
People's Alcohol Action Coalition¹

Submission² to the

Legislative Assembly of the Northern Territory
***Select Committee on Action to Prevent Foetal
Alcohol Spectrum Disorder***

9th June 2014

¹ See **Appendix 1** for more details on the People's Alcohol Action Coalition

² PAAC would like to acknowledge the assistance of Edward Tilton in writing this submission.

Executive Summary

No reliable figures are available on the prevalence of Foetal Alcohol Spectrum Disorder (FASD) in the Northern Territory. However, it is likely that the Northern Territory has a significant problem with FASD, particularly amongst the Aboriginal community.

Harmful alcohol consumption can have life-long negative effects on a child, irrespective of the presence of diagnosed FASD. Parental alcohol misuse is frequently associated with anti-social behaviour and neglect of children during their critical early years, with profound and permanent effects on brain chemistry and development.

Actions to address FASD in the Northern Territory must take account of:

- the high levels of drinking at harmful levels amongst women of child-bearing age and their partners in the Northern Territory;
- the likelihood that such women will drink at levels dangerous to their unborn child before becoming aware that they are pregnant;
- one of the risk factors for having a child with FASD is a male partner who drinks;
- the emerging evidence that pre-conception drinking by men may also lead to abnormal development of the unborn child;
- the relatively high proportion of women who may be expected to continue to drink at risky levels even after becoming aware of their pregnancy;
- the fact that there is no 'cure' for FASD, although a person with FASD can be assisted by programs to help them with their learning and behaviour; and
- the need to address alcohol-related developmental deficits in children *whatever their likely source*, whether incurred through FASD or through lack of parental care and nurture after birth.

A broad strategy to address FASD is therefore required. The key approaches, supported by substantial evidence, are:

- 1. Population-level supply reduction.** Reducing the consumption of alcohol amongst all women of child-bearing age and their partners is centrally important to reducing the risk of FASD. In particular this means:
 - a. taking action on price** through a combined minimum per unit (or floor) price on take-away liquor and a volumetric tax on all alcohol, to reduce the availability of cheap alcohol and raise funds to address alcohol-related harm
 - b. reducing trading hours**, including particularly for take-away alcohol sales and also for morning and late night on-premises trading
 - c. re-introducing a form of the successful Banned Drinker Register with photo ID scanning at the point of sale** in the Northern Territory.
- 2. Effective treatment** to support women and their partners who wish to abstain or reduce their alcohol consumption, focussed on sustained, quality treatments that we know work, adapted as necessary to be effective in the local cultural context.
- 3. Early childhood development programs** to break the inter-generational cycle of disadvantage and alcohol abuse and offset the developmental effects of alcohol consumption on children in the family, whether incurred before or after birth.

Recommendations

Recommendation 1. More information is needed about the prevalence of FASD and other alcohol-related cognitive impairment in the Northern Territory. Research should be supported which aims to identify patterns of prevalence and incidence of harm, whether caused in pregnancy through FAS/FASD, through poor parenting and neglect in early childhood, directly through the health effects of alcohol consumption, or otherwise indirectly through violence, accidents and injury.

Recommendation 2. That the Northern Territory Government, recognising that raising the price of alcohol is the most cost-effective way to reduce alcohol-related harm including FASD:

- a) allows for the implementation of a floor price on take-away alcohol in the NT through an amendment to the NT Liquor Act to allow the setting of a floor price by the Licensing Commission or other appropriate body, in the absence of voluntary Accords; and***
- b) advocates for the introduction of a national floor price for take-away alcohol to be set at the retail price of a standard drink of full-strength beer (currently around \$1.30). This should be combined with a volumetric tax on all alcohol products directed to a national fund for the reduction of alcohol-related harm.***

Recommendation 3. That the Northern Territory Government takes action to reduce the availability of alcohol as a key measure to reduce alcohol-related harm, including FASD. Minimum interventions would include:

- a) one take-away free day per week as a way to reduce total take away trading hours, alcohol consumption, expenditure on alcohol and alcohol-related harm; and***
- b) reduced and modified morning and late night trading.***

Recommendation 4. That the Northern Territory Government reintroduce the effective photo ID scanning at the point of sale coupled with a Banned Drinkers Register, with resources for evaluation to be included from commencement.

Recommendation 5. That the Northern Territory Government support the trialling of a home visiting program modelled on the evidence-based Parent-Child Assistance Program of the United States to reduce the risk of FASD amongst high-risk mothers. Such a trial should, however take account of:

- a) existing successful home visiting programs focussed on early childhood development (for example the Australian Nurse-Family Partnership Program in Central Australia); and*
- b) current workforce and organisational capacity factors in the implementation of such a program.*

Recommendation 6. That the Northern Territory Government legislate to allow for the trial of a process whereby referral to child protection could be made where there are concerns for an unborn child due to a dangerous level of alcohol consumption by the mother. Such referrals would allow for:

- a) intensive support by child protection authorities and other service providers for the woman, including her family, during pregnancy;*
- b) application of banning and or residential treatment orders and child protection income management coupled with a re-instated Banned Drinkers Register scheme (see Recommendation 4); and*
- c) early intervention by child protection services to protect the child immediately following birth.*

Legislation must not criminalise women who consume alcohol during pregnancy and must preserve their individual rights, such as the right to representation. Rigorous evaluation would need to be built into such a trial, which should be discontinued in the event that no clear benefits resulted.

Recommendation 7. There are a number of treatment and support options which have evidence of effectiveness in reducing alcohol consumption amongst individuals. They include:

- a) well-resourced interventions in the primary health care setting, delivered by trained staff, including brief interventions and community-based treatment that includes medical treatment, evidence-based psychological care, and social and cultural support;*
- b) readily available, culturally appropriate family planning for women and/or their partners who consume alcohol and where the woman does not wish to become pregnant;*

c) residential and community-based treatment programs which include social and cultural support for clients during and after treatment and adequate investment in infrastructure and training and transitional accommodation; and

d) provision of secure, alcohol-free supported accommodation for pregnant women.

Recommendation 8. The alcohol treatment system needs to be resourced to assess (in collaboration with the client, their carers and family as necessary) those with cognitive impairment to determine whether their needs are best met through alcohol treatment or disability services. Those specifically diagnosed with FASD or other equivalent cognitive or behavioural impairment should be recognised as having a disability and should be entitled to all the benefits and assistance that flow from such recognition.

Recommendation 9. Government should avoid investment in approaches for which there is no reasonable prospect of effectiveness or which discriminate against or further marginalise disadvantaged groups . These include:

a) criminal sanctions against women who drink while pregnant;

b) mandatory treatment linked to criminal sanctions;

c) non-targeted education and persuasion strategies, including most school-based education and media campaigns; and

d) programs or policies founded upon discrimination on the basis of race.

Recommendation 10. Provision of access to evidence-based early childhood development programs for children aged 0 to 4 in at risk families is a key strategy for the primary prevention of alcohol-related harm in the future and for breaking the intergenerational cycle of the harmful use of alcohol. Sustained investment in such programs should be a foundation for addressing alcohol-related harm.

Response to the Inquiry's Terms of reference

1. The prevalence in the Northern Territory of Foetal Alcohol Spectrum Disorder (FASD)

The term 'Foetal Alcohol Spectrum Disorder' (FASD) refers to a range of adverse affects caused by the exposure of an unborn child to alcohol through its mother's drinking during pregnancy. FASD describes a wide variety of disorders, including Foetal Alcohol Syndrome, alcohol-related birth defects and alcohol-related neuro-developmental disorders.

There is no diagnostic test for the presence of FASD. Because of the broad nature of the disorders, and because they are frequently not detected by health professionals (especially in regions marked by poor access to health services and high acute care demand) prevalence data about FASD in Australia, as well as in the Northern Territory, is very limited³.

Internationally, it is estimated that between 1 and 3 per 1,000 live births may have FASD with up to 9 per 1,000 live births in high risk populations⁴. The most recent estimates are that maternal alcohol use in Western Australia accounts for at least 3.8% of all cases of intellectual disability⁵. FASD is estimated to be between 3 and 7 times as common in the Aboriginal as it is in the non-Aboriginal population⁶ with the Western Australian study concluding that 15.6% of avoidable intellectual disability in Aboriginal children is attributable to maternal alcohol use – twelve times the rate as that for non-Aboriginal children⁷.

There is little data regarding prevalence in the Northern Territory, although one study of births in the Top End estimated the prevalence of FAS to be 0.68 per 1000 live births in the general population (Aboriginal children 1.87 per 1,000) and for up to 4.7 per 1,000 live Aboriginal births to be affected by FASD⁸.

In the absence of accurate prevalence data, however, there is evidence of the kind of drinking patterns in the Northern Territory that are associated with FASD. Consumption of alcohol, including amongst women, is much higher in the Northern Territory than in Australia as a whole.

³ Australian National Preventive Health Agency (ANPHA) (2012). Submission to the House of Representatives Standing Committee on Social Policy and Legal Affairs, Inquiry into Foetal Alcohol Spectrum Disorder (FASD).

⁴ National Indigenous Drug and Alcohol Committee (2012). Addressing fetal alcohol spectrum disorder in Australia. Canberra, Australian National Council on Drugs.

⁵ O'Leary C, Leonard H, et al. (2013). "Intellectual disability: population-based estimates of the proportion attributable to maternal alcohol use disorder during pregnancy." *Developmental Medicine & Child Neurology* **55**(3): 271-277.

⁶ Gray D, Siggers S, et al. (2008). Substance misuse. *Aboriginal Primary Health Care: An Evidence Based Approach* R. M. S. Couzos. Melbourne, Oxford University Press.

⁷ O'Leary C, Leonard H, et al. (2013). "Intellectual disability: population-based estimates of the proportion attributable to maternal alcohol use disorder during pregnancy." *Developmental Medicine & Child Neurology* **55**(3): 271-277.

⁸ Harris, K.R. and Bucens, I.K. (2003). Prevalence of fetal alcohol syndrome in the Top End of the Northern Territory. *Journal of Paediatrics and Child Health* **39**(7): 528-533

Of particular concern in relation to FASD, a quarter (24.8%) of non-Aboriginal women in the 35 to 44 years age group consume alcohol at risky or high risk levels, and two in five (39%) Aboriginal women report doing so⁹. In addition, one in eight (between 11.8% and 14.4% from 2003 to 2006) Aboriginal women who were pregnant reported consuming alcohol around the time of their first antenatal visit; this reduced to around one in twelve (8.0% to 8.7%) by 36 weeks into the pregnancy. There is a similar pattern but at a lower level for non-Aboriginal women with between 8.1% and 9.6% reporting drinking at their first antenatal visit, reducing to between 3.6% and 4.7% at 36 weeks¹⁰ (see **Figure 1**).

These figures are based on self-reported drinking, and so are almost certainly a significant under-estimate of the real level of drinking during pregnancy, and therefore of the risk of FASD.

However, FASD is not the only cause of alcohol-related cognitive impairment in the Northern Territory – others include the direct toxic effects of harmful alcohol consumption, as well as indirect effects such as alcohol-related violence, accidents, poor nutrition, excessive stress, emotional trauma, reduced and maladapted brain development and other effects on early childhood development. The real prevalence of alcohol-related intellectual or cognitive disability and its social effects in the community is therefore considerably higher than that caused by FASD alone.

	2003 ¹	2004 ²	2005 ³	2006 ⁴
% alcohol consumption at first antenatal visit				
Indigenous	11.9	11.8	13.0	14.4
non-Indigenous	9.1	9.6	8.1	8.1
NT total	10.1	10.3	9.7	10.4
% alcohol consumption at 36 weeks gestation				
Indigenous	8.0	8.0	8.7	8.4
Non-Indigenous	4.2	4.7	3.6	3.8
NT total	5.5	5.9	5.4	5.4

Figure 1: Proportion of pregnant women reporting alcohol consumption at first antenatal visit, Northern Territory (2003-2006)

Recommendation 1. *More information is needed about the prevalence of FASD and other alcohol-related cognitive impairment in the Northern Territory. Research should be supported which aims to identify patterns of prevalence and incidence of harm, whether caused in pregnancy through FAS/FASD, through poor parenting and neglect in early childhood, directly through the health effects of alcohol consumption, or otherwise indirectly through violence, accidents and injury.*

2. The nature of the injuries and effects of FASD on its sufferers

Drinking during pregnancy can lead to harm to the unborn child including low birth weight, heart defects, behavioural problems and intellectual disabilities. FASD is associated with health and social problems throughout life, including learning difficulties, impaired ability to perform work tasks, increased chance of developing mental illness, drug and alcohol issues and contact with the criminal justice system.

⁹ Northern Territory Government (2010). Alcohol use in the Northern Territory. [Health Gains Planning Information Sheet, Oct. 2010](#). Department of Health and Families.

¹⁰ Ibid.

There is no simple relationship between maternal alcohol consumption and FASD. Many factors affect whether, and to what degree, a child in utero will be adversely affected by its mother's drinking, including the timing of alcohol use relative to key stages of foetal development; the amount and frequency of alcohol consumption; and maternal age¹¹.

However, the developing child is most vulnerable to exposure to alcohol in the first three to six weeks after conception – often before many women are aware that they are pregnant¹². One study of non-Indigenous West Australian pregnant women, for example, showed that one in seven women (14%) of child-bearing age consumed alcohol at a potentially dangerous level during the three months prior to pregnancy, and that almost half of pregnancies were unplanned¹³.

The risk factors for having a child with FASD include a woman having a male partner who drinks¹⁴. There is also emerging evidence from the field of epigenetics that fathers' alcohol consumption can affect the development of the unborn child¹⁵. This too adds to the likely exposure of the effects of alcohol consumption before either parent is aware of the pregnancy.

The exposure of unborn babies to dangerous levels of alcohol before mothers are aware they are pregnant is exacerbated by the relatively high proportion of women who continue to drink at risky levels into pregnancy – for Australia, it is estimated that over a third of women who report drinking at risky levels (including 'binge drinking') continue to do so into pregnancy with only a small likelihood that they will abstain from alcohol entirely during pregnancy¹⁶.

There is also significant developmental harm done to children in the first few years after their birth into families where alcohol misuse is frequent. Parental alcohol misuse is frequently associated with anti-social behaviour and neglect of children during their critical early years. This lack of parental care and nurture after birth can have similarly profound and permanent effects on brain chemistry and development, causing key deficits in development which many children carry into their school years and beyond¹⁷.

¹¹ O'Leary C, Leonard H, et al. (2013). "Intellectual disability: population-based estimates of the proportion attributable to maternal alcohol use disorder during pregnancy." Developmental Medicine & Child Neurology **55**(3): 271-277.

¹² National Health and Medical Research Council (2009). Australian guidelines to reduce health risks from drinking alcohol. Canberra, Commonwealth of Australia.

¹³ National Indigenous Drug and Alcohol Committee (2012). Addressing fetal alcohol spectrum disorder in Australia. Canberra, Australian National Council on Drugs.

¹⁴ Astley S J (2010). "Profile of the first 1,400 patients receiving diagnostic evaluations for fetal alcohol spectrum disorder at the Washington State Fetal Alcohol Syndrome Diagnostic & Prevention Network." Can J Clin Pharmacol **17**(1): 26, May P A, Tabachnick B G, et al. (2013). "Maternal factors predicting cognitive and behavioral characteristics of children with fetal alcohol spectrum disorders." J Dev Behav Pediatr **34**(5): 314-325.

¹⁵ Taylor and Francis. (2014). "Fathers drinking: Also responsible for fetal disorders?" ScienceDaily, 14 February 2014, from www.sciencedaily.com/releases/2014/02/140214075405.htm.

¹⁶ Anderson A E, Hure A J, et al. (2014). "Risky Drinking Patterns Are Being Continued into Pregnancy: A Prospective Cohort Study." PLoS ONE **9**(7)(7).

¹⁷ Mustard J F (2006). Early Child Development and Experience-based Brain Development: The Scientific Underpinnings of the Importance of Early Child Development in a Globalized World. The World Bank Symposium on Early Child Development.

3. Actions the Government can take to reduce FASD based on evidence

Actions to address FASD in the Northern Territory must take account of several facts (see above):

- the high levels of drinking at harmful levels amongst women of child-bearing age and their partners in the Northern Territory, particularly but not exclusively among Aboriginal people;
- the likelihood that such women will drink at levels dangerous to their unborn child before becoming aware that they are pregnant, potentially giving weeks or months of foetal exposure to alcohol before they can change their drinking behaviour;
- one of the risk factors for having a child with FASD is a male partner who drinks;
- the emerging evidence that pre-conception drinking by men may also lead to abnormal development of the unborn child;
- the relatively high proportion of women who may be expected to continue to drink at risky levels even after becoming aware of their pregnancy;
- the fact that there is no 'cure' for FASD, although a person with FASD can be assisted by programs to help them with their learning and behaviour; and
- the need to address alcohol-related developmental deficits in children whatever their likely source, that is whether incurred through FASD before birth or through lack of parental care and nurture after birth.

For these reasons, and in line with key studies¹⁸, reducing the prevalence of FASD in the Northern Territory should focus on broad-based public health measures to reduce alcohol consumption amongst the whole population, including especially women of child-bearing age. These broad-based measures need to be backed up with particular treatment programs to support women to reduce their drinking and/or abstain from alcohol altogether. In addition, early childhood development programs are needed to offset the developmental deficits caused by alcohol use within the family (whether incurred before or after birth) and to begin to break the inter-generational cycle of disadvantage.

Population-level supply reduction

Pricing of alcohol: a 'best buy' for reducing alcohol-related harm

There is incontrovertible evidence that increasing the price of alcohol, and particularly that of cheap alcohol, reduces consumption and alcohol-related harm; it is also a highly cost effective intervention¹⁹. The three main policy approaches to supply reduction based on price are:

¹⁸ See especially National Indigenous Drug and Alcohol Committee (2012). Addressing fetal alcohol spectrum disorder in Australia. Canberra, Australian National Council on Drugs. Anderson A E, Hure A J, et al. (2014). "Risky Drinking Patterns Are Being Continued into Pregnancy: A Prospective Cohort Study." *PLoS ONE* **9(7)**(7).

¹⁹ Godfrey C (1997). Can tax be used to minimise harm? A health economist's perspective. *Alcohol Minimising the Harm What works?* Plant M, Single E and Stockwell T. London, Free Association Books: 29-42.; Babor T, Caetano R, et al. (2010). *Alcohol: no ordinary commodity*. Oxford, Oxford University Press.

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- a volumetric tax (taxing all or some alcohol products according to their alcohol content);
- a floor price (imposing a lower limit on price per unit of alcohol, preventing the sale and discounting of cheap alcohol); or
- local level agreements (Accords) to remove cheap alcohol from sale.

The *volumetric tax approach* would have the advantage of generating income, a proportion of which could be set aside for treatment programs or other approaches to reduce alcohol-related harm.

The *floor price approach* is more selective, likely to reduce alcohol consumption and related harm most amongst disadvantaged populations and young people, and not significantly affecting the (take-away) price of relatively more expensive products that the majority of responsible drinkers purchase. There is particularly strong evidence for the effectiveness of a floor-price from Canada, where a 10% increase in the minimum price of alcohol reduced its consumption by over 16%²⁰.

There have been concerns expressed that minimum pricing for take-away alcohol would lead to windfall profits for the alcohol industry. It can however be argued that:

- such profits are unlikely to be great, as few consumers of cheap wine have remained loyal to the same products when their prices have risen in Alice Springs and other locales in the recent past;
- governments may act to increase taxation on any such profits and direct the increased revenue towards addressing alcohol-related harm; and
- the potential public good realised through decreased consumption is likely to outweigh the potential harm associated with increased profits for the alcohol industry²¹.

Note that volumetric and floor price approaches can be combined and such approaches may utilise the advantages of each, for example as recommended in the Henry Tax Review²².

It should also be noted that following a High Court ruling in 1997 related to the Northern Territory's 'Living with Alcohol' program. This was an attempt by the then NT Government to introduce a 'levy' on beverages with an alcohol content by volume of three percent or more, but was found by the High Court to be in fact a tax and

²⁰ Stockwell T, Auld C M, et al. (2012). "Does minimum pricing reduce alcohol consumption? The experience of a Canadian province." *Addiction* **107**(5): 912-920.

²¹ Stockwell T. (2014). "Minimum alcohol pricing: Canada's accidental public health strategy." *The Conversation*, from <http://theconversation.com/minimum-alcohol-pricing-canadas-accidental-public-health-strategy-25185>.

²² Henry K, Harmer J, et al. (2010). *Australia's future tax system: report to the Treasurer, part two – detailed analysis*. Canberra, Commonwealth of Australia, .

therefore invalid²³. It has been established that only the Commonwealth Government has the constitutional authority to impose such a tax.

Recommendation 2. *That the Northern Territory Government, recognising that raising the price of alcohol is the most cost-effective way to reduce alcohol-related harm including FASD:*

- a) *allows for the implementation of a floor price in the NT through an amendment to the NT Liquor Act to allow the setting of a floor price on take-away alcohol by the Licensing Commission or other appropriate body in the absence of voluntary Accords; and*
- b) *advocates for the introduction of a national floor price for take-away alcohol to be set at the retail price of a standard drink of full-strength beer (currently around \$1.30²⁴). This should be combined with a volumetric tax on all alcohol products directed to a national fund for the reduction of alcohol-related harm.*

Reducing availability of alcohol

After price, the most important determinant of alcohol consumption is its availability, including take-away trading hours²⁵. Such restrictions, in many different forms, have intermittently been applied in a number of places in the Northern Territory over the last twenty years, the most sustained and effective example being the ban on take-away sales on Thursdays in Tennant Creek which were trialled in 1995 and in effect from 1996 to 2006²⁶. Although the effectiveness of the restrictions diminished over time (particularly because new Centrelink provisions meant that from 1999 recipients could nominate a payment day and so would not automatically receive their payments on Thursdays), they were associated with a 20% reduction in the consumption of pure alcohol, and consequent decline in alcohol-related harm and alcohol-related offences²⁷.

²³ Chikritzhs T, Stockwell T, et al. (2005). "The impact of the Northern Territory's Living With Alcohol program, 1992-2002: revisiting the evaluation." *Addiction* **100**(11): 1625-1636.

²⁴ Whatever the actual price, the aim is to ensure that (less harmful) beer is the cheapest drink, as the evidence shows that problem drinkers gravitate to cheaper products to get the most value for their money.

²⁵ Edwards G (1994). *Alcohol Policy and the Public Good*. Oxford, Oxford University Press; Babor T, Caetano R, et al. (2010). *Alcohol: no ordinary commodity*. Oxford, Oxford University Press; Chikritzhs T, Gray D, et al. (2007). *Restrictions on the sale and supply of alcohol: evidence and outcomes*. Perth, National Drug Research Institute, Curtin University of Technology.

²⁶ D'Abbs P (2010). *Managing alcohol in Tennant Creek, Northern Territory: an evaluation of the Tennant Creek Alcohol Management Plan and related measures to reduce alcohol-related problems. A report prepared for the NT Department of Justice*. Darwin, Menzies School of Health Research.

²⁷ Gray D and Sputore B (1998). *The effective and culturally appropriate evaluation of Aboriginal community alcohol intervention projects. Drug trials and tribulations: lessons for Australian policy: Proceedings of an International Symposium*. T. Stockwell. Perth, National Centre for Research into Drug Abuse, Curtin University of Technology.

Recommendation 3. That the Northern Territory Government takes action to reduce the availability of alcohol as a key measure to reduce alcohol-related harm, including FASD. Minimum interventions would include:

- a) *one take-away free day per week as a way to reduce total take away trading hours, alcohol consumption, expenditure on alcohol and alcohol-related harm; and*
- b) *reduced and modified morning and late night trading.*

Photo ID at point of sale linked to Banned Drinkers Register

In July 2011 the then Northern Territory Labor Government introduced a package of reforms to address alcohol-related harm: the *Enough is Enough* reforms. A key component of the *Alcohol Reform (Prevention of Alcohol-Related Crime and Substance Misuse) Act* was the introduction of banning notices and a Banned Drinkers Register (BDR). Banning and Treatment order (BAT) notices could be issued to those who were:

- taken into protective custody three times during a three-month period;
- issued with three alcohol-related infringement notices within a 12-month period;
- given two infringement notices for low range drink-driving within the previous three years;
- charged or summonsed in relation to an alcohol-related offence; or
- a defendant of a domestic violence order if the person was believed by police to be affected by alcohol at the time the conduct occurred.

The BAT notices prohibited the individual from the purchase of take-away alcohol²⁸ and the possession or consumption of alcohol, for a period of three months, or six or twelve months if breached. (A three-month notice could be reduced to one month if the person agreed to undergo voluntary alcohol treatment.)

An essential part of the BDR was the use of electronic identification scanners linked to the Register at all take-away outlets, with ID scanned for every customer, and banned drinkers barred from buying alcohol at the point of sale. People who were identified supplying alcohol to people who had been banned were also added to the BDR. Some public bars in Alice Springs also scanned IDs before entry and refused entry to those on the BDR.

The BDR was in operation from July 2011 to August 2012, when the incoming NT Chief Minister, Terry Mills repealed the legislation, arguing that the measure had failed as some problem drinkers were finding ways to purchase alcohol despite being listed on the register²⁹. The decision met with a substantial amount of criticism.

²⁸ And on-premises drinking in two specified Alice Springs bars at each of the Todd Tavern and Gapview Hotels under a voluntary trial on the part of the relevant licensees.

²⁹ Erikson S (2012). "Enough alcohol...is enough." *Alternative Law Journal* **37**(4).

To our knowledge, no formal evaluation of the BDR has yet been conducted. However, data recently obtained by PAAC on alcohol-caused admissions to the Alice Springs Hospital, and alcohol-related presentations to that hospital's Emergency Department has now been analysed by the National Drug Research Institute (NDRI).

This analysis concludes that *'taken together, these indicators strongly suggest that the BDR was effective in reducing alcohol-related harms to health in Alice Springs'*. In particular, the figures show that the *removal* of the BDR led to a significant *increase* in harm:

- alcohol-caused hospital admissions doubled from around 40 per month to about 80 per month which equates to nearly 500 additional alcohol-caused hospital admissions per year;
- alcohol-related presentations to the Emergency Department also doubled from about 140 per month to about 280 per month.

Some commentary³⁰ has concluded that the BDR failed because it did not stop the long-term increasing trend in alcohol-related emergency presentations upon its introduction. While we do not yet have access to the full data, PAAC suggests that it is possible that the apparent failure of the BDR to show a *reduction* in presentation in presentations to emergency departments may be because:

- in its first few months of operation, there were relatively few people on the Banned Drinkers Register as it took some time for the population of heavy drinkers most at risk of harm be placed on the Register; and
- following the Briscoe death in custody in January 2012, Alice Springs police began taking all people on protective custody apprehensions to the emergency department for medical assessment, greatly boosting the number of alcohol-related presentations (and noting that Alice Springs Hospital contributes the great bulk of such presentations in the Northern Territory).

Given this, it is clear that photo-licensing at the point of sale coupled with a BDR is an important and effective part of an overall, comprehensive approach to address the harm caused by alcohol misuse. It is a population-wide approach that effectively targets the heaviest drinkers and applied more widely it is likely to make a major contribution to reducing the harm caused by alcohol in both the Aboriginal and non-Aboriginal communities.

³⁰ See for example <http://www.abc.net.au/news/2014-03-19/did-the-northern-territorys-banned-drinker-register-work/5315286>

Recommendation 4. *That the Northern Territory Government reintroduces the effective photo ID scanning at the point of sale coupled with a Banned Drinkers Register, with resources for evaluation to be included from the start.*

Programs specifically aimed at preventing FASD

Home visiting programs

The risk of a child being born with FASD can be addressed in two ways – by helping women who want to or may become pregnant to avoid alcohol, and by helping those who are consuming alcohol to avoid becoming pregnant.

There is international evidence of programs that assist women from disadvantaged backgrounds with both these strategies, thereby reducing the risk of a child being born with FASD. An important example is the Parent-Child Assistance Program in Washington State which involves home visiting (minimum 2 visits per month) to women at risk of giving birth to a child FASD, both during pregnancy and after birth (up to a total of three years)³¹. Women on this program showed longer duration of abstinence from alcohol, along with greater completion of alcohol or drug treatment programs, more consistent use of contraception as well as other social and economic benefits³².

Conceptually the PCAP model is similar to the Australian Nurse-Family Partnership Program supported by Commonwealth Government and established in the Northern Territory (at Central Australian Aboriginal Congress) as part of a commitment to early childhood development (see section on early childhood development below). However, it differs by having a specific focus on reducing the risk of FASD by reducing alcohol and drug use, and recruiting women into the program either during pregnancy or (more significantly) upon the birth of an earlier child, ensuring a focus on reducing a women's alcohol consumption before she gets pregnant a second time. The NFP Program, focussing on child development, shows reduced risk of alcohol use for the child as it grows to maturity, but doesn't necessarily show evidence of maternal change in behavioural problems attributable to the use of alcohol or drugs³³.

³¹ Parent-Child Assistance Program (2012). A Model of Effective Community Intervention with High Risk Families, University of Washington. Available: http://depts.washington.edu/pcapuw/inhouse/PCAP_Manual.pdf

³² Grant T M, Ernst C C, et al. (2005). "Preventing Alcohol and Drug Exposed Births in Washington State: Intervention Findings from Three Parent-Child Assistance Program Sites." The American Journal of Drug and Alcohol Abuse: 471-490.

³³ Olds D L, Kitzman H, et al. (2004). "Effects of nurse home-visiting on maternal life course and child development: age 6 follow-up results of a randomized trial." Pediatrics **114**(6): 1550-1559.

Recommendation 5. That the Northern Territory Government support the trialling of a home visiting program modelled on the evidence-based Parent-Child Assistance Program of the United States to reduce the risk of FASD amongst high-risk mothers. Such a trial should, however take account of:

- a) **existing successful home visiting programs focussed on early childhood development (for example the Australian Nurse-Family Partnership Program in Central Australia); and**
- b) **current workforce and organisational capacity factors in the implementation of such a program.**

Concerns for unborn child

Unfortunately, there is a small proportion of women³⁴ who may refuse to collaborate in voluntary support programs that potentially reduce their alcohol usage during pregnancy, such as home visiting programs as represented by the PCAP model overseas or the Nurse Family Partnership (NFP) Program Home Visitation scheme already established in Central Australia for Aboriginal women. For these women, additional measures may be needed to maximise the protection of their unborn child, stopping short of criminalisation (see *Approaches with little evidence of success* below).

For example, in Victoria, legislation allows for anyone in the community (including service providers) to contact child protection authorities *before* the birth of a child should they have concerns for the potential wellbeing of a child *after* their birth. Such referrals provide an opportunity for child protection services (in partnership with other service providers and as appropriate the woman's family) to support access to antenatal and other care, provide information on self-care during pregnancy, and plan for the unborn child's safety, stability and development upon birth³⁵.

In many cases where women are drinking at dangerous levels, at least some of the risks of FASD may already have been incurred (i.e. in the early weeks of pregnancy). However, additional measures may prevent additional harm to the unborn child, provide an opportunity for intensive work to reduce such a woman's alcohol consumption during pregnancy, and also provide child protection services with an opportunity to act promptly following birth to protect the child using usual statutory processes.

As with all interventions in the area of alcohol use, care must be taken to minimise any discrimination against or further marginalisation of the women concerned. Individual human rights (such as the right to representation in any hearings) must be protected, and criminalisation of failures to comply avoided.

³⁴ Estimated in Central Australia at round 5% of pregnant women.

³⁵ Department of Human Services (2007). Unborn child referrals. Melbourne, State Government of Victoria. Available: <http://www.dhs.vic.gov.au/about-the-department/documents-and-resources/reports-publications/concerns-for-unborn-child>

Recommendation 6. *That the Northern Territory Government legislate to allow for the trial of a process whereby referral to child protection could be made where there are concerns for an unborn child such as through dangerous alcohol consumption by the mother. Such referrals would allow for:*

- a) *intensive support by child protection authorities and other service providers for the woman, including her family, during pregnancy;*
- b) *application of banning and or residential treatment orders and child protection income management coupled with a re-instated Banned Drinkers Register scheme (see Recommendation 4); and*
- c) *early intervention by child protection services to protect the child immediately following birth.*

Legislation must not criminalise women who consume alcohol in pregnancy and must preserve their individual human rights, such as their right to representation. Rigorous evaluation would need to be built into such a trial, which should be discontinued in the event that no clear benefits resulted.

Best practice treatments and supports for individuals

Many women drinkers may need access to treatment to assist them to reduce or quit drinking, particularly if they are, or are considering becoming pregnant. The role of male partners is also important – not only because of the emerging evidence about the association of their alcohol consumption with foetal abnormalities, but also because their support is likely to be crucial for women to abstain from alcohol during preconception, pregnancy and in the early years of their child's life³⁶.

The international literature demonstrates that treatment can be effective³⁷. However, it is important to note that 'effectiveness' should not just be measured by the number of clients who abstain completely from alcohol after treatment – reduced alcohol consumption and improved social functioning (including within families) are also important measures of success. It therefore forms an important part of preventing FASD by assisting women to reduce their alcohol consumption or abstain altogether.

Best practice treatments

- *Interventions from the primary health care setting are known to be effective³⁸. Well-structured interventions should provide medical care (including the use of pharmacotherapies), psychological care (including structured therapies such as Cognitive Behaviour Therapy) and social and cultural support (to help the client change the social context which is part of the reason that addiction occurs and is maintained). There is evidence that motivational interviewing techniques to reduce*

³⁶ National Indigenous Drug and Alcohol Committee (2012). Addressing fetal alcohol spectrum disorder in Australia. Canberra, Australian National Council on Drugs.

³⁷ Gray D and Wilkes E (2010). Reducing alcohol and other drug related harm. Resource sheet no. 3 produced for the Closing the Gap Clearinghouse. Canberra, AIHW (Australian Institute of Health and Welfare) / Australian Institute of Family Studies.

³⁸ Babor et al. 2010 Babor T, Caetano R, et al. (2010). Alcohol: no ordinary commodity. Oxford, Oxford University Press.

risky alcohol consumption and increase contraception use can reduce the risk of alcohol-exposed pregnancies³⁹.

- *Family planning.* Assisting women and/or their partners who drink and are not planning to become pregnant to avoid conception is an important avenue for preventing FASD⁴⁰. Readily available contraception supported by culturally appropriate sex education remains an important strategy.
- *Residential and community-based treatment programs* are amongst the most common alcohol interventions, especially for Aboriginal communities. Few have been evaluated so it is therefore not known what percentage of clients who undergo treatment achieve either abstinence or reduced alcohol consumption after treatment, although mainstream literature suggests that in the best programs this figure should be around 20%⁴¹. In all cases, social and cultural support for clients during and after treatment (such as assistance with accommodation, education, training and employment) is likely to increase effectiveness⁴².
- *Alcohol-free supported accommodation.* Many Northern Territory women from remote areas are required to birth in the major urban centres. Many of these women may have difficulty finding a place to live 'in town' during their pregnancy that is free of a drinking culture that could be dangerous to them and their unborn child. Notwithstanding that the risks for the development of FASD are concentrated in the early weeks of pregnancy, secure, alcohol-free accommodation options for women who are waiting to give birth may reduce further risk of harm to the unborn child.

³⁹ Anderson A E, Hure A J, et al. (2014). "Risky Drinking Patterns Are Being Continued into Pregnancy: A Prospective Cohort Study." PLoS ONE **9(7)**(7).

⁴⁰ Grant T M, Ernst C C, et al. (2005). "Preventing Alcohol and Drug Exposed Births in Washington State: Intervention Findings from Three Parent-Child Assistance Program Sites." The American Journal of Drug and Alcohol Abuse: 471-490.

⁴¹ Anton RF, Moak DH, et al. (1999). "Naltrexone and cognitive behavioural therapy for the treatment of outpatient alcoholics: results of a placebo controlled trial." American Journal of Psychiatry **156** 1758 - 1764.

⁴² Sarrazin M V and Hall J A (2004). "Impact of Iowa case management on provisions of social support for substance abuse clients." Care Management Journals **5**: 3-11.; McLellan A T, Hagan T A, et al. (1998). "Supplemental social services improve outcomes in public addiction treatment." Addiction **93**: 1489-1499.

Recommendation 7. *There are a number of treatment and support options which have evidence of effectiveness in reducing alcohol consumption amongst individuals. They include:*

- a) *well-resourced interventions in the primary health care setting, delivered by trained staff, including brief interventions and community-based treatment that includes medical treatment, evidence-based psychological care, and social and cultural support;***
- b) *readily available, culturally appropriate family planning for women and/or their partners who consume alcohol and where the woman does not wish to become pregnant;***
- c) *residential and community-based treatment programs which include social and cultural support for clients during and after treatment and adequate investment in infrastructure and training and transitional accommodation; and***
- d) *provision of secure, alcohol-free supported accommodation for pregnant women.***

Resourcing for assessment of cognitive impairment

Those whose harmful alcohol use has left them disabled or cognitively impaired require specialised disability support. The alcohol treatment system is not appropriate for people whose cognitive impairment is such that they are unlikely to benefit. An important part of the treatment stream is therefore the ability to assess potential clients for cognitive impairment, and to determine if they require alcohol treatment or disability services, and/or assistance to find accommodation in a place where there is less ready access to alcohol. Such assessments involving family and carers are complex, time-consuming and require trained and skilled staff, with consequent cost implications for the treatment system.

Recommendation 8. The alcohol treatment system needs to be resourced to assess (in collaboration with the client, their carers and family as necessary) those with cognitive impairment to determine whether their needs are best met through alcohol treatment or disability services. Those specifically diagnosed with FASD or other equivalent cognitive or behavioural impairment should be recognised as having a disability and should be entitled to all the benefits and assistance that flow from such recognition.

Approaches with little evidence of success

- *There is no evidence to support criminalising women who drink during pregnancy. While drinking during pregnancy poses a threat to the health of the unborn child, criminal sanctions may have negative consequences, for example through deterring women from seeking antenatal care or assistance with their drinking. Instead, the evidence suggests that approaches that concentrate on reducing alcohol consumption before pregnancy, and which are non-stigmatising and broad-based (focusing on wellbeing, nutrition, and enhancing the woman's living status) are most effective⁴³.*

⁴³ Anderson et al 2014 *ibid.*; Burd L, Cotsonas-Hassler T, et al. (2003). "Recognition and management of fetal alcohol syndrome." *Neurotoxicology and Teratology* **25**: 681–688.

- *Mandatory treatment linked to criminal sanctions has very little evidence of success.* It appears to work least well for young people, can add to the disadvantage experienced by marginalised groups, and may displace voluntary clients from limited treatment places⁴⁴. Note that this does not include short-term mandatory commitment for the purpose of assessment and care of people who may be at risk of harming themselves or others – such as non-criminalised short-term residential treatment orders for women under child protection orders during pregnancy (see above).
- *Education and persuasion strategies, including school-based education and media campaigns, have at best a minimal, short-term effect* and as a substantial review of the international literature notes, 'cannot be relied upon as an effective approach'⁴⁵. With particular reference to FASD, evaluation of public awareness campaigns and supporting resources elsewhere showed that health messages failed to reach high risk groups⁴⁶.
- *Approaches which discriminate on the basis of race.* The experience of racism is associated with increased alcohol consumption. Indigenous Australians commonly experience high levels of racism, from relatively minor incidents such as being called racist names, through verbal abuse, to serious assault⁴⁷. The literature demonstrates a strong association between racism and poor mental health and alcohol misuse⁴⁸. As well as addressing racism directly, this also points strongly to the need for interventions to tackle alcohol in Aboriginal communities to be non-racially discriminatory.

⁴⁴ Pritchard E, Mugavin J, et al. (2007). Compulsory treatment in Australia: a discussion paper on the compulsory treatment of individuals dependent on alcohol and/or other drugs. A report prepared for ANCD by Turning Point Alcohol and Drug Centre, Australian National Council on Drugs.

⁴⁵ Babor T, Caetano R, et al. (2010). Alcohol: no ordinary commodity. Oxford, Oxford University Press.

⁴⁶ Australian National Preventive Health Agency (ANPHA) (2012). Submission to the House of Representatives Standing Committee on Social Policy and Legal Affairs, Inquiry into Foetal Alcohol Spectrum Disorder (FASD).

⁴⁷ Ferdinand A, Paradies Y, et al. (2012). Mental Health Impacts of Racial Discrimination in Victorian Aboriginal Communities: The Localities Embracing and Accepting Diversity (LEAD) Experiences of Racism Survey. Melbourne, The Lowitja Institute.

⁴⁸ Zubrick S, Silburn S, et al. (2005). The Western Australian Aboriginal Child Health Survey: The social and emotional wellbeing of Aboriginal children and young people. Perth, Curtin University of Technology and Telethon Institute for Child Health Research.; also see Paradies Y (2006). "A Systematic Review of Empirical Research on Self-reported Racism and Health." International Journal of Epidemiology **35**(4): 888-901.

Recommendation 8. *Government should avoid investment in approaches for which there is no reasonable prospect of effectiveness or which discriminate against or further marginalise disadvantaged groups . These include:*

- a) *criminal sanctions against women who drink while pregnant;***
- b) *mandatory treatment linked to criminal sanctions;***
- c) *non-targeted education and persuasion strategies, including most school-based education and media campaigns; and***
- d) *programs or policies founded upon discrimination on the basis of race.***

Early childhood development

The experience of the child, including in the months before birth, is critical for building a platform for a healthy life and deficits at this time are powerfully linked to disadvantage and ill health later in life⁴⁹ including to an increased risk of unhealthy levels of alcohol consumption. Sustained investment in evidence-based early childhood programs can offset early childhood disadvantage, and are a 'best buy' in terms of addressing health and social inequity and breaking the cycle of harmful alcohol use in the long-term.

In addition to FASD, there are critical periods in early brain development where if a child is not provided with appropriate care and parenting, then significant brain potential is permanently lost. Children who are not exposed to rich conversational language, read to daily, encouraged much more often than they are discouraged, who do not get sufficient regular sleep, and who come to expect and demand immediate gratification, are unlikely to develop brain potential in areas such as language and cognitive and emotional development.

Parental alcohol use is frequently associated with antisocial behaviour and neglect of children during their early years, causing deficits in development which children carry into their school years and beyond. In particular, the link between poor development in the early years and the subsequent development of addictions and other life-long problems has been demonstrated by many studies, including a recent longitudinal study from Dunedin in New Zealand⁵⁰. It followed more than one thousand children from birth to age thirty-two and found that the lower the self-control or emotional development in early childhood, the greater the risk of developing substance dependence in **Figure 2**)

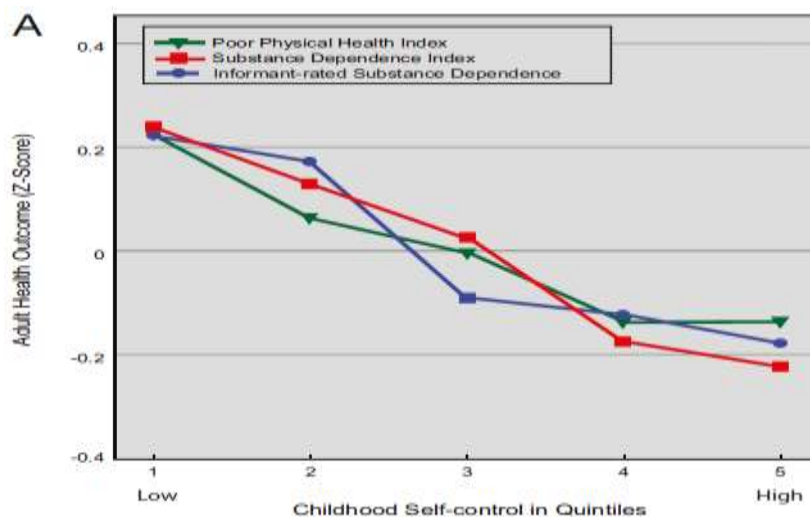


Figure 2: Relationship between childhood emotional development and adult health outcomes, including substance dependence

This suggests the existence of a dangerous 'feed-back loop' relating to harmful alcohol consumption amongst disadvantaged populations: harmful alcohol use by parents and carers is known to be associated with a lack of responsive care and stimulation in early

⁴⁹ Stanley F, Richardson S, et al. (2005). Children of the Lucky Country? How Australian society has turned its back on children and why children matter. Sydney, Macmillan.

⁵⁰ Moffitt T E, Arseneault L, et al. (2011). "A gradient of childhood self-control predicts health, wealth, and public safety." Proceedings of the National Academy of Sciences.

childhood; children brought up in these environments are more likely to lack self-control and self-regulation as they grow to adulthood themselves, and will therefore be more susceptible to addictions, including to alcohol; they will be, in turn, less likely to provide their own children with the care and nurture they need. This cycle is reinforced by emerging evidence that every generation born to parents with an alcohol addiction is more genetically predisposed to an addiction⁵¹.

Once this pattern of development and behaviour is established, youth interventions, while necessary, are far more costly and less effective. There is ample evidence that it is much more effective – and efficient in terms of resources – to invest in early childhood development programs which aim to offset developmental deficits already incurred and to prevent the development of this pattern of behaviours.

Examples of such preventative programs include the Nurse Family Partnership (NFP) Program Home Visitation and the Abecedarian model of Educational Day care. These programs work with children to access the stimulation, quality relationship and access to services to optimise healthy development. While NFP uses an outreach based model with emphasis on home visits and contact with mothers, the Abecedarian Educational day care has a focus on daily contact with the child at a centre where children experience enriched care. Such early childhood programs can:

- reduce the use of alcohol and other substances by young adults⁵² including reducing the number of young women who start drinking before the age of 17⁵³;
- more than double school retention rates⁵⁴; and
- dramatically reduce the youth incarceration rates⁵⁵;

Early childhood development programs are an essential contributor to raising children who are resilient and thus better equipped to avoid developing substance addictions and other problems in adolescence. Early childhood education and support are thus an essential part of the answer to reducing alcohol-related harm through addressing developmental deficits in children, *whatever their starting point*, that is, whether originating with exposure to alcohol before birth (FASD) or with family dysfunction related to alcohol consumption after birth.

⁵¹ Nieratschker V, Batra A, et al. (2013). "Genetics and epigenetics of alcohol dependence." Journal of Molecular Psychiatry **1**: 11.

⁵² Olds D L, Eckenrode J, et al. (1997). "Long-term effects of home visitation on maternal life course and child abuse and neglect. Fifteen-year follow-up of a randomized trial." JAMA **278**(8): 637-643.

⁵³ Campbell F, Conti G, et al. (2014). "Early Childhood Investments Substantially Boost Adult Health." Science (forthcoming) - See www.heckmanequation.org.

⁵⁴ Campbell, F. A., B. H. Wasik, et al. (2008). "Young adult outcomes of the Abecedarian and CARE early childhood educational interventions." Early Childhood Research Quarterly **23**(4): 452-466.

⁵⁵ Tremblay R E, Gervais J, et al. (2008). Early childhood learning prevents youth violence. Montreal, Quebec, Centre of Excellence for Early Childhood Development.

Recommendation 9. Provision of access to evidence-based early childhood development programs for children aged 0 to 4 in at risk families is a key strategy for the primary prevention of alcohol-related harm in the future and for breaking the intergenerational cycle of the harmful use of alcohol. Sustained investment in such programs should be a foundation for addressing alcohol-related harm.

Appendix 1: About the People's Alcohol Action Coalition

The People's Alcohol Action Coalition's (PAAC's) aim is to advocate for reduced alcohol-related harm, including through the following strategies:

- constructive reforms to the sale of alcohol;
- controls on public consumption;
- responsible service of alcohol; and
- promoting healthy lifestyles.

PAAC originated as the People's Alcohol Action Group (PAAG), a community-based response to growing awareness of excessive alcohol use and associated harm in the Central Australian region. PAAG began in November 1995 following a public rally called in Alice Springs by the late Aboriginal activist and Australian and Torres Strait Islander Commission (ATSIC) Central Zone Commissioner, Dr Charles Perkins.

Initially, PAAG received funding from the Northern Territory Government to employ a project officer to support the group. As PAAG decided to focus more of its effort on evidence-based alcohol supply reduction, however, the group became more at odds with the NTG and its funding ceased in 1998. Without a project officer providing secretariat support, the group became less organised and less active than it had been; although it still continued to meet regularly, the level of communication amongst its members declined during this period.

In September 2000 another public meeting was called to debate strategies for a campaign aiming to reduce alcohol-related harm. At this meeting it was decided to re-activate the group as the People's Alcohol Action Coalition or PAAC - an unincorporated association of organisations and individuals with a history of dealing with the deleterious effects of alcohol. PAAC was able to attract sufficient funding and donations to again be able to employ its own project officer from 2009.

Members include lawyers, social workers, medical practitioners, Aboriginal organisations, trade unions, churches, social service organisation and individuals. Collaborating organisations include Central Australian Aboriginal Congress, Central Land Council, the Aboriginal Medical Service Alliance Northern Territory, Northern Territory Council of Social Services, Central Australian Youth Link Up Service, Ngaanyatjarra, Pitjantjatjara Yankunytjatjara Women's Council, the Uniting Church, the Public Health Association of Australia NT and the Mental Health Association of Central Australia.

Bibliography

- Anderson A E, Hure A J, et al. (2014). "Risky Drinking Patterns Are Being Continued into Pregnancy: A Prospective Cohort Study." PLoS ONE **9(7)**(7).
- Anton RF, Moak DH, et al. (1999). "Naltrexone and cognitive behavioural therapy for the treatment of outpatient alcoholics: results of a placebo controlled trial." American Journal of Psychiatry **156** 1758 - 1764.
- Astley S J (2010). "Profile of the first 1,400 patients receiving diagnostic evaluations for fetal alcohol spectrum disorder at the Washington State Fetal Alcohol Syndrome Diagnostic & Prevention Network." Can J Clin Pharmacol **17**(1): 26.
- Australian National Preventive Health Agency (ANPHA) (2012). Submission to the House of Representatives Standing Committee on Social Policy and Legal Affairs, Inquiry into Foetal Alcohol Spectrum Disorder (FASD).
- Babor T, Caetano R, et al. (2010). Alcohol: no ordinary commodity. Oxford, Oxford University Press.
- Campbell F, Conti G, et al. (2014). "Early Childhood Investments Substantially Boost Adult Health." Science (forthcoming) - See www.heckmanequation.org.
- Campbell, F. A., B. H. Wasik, et al. (2008). "Young adult outcomes of the Abecedarian and CARE early childhood educational interventions." Early Childhood Research Quarterly **23**(4): 452-466.
- Chikritzhs T, Stockwell T, et al. (2005). "The impact of the Northern Territory's Living With Alcohol program, 1992-2002: revisiting the evaluation." Addiction **100**(11): 1625-1636.
- Chikritzhs T, Gray D, et al. (2007). Restrictions on the sale and supply of alcohol: evidence and outcomes. Perth, National Drug Research Institute, Curtin University of Technology.
- D'Abbs P (2010). Managing alcohol in Tennant Creek, Northern Territory: an evaluation of the Tennant Creek Alcohol Management Plan and related measures to reduce alcohol-related problems. A report prepared for the NT Department of Justice. Darwin, Menzies School of Health Research.
- Department of Human Services (2007). Unborn child referrals. Melbourne, State Government of Victoria.
- Edwards G (1994). Alcohol Policy and the Public Good. Oxford, Oxford University Press.
- Erikson S (2012). "Enough alcohol...is enough." Alternative Law Journal **37**(4).
- Ferdinand A, Paradies Y, et al. (2012). Mental Health Impacts of Racial Discrimination in Victorian Aboriginal Communities: The Localities Embracing and Accepting Diversity (LEAD) Experiences of Racism Survey. Melbourne, The Lowitja Institute.
- Godfrey C (1997). Can tax be used to minimise harm? A health economist's perspective. Alcohol Minimising the Harm What works? Plant M, Single E and Stockwell T. London, Free Association Books: 29-42.
- Grant T M, Ernst C C, et al. (2005). "Preventing Alcohol and Drug Exposed Births in Washington State: Intervention Findings from Three Parent-Child Assistance Program Sites." The American Journal of Drug and Alcohol Abuse: 471-490
- Gray D and Sputore B (1998). The effective and culturally appropriate evaluation of Aboriginal community alcohol intervention projects. Drug trials and tribulations: lessons for Australian policy: Proceedings of an International Symposium. T. Stockwell. Perth, National Centre for Research into Drug Abuse, Curtin University of Technology.

- Gray D and Wilkes E (2010). Reducing alcohol and other drug related harm. Resource sheet no. 3 produced for the Closing the Gap Clearinghouse. Canberra, AIHW (Australian Institute of Health and Welfare)/Australian Institute of Family Studies.
- Gray D, Saggars S, et al. (2000). "Beating the grog: an evaluation of the Tennant Creek liquor licensing restrictions." Aust N Z J Public Health **24**(1): 39-44.
- Gray D, Saggars S, et al. (2008). Substance misuse. Aboriginal Primary Health Care: An Evidence Based Approach R. M. S. Couzos. Melbourne, Oxford University Press.
- Harris K R and Bucens I K (2003). "Prevalence of fetal alcohol syndrome in the Top End of the Northern Territory." Journal of Paediatrics and Child Health **39**(7): 528-533.
- Henry K, Harmer J, et al. (2010). Australia's future tax system: report to the Treasurer, part two – detailed analysis. Canberra, Commonwealth of Australia, .
- Hogan E, Boffa J, et al. (2006). "What price do we pay to prevent alcohol-related harms in Aboriginal communities? The Alice Springs trial of liquor licensing restrictions." Drug and Alcohol Review **25**: 1 - 6.
- May P A, Tabachnick B G, et al. (2013). "Maternal factors predicting cognitive and behavioral characteristics of children with fetal alcohol spectrum disorders." J Dev Behav Pediatr **34**(5): 314-325.
- McLellan A T, Hagan T A, et al. (1998). "Supplemental social services improve outcomes in public addiction treatment." Addiction **93**: 1489-1499.
- Mustard J F (2006). Early Child Development and Experience-based Brain Development: The Scientific Underpinnings of the Importance of Early Child Development in a Globalized World. The World Bank Symposium on Early Child Development.
- National Health and Medical Research Council (2009). Australian guidelines to reduce health risks from drinking alcohol. Canberra, Commonwealth of Australia.
- National Indigenous Drug and Alcohol Committee (2012). Addressing fetal alcohol spectrum disorder in Australia. Canberra, Australian National Council on Drugs.
- Nieratschker V, Batra A, et al. (2013). "Genetics and epigenetics of alcohol dependence." Journal of Molecular Psychiatry **1**: 11.
- Northern Territory Government (2010). Alcohol use in the Northern Territory. Health Gains Planning Information Sheet, Oct. 2010. Department of Health and Families.
- O'Leary C, Leonard H, et al. (2013). "Intellectual disability: population-based estimates of the proportion attributable to maternal alcohol use disorder during pregnancy." Developmental Medicine & Child Neurology **55**(3): 271-277.
- Olds D L, Eckenrode J, et al. (1997). "Long-term effects of home visitation on maternal life course and child abuse and neglect. Fifteen-year follow-up of a randomized trial." JAMA **278**(8): 637-643.
- Olds D L, Kitzman H, et al. (2004). "Effects of nurse home-visiting on maternal life course and child development: age 6 follow-up results of a randomized trial." Pediatrics **114**(6): 1550-1559.
- Paradies Y (2006). "A Systematic Review of Empirical Research on Self-reported Racism and Health." International Journal of Epidemiology **35**(4): 888-901.
- Parent-Child Assistance Program (2012). A Model of Effective Community Intervention with High Risk Families, University of Washington.
- Pritchard E, Mugavin J, et al. (2007). Compulsory treatment in Australia: a discussion paper on the compulsory treatment of individuals dependent on alcohol and/or

other drugs. A report prepared for ANCD by Turning Point Alcohol and Drug Centre, Australian National Council on Drugs.

Sarrazin M V and Hall J A (2004). "Impact of Iowa case management on provisions of social support for substance abuse clients." Care Management Journals **5**: 3-11.

Stanley F, Richardson S, et al. (2005). Children of the Lucky Country? How Australian society has turned its back on children and why children matter. Sydney, Macmillan.

Stockwell T, Auld C M, et al. (2012). "Does minimum pricing reduce alcohol consumption? The experience of a Canadian province." Addiction **107**(5): 912-920.

Taylor and Francis. (2014). "Fathers drinking: Also responsible for fetal disorders?" ScienceDaily, 14 February 2014, from www.sciencedaily.com/releases/2014/02/140214075405.htm.

Tremblay R E, Gervais J, et al. (2008). Early childhood learning prevents youth violence. Montreal, Quebec, Centre of Excellence for Early Childhood Development.

Zubrick S, Silburn S, et al. (2005). The Western Australian Aboriginal Child Health Survey: The social and emotional wellbeing of Aboriginal children and young people. Perth, Curtin University of Technology and Telethon Institute for Child Health Research.