair risers on stairs adjacent to an escalator in shopping centre.	Universal, though signs describing specific benefits may appeal to specific populations eg US study showed obese people used stairs more if signs linked stair use to weight loss rather than to health benefits.	'Point of decision' interventions, where signs encourage use of stairs instead of lifts or escalators are reported to be effective. (NPHP p.12, Bull 2004 p.92). In a review of 6 US studies the median estimate of increased stair use was 54%. (Guide to Community Preventive Services). Bauman suggests the evidence is strong enough to develop policies around inexpensive stair-use interventions (Bauman 2002 p.90).	

Table P1.2

Community Action For Social And Environmental Change

Intervention Name	Description	Target Group	Evidence	Additional Comments
Integrated multi-strategy community-wide approach	Building, strengthening and maintaining social networks to provide support for behaviour change in physical activity. Aim: Increased levels of physical activity. Provider: Broad involvement Setting: community, work setting. Activity: Setting up buddy system, walking groups, contracts with others to complete specified levels of physical activity. Example: Walking groups, sports teams. Corporate Cup	Universal or target specific groups. Has been effective among different ages, and among sedentary and already active people.	No evidence found in Australian settings, but reported effective in US. A review of 9 studies in US reported median estimates of 44% increase in time spent physically active and 20% increase in frequency of physical activity. (**Guide to Community Preventive Services**.)	Social support strategies are especially effective for women and minority community groups (Garrard 2004, p.43). It is more effective when community groups develop their own ongoing local initiatives.
Active transport opportunities	Aim: Encourage walking and cycling. Provider: Involves other sectors. Setting: Roads, cycle paths, public transport systems, bicycle parking, change facilities. Activity: Initiate, respond to and work in partnership with other sectors, including transport, local government etc. Example: Launch and local promotion of 16.5 km cycle path through 4 suburbs in Western Sydney.	Universal though can target specific groups.	Very limited evidence of changes in transport opportunities leading to increased walking or cycling **(Bull 2004, p.35)** though there is evidence of the health benefits of active commuting (NPHP 2004 p.12). Lack of evidence may be partly due to small number of evaluated interventions, and this is an approach recommended by NPHP (NPHP 2004, p.11.).	Although there is no reported evidence of increased transport opportunities increasing physical activity NPHP 2004 reports considerable action to support active transport initiatives to encourage people to regularly walk or cycle (p.13). **Garrard (2004 p. 48-49)** lists factors identified by NPHP to support use of active transport, addressing social factors, urban planning, transport related issues and adopting an intersectoral approach.
Workplace interventions	Workplace based interventions, opportunities, and/or facilities that encourage people to be active. Aim overall increased health. Provider: Employer Setting: workplace Activity: One or more of following: health checks; education programs; motivational prompts to encourage increased activity; workplace exercise programs, incentive based programs etc (Bull 2004 p.149). Example: Climb to the Top. Heart Foundation WA. Workplace program to encourage employees to use stairs instead of lift. (Bauman 2002 p.75).		Despite the interest in workplace interventions, there is no clear evidence that workplace interventions aimed at increasing levels of physical activity or fitness are effective (Bauman 2002 p.74, **Bull 2004 pp 149-150**). The workplace appears to offer much potential, but ad hoc implementation of a range of activities, often not evidence based, limits ability to review workplace interventions, as well as limiting potential for outcomes.	Workplace interventions offer potential due to captive audience, access to existing resources, eg communication systems and facilities, and potential to benefit from economies of scale and to target specific groups. Employers see potential to reduce absenteeism, accidents, etc and to improve morale, teamwork etc. But evidence shows low levels of participation, and tendency for programs to attract already active employees. Most programs have focussed on individual behaviour change but new approaches are broader, aiming to change workplace and organisational culture, and provide a supportive environment for physical activity. (Bull 2004 p.34). Multi strategy approaches are seen to offer promise and NPHP recommends initial focus on the health sector (**NPHP 2004 p.22**).

Table P1.3

Settings and supportive environments

Intervention Name	Description	Target Group	Evidence	Additional Comments
Improved access to and proximity of places for physical activity	Create or improve access to places where people can exercise. May be part of a multi component program. Aim: more opportunities to engage in physical activity in or near places where people live, work, study, play, combined with promotion and support to use them. Provider: Organisations mostly outside direct control of health sector. Setting: Road systems, footpaths, buildings, sports, gyms and recreation facilities, playgrounds, parks, other open spaces. Activity: Developing coordinated approach and initiating, responding to, and working in partnership with other sectors eg local government, sport, recreation, transport. Outcome: *Increased activity* Examples: South Australia's City of Salisbury Health Policy and Strategy (1999); Illawarra Physical Activity program (1995-8) in Wollongong (NSW).	Universal. Innovative approaches can aim to support inactive people to be active and can focus on particular groups including Indigenous Australians and groups with special needs.	Australian studies show associations between environmental variables and physical activity (NPHP 2004 p.11, Bauman 2002 p.90, **Bull 2004 p.199**) but there is not enough evidence to claim causality (NPHP 2004, p.11, Bull 2004 p.92). People may choose environments to suit their current behaviour (active or inactive) rather than the environment shaping their behaviour. Nevertheless, this approach is recommended by NPHP (NPHP 2004,p.11.) Intersectoral collaboration between agencies and the community is essential for this type of work (Bauman **2002 p.91**). In US a review of 10 multi component studies focused around improving access showed median estimates of 25% increase in percent of people exercising at least 3 times/week. (The Guide to Community Preventive Services).	Research recommends approaches that enhance access to places for activity, combined with information outreach activities (NPHP 2004 p.12, **Bull 2004 p.93**). Studies evaluated in the US were multi component programs, where access to opportunities for physical activity were supported by eg health behaviour education, training to use equipment, health and fitness programs, buddy systems.

Table P1.4

(P2) PHYSICAL ACTIVITY:

EARLY YEARS

Evidence relating to the impact of physical activity on childhood health is limited. This is partly due to the difficulty of measuring physical activity for young children. The usual approach of self-reporting is unreliable in children aged under 11 years. Given the challenge of measuring physical activity, some studies measure fitness instead.

Some links between physical activity in children and reduced risks of ill health have been demonstrated: studies have shown that physical activity can reduce risk factors for heart disease in children, and a link has been demonstrated between fitness and blood pressure in children (Bauman 2002 p.107).

There are no formal evidence based recommendations for levels of physical activity for children in Australia and there is very limited evidence nationally or internationally about interventions that successfully promote and maintain increased activity among young children.

In spite of the lack of firm evidence, the fact that schools have ready access to pupils and parents makes them an obvious setting for promoting physical activity, applying recommendations based on the best information available (mostly international studies that focus on physical activity as only one among other health-related behaviours or outcomes). Findings suggest that the most successful interventions are comprehensive, including contact with families as well as the school. In keeping with the health promoting school model, whole-of-school approaches were more effective than single strand interventions (NPHP 2004 p.19). This fails to address the needs of those who do not like or do not attend school.

The document Be Active Australia (NPP 2004) also recommends that child care, pre schools and out of school hours care services have a role in encouraging activity for children, by providing physical environments, staff training and policies that maximise opportunities for activity for children. Due to the challenges of measuring activity in young children there is no evidence to support this recommendation.

Health education and skill development

Intervention Name	Description	Target Group	Evidence	Additional Comments
Fundamental movement skills training	Developing children's fundamental skills in running, vertical jump, catching, striking, overarm throw. Aim: Mastery in movement skills Provider: Primary school Setting: Primary school Activity: Movement skills training for students. Outcome: Increased likelihood of ongoing engagement in physical activity.	All primary school children	A strong association has been found between fitness and mastery of fundamental movement skills though the direction of this association has not been demonstrated (Bauman 2002 p.61; 108).	Bauman 2002 p.65 notes that children who develop confidence in their movement skills and abilities are more likely to continue their participation into adolescence and develop positive expectations about their participation in games and sport.

Table P2.1

Settings and supportive environments

Intervention Name	Description	Target Group	Evidence	Additional Comments
Comprehensive school physical activity approaches	Whole of school approach to physical activity. Aim: Increase physical activity. Provider: Primary school Setting: Primary school Activity: Address environmental, policy and curricula aspects. Outcome: Increased activity. Example: 'Move It Groove It' whole of school approach in 18 rural primary schools in Australia. School project teams, teacher support, teacher buddy system, web site, school equipment (Bull 2004 p.136). (Physical activity levels were assessed only during PE time.)	Comprehensive school physical activity approaches	**NPHP 2004 p.19** As noted above, measuring total physical activity is difficult for young children, which makes evidence difficult to gather and limits research in this area.	Sustainable partnerships are needed between health and education sectors to develop policies programs and environments that support children to be active. This approach, alongside contact with families, is considered the most effective (NPHP 2004 p.19). Some school interventions include other supports, such as social marketing, and teacher training.
Using school environment to promote physical activity.	Using school environment to promote physical activity. Aim: Encouraging activity among young children now and for the future. Provider: Primary school. Setting: School Activity: Ensuring school environment enhances opportunities for activity. Outcome: Example: Shaded open spaces; play equipment available lunchtime and recess; safe cycling and pedestrian access to maximise active commuting to school.	All children	Bauman 2002 p.65 notes this as a recommendation for Australian schools, though **Bull et al 2004 p.137** refer to the limited information and inconsistent results relating to levels of physical activity and school environments and policies.	Bauman 2002 p.61-63 points to the advantages and limitations of schools as a setting for physical activity. Modification of the school environment and policies has been shown to impact on children's energy expenditure but it is not clear to what extent (Bull p. 2005 page 138). The Health Promoting School model is accepted as an approach that positively influences children's health related knowledge, attitude and behaviour (Bauman 2002 p.60) Combining in and out of school approaches to promote physical activity may be most effective (Bull 2004, p.92).
Extended physical education classes	Make school Physical Education classes - focused on activity -longer or more active. Aim: Increase amount of time children spend on physical activity and/or intensity of activity during class. Provider: Primary school. Setting: Primary school. Activity: Modify school curriculum. Outcome: Fitter children. Example: In US soccer was substituted for softball.	Primary school children	Guide to Community Preventive Services notes that of 14 studies reviewed, all show students with an increase in student fitness. (Age of students is not noted).	The Community Guide notes that there is insufficient evidence to recommend classroom based health education based on providing information, nor classroom based health education that focuses on reducing television viewing, though in Australia this approach is suggested to have some promise (NPHP 2004 p.19).

Table P2.2

(P3) PHYSICAL ACTIVITY:

ADOLESCENCE

There is little evidence on which to base recommendations for levels of physical activity for adolescents (Bauman 2002 p. 109) and as with young children, there is very limited evidence nationally or internationally about interventions that successfully promote and maintain increased activity among adolescents.

Most of the school-based recommendations do not distinguish between younger and older school students, though most of the studies reported are focused on upper years of primary schools. No evidence-based recommendations have been found directed specifically towards adolescents. There is generally accepted to be a need for more attention focused on middle school, girls, and activity in community settings for all youth.

(P4) PHYSICAL ACTIVITY:

GRANNY YEARS

There is good evidence that physical activity is effective in reducing or preventing many of the functional declines of ageing, including reductions in the severity of cardiovascular disease, obesity, chronic lung disease, diabetes, osteoporosis, osteoarthritis, and improving sleep and immune function. Exercise, particularly weight bearing, is linked with prevention of injurious falls (Bauman 2002 p.117).

There are different views about the age at which people are assigned to the 'older people' category. Some definitions start at those aged 50 and over, others at 60. In 2000 AIHW estimated that for those aged 60-75, 51% of men and 37% women were sufficiently active to gain health benefits (Bauman 2002 p.115). There are no Australian population data on levels of physical activity among those aged over 75.

Frail elderly people often live in environments where those caring for them consider exercise frightening, but appropriate activity is said to reduce the risk of falls, improve strength and contribute to quality of life. This emphasises the need for changes in environments, nurse training and attitudes, to promote increased opportunities for activity.

There have been few Australian studies of efforts to promote physical activity in older people. It has been suggested that increases in activity for older people are more sustainable after 12 months if programs focus on increasing accumulated activity through everyday activities (housework, gardening, stair climbing), rather than through structured programs (Garrard 2004, p. 43). There is international agreement that there is a dearth of trialled strategies aimed at promoting physical activity among the elderly.

Health education and skill development

Intervention Name	Description	Target Group	Evidence	Additional Comments
Strength 'resistance' training	Movement where an external load increases the need for muscle resistance; the external load is increased over time. Aim: Increased strength. Setting: Gym, or home. Activity: Use of cuff weights, weight belts, body weights, or resistance training machine. Example: fortnightly supervised home based exercises using ankle cuff weights, alternating with phone calls (Bull 2004 p.287).		Several studies have reported significant increases in strength, except for those with a functional limitation (Bull 2004 p.286). Functional limitations (balance, gait speed, mobility, timed chair rise and timed stair climb) were considered in most studies to have improved, though not significantly in all studies. There is no evidence from these studies that increased strength has impacted on falls.	Most studies were conducted in gyms or laboratories, rather than homes or community settings. Some study outcomes excluded dropouts, which limits value of results.
Individually adapted health behaviour change programs	Individually tailored physical activity advice. Aim: Increase in physical activity Provider: Nurse practitioner. Setting: Home Activity: Various Outcome: Increased activity and free living activity Example: Walking with group or individually, plus visits from nurse practitioner, supported by negotiated exercise schedule (USA project). (Bull 2004 p.124).		Multi element programs tailored to the needs and circumstances of participants and involving long-term intensive contact with trained practitioners were shown to increase physical activity for older people (at least, for motivated volunteers). (NPHP 2004 p.15).	Interventions with the best outcomes had higher levels of contact and multiple reinforcements of the physical activity message. Home-based programs with telephone support have been as effective as group-based interventions in the short term. But group programs based at community centres or health care settings and that include self monitoring are more sustainable in the longer term. (Garrard 2004 p.50).

Table P4.1

PHYSICAL ACTIVITY

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DEPRESSION

(D1) DEPRESSION:

FAMILY YEARS /GENERAL POPULATION

Depression accounts for the greatest burden of disease among all mental health problems, and is expected to be the second-highest of all general health problems by 2020.
The evidence of effective interventions to address depression across the lifecourse is currently underdeveloped. The World Health Organisation is soon to publish material on effective interventions of mental health promotion, of which, a chapter will be dedicated to effective interventions for preventing depression (Hosman C, Jane-Llopis E, in press). A summary of this report was used for the purposes of this review (WHO, 2004). Additionally, Oxford University Press is in the process of publishing 'Prevention of mental disorders: an overview on evidence based strategies and programs' (Hosman, Jane-Llopis & Saxena (eds)).

Factors associated with low income (poor housing, overcrowding, high rise living, dissatisfaction with housing) are also associated with poor physical and mental health (Clive et al, 2000).

Screening, individual risk assessment, immunisation

Intervention Name	Description	Target Group	Evidence/Reference	Additional Comments
Trauma Counselling	Brief psychological debriefing for the management of psychological distress after trauma Aim: prevent post traumatic stress disorder Provider: health care practitioner Setting: clinic Activity: Counselling :	Trauma victims		**Clive et al (2000) p4** Psychological debriefing (counselling) after disasters may increase long-term distress. There is no evidence that single session individual psychological debriefing is a useful treatment for the prevention of post traumatic stress disorder after traumatic incidents. Compulsory debriefing of victims of trauma should cease.
Perinatal depression screening	Aim: detect antenatal & postnatal depression so it can be treated early. Provider: clinician (eg. Antenatal &/or postnatal provider) Activity: screening Setting: primary care Example: an Australian Postnatal Depression Program (funded by Beyond Blue) is currently underway using the Edinburgh Postnatal Depression Scale (EPDS). EPDS is the most widely accepted screening scale used internationally.	Pregnant women and new mothers	**Buist et al 2002: S101** The US Preventive Services Task Force recommends routine perinatal screening on the basis that the potential benefits outweigh the risks (eg. False positives, availability of relevant tool).	Sound research specifically for perinatal depression is lacking however an extensive review of RCT's of screening for depression in adult populations concluded that screening reduces the risk of depression.
Screening for depression	Aim: improve management and clinical outcomes in people with depression Provider: GP Activity: screening Setting: primary care	General population (asymptomatic)		**Hickie et al 2002:113** Current evidence appears to favour the routine use of case-detection tools for depression in general practice settings. Some controversy exists in this area (routine screening has not been recommended in GP guidelines)

Table D1.1

Social Marketing And Health Information

Intervention Name	Description	Target Group	Evidence/ Reference	Additional Comments
Mental Health Literacy Programs	Aim: increase public awareness of mental health (depression) issues Provider: variety Setting: community Activity: Mass media Example: *Beyond Blue* National Depression Initiative. TV ads, posters and pamphlets on recognising symptoms of depression.	General population		**Parslow and Jorm (2002): S117** Community awareness and understanding of depression underpins successful implementation of prevention, early intervention and treatment programs. Improving mental health literacy is a recommended strategy under the National Action Plan for Depression (**CDHAC 2000**) Recommends using PRECDE model for developing programs. The model proposes that effective health promotion strategies should focus not on health actions per se, but on the knowledge and attitudes that encourage or impeded individuals from taking action. Health literacy programs have been conducted in other areas of health promotion and have shown to work. However, they've not been applied and tested specifically for depression literacy. This requires rigorous testing.

Table D1.2

SETTINGS AND SUPPORTIVE ENVIRONMENTS

Intervention Name	Description	Target Group	Evidence/ Reference	Additional Comments
Housing Improvements	Aim: housing interventions to improve standard of living Provider: policy makers and housing providers Setting: home Activity: Housing interventions included re-housing, refurbishment, and energy efficiency measures.	Those identifying housing issues as a cause of their anxiety and depression		**WHO (2004) p24; Adams et al 2000 p9** (based on study **by Thomson, Petticrew & Morrison, 2001 http://bmj.bmjjournals.com/cgi/reprint/323/7306/187**) Little reliable evidence on the effects of re-housing on general health. Some evidence to suggest that re-housing on the basis of medical needs can reduce mental illness in those who identified housing as a cause of their anxiety or depression. Applied to general mental wellbeing. Would indirectly relate to depression.
Income supplementation	Provider: Government	Those with serious mental illness living below poverty line		Clive et al (2000) p.1 **No experimental evidence of the effects.**

Table D1.3

(D2) DEPRESSION:

EARLY YEARS

Settings and supportive environments

Intervention Name	Description	Target Group	Evidence	Additional Comments
Parent information to improve nutrition & development	Parents receive feeding, growth monitoring and promotion information and advice. Aim: healthy cognitive development, improved educational outcomes and reduced risk for mental ill health. Provider: health professional Setting: usually health care centre Activity: nutritional interventions (eg. food supplementation) with counselling and psychosocial care (eg. warmth, attentive listening). Use of growth charts also seen to be cost effective. Example: GAA??	At risk families or those living in impoverished communities	**WHO (2004) P24**	Most effective models are those that combine feeding, growth monitoring and promotion activities.
Parent Education	Parents receive information and are educated on positive parenting techniques Aim: enhance parenting skills Provider: trained facilitator Setting: Activity:	Parents of young children/ preschoolers	**Ch 4: Prevention & Management of depression (p63)**	

	Example: Triple P (Positive Parenting Program) **Ch 4: Prevention & Management of depression (p63)**			
Home-based interventions	Aim: promote bonding and positive child development Provider: public health nursing Setting: home Activity: home visits Example: Prenatal and Infancy Home Visiting Program (Olds)	Prenatal and postnatal women	Clive et al (2000) p4 Multiple community agency home visiting programs for prenatal or postnatal women and babies decreases re-hospitalisation and promotes factors associated with bonding and positive child development. **WHO (2004) p27** Home visiting addressing maternal smoking, poor social support, parental skills and early child-parent interactions have shown health, social and economic outcomes.	Evidence suggests that these interventions can be cost effective especially when long-term outcomes are taking into account
Non-parental day care	Aim: (impacts on a range of outcomes) Provider: day care providers Setting: non-parental, out-of-home Activity: out-of-home day-care for preschool children Example:	Disadvantaged populations in the USA	Clive et al (2000) p15 Day-care increases children's IQ, and has beneficial effects on behavioural development and school achievement. Long-term follow up demonstrates increased employment, lower teenage pregnancy rates, higher socio-economic status and decreased criminal behaviour. Based on Cochrane Review: Zoritch B, Roberts I, Oakley A. Day care for pre-school children. *The Cochrane Database of Systematic Reviews* 2000, Issue 3.	Regular parent-teacher contact was a major component of research on the effects of pre-school day care.

Table D2.1

(D3) DEPRESSION:

ADOLESCENCE

Depression has its peak incidence in mid-to-late adolescence, especially for girls (Burns et al 2002)
Causes of depression are complex. Depressing adverse life events can include exposure to family or community violence, chronic poverty, child physical or sexual abuse, bereavements or parental divorce or separation.
Parental depression is a risk factor for adolescent depression
There is currently no evidence that a nurturing school environment prevents depression, however, the aim of many prevention programs is to reduce known and modifiable risk factors or enhance protective factors. Children with high intelligence, good problem solving skills and social skills, high self esteem, a sense of control and positive expectations for the future are less likely than others to become depressed (Burns et al, 2002:S94). In addition, the presence of social support plays an especially important protective role. Such support includes good peer relations, support from teachers and a warm and stable relationship with at least one parent.

Social marketing and health information

Intervention Name	Description	Target Group	Evidence	Additional Comments
Media reporting of suicide	Influence of print and electronic media on suicidal behaviour and attitudes Example: newspaper article or news stories of suicide	Vulnerable groups: university students		**Clive et al 2000 p.2** Research before and after reports of suicide in the media suggest that self-harm may be increased though evidence is not conclusive.

Table D3.1

Health education and skill development

Intervention Name	Description	Target Group	Evidence	Additional Comments
Classroom based psycho education	Aim: prevent depressive disorders Provider: teachers or psychologists Setting: classroom	Adolescent school children		(**Andres & Wilkinson 2002) p97** Appears to have no benefit Psycho education (either brief or extensive) with or without problem solving skills delivered by teachers, psychologists or clinician assisted found no benefit in prevention of depression.
Cognitive Therapy Programs	Aim: reduce depressive symptoms Provider: clinical psychologists Setting: either clinic or targeted at school Activity: Example:	Children of depressed parents & at-risk high school adolescents		**Andres & Wilkinson 2002: S97** Cognitive therapy programs appear to work in clinical trials but their effect in normal conditions is not yet known. Trials show that these interventions are efficacious (work in clinical settings) but whether they will be effective in routine practice is not known (i.e. their repeatability under normal conditions.) There are too few clinical psychologists who are trained to deliver cognitive therapy and able to conduct either universal or targeted prevention programs in schools. More research into community trials is needed Computer based cognitive behavioural therapy programs are one potential way of addressing the staff availability issue. **Christensen & Griffiths 2002:S123**

Table D3.2

Settings and supportive environments

Intervention Name	Description	Target Group	Evidence	Additional Comments
'whole-school' system programs	Designed to promote emotional and social wellbeing or Aim: appropriately address modifiable risk/protective factors for depression Setting: school Example: Mind Matters	School aged children		**Clive at al 2000 p.9** WHO 2004 p.40, Burns et al 2002 Programs targeting cognitive problem solving and social skills found reductions in depressive symptoms. Whole school system approaches are a recommended strategy under the National Action Plan for Depression (p.16)

Table D3.3

(D4) DEPRESSION:

GRANNY YEARS

There is little reliable evidence on the effectiveness of prevention interventions for the elderly population. WHO (2004) report almost no controlled studies in the area.

SCREENING, INDIVIDUAL RISK FACTOR ASSESSMENT, IMMUNISATION

Intervention Name	Description	Target Group	Evidence	Additional Comments
Community based exercise programs	Aim: alleviate depressive symptoms Provider: Setting: community Activity: walking or resistance training	Older people with mild to moderate depression		Bird & Parslow (2002):S109 There is excellent evidence in clinical settings that, for older people suffering mild to moderate depression, regular physical exercise produces alleviation of symptoms equal to the effects of antidepressant medication. However there is no evidence in community settings.

Table D4.1

Social marketing and health information

Intervention Name	Description	Target Group	Evidence	Additional Comments
Mental health literacy programs	Aim: improve understanding of depression, recognition of symptoms and where to seek help. Provider: GP with matching media campaign Setting: community	Older people (with or without chronic conditions)		Bird & Parslow (2002):S109 Underdeveloped area - No RCT's have been conducted Improving mental health literacy is a recommended strategy under the National Action Plan for Depression (CDHAC 2000) Increased literacy may help people recognise, manage and prevent depression. In addition, improved literacy may help reduce stigma and discrimination associated with depression.

Table D4.2

DEPRESSION:

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