
Tobacco control research evidence to monitor and support a comprehensive approach to tobacco control in NT health services

*A report for the Tobacco Working Group of the NT Aboriginal Health Forum
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SUMMARY

It can be difficult to summarise trends in smoking prevalence and smoking/quitting behaviours as published reports and online tables do not always report the same outcome or for the same population group. Results are rarely compared or comparable to previous reports. Of the routinely collected data, much is not regularly collated, analysed or reported.

Most useful are the Australian Bureau of Statistics' surveys of Aboriginal and Torres Strait Islander households every 3 years, NT Aboriginal Health Key Performance Indicators (NT AHKPIs), and the NT Midwives Collection. Other datasets with potential include: Australian Secondary Students' Alcohol and Drug (ASSAD) surveys, Quitline, Pharmaceutical Benefits Scheme prescriptions, and NT tobacco wholesale/retail sales.

National Aboriginal and Torres Strait Islander smoking prevalence is falling in non-remote areas but not in remote areas (54% in 1994 and 59% in 2018/19). A similar pattern is apparent in the NT, with a possible increase in smoking prevalence among women in remote areas of Central Australia. There may be a small improvement in smoking in pregnancy among NT Aboriginal women (49% of NT Aboriginal women smoked in their first 20 weeks of pregnancy in 2017, compared with 51% in 2011).

Similarly, the national percentage of Aboriginal and Torres Strait Islander people who have ever smoked but have now successfully quit (and are now ex-smokers) has increased, but there has been less improvement in remote areas (21% in remote areas in 2018–19, compared to 18% in 2002).

However, the national proportion of Aboriginal and Torres Strait Islander daily smokers in remote areas who have attempted to quit in the past year (but are still smoking) is increasing (58% in 2014–15, compared to 43% in 2008).

Similarly, there are national improvements in smoking initiation, with fewer Aboriginal and Torres Strait Islander people in remote and non-remote areas taking up smoking.

There are also national reductions in smoking intensity in remote areas, with fewer smoking 20+ cigarettes per day, and more non-daily smokers.

More Aboriginal and Torres Strait Islander children (aged 0–14 years) are being protected by living in smoke-free homes. Fewer are living in homes where smokers smoke inside (17% of remote children in 2014–15, compared to 33% in 2004/5).

This report then summarises the increasing body of research evidence about what works to assist Aboriginal and Torres Strait Islander smokers to quit in remote areas, and in other settings.

1. Is anything working?

Monitoring progress in prevalence and trends of smoking and quitting behaviours

DATA SOURCES

ABS surveys: The ABS conducts national random multistage household surveys of the Aboriginal and Torres Strait Islander population every 3 years. These surveys represent the largest national surveys of a random sample of the Aboriginal and Torres Strait Islander population. These surveys enable us to monitor changes in smoking outcomes at the population level. Currently, they provide the most precise estimates of smoking prevalence and other smoking outcomes nationally.

Data on smoking were collected for participants aged ≥ 15 years across all surveys except the 2004–05 NATSIHS which only asked these questions of those aged 18+. These surveys include questions about smoking status, cigarettes per day (CPD), quit attempts and attempts to cut down (and reasons for these), age started and ceased smoking, chewing tobacco, smoking inside the home, and the most recent survey (NATSIHS) includes questions about e-cigarettes. The questions asked varies between surveys, and some questions have changed wording in different surveys, and the wording in remote and non-remote surveys is sometimes slightly different. These differences between data sets makes direct comparison of results over time difficult.

- 1994 National Aboriginal and Torres Strait Islander Survey (NATSIS); n=7,700 aged ≥ 18
- 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS); n=8,463 aged ≥ 18
- 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS); n=5,756 aged ≥ 18 .
- 2008 NATSISS; n=7,163 aged ≥ 18
- 2012–13 Australian Aboriginal and Torres Strait Islander Health Survey (AATSIHS); n=8,157 aged ≥ 18 years
- 2014–15 NATSISS; n=6,6604 aged ≥ 18 years
- 2018–19 NATSIHS; n=6,423 aged ≥ 18 years.

The size of the NT sample in the most recent 2018–19 survey was 1,870 people aged ≥ 18 years. All of the NT is classified as remote (remote or very remote) except for Darwin.

Data access: Data for remote areas and NT is not included for every smoking variable in every report. However, this data can be accessed and analysed by researchers remotely using DataLab for approved projects, and by anyone using other ABS products. Similarly, more local data for NT regions is not available in many reports but can also be accessed (noting the smaller sample sizes); on 23 June 2020 some local data was released for the NATSIHS 2018/19.

ABS Census: An attempt to add smoking questions to the 2021 Census was unsuccessful, in spite of reaching the last stage of assessment and performing well in

field testing. This would have provided data (every 5 years) for almost every Australian and NT resident, not just a sample. Another attempt will be considered for the 2026 Census.

AIHW: National Drug Strategy

Household Surveys: The National Drug Strategy Household Survey (NDSHS) includes questions about smoking behaviours as well as questions about attitudes to smoking in its triennial random multi-stage household survey of more than 20,000 participants, most recently in 2019. Most participants self-complete the survey which is dropped at the household and collected later. Some participants in 2016 (22%) and 2019 (25%) completed the survey online; from 2001–2007 8–18% completed the survey by telephone, but only 0.3% did so in 2016 and 2019. Approximately 50% of those contacted complete the survey.

Most importantly, the large NDSHS includes a much smaller and less representative sample of Aboriginal and Torres Strait Islander people (only 568 participants aged 12 and over in 2016 and 533 aged 14+ in 2019) than the ABS surveys, and is not designed to provide estimates for the Aboriginal and Torres Strait Islander population. In 2019, for the first time, remote Aboriginal and Torres Strait Islander communities were included in the sample, all 8 communities (114 participants) were from the NT.

The NDSHS is not currently useful for Aboriginal people in remote areas.

Australian Secondary Students' Alcohol and Drug (ASSAD) survey: The Australian Secondary School Students' Alcohol and

Drug Survey (ASSAD) is currently the only national data source on tobacco use among Aboriginal and Torres Strait Islander adolescents aged 12–14, and the largest sample of adolescents aged 12–17.

ASSAD is a national, triennial (1984–2017) survey of self-reported tobacco, alcohol and other drug use among Australian secondary school students. ASSAD surveys use stratified two-stage probability sampling to randomly select secondary schools in states and territories (excluding schools smaller than 100 students), stratified by education sector (government, independent, and Catholic), and then select students within schools. Separate school samples are drawn for years 7–10 and 11–12. Researchers work with participating schools to select approximately 80 students across year levels. School response rates have declined from 63% in 2005 to 17% in 2017. Principals give permission for the survey to be conducted in schools. Researchers administer the survey on school premises and students complete questionnaires anonymously.

Aboriginal and Torres Strait Islander students aged 12–17 accounted for 4% (n=887) of the 2005 ASSAD sample, 5% (n=1284) in 2008, 5% (n=1242) in 2011, and 6% (n=1225) in 2017. However, there are fewer Aboriginal and Torres Strait Islander students from remote areas, due to the exclusion of smaller schools. There were also fewer students from the NT in the latest 2017 survey due to recruitment challenges.

Data access: NT DOH has access to NT data, otherwise Cancer Council Victoria is data custodian.

NT AHKPIs: The NT Aboriginal Health KPIs were developed by the NT Aboriginal Health Forum. Clinical information is currently being collected from a mixture of Northern Territory Department of Health data sources such as the Primary Care Information System as well as Aboriginal Community Controlled Health Organisations' Patient Information Recall Systems (PIRS) such as Communicare. Data collection commenced in 2009.

Data is available on patient records with smoking status recorded and smoking status for patients aged 15+, by age group and gender for the NT, Central Australia and the Top End. The NT Tobacco Control Action Committee has requested the KPI be extended to include patients aged 10+.

Data access: The KPI Steering Committee of the NTAHF has responsibility for considering requests for access to data and reports, endorsing any additions or changes to the KPIs.

NT Midwives data collection: The national core maternity indicators include self-reported data on smoking in the first 20 weeks of pregnancy, and after the first 20 weeks, among those who gave birth. Before July 2010, data was based on self-reported smoking at first antenatal visit and at 36 weeks, so current data can only be compared with data from 2011. Each year there are more than 1,200 Aboriginal and Torres Strait Islander births in the NT, with about 1,000 births for mothers usually resident outside Darwin. There is a delay before the data is released in annual *Mothers and Babies* reports available on the NTG website, with most recent data published in 2020 about 2017.

The annual reports describe percentages excluding those with smoking not stated. From 2011–2017, this excluded 1–2% of data for smoking in the first 20 weeks, but 10–14% of data for smoking after 20 weeks. In 2014–17, it was reported that 85–88% of this missing data for smoking after 20 weeks was from mothers who reported NOT smoking in the first 20 weeks, so estimates of percentage smoking after 20 weeks may be inflated. The 2014 annual report commenced reporting the percentage of smokers in the first 20 weeks who reported not smoking after 20 weeks, rather than the raw percentage reporting smoking after 20 weeks.

All annual reports from 2011 to 2017 report data smoking in the first 20 weeks for seven NT regions, and the reports 2011–13 also report this data for urban centres (Darwin, Alice, Tennant Creek, Katherine and Nhulunbuy) vs rural/remote areas.

Data access: NT Midwives data collection, NT DOH (annual reports available); AIHW for national data.

NT tobacco wholesale/retail data:

As a condition of having a license to sell tobacco, retailers must allow NTG to collect data on wholesale orders of tobacco and cigarettes. Wholesale orders are used rather than retail sales to simplify data collection, as there are a much fewer wholesalers than retailers. Nevertheless, the data has been difficult for the NTG to collect and collate — initially by AOD, then by Innovation and Research and now again by MHAOD — in part as it is Licensing which manages the tobacco retail licenses but the DOH which manages and analyses the wholesale data. There remain

concerns about the completeness of the data. However, similar sales data collected directly from the retailers (or regional store organisations) has been used by research projects.[1–3]

This is useful objective data which can be collected non-intrusively and routinely, and is particularly useful in remote communities where almost all of the population is Aboriginal and there is often only one retail outlet selling tobacco. However, it is not possible to tell whether reductions in sales/wholesale orders are due to declining smoking prevalence or just declining cigarettes per day smoked by the same number of smokers. There remain other challenges with this data, e.g. fluctuating population denominators in small communities and converting loose roll your own (RYO) tobacco sold to cigarette equivalents.

Data access: NT MHAOD.

NT Quitline data: Quitline services in NT have been provided by Cancer Council SA (CCSA) since July 2013. Aboriginal counsellors are available. In the last 6 months of 2013, they had 205 new NT clients, 40 of whom were Aboriginal or Torres Strait Islander. Only a small proportion of smokers quitting use Quitline, but monitoring trends in Quitline calls is useful for monitoring use of cessation support. Quitline services ask callers about whether they are Aboriginal or Torres Strait Islander, and their postcode.

Data access: Data provided to NT DOH, however I have requested the data for this committee separately as part of another conversation with CCSA but have received no response.

PBS data: Nicotine replacement therapy (NRT), varenicline and bupropion assist smokers to successfully quit, but fewer Aboriginal and Torres Strait Islander smokers use these medicines.[4] NRT patches (13 item numbers) and the oral stop smoking medicines varenicline and bupropion (4 item numbers) can be prescribed and dispensed on the Pharmaceutical Benefits Scheme (PBS) at subsidised or no cost. NRT patches and other formulations (gums, lozenges, sprays, etc) can also be purchased over the counter. PBS has two specific programs aimed to improve access to medicines for Aboriginal and Torres Strait Islander people which can serve as an indicator for medicine use in this population.

The Remote Area Aboriginal Health Service program (RAAHS, also known as Section 100) was established in 1997. Under this system a contracted pharmacy, provides medicines to the remote Aboriginal Medical Service (AMS) and the cost of the medicine and patient co-payment is passed onto the Australian government, removing the cost to the AMS. In 2016–17 the RAAHS program provided approximate 1.4 million PBS items worth AU\$38 million, with the Northern Territory accounting for 51% of the total national supply and related expenditure.

The Closing the Gap (CTG) PBS co-payment measure commenced in 2010. Under the CTG measure, an eligible health practice registers a patient as being Aboriginal and Torres Strait Islander and indicates that reduced access to medicines would affect a chronic condition or increase risk of a chronic condition developing

for that patient. The prescription is then annotated with a CTG code which lowers the patient co-payment, often leading to the provision of medicines at no cost. A practice which supplies medicines under the RAAHS program is not eligible to prescribe CTG benefits for patients.

A 2014 report for government is currently the only report to include the number of these medicines supplied under the CTG measure and the RAAHS program benefits and to compare these to national PBS figures.[5]

Data access: Currently it is possible to directly request CTG PBS data by jurisdiction and item number. But it is not possible to access RAAHS data. It is the latter which is of most interest to the Tobacco Working Group, given that it applies specifically for Aboriginal people in remote areas. As the Commonwealth has provided this data for KPMG to produce the above report and will provide this data to the ANU-led evaluation of the impact of the TIS program, it should be possible for the Commonwealth to provide this data for the TWG.

RESULTS

It can be difficult to summarise trends in smoking prevalence and smoking/ quitting behaviours as published reports and online tables do not always report the same outcome (e.g. current vs daily smoking, 15+ vs 18+) or for the population group of interest (all Aboriginal and Torres Strait Islander people from remote areas, from NT, from NT remote areas), even for reports from the same agency (e.g. ABS). Also, much of the routinely collected data is not regularly collated or reported, and if

reported is rarely compared or comparable to previous reports.

The most comprehensive exception is the 2017 ABS report *Aboriginal and Torres Strait Islander peoples: smoking trends, Australia, 1994 to 2014–15*. [6]

Smoking prevalence

The ABS 20-year trends report demonstrated significantly different trends in current smoking prevalence (aged 18+) over the 20-year period in remote and non-remote areas, but not between jurisdictions. There was an average annual absolute reduction in non-remote areas of 0.6% (95% CI 0.3–0.8) but no significant reduction in remote areas (0.0%, CI 0.2 decrease to 0.3 increase). [6]

The current smoking prevalence (aged 18+) in remote areas increased from 54.4% in 2014–15 to 59.3% in the 2018–19 survey, while in non-remote areas continued to fall from 41.7% in 2014–15 to 39.6% in the 2018–19 survey. [6, 7] The increase in remote areas from 2014–15 to 2018–19 was in part due to an increase in non-daily smoking from 5.1% to 7.1%, with daily smoking only changing from 49.3% to 52.0%.

The ABS 2018–19 National Aboriginal and Torres Strait Islander Health Survey has reported smoking prevalence aged 18+ for NT remote areas (63% current smoking and 53% daily smoking). [7]

Only two ABS reports have published more detailed Aboriginal and Torres Strait Islander smoking prevalence estimates for regions within the NT based on the 1994 National Aboriginal and Torres Strait Islander Survey and the 2018–19 National Aboriginal and

Torres Islander Health Survey (Table 44.1). [7, 8] The former does not provide exact estimates for each region (only categories available in a map, except for two regions with lowest female prevalence) (see map describing regions in Appendix 1). The former provides estimates for current smoking in those aged 15+ and the latter daily aged 18+ (which is usually lower, with the lower estimates for daily compared to current smoking [e.g. 7% lower for national remote prevalence and 10% lower for NT remote prevalence in 2018–19] more than compensating higher estimates for 18+ compared with 15+, reflecting the numbers of smokers taking up smoking between 15 and 18 [e.g. about 3% higher for national remote prevalence in 2018–19]).

Even though some caution is needed due to small samples and large standard errors of the estimates, and the difference due to current vs daily smoking and the different age groups, the large smoking

prevalence decreases over the last 25 years in Darwin (among both men and women) and Alice Springs (among men) and the large smoking prevalence increases among remote Central Australian women are striking.

It may be possible to further investigate regional trends using data from these and other ABS surveys using ABS analytic tools such as TableBuilder or DataLab.

In FY2020 smoking status was recorded in 35,000 clinical records included in NTAHKPIs (72% of women’s records and 63% of men’s records in FY2020, up from 67% and 60% in FY2016). The small decrease in smoking prevalence from FY2016 to FY2020 in the smoking prevalence among top end men and the increase among central Australian women should be treated with caution, as they may reflect the slightly larger changes in the proportion of clinical records with smoking recorded.

Table 1. Current smoking aged 15+ and daily smoking aged 18+ by NT region, 1994 and 2018–19 ABS surveys.

	MEN		WOMEN	
	1994 (current smoking, aged 15+)	2018–19 (daily smoking, aged 18+)	1994 (current smoking, aged 15+)	2018–19 (daily smoking, aged 18+)
Alice Springs	>60%	44.1%	<40%	41.9%
Apatula	>60%	52.3%	20%	49.6%
Darwin	>60%	37.3%	50-60%	33.6%
Jabiru-Tiwi	>60%	53.2%	50-60%	48.7%
Katherine	>60%	53.7%	<40%	49.0%
Nhulunbuy	>60%	56.2%	50-60%	53.2%
Tennant Creek	50–60%	54.6%	17%	50.6%

Sources: ABS 2020, Cunningham 1997.[7, 8]

Table 2. Current smoking aged 15+ by NT region if recorded in clinical records

	FY2016	FY2017	FY2018	FY2019	FY2020
WOMEN					
TOTAL	48.1%	48.9%	48.9%	49.1%	48.9%
Central Australia	34.2%	35.7%	36.1%	36.7%	36.6%
Top End	55.2%	55.4%	55.1%	54.9%	54.3%
MEN					
TOTAL	62.7%	62.7%	62.4%	61.7%	61.0%
Central Australia	58.3%	59.3%	58.7%	57.9%	57.7%
Top End	64.7%	64.2%	64.0%	63.3%	62.3%

Source: NTAHKPI

Compared to the ABS surveys, this NTAHKPI data based on clinic records demonstrates higher smoking prevalence among men in the top end and much lower smoking prevalence among women in central Australia.

Given the different samples, methods, strengths and limitations of the ABS surveys and NTAHKPI data it is not clear which provides a more accurate smoking prevalence and trends, although incomplete recording and updating of smoking status in clinical records might suggest greater validity of the ABS data, especially if trends are confirmed by other ABS survey data.

Smoking initiation

The ABS 20-year trends report demonstrated significant improvements in smoking initiation, with no significant difference between remote and non-remote areas. Smoking prevalence in Aboriginal and Torres Strait Islander people aged 15–17 fell from 30% to 17%, or 0.9 percentage

points p.a or a relative 4% reduction p.a., with this increase faster in the second half of the period.

Doubt has been raised about the validity and reliability of these 15–17 year old estimates due to significantly lower estimates of prevalence when this question was completed by the young person when an adult was in the room or by an adult proxy, compared to when this was completed by the young person without an adult in the room.[9] However, similar increases in never smoking among 18–24 year olds, who all completed the survey by themselves and without requirements for adult consent, suggesting the reported decline in smoking initiation is real.[10]

Similarly, ASSAD surveys, which are completed by 12–17 year old students themselves in class, show similar improvements in both urban and non-urban schools (noting the under-representation of small and remote schools in this survey). Never smoking increased from 48% in 2005

to 71% in 2017 in non-urban schools (50% to 71% in urban schools).[11] It would be possible for the NT DOH to analyse NT trends in schools participating in the ASSAD survey, for more detailed estimates.

Other research of ABS surveys has demonstrated that fewer 18–24 year olds are reporting having started smoking before 18, suggesting that these improvements in remote areas are in part due to delaying initiation as well as never starting to smoke.[10]

Smoking cessation

The ABS 20-year trends report did not detect any significant improvements in successful cessation in remote areas among Aboriginal and Torres Strait Islander people aged 18 and over, using the quit ratio (the proportion of people who had ever smoked who were now ex-smokers).[6] The quit ratio changed from 18% in 2002 to 24% in 2014–15, and in 2018–19 was 21%.[6, 7] In NT remote areas in 2018–19, the quit ratio was only 14%.[7]

In contrast, there was significant improvement in non-remote areas from 26% in 2002 to 39% in 2014–15, and in 2018–19 was 40% (and 43% in NT non-remote).[6, 7]

Unfortunately, the NT AHKPI data suggests that older smokers (65+) are much more likely to report successful quit attempts than younger smokers who have more to gain.

However, unsuccessful cessation increased in remote areas but not in non-remote areas from 2008 to 2014–15.[6] The national proportion of *daily* smokers aged 18 and over in remote areas who reported attempting to quit smoking in the past 12 months increased from 43% in 2008

to 58% 2014–15. In NT remote areas in 2018–19, 57.5% of *current* smokers aged 18 and over reported attempting to quit in the past 12 months. This reflects increasing motivation to quit.

Smoking intensity (cigarettes per day)

Smoking intensity has reduced in remote areas. From 1994 to 2008, in remote areas, fewer men and women aged 18 and over smoked 20+ CPD (13.0% vs 21.9% and 8.8% vs 13.7%) and more smoked 1–10 CPD (27.3% vs 20.0% and 26.6% vs 16.4%), with changes in those smoking 11–20 CPD and non-daily being non-significant.[12] In 2018–19, in remote areas, among people aged 18 and over, non-daily smoking had increased from 2.9% in 2004–5 and 2.7% in 2012 to 7.1% in 2018–19, with only small changes in the average reported CPD smoked among daily smokers (11.7 CPD in 2012–13 and 10.7 CPD in 2018–19).[7]

In 2018–19, in remote NT, 75% of daily smokers smoked less than 20 CPD and 10% of people smoked less than daily.[7]

Smoking in pregnancy

Smoking by Aboriginal and Torres Strait Islander mothers at any time during pregnancy is highest in very remote areas (55% in 2017) and has improved in non-remote areas and remote areas but not very remote areas (where it was 53% in 2012).[13] Of all Aboriginal and Torres Strait Islander mothers who were smoking before 20 weeks, 12 percent of had quit by the second half of pregnancy.

In 2017, 49 percent of NT Aboriginal and Torres Strait Islander mothers reported smoking before 20 weeks, with smoking prevalence lowest in Alice Springs Rural (34%) and highest in the three rural top

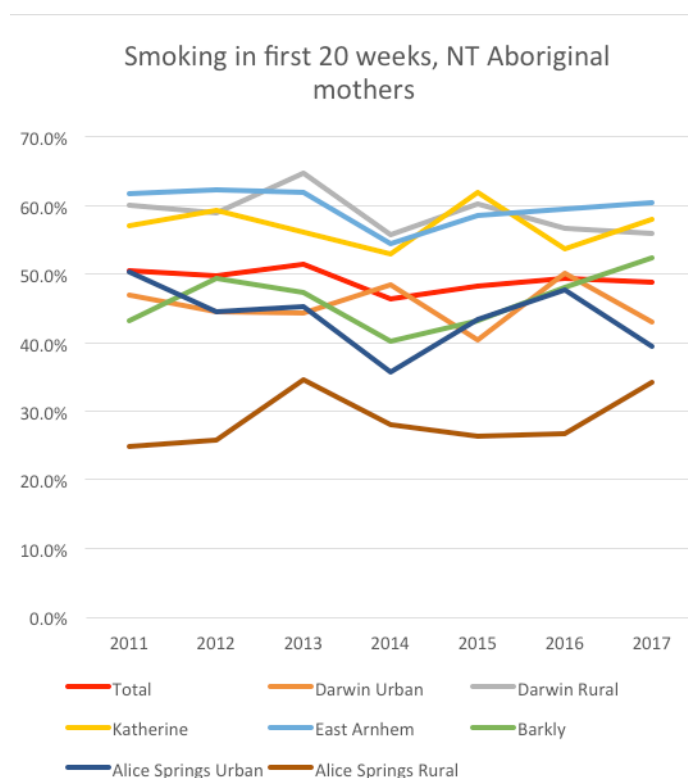
Table 3. Self-reported percentage smoking in first 20 weeks, NT Aboriginal mothers

	2011 (n=1296)	2012 (n=1296)	2013 (n=1201)	2014 (n=1232)	2015 (n=1244)	2016 (n=1225)	2017 (n=1161)
Total	50.6%	49.8%	51.5%	46.4%	48.4%	49.4%	48.8%
District							
Darwin Urban	47.1%	44.5%	44.3%	48.6%	40.4%	50.2%	43.0%
Darwin Rural	60.0%	58.9%	64.7%	55.7%	60.2%	56.7%	55.9%
Katherine	57.2%	59.3%	56.2%	53.0%	62.0%	53.7%	58.1%
East Arnhem	61.8%	62.3%	62.0%	54.5%	58.6%	59.4%	60.5%
Barkly	43.2%	49.4%	47.4%	40.2%	43.2%	48.0%	52.4%
Alice Springs Urban	50.4%	44.5%	45.4%	35.8%	43.5%	47.7%	39.5%
Alice Springs Rural	24.9%	25.8%	34.6%	28.0%	26.4%	26.7%	34.2%
Urban*	50.1%	47.4%	47.1%	n.a	n.a	n.a	n.a
Rural/remote	50.9%	51.4%	54.3%	n.a	n.a	n.a	n.a.

*Darwin and Alice Springs urban districts plus townships of Katherine, Tenant Creek and Nhulunbuy.

Source: Mothers and Babies reports 2011–16.

Figure 1. Self-reported percentage smoking in first 20 weeks, NT Aboriginal mothers



Source: Mothers and Babies reports 2011–17.

end districts — Katherine 58%, Darwin Rural 56%, East Arnhem 61% (see map describing regions in Appendix 2).[14] Of these mothers who were smoking before 20 weeks, 14 percent had quit by the second half of pregnancy (16% in 2014, 15% in 2015, 17% in 2016).[14–17] There may be a modest improvement in NT Aboriginal and Torres Strait Islander mothers smoking in the first 20 weeks of pregnancy in 2014–17 compared to 2011–13.

Exposure to secondhand smoke

More Aboriginal and Torres Strait Islander smokers lived in smokefree homes in 2008 than in 2004–5.[18] The percentage of smokers living in multi-person households where no householder usually smokes inside increased from 2004–5 to 2008: total 45% to 56%, remote 46% to 60%, NT 44% to 62%.

This has not been reported in other publications using ABS surveys, but could be calculated with TableBuilder or DataLab. This question has been asked since the 2004–5 survey, but in the 2014–15 survey only it asked if anybody *ever* smoked inside compared to other surveys which have asked in anyone *usually* smoked inside, meaning that results from the 2014–5 survey may not be able to be compared with other surveys.

More Aboriginal and Torres Strait Islander children (aged 0–14 years) are being protected by living in smoke-free homes, fewer are living in homes where smokers smoke inside. The percentage of children living in households where at least one smoker smokes inside decreased from 2004–5 to 2008: total 28% to 21%, remote 33% to 23%, NT 44% to 24%.[18] In the most recent publication available, based

on 2014–15 data, this has continued to fall to 13% (total), 17% (total remote, 20% in very remote vs 12% in remote) and 17% (NT).[19] Data from the 2018–19 ABS survey has not been reported but could be calculated with TableBuilder or DataLab.

Tobacco consumption

Total Australian tobacco consumption has been declining for 50 years.[20] Total tobacco sales are also declining in remote Aboriginal community stores, with decreases noted in two studies: comparing sales in 2009/10 to 2008/9 in 18 remote NT communities and examining the three year trend from 2016 to 2018 in 32 remote Aboriginal communities (20 from NT, but note that there had been 3 annual 12.5% increases in the tobacco excise during this period).[3, 21]

2. What works?

The effectiveness of each of the many elements of a comprehensive approach to tobacco control are described in many reviews and evidence-based guides, and are not repeated here.

This project has also consulted with health professionals working with Aboriginal people working in remote central Australia and the top end, including both those working in health promotion (especially but not only those working in Tackling Indigenous Smoking teams) and in the clinic. We have consulted staff from Central Australian Aboriginal Congress, Nganampa Health, Miwatj Health, Katherine West Health Board, Sunrise Health and Wurli Wurlinjang. We have consulted with remote AOD staff and remote medical practitioners working for NT Department of Health. We

have also consulted with members of the NTAHF Tobacco Working Group and the NT Tobacco Control Action Committee. Three PhD students (Moana Tane, Sukoluhle Moyo and Sam Keitaanpaa) also shared the insights from their interviews with more than 30 NT health professionals about tobacco control and smoking cessation.

In other settings

There is a mountain of evidence about the effectiveness of various tobacco control activities. In Australia, the website tobaccoinaustralia.org.au provides a regularly updated summary of this evidence, with a focus on the Australian context. Similarly, the Cochrane Library regularly updates meta-analyses of the global evidence for different tobacco control activities, with more than 80 reviews currently available.

This evidence has been used to inform tobacco control policy frameworks, such as the World Health Organisation's Framework Convention on Tobacco Control, and clinical guidelines, such as Royal Australian College of General Practitioners' recently updated clinical guidelines.[22, 23]

Among Aboriginal and Torres Strait Islander smokers

There is an increasing body of research evidence about the effectiveness of various tobacco control activities in the Aboriginal and Torres Strait Islander population. There have been several reviews of this evidence.[24] The most recent and comprehensive are available at the websites tobaccoinaustralia.org.au and tacklingsmoking.org.au. [25, 26] The latter website includes updated information about Aboriginal and Torres Strait Islander tobacco control and the Tackling

Indigenous Smoking program, funded by the Australian Government.

There have only been three completed RCTs of tobacco control interventions in Aboriginal and Torres Strait Islander settings, although there have been small pilot studies and new RCTs are underway. [27–29] The first two RCTs showed that more intensive cessation support doubled cessation at 12 months, as in other settings.[28] Talking About The Smokes, a large national cohort study of Aboriginal and Torres Strait Islander smokers, also found many similarities with other Australian smokers.[30] Age, social advantage and smoking-induced deprivation, dependence and past attempts, not also smoking marijuana, smoking-related attitudes, knowledge of second-hand smoke harms, social networks, smoke-free homes, health professional advice, anti-tobacco advertising and warning labels had cross-sectional or longitudinal associations with making or sustaining a quit attempt. [31–44] As in other settings, different factors predicted making and sustaining quit attempts. Health concerns, price and setting an example for children were the main reasons smokers gave for thinking about quitting.[31]

This evidence has been used in the recently updated National Aboriginal Community Controlled Health Organisation and Royal Australian College of General Practitioners guide for preventive health assessments.[45]

Among Aboriginal and Torres Strait Islander smokers in remote areas

There is less research evidence about the effectiveness of various tobacco control activities directly collected from

the Aboriginal and Torres Strait Islander population living in remote areas. However one of the RCTs demonstrating similar effectiveness of intensive cessation support was conducted in the remote Kimberley area of WA.[28]

The Talking About The Smokes project 'found no significant difference between Aboriginal and Torres Strait Islander smokers in remote and non-remote areas in many factors related to smoking and quitting: wanting to quit, attempting to quit, making or sustaining a quit attempt between surveys, dependence, smoking cannabis, smoke-free homes, noticing graphic warning labels and having been encouraged to quit by a health professional (or having seen a health professional in the past year).[32–34, 38, 42, 46, 47] More smokers in remote than non-remote areas responded correctly to questions about the health harms of smoking and second-hand smoke, reported noticing news stories about smoking, but more also reported enjoying smoking, and that all of their five closest friends or family smoked.[35, 36, 43, 47] Fewer smokers in remote than non-remote areas reported having ever sustained a quit attempt for more than a month, being protected by a total indoor smoking ban at work, noticing anti-smoking advertising, using nicotine replacement therapy or other cessation medicines, using e-cigarettes, and having friends or family support them to quit.[4, 32, 33, 43, 47, 48]'[49]

The Talking About The Smokes project has recently reanalysed data from remote areas.[49] More of these smokers 'had made a quit attempt if they were younger or reported being unable to buy essentials due to money spent on smokes, being

more stressed, having several pro-quit motivations and attitudes, having an effective smoke-free home, or being encouraged to quit by a health professional or by family/ friends. Of these, more had sustained their last quit attempt for one month or more if they reported being more socially advantaged, being less dependent or living in an effective smoke-free home.'

The consultations with health staff reinforced several key principles when undertaking a comprehensive approach to tobacco control in remote NT communities. Employ and use local Aboriginal staff for tobacco control activities. Provide tobacco control training and capacity building for staff. Engage with local health service leadership (board, executive, clinic managers) for clear messages of support for tobacco control activities. There was also strong support for using a Continuous Quality Improvement approach to support tobacco control activities, as is used in these health services for many other activities. Similarly, there was support for broad public health principles of ensuring sufficient reach and intensity of tobacco control activities.

The consultations also identified several false myths and misperceptions which appear to be a major barrier to tobacco control activities in this context (and in other contexts).

Health staff incorrectly reported that nothing seemed to be working to reduce smoking and that they didn't know of anyone who had successfully quit in their community. The previous sections of this document demonstrate clear improvements and that some smokers are successfully quitting in remote communities, even if too few and too late.

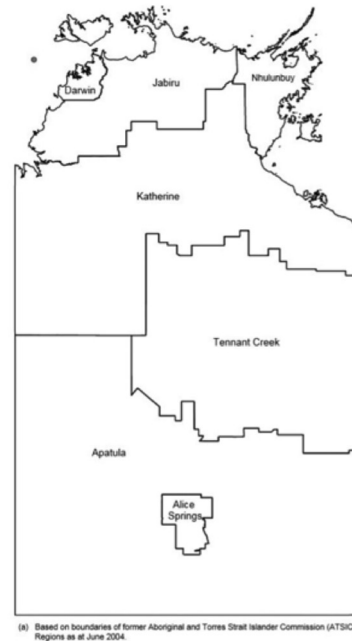
Similarly, some staff thought that smoking cessation was a lower priority than other health issues, when 23% of the health gap and more than a third of Aboriginal and Torres Strait Islander annual deaths have been attributed to smoking.[50, 51]

Some non-Indigenous clinical staff reported that asking about smoking or advising to quit is not culturally appropriate, and that it might undermine the clinical therapeutic relationship. Research and consultation with Aboriginal and Torres Strait Islander smokers and staff showed that smokers expect to be asked about smoking, and that this can be part of caring therapeutic relationship if done respectfully.[52]

Many respondents reported that smoking helps people manage stress. This relief from stress may just reflect that smoking relieves the craving and stress from nicotine addiction, and the time elapsed since a smoker's last cigarette. A meta-analysis of has shown reductions in stress and depression and improvements in mental well-being following quitting smoking.[53] Similarly, 74% of ex-smokers in the Talking About The Smokes study reported that they now cope with stress as well as when they smoked.[36]

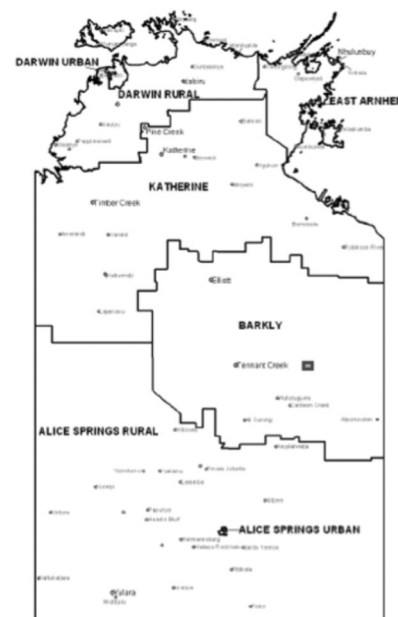
It can be very difficult to correct misperceptions, and attempts to correct them can inadvertently reinforce the misperceptions. It can be useful to focus on the fact first not the myth, always state that the misperception is incorrect before mentioning it, and provide a complete story to replace the misperception and its explanatory story.[54]

The current CARPA standard treatment manual (7th Edition) for health staff in remote areas includes a section on tobacco and is about to be updated.[55]



Appendix 1. ABS NT Indigenous regions

Source: [https://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/B7637A1B81C31EF0CA2572120023D20E/\\$File/Indigenous_regions_%202006_Regional%20Statistics.pdf](https://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/B7637A1B81C31EF0CA2572120023D20E/$File/Indigenous_regions_%202006_Regional%20Statistics.pdf)



Appendix 2. Map of NT Health Districts

Source: https://health.nt.gov.au/_data/assets/pdf_file/0006/931893/Mothers-and-Babies-Report_2017.pdf

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