Summary

What we know

- Tobacco use is a major preventable contributor to the gap in life expectancy between Aboriginal and Torres Strait Islander people and other Australians.

What works

- Health professionals providing brief advice on how to quit, when delivered with pharmacotherapy such as nicotine replacement.
- Training health professionals to deliver cessation advice.
- Quit groups.
- Well-delivered multicomponent anti-tobacco programs.

What we don’t know

- There is good evidence that the following interventions work for the general Australian community, but there is a lack of research showing their effectiveness for Aboriginal and Torres Strait Islander people or communities:
  - brief interventions such as advice from health-care professionals
  - varenicline (a nicotine receptor partial agonist)
  - bupropion (an antidepressant)
  - interventions for pregnant women
  - specialist tobacco workers
— quitlines
— hospital cessation programs
— media campaigns
— price increases and taxation.

• Some interventions evaluated in other populations have not demonstrated an effect in reducing the harm resulting from tobacco, for example, school-based anti-tobacco programs and sports sponsorship programs.
• Broader initiatives such as raising standards of living, and improving educational and employment opportunities, are also critical to reducing the harm resulting from tobacco use.

Introduction

This resource sheet discusses the harms resulting from tobacco use in Aboriginal and Torres Strait Islander communities, and evidence-based approaches to reducing this harm. To be effective, strategies to reduce tobacco use need to acknowledge the historical context for its use, as well as the many socioeconomic influences. Tobacco interventions that have been developed by and/or for Aboriginal and Torres Strait Islander communities, and interventions that may be suitable for translation for use in such communities are considered. To ensure that program delivery meets the highest standard it should involve the community in design, delivery and evaluation.

Tobacco use by Aboriginal and Torres Strait Islander people in Australia

Tobacco use is a major preventable contributor to the gap in life expectancy between Aboriginal and Torres Strait Islander people and other Australians. Much of this difference is due to high rates of cardiovascular disease, respiratory disease and other diseases related to tobacco.

Life expectancy

For 2005–2007, life expectancy at birth for Aboriginal and Torres Strait Islander males was estimated to be 67.2 years, compared with 78.7 years for other Australian males. For females, it was estimated to be 72.9 years, compared with 82.6 years for other Australian females (ABS 2009b). Vos and colleagues (2009) applied the burden of disease approach to a number of data sets to analyse the gap in life expectancy between Aboriginal and Torres Strait Islander people and other Australians. Tobacco contributed 17% of the gap, followed by high body mass (16%), physical inactivity (12%), high blood cholesterol (7%) and alcohol (4%). Smoking is the main preventable risk factor responsible for the higher mortality rate for many cancers among Aboriginal and Torres Strait Islander people (Cunningham et al. 2008).

Prevalence of tobacco use

In the 2008 National Aboriginal and Torres Strait Islander Social Survey, 47% of Aboriginal and Torres Strait Islander people over the age of 15 were current daily smokers. Encouragingly, this is lower than in 2002, when 51% were current smokers (ABS 2006, 2009a). Twenty per cent were ex-smokers and 33% had never smoked.
Forty-six per cent of Aboriginal and Torres Strait Islander men reported smoking (compared with 22% of all Australian men), as did 43% of Aboriginal and Torres Strait Islander women (compared with 18% of all Australian women) (ABS 2006, 2009a). Smoking prevalence was higher in remote areas than in non-remote areas (49% and 43% respectively).

Smoking during pregnancy is major risk factor for low birthweight, premature birth, stillbirth, infant mortality and sudden infant death syndrome. Data from the National Perinatal Data Collection in 2001–2003 showed that 52% of Aboriginal and Torres Strait Islander pregnant women smoked, compared with 16% of other pregnant women (Laws et al. 2006).

Exposure to environmental tobacco smoke (passive smoke) increases the risk of infectious disease such as otitis media and respiratory infection, cardiovascular disease and cancer. In 2008, 68% of Aboriginal and Torres Strait Islander people aged 15 years and over were living in a household with a current smoker and 26% were living in a household where someone usually smoked inside (ABS 2009b).

In 2004–05, two-thirds (66%) of Aboriginal and Torres Strait Islander children aged 0–14 years lived in households with one or more regular smokers, and 28% lived in households in which at least one resident regularly smoked indoors (ABS 2006).

Aboriginal and Torres Strait Islander health workers smoke at similarly high rates as others in their communities; smoking in this group might be a barrier to the delivery of tobacco programs (Mark et al. 2005).

Why do a high proportion of Aboriginal and Torres Strait Islander people smoke?

**Culture:** In some communities, ‘bush’ tobacco or pituri may have been—and continues to be—used, as a part of traditional lifestyle (Brady 2002).

**Colonisation and dispossession:** Many Aboriginal people began smoking when they were paid in tobacco (Brady 2002) for example, on cattle stations and missions. Dispossession and institutionalisation, and the trauma of separation and loss that resulted (Brady 2002) is linked to a higher level of risk-taking behaviour, including tobacco use, among Aboriginal people. In an analysis of the 2002 National Aboriginal and Torres Strait Islander Social Survey, Thomas and colleagues (2008) found that Aboriginal or Torres Strait Islander people who had been removed from their families were twice as likely to be smokers. Those who had been incarcerated in the last 5 years were also much more likely to be smokers.

**Addiction:** As for other smokers, many Aboriginal and Torres Strait Islander people are addicted to nicotine. Some enjoy smoking or use it for prevention of weight gain (Lindorff 2002).

**Normalisation of smoking:** Sharing tobacco plays a large part in the social life of many Aboriginal and Torres Strait Islander people, and using it reinforces family relationships and friendships. People who don’t use tobacco may end up feeling isolated and alienated from the community. Therefore, programs that deal with the context of smoking—among family and community—may be more likely to succeed (Johnston & Thomas 2008).

**Socioeconomic inequity:** The National Aboriginal and Torres Strait Islander Health Survey 2004–05 showed a range of factors linked to smoking status (ABS 2006). It found that:

- those with higher incomes were less likely to smoke (40% versus 55%)
- those who had completed Year 12 were less likely to smoke than those who had not (34% versus 55%)
- those who were employed were less likely to smoke (45% versus 66%). Even when all other demographic details were taken into account, Aboriginal and Torres Strait Islander people were around twice as likely to be daily smokers.
Priorities other than quitting smoking: Communities may have other health problems that they consider need to be given priority over tobacco; for example, alcohol (which, unlike tobacco, has acute disruptive effects).

Less access to preventive and other medical services: Until 2000, almost no tobacco control programs had been developed or evaluated for Aboriginal and Torres Strait Islander people (Ivers 2003a). Even where health services are available, there may be other barriers to access, including language barriers, racism and lack of Aboriginal involvement in the delivery of health services.

Despite this, many Aboriginal or Torres Strait Islander smokers wish to quit. In 2008, 62% of current daily smokers had tried to quit or reduce their smoking in the previous 12 months (ABS 2009a). Reasons given include health effects, cost, and encouragement from family and friends.

The effectiveness of current responses

It is plausible that the prevalence of smoking in Aboriginal and Torres Strait Islander communities could fall, as long as communities have access to proven tobacco control strategies (Clough et al. 2009; Thomas 2009). The following sections discuss the evidence on the effectiveness of different types of interventions.

Broader initiatives such as raising standards of living, and improving educational and employment opportunities are also critical to reducing the harm resulting from tobacco use.

Tobacco interventions in health care

Advising smokers to quit: There is good evidence from other populations that brief advice from health professionals (doctors, nurses and others) can help smokers to quit (Lancaster & Stead 2005; Rice & Stead 2008; Stead et al. 2008a). Brief intervention can increase cessation by a further 1–3% beyond the unassisted quit rate of 2–3% (Stead et al. 2008a). Brief cessation advice has been used in combination with pharmacotherapies in Aboriginal communities (discussed in the following section), with an effect on cessation rates. Culturally appropriate, non-coercive methods of counselling are likely to be appropriate (Johnston & Thomas 2010). Such advice can be delivered quickly, cost effectively and relatively non-invasively.

Case study: Smokecheck

The Smokecheck program was established in NSW in 2005, and involves use of a culturally appropriate, evidence-based training package (including DVD, desktop tool and brochures) to train health professionals—including Aboriginal Health workers, nurses, doctors and other community workers—in the delivery of a brief intervention to assist smokers to quit. Since August 2007, over 800 people have been trained through the Smokecheck program. Evaluation of the program showed significantly increased confidence in their ability to deliver cessation advice, among those who had participated (Smokecheck 2009).

Training in brief intervention: Studies in other populations showed that training health professionals in giving advice to quit increases the level of advice given to smokers, but has little effect in reducing the number of smokers (Lancaster & Fowler 2000). A small qualitative review following a brief intervention pilot of Aboriginal smokers in north Queensland found that no smokers had ceased at 6-month follow-up (Harvey et al. 2002).

Nicotine replacement therapy: There is good evidence that nicotine replacement therapy (nicotine patches, gum, lozenges and inhalers) increases the quit rate by 50–70% in any setting (Stead et al. 2008b). In a pre- and post-study in a remote community in the Northern Territory, 40 Aboriginal smokers self-selected to receive free nicotine patches and a brief intervention for smoking cessation, and 71 chose the brief intervention only. Fifteen
per cent of the nicotine patches group, and 1% of the brief intervention only group, reported that they had quit at 6 months (Ivers et al. 2003a). An evaluation of a quit group run in Aboriginal Medical Services in regional New South Wales for 115 smokers, including 84 who used nicotine replacement therapy, showed a 6% cessation rate at 6 months (Mark et al. 2004). At an Aboriginal Medical Service in Victoria, six of 32 smokers (19%) who attended a quit course in which they received brief cessation advice and used nicotine replacement therapy or bupropion ceased smoking (Adams et al. 2006). As of December 2008, nicotine patches have been available on an authority script to Aboriginal and Torres Strait Islander people. From July 2010, under the Close the Gap scheme, nicotine patches and other pharmacotherapies are thus available to Aboriginal and Torres Strait Islander people, on authority, at no cost for health care cardholders, or at a low cost for others (NPS 2008).

**Bupropion:** There is good evidence in other populations that bupropion (an antidepressant) may assist smokers to quit (Hughes et al. 2007), with quit rates approximately the same as for nicotine replacement therapy. One study assessed the use of bupropion, together with nicotine replacement therapy and brief intervention, in 30 prison inmates, of whom 50% were Aboriginal or Torres Strait Islander. After 6 months, 26% were no longer smoking (Richmond et al. 2006). Bupropion plays a role in assisting some smokers to quit after consideration of its side effect profile.

**Varenicline:** In other populations, use of varenicline, a nicotine receptor partial agonist, resulted in a cessation rate 2–3 times higher than with placebo; a quit rate that was higher than with nicotine replacement therapy or bupropion (Cahill et al. 2008a). Varenicline has not been trialled specifically for Aboriginal or Torres Strait Islander people, but plays a role in cessation for some smokers, after consideration of its side effect profile.

**Tobacco interventions for pregnant women:** Interventions to assist pregnant women to quit in other populations have been successful in decreasing tobacco use and in increasing birthweight (Lumley et al. 2009), but have not been reported on for Aboriginal or Torres Strait Islander women.

**Interventions aimed at reducing exposure to environmental smoke in the home:** There are only a few programs that were aimed at reducing exposure to environmental smoke in the homes of Aboriginal and Torres Strait Islander people; no such interventions have been sufficiently evaluated.

**Hospital-based smoking cessation interventions:** There is evidence in other populations that interventions with inpatients result in cessation (Rigotti et al. 2007), but these have not been evaluated for Aboriginal and Torres Strait Islander inpatients.

Despite all of the above interventions, all of the smokers surveyed at the completion of a controlled trial of a multicomponent tobacco intervention in the Northern Territory, said they had quit ‘by themselves’ (Ivers 2003b), emphasising the importance of self-efficacy. This may also be a result of the ‘sleeper’ effect—the cumulative effect of multiple short exposures to different interventions, such as cessation advice or anti-tobacco advertising.

**Tobacco interventions in the community**

**Generalised community interventions:** It is unclear whether generalised community campaigns about tobacco (including media campaigns, smoking bans, education of health professionals) decrease the prevalence of tobacco use (Secker-Walker et al. 2002). An evaluation of a controlled trial of a multicomponent tobacco intervention was conducted in three communities in the Northern Territory in 1999–2001. The trial resulted in significant increases in readiness to quit and knowledge of the health effects of tobacco, but did not result in a significant increase in cessation. However, consumption declined in the community with the most tobacco control activity (Ivers et al. 2006a). A later evaluation of tobacco control activities in six communities in the Northern Territory also showed a drop in tobacco consumption in those with the most tobacco control activities (Thomas et al. 2010).

**Paid or unpaid media advertising:** Media campaigns result in a small reduction in the prevalence of smoking (Bala et al. 2008). In the evaluation of Aboriginal people’s response to the National Tobacco Campaign, there
were no differences between the findings for Aboriginal people and for the general population in terms of either awareness or recall of messages from these advertisements. Aboriginal people said that they would prefer a campaign designed specifically for them. They believed that tobacco programs need to be locally based and include local content, that they should involve Elders and significant community members in their design and delivery, and that they must have a broad community focus (National Tobacco Campaign 1999). In a study of 351 Aboriginal people in the Northern Territory, approximately 86% recalled anti-tobacco advertisements, but exposure to these had no significant effect on cessation rate in this small sample (Ivers et al. 2005a).

**Tobacco interventions for young people:** Reviews of school education programs have shown little effect on rates of uptake of smoking (Thomas & Perera 2006). However, mass media campaigns (Sowden 1998) and multicomponent community interventions can reduce uptake of tobacco use in young people (Sowden & Stead 2003), with only a small effect. There are several unevaluated school education programs that have been developed for Aboriginal children and adolescents. One analysis of smoking prevalence among Victorian school students, including Aboriginal students, concluded that a drop in prevalence coincided with a period of more intensive anti-tobacco campaigns (White et al. 2009).

**Workplace-based interventions:** There is evidence in other populations that workplace-based interventions can reduce exposure to environmental tobacco smoke and may reduce the prevalence of tobacco use (Cahill et al. 2008b). An evaluation of a workplace quit smoking program for Aboriginal people in Queensland showed that such a program was acceptable however, it did not involve measurement of the quit rate (Seibold 2000).

**Quit courses or support groups:** These groups are better than self-help and other less intensive interventions (Stead & Lancaster 2005b), but mainstream quit courses may be relatively inaccessible for Aboriginal people. As discussed above, one program in Victoria involved evaluation of a quit group, resulting in a cessation rate of 19% (Adams et al. 2006).

**Quitlines:** Quitlines can improve quit rates, when used as part of an anti-smoking campaign (Stead et al. 2006). Aboriginal and Torres Strait Islander people's use of mainstream quitlines has not been evaluated, but quitlines may be relatively inaccessible.

**Sponsorship of cultural, sporting and community events:** Sponsorship has been used in Aboriginal and Torres Strait Islander tobacco programs however, the effect on cessation rates has not been assessed. There is little clear evidence of effect in other populations.

**Health promotion materials:** There is evidence from other populations that the use of self-help materials can help smokers who are not exposed to other interventions quit, but the effect is small (Lancaster & Stead 2005b), and this has not been evaluated. Aboriginal and Torres Strait Islander people are likely to prefer materials that are targeted at themselves, that use visual media or are easy to read, colourful, and include pictures of local or well-known people (Ivers 2003a).

**Legislative interventions**

**Controls on tobacco advertising and packaging:** The effect of such restrictions has not been evaluated for Aboriginal and Torres Strait Islander people.

**Changes in taxation and tobacco pricing:** An Australian review concluded that increased taxation on tobacco reduced consumption for the general Australian population (Bardsley & Olekalns 1999). The effect of taxation and pricing changes has not been evaluated for Aboriginal and Torres Strait Islander people, but has the potential to decrease consumption. Increases in price of tobacco products may, however, result in hardship for smokers who do not reduce consumption (Ivers et al. 2003). In a study with Aboriginal people in the Northern Territory, there were conflicting findings regarding whether increasing tax on tobacco products was seen as acceptable in this setting (Johnston & Thomas 2010).
Legislation and policy on smoke-free public places and public transport: State and federal legislation apply to Aboriginal and Torres Strait Islander people as for other Australians. The effect of smoke-free areas legislation or policy for Aboriginal people is not known; however, 93% of Aboriginal people living in remote communities in the Northern Territory who were surveyed following a multicomponent tobacco intervention supported the concept of smoke-free public buildings (Ivers 2003b). Some communities may be able to introduce broader smoke-free areas policy, for example in outdoor areas around playgrounds.

Preventing sales to minors: Restricting sales to minors may reduce access to tobacco, but does not necessarily prevent uptake of tobacco use (Stead & Lancaster 2005). There are no published examples of the effect of enforcing restrictions on sales to Aboriginal minors. There is a need for continued support for, and enforcement of, all federal and state tobacco control legislation in Aboriginal communities.

Research and evaluation

There is a need for evaluation and analysis of cost-effectiveness for tobacco control initiatives for Aboriginal and Torres Strait Islander people. This includes ongoing monitoring of tobacco prevalence through routine data collection at state and federal level (for example, through the Census). However, it should also be acknowledged that it is very difficult to show the effect of behavioural interventions without very large trials.

Several trials are currently underway, or to be reported on, for example: a randomised control trial of a smoking cessation intervention for pregnant women (Panaretto et al. 2009); a randomised control trial of a multicomponent community-based intervention (personal communication, Clough 2010); two randomised control trials of employment of a specialist Aboriginal tobacco control officer (personal communication Appoo & McGuire 2009) and a randomised control trial of an intervention to reduce childhood exposure to environmental tobacco smoke (Johnston et al. 2010). Other gaps in research include the role of price increases and taxation on cessation.

Facilitators and barriers to success

Factors that will enhance program delivery include:
- development, delivery and evaluation of programs by communities
- sufficient, ongoing funding
- coordination between communities, non-government organisations and government agencies, to prevent duplication of effort.

Conclusion

Tobacco use is a major contributor to the gap in life expectancy between Aboriginal and Torres Strait Islander people and other Australians. There is a need for more program delivery in this area and a need for systemic support for tobacco control in communities and in non-government and government agencies. The Indigenous Tobacco Control Initiative, launched in March 2008 with a commitment of $14.5 million over 3 years, and the COAG Tackling Smoking measure launched in July 2009 with a commitment of $100.6 million over 4 years will add to current efforts to reduce the harm from tobacco use.

This resource sheet demonstrates to communities, and the organisations that provide services to these communities, options for proven tobacco control interventions to consider when planning new programs. Community health organisations play a major role in tobacco control, particularly in delivery of brief interventions and prescription of nicotine replacement therapy and other pharmacotherapies (Power et al. 2009), promotion of smoke-free environments in antenatal and early childhood programs and in coordinating quit groups. At a broader level, anti-tobacco media campaigns targeted at Aboriginal and Torres Strait Islander communities, and continued enforcement of anti-tobacco legislation, are key strategies for reducing the harm resulting from tobacco.
References


Acknowledgments
This review was prepared by Dr Rowena Ivers (general practitioner, Illawarra Aboriginal Medical Service and Clinical Associate Professor, Graduate School of Medicine, University of Wollongong). The original literature review was published by the Cooperative Research Centre for Aboriginal Health in 2001.

The contributions of Fred Carberry, Jenny Hunt, Jasmine Sarin and David Thomas are gratefully acknowledged, as well as the valuable feedback from members of the Closing the Gap Clearinghouse Board and Scientific Reference Group.

Terminology

Indigenous: ‘Aboriginal and Torres Strait Islander’ and ‘Indigenous’ are used interchangeably to refer to Australian Aboriginal and Torres Strait Islander peoples. The Closing the Gap Clearinghouse uses the term ‘Indigenous Australians’ to refer to Australia’s first people.

Nicotine receptor partial agonists: Nicotine receptor partial agonists, including varenicline and cytisine, help people to stop smoking. When people stop smoking they experience cravings to smoke and unpleasant mood changes. Nicotine receptor partial agonists aim to reduce withdrawal symptoms and smoking satisfaction (Cahill et al. 2008a).

Otitis media: Otitis media is a middle ear infection.

Funding
The Closing the Gap Clearinghouse is a Council of Australian Governments’ initiative jointly funded by all Australian governments. It is being delivered by the Australian Institute of Health and Welfare in collaboration with the Australian Institute of Family Studies.