PREVENTION OF ALCOHOL & TOBACCO USE IN PREGNANCY:
Audit of WA Department of Health Antenatal Services
Use of Alcohol & Tobacco Brief Interventions in Pregnancy

FINAL REPORT

Telethon Institute for Child Health Research

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EXECUTIVE SUMMARY

The Women’s and Newborn’s Health Network requested an audit of the type of brief interventions promoting alcohol and tobacco cessation in pregnancy and the use of these by health providers in Western Australian Department of Health antenatal services. The purpose of the study was to map how different services use brief interventions; whether policy, operational directives or standard care guide these; and, establish the extent to which brief intervention processes currently being used are evidence based.

It is well established that tobacco smoking and alcohol consumption during pregnancy represent two crucial areas for intervention to improve both pregnancy and lifecourse health outcomes for mother and baby. Individually, or in combination, tobacco smoking and alcohol consumption are preventable risk factors known to produce poorer birth outcomes.

This was a descriptive study drawing on the knowledge of key informants working in antenatal settings in Western Australian Department of Health and Country Health antenatal services. Twenty five interviews were conducted from 33 eligible services identified as providing an antenatal service in addition to an online survey completed by 55 respondents. All key informants and survey respondents were midwives.

It is well established in the literature that smoking cessation interventions can be effective, dependent on the type of brief intervention, and have at the very least a minimal positive impact (reduction in smoking) across the pregnancy continuum, with some residual impact postnatally. There is more limited evidence relating to interventions for alcohol cessation, but sufficient to recommend the use of these in pregnancy.

The study clearly demonstrated that almost all services in all health regions/area health services follow a consistent pattern of alcohol and tobacco brief intervention use that complies with the Western Australian Country Health Service Alcohol and Tobacco Brief Intervention or Western Australian Department of Health Smoke Free WA policies.

In terms of the brief intervention process being used, in accordance with Lumley et al 2009, brief intervention used in most antenatal services included in this study are of medium intensity. That is, the brief interventions incorporate: screening/assessment at first antenatal visit, brief counselling on the negative consequences for the developing infant of continued alcohol and tobacco consumption, and the provision of supporting information at the time of the brief interventions. Additionally, referral to support services and reinforcement of cessation messages in subsequent consultations have all be demonstrated to add further effectiveness to quit rates, at least while women are pregnant, and these are used by many services.

Overall, this study found that knowledge of alcohol and tobacco brief interventions among study participants was widespread, that brief interventions being used are evidence based in most settings and that the brief intervention process is consistently applied across the majority of antenatal services. Additionally, cannabis was identified as another commonly consumed substance, and participants agreed that brief interventions for cannabis and other substances would be a useful addition to existing resources as these are not currently available.

Recommendation 1
The development and distribution of a documented pathway for provision of alcohol and tobacco brief interventions in all antenatal settings, inclusive of appropriate referral strategies and provision of clear and consistent information for women, would be of benefit to health providers, and most particularly, midwives. In addition standardised screening, assessment and health and medical history recording formats may be warranted to promote a consistent approach across all health services.

Development and promotion of a centralised, web based access point with copies of relevant policy, guidelines and resources for tobacco and alcohol cessation health promotion in addition to:

- standardised health and medical history recording formats
- recommended screening tools (Fagerstrom and AUDIT);
- motivational interviewing tips;
- a prompt sheet outlining the key elements of good education for antenatal brief interventions for smoking and alcohol (for example the 5A's process); and,
- hyperlinks to resources (Quit products, Asthma Foundation Care for My Air and Cancer Council Fresh Start products, etc).

Smoke Free WA at [http://www.health.wa.gov.au/smokefree/home/](http://www.health.wa.gov.au/smokefree/home/) fulfils some of this recommendation but does not include alcohol brief interventions or resources. More appropriately, a portal developed for the Women’s and Newborns Health Network website could act as a central resource point as this website already comprises a range of pregnancy related information.

**Recommendation 2**

Cannabis was most often identified as another commonly consumed drug with no supporting resources or strategies to assist discussion by midwives with women of the potentially harmful effects of cannabis use in pregnancy and breastfeeding. Many participants agreed that a brief intervention or documented education process and/or information to provide to women are required to address this widespread issue.

The development of evidence based resources to support the provision of cannabis and other drug cessation advice in pregnancy would assist health providers working in the antenatal setting.

**Recommendation 3**

More consistent public health messages targeting women and families and informing of the negative consequences of alcohol consumption in pregnancy to counter a continuing community perception of low risk for social or minimal consumption of alcohol in pregnancy should be investigated.
INTRODUCTION: Prevention of Alcohol and Tobacco Use in Pregnancy

Context

The Women’s and Newborn’s Health Network requested an audit of the type of brief interventions (BI) promoting alcohol and tobacco cessation in pregnancy and the use of these by health providers in Western Australian Department of Health antenatal services.

It is well established that tobacco smoking and alcohol consumption during pregnancy represent two crucial areas for intervention to improve both pregnancy and lifecourse health outcomes for mother and baby. Individually, or in combination, tobacco smoking and alcohol consumption are preventable risk factors known to produce poorer birth outcomes.

The purpose of the study was to map how different services use brief interventions; whether policy, operational directives or standard care guide these; and, establish the extent to which brief intervention processes currently being used are evidence based.

For this study, we were interested in whether there is knowledge of policy or guidelines and how these are being interpreted and implemented in different antenatal services.

The study did not measure or assess compliance to policy or guidelines. These factors of service delivery are dependent on available staffing and other resources within individual service settings to adequately maintain policy, guidelines or directives.

Study Method Overview

This was a descriptive study drawing on the knowledge of key informants working in antenatal settings in Western Australian Department of Health Area Health and Country Health antenatal services. In interview, key informants answered a series of questions about how they or their health service use brief interventions to promote alcohol and tobacco cessation in pregnancy. While a set of questions were devised to guide interviews, as new information emerged, additional questions were added in subsequent interviews.

Recruitment Process

Fifty three health services listed antenatal or obstetric care in their description of service on the Western Australian Department of Health and Country Health websites and these were contacted for confirmation of antenatal services availability. Twenty services reported no current antenatal service. An introductory letter outlining the purpose of the study was then sent to the Clinical Unit Manager or equivalent where an antenatal or obstetric service was provided, a total of 33 services. The letter was followed up by a telephone call from the study investigator to arrange a convenient time for interview with a nominated representative.

From the 33 services originally contacted, 25 interviews were conducted. However as 2 interviews took place within one service (one for a specialist drug and alcohol clinic and the other for a standard antenatal clinic) these interviews were combined resulting in 24 interviews being used for data extraction. At least one service from each metropolitan area health service or country health service region of the state was included in the audit.

All interviews were conducted by telephone and, with permission, digitally recorded. Interviews were of between 10 and 20 minutes duration and took place between June and August 2011. The same investigator conducted all interviews. Transcripts of interviews were returned to each participant as a record.
Data relating to the key questions being investigated was extracted from interview transcripts and entered onto an excel spreadsheet for analysis as was data relating to additional questions.

In addition to the interviews with key informants, invitations were extended to other staff working in antenatal settings via the key informant to voluntarily and anonymously complete a brief online survey. The survey asked questions about individual practitioner use of brief interventions for alcohol and tobacco use in pregnancy. The purpose of the survey was to confirm broader knowledge of the brief intervention process being used.

**Current Policy**

**WA Department of Health Operational Directive & Guidelines**

The *Smoke Free WA Health System Policy Operational Directive* has prohibited tobacco smoking at all WA Department of Health (WADoH) services since 2009. The *Guidelines for the management of nicotine withdrawal and cessation support in nicotine dependent patients* (2009) states that screening for nicotine dependence of all patients admitted to WA Health services should occur and that all staff should have the capacity to provide brief interventions on nicotine dependence and cessation support and be encouraged to complete training to achieve competency in brief intervention and motivational interviewing.

**WA Country Health Service Policy**

The WA Country Health Service (WACHS) Alcohol and Tobacco Brief Intervention Policy (2010) directs staff to undertake brief interventions relating to alcohol and tobacco use with all relevant patients. This includes assessment/screening, feedback, motivational interviewing where feasible and referral to appropriate support services; and for health providers to participate in regular (annual) training to maintain the skills required to offer the brief intervention.

**Alcohol and Tobacco Cessation Brief Intervention Reporting Structure**

This report covers the following aspects of the study:

1. A summary of current evidence for brief intervention processes associated with the use of alcohol and tobacco brief interventions in antenatal settings (for the full literature summary see Appendix 1).
2. A description of the types of alcohol and tobacco brief interventions used in Western Australian Department of Health antenatal services and policies and operational directives associated with the use of these.
3. A summary of results of an electronic survey completed by health providers to indicate current practices associated with the use of alcohol and tobacco brief interventions in antenatal care settings.
1. SUMMARY EVIDENCE FOR ALCOHOL AND TOBACCO BRIEF INTERVENTIONS

CURRENT EVIDENCE FOR SMOKING CESSATION IN PREGNANCY

The literature supports current evidence tobacco brief interventions as including:
- an assessment or screening tool to determine level of dependency;
- a brief counselling session of 5-15 minutes (with referral to support services as required); and,
- reinforcement by both printed information at the time of initial consultation and discussion at subsequent antenatal visits.

This approach is regarded as a cost effective means of promoting tobacco cessation in pregnancy, with some potential to impact on longer term smoking cessation outcomes.

Additional support from the display of passive resources (such as posters and brochures) is also supported in the literature as an adjunct to the use of brief intervention in pregnancy.

CURRENT EVIDENCE FOR ALCOHOL CESSATION IN PREGNANCY

There was less definitive evidence in the literature for alcohol brief interventions. Based on the available evidence, an effective brief intervention for alcohol in pregnancy includes as a minimum:
- assessment of alcohol use (using AUDIT or similar risk assessment tool);
- reference to the Australian Guidelines to Reduce Health Risk from Drinking Alcohol, viz. Consistent advice that no alcohol throughout pregnancy is the safest option to avoid fetal harm; and
- referral to appropriate services for assistance with reducing or ceasing alcohol consumption in pregnancy where high risk consumption is assessed.

2. AUDIT RESULTS

Method

The second aim of this study was to describe the types of alcohol and tobacco brief interventions currently used in Western Australian Department of Health antenatal services and any policies or operational directives associated with the use of these. The investigator interviewed either a Clinical Unit Manager or their representative at regional and metropolitan area health services with an antenatal or booking clinic and all key informants interviewed were midwives.

The interview comprised a series of questions developed from the literature review. The aim of the questions was to: 1) establish the type and content of interventions currently being used; 2) any policies and operational directives associated with the use of the BI for alcohol and tobacco; 3) how consistently BI use was occurring in different antenatal settings; and associated with this; 4) the extent to which the BI’s currently used are evidence based.

The tabulated results of the interview data is set out in Appendix 2 showing: active brief intervention process in country and metropolitan booking clinics (Table 1) and active brief intervention process in country (Table 2) and metropolitan (Table 3) antenatal clinics.

We asked key informants:
- if they knew about a health service policy or directive regarding the use of alcohol and tobacco cessation brief interventions in pregnancy,
• to describe the process the health service uses to screen and assess for alcohol and tobacco use in pregnancy,
• to identify resources used in the clinic setting (in terms of brief counselling, motivational interviewing or supporting information or referrals provided at the time of the brief intervention),
• to describe the types of passive reinforcing resources used throughout the health service, and if any of these have been translated into other languages.

From the collected data the following characteristics are addressed in this report:
• Key informants awareness of the WACHS or Smoke Free WA policies and operational directives regarding the use of alcohol and tobacco BI.
• Different types of antenatal services available.
• The BI process being used and when these are applied.
• The types of screening tools and supporting resources used in BI.
• The types of passive resources and whether these are also in other languages and/or have been developed specifically for Aboriginal women.
• Whether there is training available in the use of alcohol and tobacco BI and whether there is a requirement for the skill to be regularly updated.
• Additional information relating to other drug use in pregnancy.

2.1 Key informants’ awareness of policies

Of the 24 health service participants, the majority (16) confirmed that there was an active policy or operational directive regarding the use of tobacco and alcohol brief interventions, with the remaining health services (8) either not aware or unsure if there was a specific policy.

Most participants (22) went on to describe a process of antenatal assessment that at least included routine screening for alcohol and tobacco consumption in pregnancy, always at the first antenatal visit in the clinic setting (22) and except in a minority of responses (4), incorporating the provision of supporting information at the time of assessment or screening, such as Quit packages.

Participants from 17 health services confirmed some discussion occurs regarding the impact of both alcohol and tobacco on the developing infant, with a strong emphasis on smoking, and where feasible these discussions are reinforced in subsequent antenatal visits.

All of these components are included in existing policies for both WACHS and Smoke Free WA and demonstrate awareness of current policy requirements, even if a specific policy was not known or named by all participants.

2.2 Types of antenatal services

Of the 24 health services included in the study, 8 provide booking clinics; while 15 provide antenatal clinics, either as midwifery led or shared care with GPs, 11 in regional areas and 4 in the metropolitan area. One service included in the study is a community health centre in a regional location with occasional contact with antenatal women and co-located with a GP clinic for pregnant women and has been included for analysis with the booking clinics.

Booking clinics usually operate on the basis of one antenatal visit to book into hospital for labour and birth. In those locations providing booking clinics, antenatal care is usually provided in the community by GPs as the lead carer. In this study, eight regional and one metropolitan hospital provide booking clinics. Midwives usually have just one antenatal
contact with pregnant women for booking and this is often around 28-30 weeks gestation, although may be earlier in some cases.

One antenatal contact provides limited opportunity to educate women on a range of health and lifestyle issues, a key role of midwives in the antenatal period. Even so, health services reporting a booking clinic, with the exception of one, also consistently reported using an active BI process aligned with the current WACHS policy. That policy requires screening for alcohol and tobacco use for all relevant patients admitted to a WACHS health service. In this study, most antenatal clinics are midwifery led, but for two services, shared care is provided with GPs as visiting medical officers (VMO). In both midwifery led and shared care clinics, midwives see women for multiple antenatal visits. This provides more consistent opportunities for continuing education and reinforcement of health messages associated with smoking and alcohol use during pregnancy.

2.3 Brief Intervention Usage

For both booking and antenatal clinics, an active BI process is being used in all but one of the 24 health services included for analysis. The BI process comprises screening for alcohol and tobacco use, with brief discussion of the impact of smoking and alcohol consumption on the baby and the provision of supporting information in most cases. Booking packs incorporating a range of written materials about the impact of alcohol and tobacco consumption in pregnancy are commonly provided.

The principle difference between booking and antenatal clinics in the delivery of BI is that antenatal clinics usually encounter women earlier in the pregnancy, usually between 16 and 20 weeks but sometimes sooner (as early as 12 weeks) compared with 28-30 weeks or later for booking clinics. Participants reported that earlier antenatal engagement with pregnant women enables the application of alcohol and tobacco BI much earlier in pregnancy and continuing education throughout the pregnancy. In accordance with the literature, early intervention is most likely to result in reduction or quitting of tobacco smoking.

Only one health service mentioned the use of motivational interviewing. However some participants described the detailed discussions they have with pregnant women, using empathy and encouragement to support women’s efforts to reduce or quit smoking in particular. This approach is a motivational interviewing technique, suggesting that motivational interviewing is taking place in some services.

There was an emphasis on smoking reduction or cessation in the majority of participant interviews. Alcohol was considered to be less of an issue as, according to participants, most women declared zero or minimal use of alcohol once pregnancy is known. Some study participants commented that some women still regard light or social use of alcohol as acceptable, particularly after 20 weeks gestation and suggested women may be confused about what is considered acceptable levels of alcohol intake in pregnancy. It was evident from comments that the zero alcohol message has not always penetrated the broader community to the same extent as the impact of tabacco.

2.4 Types of screening tools and supporting resources

When asked what screening tools were being used, many participants responded that a booking form was used and it was not always clear from interview data whether this meant the Department of Health form RH71A Obstetric History Partogram Labour and Birth or the WACHS MR202E Alcohol and Tobacco Screening Tool or another booking form.
The Fagerstrom and AUDIT screening tools were most often quoted by participants as being used to assess alcohol and tobacco use. These screening tools are part of the WACHS alcohol and tobacco brief intervention policy and seem to be in common use in all WACHS health services. Many health services also referred to a booking form that includes questions regarding alcohol and tobacco use and this was qualified in some cases as being an Obstetric History form.

Participants confirmed consistent recording of cigarette smoking and alcohol status for all pregnant women, including past history and current use. It was confirmed by some study participants that this information is also included in the Midwives Notification Form submitted to the Department of Health Perinatal Statistics Unit. Again, it was not always clear which specific format was being used to collect this data, with other study participants referring to the King Edward Memorial Hospital booking form.

It was clear from interview data that there is not always a consistent format being used and a more standardised approach to recording women’s health and medical history across all antenatal services may be warranted to address this.

In terms of supporting resources provided at the time of BI, the Quit resource package was the most commonly quoted supporting resource used (16 services), with the Asthma Foundation Care for My Air package also mentioned (6 services) usually in combination with the Quit resource. The Cancer Council WA Fresh Start resource was mentioned by one health service, again in combination with the Quit resource. Two health services (both regional) use either a dvd or online resource specifically developed for the region, principally targeting Aboriginal women. Two other health services referred to resources from King Edward Memorial Hospital.

Participants working in services utilised by high numbers of Aboriginal women commented that standard supporting resources were not effective with Aboriginal women. This is well supported in literature addressing the use of health promotion or information material in Aboriginal contexts. In response, these services have either: devised their own resources for use with Aboriginal women; refer women to Aboriginal Health Workers for education; or use reinforcing discussion during antenatal visits to highlight the negative consequences of smoking and alcohol consumption for infant development. A few services referred to using infant models (dolls) to demonstrate the impact of alcohol and substance use on babies to their pregnant clients. Only four health services, three regional and one metropolitan, reported having an Aboriginal Health Worker in the antenatal setting.

### 2.5 Use of Passive Resources

Passive resources were described to participants as being either posters or brochures which reinforce the positive benefits tobacco and alcohol cessation or the negative consequences of continued usage and participants were asked whether these are displayed either in the antenatal clinic or throughout the health service.

Participants reported that both types of passive resources, particularly posters and, to a slightly lesser extent, brochures are consistently used across all health services, with few health services not displaying any posters or brochures related to tobacco and alcohol consumption either in the antenatal clinic or throughout the health service.

About half of all health services have Aboriginal specific posters or brochures displayed regarding tobacco and alcohol consumption.
Three health services in total reported having tobacco and alcohol posters or brochures available in other languages, although more participants reported being aware of the availability of translated resources if these are required.

2.6 Availability of training and regularity of skills updates

The majority of participants (16) were aware that training is available either online or by in-service regarding the use of alcohol and tobacco BI in pregnancy. Some health services (6) reported that updates are mandatory, although the majority of participants responded there was no requirement for regular skills updates relating to BI for alcohol and tobacco use in pregnancy.

Sixteen health services also reported that an induction or orientation which includes the use of BI for alcohol and tobacco use in pregnancy is a requirement for all new staff in antenatal clinics.

The WACHS policy states the training requirement as “training by appropriately trained staff (e.g Drug and Alcohol Office, Community Drug Service Teams or Population Health staff) or via online training at orientation and every second year thereafter”.

The policy also states that evaluation to assess compliance with the policy and number of staff who complete online alcohol and tobacco brief intervention training should be undertaken on an annual basis.

2.7 Additional Information Collected

Based on comments from participants during initial interviews, other drug use was identified as another important area for discussion in antenatal consultations. Questions regarding participants’ views of other drug use in their antenatal setting were added to interviews to gauge the extent of this issue in health services.

Most study participants were subsequently asked direct questions in relation to other drug use, and these participants identified cannabis use as a problem regularly encountered when assessment and screening was conducted in relation to pregnant patients’ health and medical history.

There was a commonly held perception among those study participants asked this question, that the use of marijuana in particular is widespread in many communities and is more commonly disclosed in the antenatal setting than other drugs. Participants reported that methamphetamine users tend to be more secretive but the study participants often had knowledge of who used other drugs, particularly when the health service is located in a small community, and that this knowledge guided their discussion in antenatal consultations.

In all 12 participants agreed that cannabis use was the most prevalent drug used apart from alcohol and tobacco, with 6 participants also citing methamphetamine use as a problem in their community.

Sixteen participants agreed that a BI for other drug use would be a useful addition to their toolkit for educating women during pregnancy. This was especially relevant as no current information is readily available for patients on the impact or effect of cannabis or methamphetamine use during pregnancy, leaving health providers to devise their own approach to this educational aspect of antenatal care. The development of an evidence based
BI would provide important information to women who may not be aware of the impact of these substances on the developing infant.

3. ONLINE SURVEY RESULTS

The third aim of the study was to seek the views of the broader antenatal workforce using a voluntary and anonymous online survey tool to gather information on use of brief interventions and passive resources for alcohol and tobacco use. This was the most problematic area for reporting due to a poor response rate.

Two requests were sent to key informants to invite colleagues to participate in the online survey. The results are summarised here with the caution that these most likely do not include responses from all health regions or area health services, and overall represent only a very small portion of the antenatal workforce in Western Australia.

Fifty five respondents participated in the survey, although not all these answered all questions which added a further limitation to the survey analysis. The results reported below are summarised rather than presented as detailed analysis as the sample size was too small to elicit anything other than general information. Nonetheless, the results broadly confirm the interview data and as such are included here.

The survey posed questions about passive resources (what was available, in which formats; what was Aboriginal specific and what languages translated resources are available, etc) and active brief intervention processes (what screening and assessment tools were used; what supporting resources were provided, what type of counselling or motivational interviewing was used, etc).

As with the interview participants, all 55 survey respondents were midwives with time of practice in their role ranging from 1 month to over 35 years. Fifty of the survey respondents indicated that Aboriginal women attend their health service.

In terms of passive pregnancy specific alcohol resources, these included: posters, brochures and fact sheets used equally, with some use of dvd and minimal use of internet. Passive general to whole population alcohol resources included: posters, brochures, fact sheets and promotional material (stickers) with minimal use of dvd and internet. Language translation of resources was not generally reported by survey respondents.

In terms of passive pregnancy specific tobacco resources, these included: posters, brochures and fact sheets used equally, with minimal use of dvd or internet. Passive general to whole population tobacco resources included: posters, brochures, fact sheets and promotional material (stickers) with minimal use of dvd and internet. Language translation of resources was not generally reported.

There was a high level of respondents reporting English language resources specific to Aboriginal women for both alcohol and tobacco cessation in their service.

Half of the survey respondents who answered the questions relating to screening and assessment tools use one of these to assess level/risk of dependence for alcohol consumption, and these were named as TWEAK, AUDIT and T-ACE or the WACHS assessment tool. More than half of respondents use a formal assessment tool to assess level/risk of dependence for tobacco use, with most nominating the Fagerstrom test. About half of respondents continue to ask about tobacco and alcohol use throughout pregnancy.
The majority of respondents (over 90%) ask all pregnant patients about alcohol and tobacco use in pregnancy.

Where the questions were answered, the types of alcohol brief interventions used by respondents in descending order were:

- Provide written information (brochures, self help)
- Discuss consequences and assess readiness to change
- Use motivational interviewing
- Refer patient to support groups or programs
- Devise an abstinence plan with the patient

Where the questions were answered, the types of tobacco brief interventions used by respondents in descending order were:

- Provide written information (brochures, self help)
- Discuss consequences and assess readiness to change
- Offer/refer for nicotine replacement therapy
- Refer patient to support groups or programs
- Devise a quit plan with the patient

The majority of respondents repeat/reinforce alcohol and tobacco brief interventions or cessation messages throughout pregnancy. For women whose first language is not English, either family members or medically trained translators are used to promote cessation messages for alcohol and tobacco, and about a third of respondents utilised translated print resources.

About half of respondents had undertaken training in the use of alcohol brief interventions in the last 2 years either in house or through the WA DoH, with about a third never having undertaken training. The majority of respondents had undertaken training in the use of tobacco brief interventions in the last 2 years, most in house, with others using either the Cancer Council of WA or Asthma Foundation courses, or Curtin University or Australian College of Midwives online training.

Less than half of respondents regularly update their knowledge about alcohol or tobacco brief interventions and again about half of respondents felt well prepared/confident to use alcohol brief interventions while two thirds felt well prepared/confident to use tobacco brief interventions. The vast majority of respondents would like further training in the use of alcohol and tobacco brief interventions.

Two thirds of respondents thought that alcohol and tobacco brief interventions only sometimes have a positive impact on patients, although about the same number also thought it was worth the time to use these interventions.

### 4. SUMMARY

**What is already known on this topic**

It is well established in the literature that smoking cessation interventions can be effective, dependent on the type of brief intervention, and have at the very least a minimal positive impact (reduction in smoking) across the pregnancy continuum, with some residual impact postnatally. There is more limited evidence relating to interventions for alcohol cessation, but sufficient to recommend the use of these in pregnancy.
Midwives are the health provider principally responsible for health and lifestyle education during pregnancy. While some of this education may be delegated to specialist educators, for example diabetes educators and dieticians for women diagnosed with gestational diabetes mellitus, midwives tend to provide most education during pregnancy and the use of smoking and alcohol brief interventions is situated within the whole context of antenatal care, usually beginning at the first antenatal visit and continuing throughout pregnancy.

While midwives have a framework of issues to raise and discuss with each pregnant woman they consult with, they also respond to what women present as their leading/most important issue. Individual women have individual questions, issues and knowledge regarding their pregnancy. For some, quitting smoking may not be prominent in their daily lives because other social/environmental/co-morbidity concerns are more of a priority to them.

Nonetheless, where routine smoking and alcohol assessment or screening is conducted and brief interventions are used, there is a reasonable chance the intervention will be successful and cost effective where key elements are included in the brief intervention process. This includes: use of a screening tool, adequate discussion or motivational interviewing (5-15 minutes) on the consequences of the health behaviour and provision of written supporting information at the time of consultation.

**Main Findings of this Study**

There was clear evidence of adherence to existing policy in the interpretation and implementation of alcohol and tobacco screening and brief intervention in most of the antenatal settings included in this study.

This study has also shown that there is a greater emphasis on promoting smoking cessation in the antenatal setting than for consumption of alcohol in pregnancy. This was primarily because participants noted that most women declare zero or minimal alcohol use during antenatal consultations.

Tobacco cessation remained a concern among participants as many women continue to smoke during pregnancy. There were many participants who seemed resigned that women will not quit smoking, but they may at least be persuaded to cut down. Therefore, these participants were focussed on continuing to provide support and encouragement to women for any advances they made in reducing cigarette consumption. This approach is in line with motivational interviewing, one of the factors identified as important in a best practice use of brief intervention for these health behaviours. It is also well established in the literature that if smoking cessation has not occurred early in pregnancy, it is far less likely that women will quit smoking but that they may be persuaded to reduce their tobacco consumption.

Participants reported that women appear to understand the importance of not exposing the developing infant to the negative impacts of alcohol, but it was also noted that women generally believe that social drinking, a glass now and then, remains acceptable. Some participants referred to a perception among women that negative impacts on fetal development are reduced after 20 weeks. Further, women perceive outcomes such as FAS or FASD as happening to other women, not themselves. As a public health issue at a broader community level, it may be that the same concerted long term health promotion effort given to tobacco cessation should be extended to alcohol cessation in pregnancy to raise community knowledge of the impact of alcohol consumption on the developing infant.

In terms of the brief intervention process being used, in accordance with Lumley et al 2009, brief intervention used in most antenatal services included in this study are of medium...
intensity. That is, the brief interventions incorporate: screening/assessment at first antenatal visit, brief counselling on the negative consequences for the developing infant of continued alcohol and tobacco consumption, and the provision of supporting information at the time of the brief interventions. Additionally, referral to support services and reinforcement of cessation messages in subsequent consultations have all been demonstrated to add further effectiveness to quit rates, at least while women are pregnant, and these are used by many services.

The use of passive resources, some of which are Aboriginal specific or translated into other languages, are consistently used across most services. These social marketing tools act as additional prompts when used in association with a range of other strategies aimed at changing personal health behaviours, such as brief interventions.

The general view of participants was that most women will stop drinking alcohol and smoking cigarettes as soon as they are aware they are pregnant. For those women who continue to drink and smoke in pregnancy, they will receive education and brief interventions on the harmful effects of these health behaviours and in doing so, services are adhering to a best evidence model of health education in pregnancy in relation to tobacco and alcohol consumption.

What this study adds
This study provides a descriptive review of the use of alcohol and tobacco brief interventions in pregnancy in Department of Health public hospital antenatal settings, establishes the extent and type of brief intervention used and that those currently in use are best evidence educational models that fit the existing policy for WACHS and metropolitan area health services.

It was clearly demonstrated that almost all services in all health regions/area health services follow a consistent pattern of brief intervention use that fits with the WACHS Alcohol and Tobacco Brief Intervention or Smoke Free WA policies.

Some services demonstrated very extensive knowledge of the brief intervention process with health region wide consistency. This may be a result of an emphasis within local policy implementation priorities to ensure the policy is fully maintained although this was not explored. In some instances KEMH guidelines were quoted as a default position if a participant was unsure of some questions relating to their service’s brief intervention process. As the tertiary centre, however, some regional services expressed frustration at not being able to access all KEMH guidelines. Other service participants reported that there was a lack of appropriate resources, particularly for Aboriginal women and this required them to either develop their own or search for these resources from other locations (such as the Northern Territory or Queensland) although these were not always acceptable to the Aboriginal women they work with.

Limitations of this study
All participants in this study for both interviews (24) and the online survey (55) were midwives (79 in total) working in a variety of models of care and from the interviews all health regions or area health services were represented. Even so, the sample is not representative of all health providers involved in the care of pregnant women or able to provide brief interventions.

General practitioners are a primary health provider in many regions and they were not included in this study. General practitioners have an important role in educating women on the consequences of continued alcohol and tobacco consumption in pregnancy and are well
placed to provide early brief interventions in order to have the greatest impact on these negative health behaviours. This is an important area for future research as general practitioners are often the lead primary health provider in rural and regional communities, and most usually the first health provider women consult with to confirm pregnancy.

5. RECOMMENDATIONS

Recommendation 1
The development and distribution of a documented pathway for provision of alcohol and tobacco brief interventions in all antenatal settings, inclusive of appropriate referral strategies and provision of clear and consistent information for women, would be of benefit to health providers, and most particularly, midwives. In addition standardised screening, assessment and health and medical history recording formats may be warranted to promote a consistent approach across all health services.

Development and promotion of a centralised, web based access point with copies of relevant policy, guidelines and resources for tobacco and alcohol cessation health promotion in addition to:

- standardised health and medical history recording formats
- recommended screening tools (Fagerstrom and AUDIT);
- motivational interviewing tips;
- a prompt sheet outlining the key elements of good education for antenatal brief interventions for smoking and alcohol (for example the 5A's process); and,
- hyperlinks to resources (Quit products, Asthma Foundation Care for My Air and Cancer Council Fresh Start products, etc).

Smoke Free WA at http://www.health.wa.gov.au/smokefree/home/ fulfils some of this recommendation but does not include alcohol brief interventions or resources. More appropriately, a portal developed for the Women’s and Newborns Health Network website could act as a central resource point as this website already comprises a range of pregnancy related information

Recommendation 2
Cannabis was most often identified as another commonly consumed drug with no supporting resources or strategies to assist discussion by midwives with women of the potentially harmful effects of cannabis use in pregnancy and breastfeeding. Many participants agreed that a brief intervention or documented education process and/or information to provide to women are required to address this widespread issue.

The development of evidence based resources to support the provision of cannabis and other drug cessation advice in pregnancy would assist health providers working in the antenatal setting.

Recommendation 3
More consistent public health messages targeting women and families and informing of the negative consequences of alcohol consumption in pregnancy to counter a continuing community perception of low risk for social or minimal consumption of alcohol in pregnancy should be investigated.
APPENDIX 1 – LITERATURE REVIEW

The first aim of the study was to undertake a literature review, summarising national and international literature and establishing what are considered to be best evidence interventions for effective promotion of alcohol and tobacco cessation in pregnancy. Common medical/health science search engines were surveyed using a combination of search terms: pregnancy and smoking, pregnancy and alcohol, brief interventions smoking/alcohol. Peer reviewed and grey literature, recent systematic reviews and meta-analyses published from 1999 onwards primarily in Australia, the United States and the United Kingdom have been considered.

Tobacco smoking during pregnancy may result in low birth weight, preterm birth and respiratory conditions in the infant among other adverse outcomes and may also impact on whole of life health outcomes for children born to pregnant smokers.

Alcohol use during pregnancy may affect fetal growth and development and may also result in a range of adverse irreversible and lifelong outcomes, included under the term Fetal Alcohol Spectrum Disorder (FASD).

Brief interventions (BI) are considered low-cost and time-efficient and have been demonstrated to be effective self-help treatments, sometimes involving counselling, that can be delivered by health providers and non-medically trained health workers. Pregnancy is regarded as an opportune time to utilise brief interventions aimed at assisting women to modify high risk behaviours such as tobacco smoking and alcohol consumption.

In the US and Canada, physicians are the usual primary health providers for pregnant women while in the UK, midwives and general practitioners take this role. In Australia, a combination of specialist or general practitioner obstetricians and midwives are engaged in the care of pregnant women; and, depending on the model of care, any one of these may be the primary health provider.

In Western Australia, government provided antenatal clinics usually operate in hospital or community health settings and might be midwifery led or shared care with specialist or general practitioner obstetricians who are either employed within the service or are visiting medical officers. Regardless, most pregnant women will be seen by midwives at some point during their pregnancy, either during antenatal clinic or booking in visits.

Midwives are usually responsible for the majority of antenatal and parenting education and use pregnancy as an opportunity to inform and educate women on a range of health and lifestyle issues (Beldon and Crozier 2005; Fuber 2000). In some settings Aboriginal Health Workers may be responsible for pregnancy health and lifestyle education. It was not within the scope of this study to canvass general practitioners, another important health provider group for pregnant women.

1.1 Evidence for Tobacco Cessation Brief Interventions in Pregnancy

There are two main strategies used to assist pregnant women to quit smoking (1) behavioural and (2) pharmacological interventions, and both have been shown to have mixed results in promoting tobacco cessation in pregnancy.
The literature confirms that while up to 40 per cent of smokers will quit during pregnancy, spontaneous quitters represent the majority of successful quitters (Crawford et al 2008). Smoking cessation early in pregnancy results in the same fetal growth and perinatal morbidity rates as babies born to non-smokers (Trotter & Montague 2003). A meta-analysis of 34 intervention trials during pregnancy found an overall smoking cessation rate of 16 per cent in intervention groups vs. 9 per cent in controls (Lumley et al 2004). It seems though that most women who quit smoking during pregnancy will resume within 6 months after delivery, with up to an 80 per cent relapse rate after one year (Lawrence et al 2005).

Lumley et al in the Cochrane Collaboration *Interventions for promoting smoking cessation during pregnancy (Review)* (2009) – describe smoking cessation interventions in pregnancy as being of three types: low intensity or usual care; medium intensity with provision of materials or support for developing strategies for quitting; or, high intensity with other forms of support including follow up and reminders, home visits, personal contacts, incentives or provision of pharmacological therapy.

The Review reports on the efficacy of interventions to promote smoking cessation in pregnancy concluding that: smoking cessation interventions in pregnancy reduce the proportion of women who continue to smoke in late pregnancy, reduce low birth weight and preterm birth, and that smoking cessation intervention in pregnancy needs to be implemented in all maternity care settings. As smoking during pregnancy also has financial implications for health services, including increased use of specialist services such as neonatal intensive care (Kelly et al 2001) tobacco interventions represent an important preventive measure.

The 5 A’s (ask, advise, assess, assist, and arrange) Smoking Cessation Clinical Practice Guideline (specifically adapted for use with pregnant women by the American College of Obstetricians and Gynaecologists (ACOG) is currently promoted in the US as best practice for brief cessation counselling by antenatal care providers. Using Lumley et al’s definition, the 5 A’s Guideline is a medium intensity intervention as women receive a health provider administered 5-15 minutes counselling intervention and self-help materials. Kim et al (2009) notes the 5 A’s approach to be cost effective or cost neutral and Crawford et al (2008) stated that with the provision of pregnancy-specific educational materials combined with brief counselling of 5-15 minutes doubled the rate of smoking cessation from 10 to 20 per cent. Minimal counselling (less than 3 minutes of discussion) resulted in lower rates of quitting.

According to Sherburne Hawkins et al (2009) and Graham et al (2010) women on disadvantaged trajectories are more likely to start their pregnancy as smokers and every measured dimension of disadvantage – poor childhood socioeconomic circumstance (SEC), educational disadvantage, young motherhood, poor adult SEC, lone motherhood – increase smoking risk before pregnancy. Importantly though, Graham et al found that first pregnancy appears to be an opportunity for successful quitting regardless of social background and concluded that investment in smoking cessation services for women before, during and after pregnancy is an important way of promoting the overall health of all mothers and their children.

Tong et al 2008 also found that most women who stop smoking during pregnancy do so spontaneously in early pregnancy. Generally, these women are better educated, are lighter smokers and are more likely to understand the impact of smoking on pregnancy outcomes. The challenge remains to ensure that those women who continue to smoke during pregnancy are fully informed of the effects of smoking on the developing fetus and are encouraged and supported by health providers to quit. These women do not represent a homogeneous group. Therefore, different approaches may be required dependent on the level of dependency that a
pregnant woman has on nicotine and whether her social circumstances impact on her
capacity to stop smoking, hence the necessity to screen for tobacco consumption and initiate
a brief intervention to promote cessation. Continued reinforcement is also considered a
strategy in promoting smoking cessation.

Einarson and Riordan 2009 concluded that behavioral interventions report only modest
success rates while nicotine replacement therapy and antidepressants (such as bupropion),
even though these appear to be safe to use in pregnancy, have not been found to be very
successful. The ACOG Committee (2005) recommended that these only be used for women
who do not respond to other non-pharmacological interventions. Motivational interviewing
interventions have resulted in mixed findings for smoking cessation (Burke et al., 2003; Dunn,
Deroo, & Rivara, 2001). This is likely due to the complex interaction between nicotine
dependence, motivation, and social factors (Stotts et al 2009) and together these impact on
the effectiveness of motivational interviewing for cessation of tobacco in pregnancy.

It may be though, that motivational interviewing, or other forms of tobacco cessation
intervention of medium or high intensity are relevant for high risk pregnant smokers,
especially those from disadvantaged backgrounds. For example, Hughes (2009) conducted a
review of meta-analyses published on tobacco cessation (not pregnancy specific) in the
previous five years and concluded that the efficacy of smoking cessation treatments is
extremely reliable.

Dornelas et al (2006) found that counselling by trained mental health counsellors appeared
the most effective intervention for an ethnically diverse sample of pregnant women, including
being cost effective, when the intervention occurred early in pregnancy. This was particularly
true for women under 25, a group with a high propensity to smoke before or during
pregnancy. Although, as with Tong et al (2009), Dornelas et al found that the odds of quitting
smoking during pregnancy diminished over time for all women. This suggests that intervention
preferably before conception, but as early as possible in pregnancy is important.

Lawrence and Haslem (2007) reviewed the effectiveness of stages of change on different
smokers (for example, precontemplators or those not considering stopping smoking are less
convinced of the risks of smoking than those in later stages of change) and found that
counsellors may put too much pressure on people who are not prepared to quit, and as a
consequence it is essential to identify against which stage of change an individual is
assessed to be and target interventions accordingly.

Previously, however, West (2005) had strongly argued against the appropriateness of the
stages of change model and that it should not be used in smoking cessation strategies.
Rather, West proposed a common sense approach that simply asks about the desire to
change as preferable. This approach reflects the ACOG 5 A’s strategy, also endorsed by the
US Public Health Service clinical practice guidelines, British Thoracic Society and National
Cancer Institute.

Ferreira-Borges (2005) noted several reviews which found that treatments that include stop
smoking advice and brief counselling combined with written material and follow-up care are
acceptable to patients and are cost effective and feasible within a public maternity setting and
that counselling combined with behavioural interventions result in higher abstinence rates.
The author suggests that the very positive results in the intervention group (33.3 per cent
tobacco abstinence) when compared with the control group (8.3 per cent) may be attributable
to the systematic use of the intervention, during different antenatal visits and conducted by
different health providers, strengthening the coherence of the intervention.
Everett-Murphy et al (2010) more recently reported on a smoking cessation intervention successfully implemented and evaluated in South Africa. Using trained peer counsellors, an adapted form of the ACOG Guideline providing tailored educational and self-help materials was used in public sector antenatal clinics serving high risk populations, resulting in reductions in smoking behaviours.

Taking all of these types of intervention approaches into account, the evidence is clear that smoking cessation interventions are a worthwhile aspect of antenatal care as they will have at least some modest impact on reducing rates of smoking in pregnant women who continue to smoke after the first trimester, even if this reduction is not sustained after pregnancy. It is interesting to note that Haslam and Lawrence (2004) found that for younger women alcohol cessations messages have been more effective than those regarding smoking, although this may be due to older smokers being more likely to be nicotine-dependent than younger drinkers are to be alcohol-dependent.

In Australia, there does not appear to be a consistent approach to the use of tobacco cessation brief interventions in pregnancy, and few hospitals offer smoking cessation programs as a matter of routine to their antenatal patients who smoke (Lowe et al 2002; Trotter & Montague 2003).

In Western Australia, however, the Smoke Free WA Health System Policy Operational Directive has prohibited tobacco smoking at all WA Department of Health (WADoH) services since 2009. The Guidelines for the management of nicotine withdrawal and cessation support in nicotine dependent patients (2009) states that screening for nicotine dependence of all patients admitted to WA Health services should occur and that all staff should have the capacity to provide brief interventions on nicotine dependence and cessation support and be encouraged to complete training to achieve competency in brief intervention and motivational interviewing.

The WA Country Health Service (WACHS) Alcohol and Tobacco Brief Intervention Policy (2010) directs staff to undertake brief interventions relating to alcohol and tobacco use with all relevant patients. This includes assessment/screening, feedback, motivational interviewing where feasible and referral to appropriate support services; and for health providers to participate in regular (annual) training to maintain the skills required to offer the brief intervention.

In summary, smoking cessation interventions in pregnancy are well established as an effective means of encouraging women to quit smoking, at least during pregnancy, with some evidence of residual long term cessation after birth for some women. What is clear from the literature is that targeted interventions do have a positive impact and that health services need to apply suitable interventions for the population being served. Medium intensity interventions are most likely to have an impact, but need to involve at least 5 minutes of counselling and reinforcement in subsequent visits. This approach is considered to be cost effective with a reasonable degree of positive impact on women’s smoking behaviour.

1.2 Evidence for Alcohol Cessation Brief Interventions in Pregnancy

Detrimental fetal outcomes associated with alcohol consumption in pregnancy are well known. Fetal outcomes associated with maternal alcohol consumption in pregnancy can be severe and lifelong, and are referred to as either Fetal Alcohol Syndrome (FAS) or the broader term of Fetal Alcohol Spectrum Disorder (FASD) which acknowledges a range of
negative fetal outcomes known to be associated with moderate to heavy consumption of alcohol.

Even so, light consumption of alcohol in pregnancy also has potential to negatively impact on the developing fetus. Roche and Freeman (2003) note in a review of brief interventions for alcohol and other drugs (not pregnancy specific) that the majority of alcohol-related harm comes from moderate to low consumers of alcohol who occasionally drink at hazardous levels (i.e. ‘binge drinkers’). Studies considered here regarding the use of brief interventions for alcohol consumption in pregnancy are from the United States, United Kingdom and Australia.

Alcohol consumption among pregnant women has been estimated to be quite high – 12% overall in the US according to O’Connor and Whaley (2007) although Chang (2000) put this estimate at around 20-25% of pregnant women in the US. An Australian study (O’Callaghan et al 2003) found that 14-20% of women reported drinking more than 5 standard drinks per occasion during the three months prior to pregnancy with only 41% abstaining in all three trimesters of pregnancy.

A resource developed by the Telethon Institute for Child Health Research (2009) noted varying rates of alcohol use by pregnant women with one study showing that 59% drank alcohol in at least one trimester and in the first trimester of pregnancy 15% of women drank in excess of the 2001 Australian Alcohol Guideline. The Alcohol and Pregnancy and Fetal Alcohol Spectrum Disorder: a Resource for Health Professionals also refers to the potential for unintended alcohol consumption in pregnancy with 47% of a random sample of women in Western Australia reporting their pregnancy as unplanned. The Western Australian Department of Health’s Fetal Alcohol Spectrum Disorder Model of Care (2010) suggests that around 45% of Australian women drink during pregnancy.

Consumption from alcohol during pregnancy is a leading cause of birth defects and developmental disorders (Bailey and Sokol 2008). Abstinence from alcohol is the most prudent course for pregnant women, because no universally safe limit has been identified (Sokol et al 2003, Chang et al 2005). While children diagnosed with FASD are most likely born to women who are chronic, heavy alcohol consumers during pregnancy; research has also documented a spectrum of adverse health outcomes from lower levels of antenatal alcohol exposure (Moore, Khoury, & Liu, 1997; Windham, Behren, Fenster, Schaefer, & Swan, 1997).

Bailey and Sokol (2008) concluded that for alcohol dependent women, referral to a specialized treatment program is appropriate, however, for non-dependent women, a brief ‘in-office’ intervention may be all that is needed to reduce the risk of an alcohol exposed pregnancy. This approach has also been confirmed in other studies (Manwell et al 2000, Floyd et al 2007).

A Cochrane Collaboration systematic review of psychological and education interventions for reducing alcohol consumption conducted by Stade et al (2009) found that there were few studies able to be included due to poor study design. The review focussed on psychological and educational interventions as pharmacological interventions are not safe for use during pregnancy. The Psychological and/or educational interventions for reducing alcohol consumption in pregnant women and women planning pregnancy (Review) was unable to draw any conclusions regarding the use of alcohol related brief interventions in pregnancy. The review states that there remains little evidence about the effects of either educational or psychological interventions (either brief or extended) and that further research in this area is urgently required.
On available evidence, the Review acknowledges that as with smoking, women may reduce alcohol consumption once pregnancy has been confirmed. This suggests that pre pregnancy advice regarding alcohol cessation is very important information for women in their childbearing years. This is especially pertinent in view of a social and cultural acceptance of alcohol consumption as a usual part of adult life in Australia and the potential for alcohol exposure during the first trimester when pregnancy status is not always known and when fetal development is most likely to be compromised.

Two US studies found that women who use alcohol during pregnancy are receptive to brief intervention strategies; that a brief intervention can be successfully implemented by nonmedical professionals; and, that negative neonatal consequences of antenatal exposure to alcohol may be prevented through intervention. The authors of both studies concluded that the success of brief interventions with low-income minority women by nonmedical professionals had significant implications for national public health policies and may be instrumental in preventing alcohol exposed pregnancies (Chang et al 1999; O'Connor and Whaley, 2007). This evidence may be significant for Aboriginal Health Workers working in antenatal settings, particularly in locations or regions where alcohol consumption is known to be a public health problem. It has been estimated that the prevalence of harmful alcohol use in the Indigenous population is about twice as great as that in the non-Indigenous population, with the estimate supported by data on the prevalence of health problems known to be caused by alcohol (Wilson et al 2010).

Chang et al 2005 in another US study found that brief interventions for antenatal alcohol use are more effective in reducing subsequent consumption for women who are drinking more often when the brief intervention is administered. Moreover, the effects of the brief intervention are significantly enhanced when a support partner of the woman's choice also participates in the brief intervention.

Although assessment and intervention (counselling plus the provision of supporting information) are often components of a brief intervention process, it has been noted in some studies that alcohol consumption assessment alone may have an impact on reduction of alcohol consumption in pregnant women (O’Connor and Whaley, 2007). Even so, it seems that a brief intervention that discusses the risks associated with alcohol consumption and provides supporting information has a high likelihood of a positive patient response to either reduce or stop alcohol consumption (Roche and Freeman, 2003; Wutzke et al 2001; Kanner et al 1999). Further, the use of assessment tools has been investigated with a result that the AUDIT tool is of most benefit in assessing risk in relation to alcohol consumption (Bradley et al 2007; Change et al 1999).

Within the Australian context, Payne et al (2010) reported that health professionals have an important role to play in the prevention of alcohol exposure in pregnancy, that women expect health professionals to ask and advise them about alcohol use during pregnancy and that interventions by health professionals can be effective in encouraging women to reduce their alcohol consumption both prior to and during pregnancy. In their survey of health professionals provided with extensive information on assessment of alcohol use and advice for pregnant women, Payne et al found that some health professionals underestimate the importance of asking and advising pregnant women about alcohol consumption. Powers et al (2010) used the results of a prospective study using population based data to measure relative risks for zero alcohol intake, low alcohol intake and compliance with alcohol guidelines to argue that stricter guidelines (zero alcohol intake) resulted in a greater reduction in alcohol intake during pregnancy.
Raymond et al (2009) found that government advice regarding alcohol consumption in pregnancy varies internationally. This is significant as studies have found that pregnant women are aware that alcohol can harm their unborn babies but most believed that some alcohol intake during pregnancy was acceptable. The authors state that the challenge for policy makers is to provide clear consistent and credible information for both pregnant women and health professionals in contact with them.

While brief interventions for smoking cessation are definitive in their positive effect, the evidence for brief interventions for alcohol cessation are less conclusive, but nonetheless still regarded as an important aspect of antenatal care. In the US there has been a consistent policy of abstinence from alcohol in pregnancy over at least three decades, however, the situation in Australia has been less consistent with changes in that period fluctuating between zero intake, moderate intake and more recently back to zero intake as the safest option.

The current Australian Guidelines to Reduce Health Risk from Drinking Alcohol (NHMRC 2009) advise that for women who are pregnant or planning a pregnancy:

- Not drinking alcohol is the safest option.
- The risk of harm to the fetus is highest when there is high, frequent, maternal alcohol intake.
- The risk of harm to the fetus is likely to be low if a woman has consumed only small amounts of alcohol before she knew she was pregnant or during pregnancy.
- The level of risk to the individual fetus is influenced by maternal and fetal characteristics and is hard to predict.

In summary, even though this particular area of antenatal intervention requires further investigation and research, it is reasonable to state on the available evidence that brief interventions addressing alcohol use in pregnancy have been shown to reduce consumption, particularly for the heaviest users, and the most prudent course for health providers working with pregnant women is to use a BI process including advice that no alcohol in pregnancy is recommended. This recommendation is based on the lack of evidence defining ‘safe’ levels of alcohol consumption in pregnancy.
## TABLE 1: ACTIVE BRIEF INTERVENTION PROCESS IN COUNTRY & METROPOLITAN BOOKING CLINIC (8) OR COMMUNITY HEALTH CENTRE (1) n = 9 SERVICES

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* CFA = Asthma Foundation Care for my Air    ** FS = Cancer Council Fresh Start
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*CFA = Asthma Foundation Care for my Air

TABLE 2: ACTIVE BRIEF INTERVENTION PROCESS IN COUNTRY ANTENATAL CLINICS (n = 11)
| TABLE 3: ACTIVE BRIEF INTERVENTION PROCESS IN METROPOLITAN ANTENATAL CLINICS (n = 4) |
|-----------------------------------------------|-----|-----|-----|-----|
| Service Location                             | Metro| Metro| Metro| Metro|
| SupportingInfo at time of BI                 | yes  | yes  | yes  | yes  |
| Counselling or refer to GP or other           | yes  | yes  | yes  | yes  |
| First Visit Screening                         | yes  | yes  | yes  | yes  |
| Named Resources                               | yes  | yes  | yes  | yes  |
| Screening Tool                                | Fagerstrom booking form | Fagerstrom booking form | Fagerstrom booking form | Fagerstrom booking form |
| Resources                                     | Quit & CFA* | Quit & CFA | Quit & CFA | Quit & CFA |
| Passive Resources                             | yes  | yes  | yes  | yes  |
| Brochures                                     | yes  | yes  | yes  | yes  |
| Posters                                       | yes  | yes  | yes  | yes  |
| Alcohol AUDIT booking form                    | booking | booking | booking | booking |
| Aboriginal Specific                           | no   | no   | no   | yes  |
| Other Languages                               | no   | no   | no   | no   |
| TOBACCO Aboriginal Specific                   | no   | yes  | no   | no   |
| TOBACCO Other Languages                       | yes  | yes  | yes  | yes  |
| Brochures                                     | yes  | yes  | yes  | yes  |
| Other Languages                               | no   | no   | no   | no   |
| Aboriginal Specific                           | no   | no   | no   | no   |
| Other Languages                               | no   | no   | no   | no   |
| Alcohol AUDIT booking form                    | yes  | yes  | yes  | yes  |
| Aboriginal Specific                           | no   | no   | no   | no   |
| Other Languages                               | no   | no   | no   | no   |
| Alcohol AUDIT booking form                    | yes  | yes  | yes  | yes  |
| Aboriginal Specific                           | no   | no   | no   | no   |
| Other Languages                               | no   | no   | no   | no   |
| Alcohol AUDIT booking form                    | yes  | yes  | yes  | yes  |
| Aboriginal Specific                           | no   | no   | no   | no   |
| Other Languages                               | no   | no   | no   | no   |
| Alcohol AUDIT booking form                    | yes  | yes  | yes  | yes  |
| Aboriginal Specific                           | no   | no   | no   | no   |
| Other Languages                               | no   | no   | no   | no   |

*CFA = Asthma Foundation Care for my Air
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