Preventing Passive Smoking Effects On Children

Practice Resource

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Practice Resource: Preventing Passive Smoking Effects On Children

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Overview

Introduction

There is now a large amount of research evidence about the importance of the early years. Many professionals are unsure about how this evidence impacts on the services they provide for families and their professional practice.

The Centre for Community Child Health has therefore developed eleven “Practice Resources.” Each Practice Resource provides professionals with:

- an introduction to the topic
- a summary of the latest research, and
- practical strategies to support their daily work with young children and their families.

These Practice Resources will help professionals consider and understand the issues and the range of researched options and strategies available to discuss with parents and carers in addressing their concerns and increasing their confidence. They will also support management to make sensible decisions about the use of resources and directions for services to address important issues for children.

The project to develop these eleven Practice Resources has been made possible through funding from the Telstra Foundation.

See Appendix 1 and 2 for more details about the Centre for Community Child Health and the Telstra Foundation respectively.

Why were Practice Resources developed?

The Practice Resources have been designed to bridge the gap between research and practice. Most professionals do not have the time to sift through and interpret the relevant research that can inform how they work with children and families, nor do they have access or opportunity to attend relevant professional development.

The aim of the Practice Resources is to broadly translate the research evidence on a number of important topics into easily understood practical information that can be readily used by a range of professionals, assisting their daily work with young children and their families.

While each resource is written for professionals working with children and families, the information will also be useful to managers of services.

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What is the structure of each Practice Resource?

These resources are designed to be easy to use and inform professional practice. The structure of the Practice Resources enables access to information at different levels of detail depending on the user’s needs.

Each resource has the following structure:

- **Glossary**
  Definitions of key terms.

- **Section 1: Introduction**
  This includes definitions, how frequently problems occur, information about normal development (where relevant), effects of the problem, and whether the focus should be on promotion, prevention, or early intervention.

- **Section 2: What works?**
  This includes a simple summary of the research and outlines what works and therefore the strategies that should be implemented. Whilst this section is brief, strategies are sufficiently detailed and specific for action. To support the professional there is also:
  - **Parent information**: Pointers to existing web based parent information are provided. This information has been reviewed to ensure the messages are consistent with those in the resource.
  - **Key messages**: A single page summary is provided outlining the most important messages for professionals and managers.

- **Section 3: What the research shows**
  Annotated summary tables of the research evidence and intervention studies is included, with information provided about the level of evidence, see Appendix 4. Also included are the more detailed key research principles that are fully referenced.

- **References**
  All references used to inform the resource are listed.

To make these Practice Resources easy for professionals to access and use, references are not included within “Section 1: Introduction” and “Section 2: What Works”. In “Section 3: What the research shows” references are included in the text. A full list of the references relevant to each topic can be found separately in the References section.
Overview

What topics are covered?

Promotion
- Breastfeeding
- Literacy

Prevention
- Injury
- Overweight and obesity
- Smoking during pregnancy
- Passive smoking effects on children
- Child and adolescent smoking

Early Intervention
- Language
- Settling and sleep
- Behaviour
- Eating behaviour

How were the topics selected?

A number of criteria were used to select topics. These included:
- The importance of the issue in relation to children’s health and development
- Requests from professionals
- Expression of need from communities
- Parental needs and concerns
- Perceived gap between evidence and practice
- Ease of including in daily professional practice
- Lack of information from other sources

See Appendix 3 for more detail about the selection criteria.
Overview

How were the Practice Resources developed?

The content of the resources were drawn from the published research, expert advice, and information about innovative and promising practices. An expert committee oversaw the development of the content, and an expert in the field reviewed the content of each resource.

The format and design of the resources was focus tested and modified accordingly.

Are there limitations to these Practice Resources?

For a number of topics there were limited numbers of well researched interventions and strategies available in the literature. Therefore it is important to note the following:

- Where possible National Health and Medical Research Council principles of assessing evidence were applied to research reviewed. For some topics there was very little evidence of high quality.
- Interventions and strategies included in the resources were based on a combination of research-based principles and expert advice.
- It is highly likely that the evidence for most topics will change over the next few years; suggested strategies may require ongoing review.
Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive-behavioural therapy</td>
<td>An arrangement in which client and professional work together to identify and understand problems by looking at the relationship between thoughts, feelings and behaviour.</td>
</tr>
<tr>
<td>Environmental tobacco smoke</td>
<td>Smoke from the end of a lit cigarette or breathed out by a smoker.</td>
</tr>
<tr>
<td>Nicotine fading</td>
<td>Changing the type of cigarette smoked to one with less nicotine.</td>
</tr>
<tr>
<td>Nicotine-replacement therapy</td>
<td>Using a medication that reduces cravings for cigarettes.</td>
</tr>
<tr>
<td>Passive smoking</td>
<td>Breathing tobacco smoke in the environment.</td>
</tr>
</tbody>
</table>

Refer to Appendix 5 for a glossary of terms related to research methodology terminology.
Section 1: Introduction

Setting the scene

Focus: Prevention

Topic inclusion: Parents or adults who smoke around children

Age group: Children and adolescents (0 – 18 years)

Passive smoking refers to breathing tobacco smoke that is breathed out by a smoker or comes from the end of a burning cigarette.

Children are at higher risk of damage from passive smoking than adults because of their smaller bodies, higher breathing rates and less developed respiratory and immune systems. They are most likely to be exposed to cigarette smoke in the home or car, but exposure also occurs in such places as shopping centres, other people's homes and social meeting places.

There is a significant public policy agenda to reduce cigarette smoking with regulation in place to prevent adult exposure to smoke in the workplace. However, it is important to recognise that for children, the home is the equivalent of the workplace, and children remain vulnerable to the effects of passive smoking.

Parents are concerned about the effects of passive smoking on their children and are likely to be willing to make changes to improve children's health. Indeed, research has shown that three of every four adults who smoke would like to give up if they could, and more than half of the rest think about it.

Furthermore, a survey conducted by the Cancer Council of New South Wales of households where at least one parent smoked found that:

- 86 per cent of respondents agreed with the statement 'because children don't have a choice, it's up to adults to think about whether there is tobacco smoke around the children'.
- 24.7 per cent believed that minimising exposure to tobacco smoke was likely to make the biggest difference to children’s health (in comparison with a list of other factors).
Section 1: Introduction

Prevalence of passive smoking in children

Results from the National Drug Household Surveys over the decade 1995–2004 show that the proportion of all households with dependent children, which also has a member who smokes inside, has declined from 31% in 1995 to 12% in 2004. However of the households with dependent children the proportion that include a smoker, whether they smoke inside or out, has remained fairly constant at around 40–45%. In other words 40-45% of children live in households where one or both parents smoke.

Similarly in the Cancer Council of New South Wales’ survey of households where at least one parent smoked, 53.1% of respondents reported having smoked in the home in the previous month, and only 42.8% of respondents reported that all cars children had travelled in over the previous month were smoke free.

Impact of passive smoking on children

Considerable evidence supports an association between parental smoking and an increased risk of child health problems. Indeed, in a one-year period, children of parents who smoked inhaled the same amount of nicotine as if they had smoked 60–150 cigarettes.

Results from an assessment of the effects of passive smoking on children indicated that in 1999, one hundred Australian children died as a result of passive smoking.

Some of the specific effects of passive smoking on children include:
- Sudden infant death syndrome (SIDS)
- Croup, bronchitis, pneumonia and ear infections
- Increased likelihood of childhood asthma
- Learning difficulties
- Behavioural problems
- Heart disease
- Meningococcal disease

In addition, children of smokers are four times more likely to become smokers themselves.
The impact of passive smoking on children is affected by:

- **Amount of exposure.** Smoking in a car can be 23 times more toxic than in a house because it is a small, enclosed space.
- **Whether smoking occurs outside or inside of house.** Exclusive smoking outside with the door closed results in lower nicotine exposure levels for children (although higher than that for children from homes where no smoking occurred) than when smoking occurs anywhere indoors, including indoors near either a kitchen fan or an open door.
- **Proximity to a smoking area.** Well ventilated non-smoking areas still contain at least half the amount of smoke found in adjacent smoking areas.

**Factors that influence smoking rates**

Factors linked to smoking in adults in general can be applied to adults with children. These include:

- Aboriginal or Torres Strait Islander background (almost twice as likely to smoke)
- Lower educational level
- Employment level (smoking more likely in blue collar workers).

Motivations for smoking include:

- The desire to control weight (women),
- A means of dealing with negative emotions or mental health problems (women) and,
- For men, a way to experience pleasurable emotions.
Section 2: What works?

Introduction

The strategies that follow focus particularly on the smoking behaviours of parents around children. Most smoking intervention strategies have been focused on adults with far fewer particularly focused on parent specific interventions. Some intervention strategies to reduce passive smoking in children have been trialed and include:

1. Intensive counselling
2. Non-intensive counselling
3. School-based programs

Interventions found to be effective in reducing smoking rates in adults generally are also going to be effective in reducing the effects of passive smoking on children. *Group behavioural counselling has been found to be the most successful intervention for adult smokers generally.* This is followed closely by individual behavioural counselling and nicotine-replacement therapy. For more information on these interventions see “Section 3: What the research shows”.

There is little evidence for the effectiveness of interventions specifically designed to reduce the effects of passive smoking. At this stage, *intensive counselling for parents is considered the most promising intervention.*

Understanding intervention strategies to reduce effects of passive smoking

Intensive counselling for parents

- Intensive counselling for parents involves individualised counselling sessions by a health professional with a parent.
- In the sessions information is provided about the effects of parent smoking on the health and development of the child, as well as ways to reduce passive smoking in the home.
- A key feature is that information is tailored specifically to the family’s situation.
- Sessions typically run for a number of months (3-6), and may involve home visits and regular phone calls as well as one-on-one sessions in the health setting.
Section 2: What works?

- Additional features may include: parents recording the details of their smoking behaviour in the home, support and encouragement to change smoking behaviour, setting clear objectives for changing behaviour, and a minor focus on psychological factors (for example, addressing readiness for change\(^1\) and offering positive reinforcement).

- Growing support exists for the effectiveness of intensive counselling for reducing passive smoking. This is particularly the case where the focus is on changing attitudes and behaviours rather than increasing knowledge.

Non-intensive counselling for parents

- Non-intensive counselling for parents also provides information about the effects of smoking on the health and development of the child, as well as how smoking exposure in the home can be reduced.

- The key difference between intensive and non-intensive counselling is that only minimal information is provided (for example, a letter to parents outlining ways to reduce their child’s passive smoking) as well as minimal support (for example, one follow-up phone call).

- At this stage, the effectiveness of non-intensive counselling for parents in reducing passive smoking is unknown.

School-based programs

- Most school based strategies are focused on teen smoking rather than passive smoking.

- School-based programs that deal with passive smoking are generally broad prevention-based efforts to reduce unhealthy behaviours such as smoking or substance abuse.

- A key focus is using peer influences to help participants say no.

- They also educate students about the impact of smoking on health, with particular emphasis on short-term effects.

\(^1\) A popular approach to understanding readiness for change has been proposed by Prochaska and DiClemente (1982). These authors outline three categories of readiness to quit: pre-contemplation (not ready to quit), contemplation (thinking about quitting), and preparation (ready to quit). It is argued that counselling strategies should closely match the smoker’s individual stage of readiness.
Section 2: What works?

- They may also include school-wide anti-smoking initiatives (for example displays of anti-smoking posters around the school) and support for children to encourage their parents to quit (for example by writing letters to them asking them to quit).
- Few school-based programs with a focus on reducing passive smoking exist, and their benefits are largely unknown at this stage.

What you can do

Asking parents about passive smoking
A parent’s visit to a health professional for advice on a child’s health problem provides an opportunity to broach the subject of passive smoking and promote behaviours that will reduce a child’s exposure to environmental tobacco smoke. The following guidelines are based on The Royal Children’s Hospital’s clinical recommendations for asking parents about passive smoking and their child. They are based on both research and best clinical practice that were designed for the Fresh Air For kids project at the hospital. The Windows of Opportunity educational video demonstrating these types of questions in action is available from the Education Resource Centre at The Royal Children’s Hospital:

Broaching the subject of smoking with parents for the first time can be difficult; however, once you become comfortable with your own language around the issue it becomes second nature.

1. **Ask about their smoking:**
   “Does anyone at home smoke?”
   You may find that simply asking this question opens the door for discussion.

2. **If the parent smokes:**
   “I am sure you know about smoking and its effects on your child's health. Have you thought about doing anything about it?”
   or
   “I am sure you know about the effects of smoking on your child's health. We ask every parent if they'd like some information on quitting while they are here. If you are interested please let me know and we can provide you with useful information about quitting or refer you onto the Quitline for further assistance.”
   [This is non-judgmental and is likely to lead easily to further discussion.]
Section 2: What works?

3. If the parent smokes but says they only smoke outside, in a separate room, or with the window open:

   “Well done. I'm really glad you recognise the potential effect of smoking on child health and you've taken the first step. Have you thought about taking the next step?”

   or

   “That's great- you're obviously aware that smoking can affect a child's health. If you're interested in quitting or would like some more information we can talk about it further.”

   [In fact, smoking in a separate location reduces but does not eliminate measurable child smoke exposure. Keep positive about it, because at least the parent is trying!]

4. Parent says: “What has my smoking got to do with Jimmy’s ___ [health problem]?”

   “It is not related to your child's health problem necessarily, but the hospital (or clinic or service) believes parental smoking is an important child health issue. If you would like some help in moving towards quitting we can provide it.”

   Give the parent a passive smoking and children brochure and move on.

   or

   “We ask every parent who enters the hospital or clinic if he or she smokes, as it is an important child health issue, and if you are interested in quitting we can provide you with further information.”

   See the following website link to download a brochure on the health effects of passive smoking and advice for parents on how to reduce children’s exposure to passive smoking:


5. Parent says: “Are you saying my smoking caused Jimmy’s ___ [health problem]?”

   “No, it is not necessarily related to your child's ___ [health problem], but the hospital [or clinic or service] believes parental smoking is an important child health issue. If you would like some assistance in moving towards quitting we can help.”

   Give the parent a passive smoking and children brochure and move on.
6. Parent says: “I've tried stopping smoking three times but I can't give up.”

“Well done for trying! Every time you try to quit you learn something new which will make your next attempt more likely to be successful.”

[It usually takes smokers more than three attempts to quit before they are successful. Keep them positive so they are more likely to try again.]

7. Parent says: “I use smoking as a break...as a time out from the kids...”

“That's a tough one. I understand your break time is important so the challenge is to find a way of relieving stress that isn't as harmful.”

What information should parents have about the effects of passive smoking on children?

Passive smoking in children is a clearly established risk factor for:

- Asthma: greater frequency and severity of asthma symptoms, more severe disease and a greater number of hospitalisations and life-threatening attacks. The National Health and Medical Research Council (NH&MRC) has estimated that eight per cent of childhood asthma in Australia is attributable to passive smoking.
- Lower respiratory tract infections such as pneumonia, croup, bronchitis, and bronchiolitis.
- Middle ear disease (otitis media) potentially requiring surgery for glue ear.
- Impaired lung function.
- Sudden infant death syndrome.
- Meningococcal disease.

What are some helpful suggestions for parents for reducing passive smoking effects?

Some practical suggestions about making the home and car smoke-free include:

- Do not allow smoking in enclosed spaces, especially the car.
- Designate smoking areas outside.
- Remove ashtrays and lighters from the home.
- Place non-smoking stickers in the home and car.
- Ask visitors to smoke outside.
The following key messages can also be reinforced with parents:

- Smoking in another room or by an open window is not enough to avoid exposure to environmental tobacco smoke (it’s like urinating in a swimming pool!).
- An increasing number of smokers are making their homes and cars smoke-free in order to protect their children from the effects of environmental tobacco smoke.
- Parents who insist on a household free of smoke should be positively encouraged.

The following link provides additional advice for health professionals on communicating with parents about children’s exposure to environmental tobacco smoke. It has been produced by The Car and Home: Smoke Free Zone Campaign (a partnership between NSW Health and four non-government organisations), and is an evidence-based campaign designed to reduce passive smoking in children. The link includes a nine-step checklist that takes professionals through the process of identifying, informing about and intervening in parental smoking:

smokefreezoneorg.ozstaging.com/index.cfm/page_id/1072

A variety of ways that health professionals can assist smokers of any age and in different situations to cut down or quit smoking have been suggested by QUIT Australia. These include:

- Giving people who are interested in quitting a Quit Book.
- Providing information about the support and products available to help in quitting smoking.
- Setting up a smoke-free display and ensuring smoking cessation resources are available in waiting rooms.
- Arranging training from QUIT Australia on using counselling to help individuals to quit.

For further information about QUIT Australia’s Health Professionals Program, see the following link:

www.quit.org.au/index2.html

Smoking in another room or by an open window is not enough to avoid exposure to environmental tobacco smoke.
Information for parents

See the following link for a fact sheet that can be given to parents and carers to help explain passive smoking and provide suggestions about what they can do to minimise associated childhood illnesses:

- Smoke free zone website (Australia)
  smokefreezoneorg.ozstaging.com/site_files/s1001/downloads/FactSheet.pdf

Parents can also be directed to these sites for general information about the health effects of passive smoking and about quitting smoking:

- Smoke free zone website (Australia)
  smokefreezoneorg.ozstaging.com/index.cfm/page_id/1001

- Quit Australia
  www.quit.org.au/index2.html (quitting smoking)
Key Messages for Professionals

Passive smoking refers to breathing environmental tobacco smoke breathed out by a smoker or coming from the end of a burning cigarette. Exposure is most likely to occur in the home or car but can also occur in public and social meeting places. The National Drug Strategy Household Survey (2001) reported that 19.7% of households with dependent children allowed smoking in the home.

Children are at higher risk of damage from passive smoking than adults because of their smaller bodies, higher breathing rates and less well-developed respiratory and immune systems.

Passive smoking effects
- **Negative health outcomes for children.** There is considerable evidence to suggest an association between parental smoking and an increased risk of health problems in children, including Sudden Infant Death Syndrome, croup, bronchitis, pneumonia, ear infections, asthma, learning difficulties, behavioural problems, heart disease and meningococcal disease.
- **Smoking uptake later in life.** Children of smokers are four times more likely to end up as smokers themselves, due to nicotine inhalation in childhood.

Research-based strategies for reducing passive smoke for children

Overall there is a lack of research evidence about the effectiveness of interventions designed to reduce passive smoking in children. Further research is needed before strong recommendations can be made about ways to help parents reduce the rates of passive smoking in children. However, the following points are worth keeping in mind:
- Most interventions involve counselling. These have either been simple and relatively non-intense, eg, encouraging parents to quit and giving them written material, or relatively intense, eg, beginning in a clinic, involving follow-up phone calls and possibly home visits.
- Currently intensive counselling for parents is considered the most promising intervention.
- Some practical suggestions about making the home and car smoke-free include the following:
  - Do not allow smoking in enclosed spaces, eg. in the car.
  - Designate smoking areas outside.
  - Remove ashtrays and lighters from the home.
  - Place non-smoking stickers in the home and car.
  - Ask visitors to smoke outside.
- Research supports the effectiveness of a range of interventions with adult smokers. Professionals may decide to try interventions to encourage adults to quit smoking instead of focusing on reducing passive smoking.
Key Messages for Managers

Passive smoking refers to the breathing of environmental tobacco smoke breathed out from a smoker or coming from the end of a burning cigarette. The National Drug Strategy Household Survey (2001) reported that 19.7% of households with dependent children allow smoking in the home.

Children are at higher risk of damage from passive smoking than adults because of their smaller bodies, higher breathing rates and less well-developed respiratory and immune systems. Exposure is most likely to occur in the home or car but can also occur in public and social meeting places.

Passive smoking effects
• Negative health outcomes for children. There is considerable evidence to suggest an association between parental smoking and an increased risk of health problems in children, including Sudden Infant Death Syndrome, croup, bronchitis, pneumonia, ear infections, asthma, learning difficulties, behavioural problems and heart disease.
• Smoking uptake later in life. In a one-year period, children of parents who smoke inhale the same amount of nicotine as if they had smoked 60–150 cigarettes. Children of smokers are four times more likely to end up being smokers themselves, due to nicotine inhalation in childhood.

Research-based interventions for reducing passive smoke for children
Overall there is a lack of research evidence about the effectiveness of interventions designed to reduce passive smoking in children. Further research is needed before strong recommendations can be made about ways to help parents reduce the rates of passive smoking in children. However, the following points are worth keeping in mind:
• Most smoking interventions relevant to parents have been initiated or run by health professionals in clinics or in the family home. Such interventions include intensive counselling either in small groups or individually, non-intensive counselling, nicotine-replacement therapy and the use of anti-depressants.
• Several of these approaches show evidence of reducing passive smoking in children or smoking rates in adults generally.
• The use of group behavioural counselling to reduce smoking rates in adults generally has been successful and is an approach that could be delivered to parents by an appropriately trained professional through a child and family support service.
• Non-intensive counselling for parents could be offered as well after staff receive basic training in this approach.
Summary of the evidence on passive smoking and children

There is not strong support for interventions specifically designed for parents to reduce the effects of passive smoking on children although there is much stronger evidence for smoking cessation in general. At this stage, intensive counselling for parents is considered the most promising.

<table>
<thead>
<tr>
<th>Intervention focus</th>
<th>Recommended intervention</th>
<th>Effectiveness*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive smoking and children</td>
<td><strong>Intensive counselling for parents:</strong> multiple intensive counselling sessions that focus on motivating parents to quit smoking or reduce passive smoking in children; usually including at least one behavioural strategy</td>
<td>★</td>
</tr>
</tbody>
</table>
| Adult smokers                | **Group behavioural counselling:** smokers come together for scheduled meetings and receive some form of behavioural intervention  
**Individual behavioural counselling:** intensive counselling delivered by a smoking-cessation counsellor to a client on a one-to-one basis  
**Nicotine replacement therapy:** drug-based intervention (for example, gum or nicotine patch) to reduce cravings for cigarettes and thus promote cessation  
**Anti-depressants:** treatment with anti-depressant medication (bupropion and nortriptyline in particular) to aid in smoking cessation | ★             |
| Passive smoking and children | **Non-intensive counselling for parents:** encouragement from professionals to quit smoking or reduce passive smoking in children, typically through written material  
**School-based program:** education programs for children about the harms of smoking, combined with teaching children ways they can (a) help their parents reduce their smoking or (b) reduce their personal exposure to tobacco smoke | ?             |

* See next page for key to symbols
Section 3: What the research shows

Guide to recommendation of effectiveness category

<table>
<thead>
<tr>
<th>Level of evidence</th>
<th>Effectiveness</th>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong to good evidence</td>
<td>Beneficial</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>Not beneficial</td>
<td>×××</td>
</tr>
<tr>
<td>Fair level of evidence</td>
<td>May be beneficial</td>
<td>**</td>
</tr>
<tr>
<td></td>
<td>May not be beneficial</td>
<td>××</td>
</tr>
<tr>
<td>Requires more studies</td>
<td>May be beneficial (promising)</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td>May not be beneficial (not likely)</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Unknown benefits</td>
<td>?</td>
</tr>
</tbody>
</table>

Refer to Appendix 5 for a glossary of terms related to research methodology terminology.

Key research findings

About passive smoking and children

- A range of child health problems have now been firmly linked to parental smoking\(^{1,2}\). Children are at higher risk of damage from passive smoking than adults because of their smaller bodies, higher breathing rates and less well-developed respiratory and immune systems.

Some of the specific effects of passive smoking on children include Sudden Infant Death Syndrome (SIDS), croup, bronchitis, pneumonia and ear infections, learning difficulties, behavioural problems and increased likelihood of childhood asthma.

- A large number of Australian parents are currently exposing their child to environmental tobacco smoke\(^3\).

The National Drug Strategy Household Survey in 2001 found that 19.7 per cent of households with dependent children allowed smoking in the home. In households with dependent children the proportion that include a smoker, whether they smoke inside or out, has remained fairly constant at around 40–45%. In other words 40-45% of children live in households where one or both parents smoke. (AIHW analysis of the 1998, 2001 and 2004 National Drug Strategy Household Surveys)
• Parents are concerned about the effects of passive smoking on their children and are likely to be willing to make changes to improve children's health\(^4^5\). Research has shown that three of every four adults who smoke would like to give up if they could, and more than half of the rest think about it.

In a survey of households where at least one parent smokes, 86.7 per cent of respondents agreed with the statement 'because children don’t have a choice, it’s up to adults to think about whether there is tobacco smoke around the children'.

• Detailed information about how passive smoking occurs in children around the home and in the car has now been acquired and can be used to provide parents with specific strategies on how to reduce smoke exposure in children\(^4^6\).

Smoking in a car can be 23 times more toxic than in a house because it is a small enclosed space. Exclusive smoking outside with the door closed results in lower nicotine exposure levels in children (although higher than for children from homes where no smoking occurs) than when smoking occurs anywhere indoors, including indoors near either a kitchen fan or an open door.

Well-ventilated non-smoking areas still contain at least half the amount of smoke found in adjacent smoking areas.

• A number of factors have been identified that influence the likelihood that parents will be smokers and thus that their child will be exposed to environmental tobacco smoke\(^7\).

Factors linked to smoking in adults generally include being of Aboriginal or Torres Strait Islander background (almost twice as likely to smoke), having a low level of formal education, and being a blue-collar worker.

Motivations for smoking include the desire to control weight (women), as a means of dealing with negative emotions (women) and, for men, as a way to experience pleasurable emotions.
**About interventions for parental smoking**

Overall there is not enough evidence to indicate whether interventions for reducing passive smoking in children are effective.

Of the 18 studies that Roseby et al.\(^8\) reviewed, only four reported a significant reduction in smoking rates when comparing the intervention group and controls. Three of the four studies that were reported as successful involved intensive counselling for parents; therefore this intervention strategy can be considered the most promising. Three of the four successful studies based their results on parental reports of reduction in the number of cigarettes smoked rather than on a measurement of children’s smoke absorption; therefore support for these interventions cannot be considered strong.

A large body of research on interventions for adult smokers exists. This work suggests a number of methods that are likely to be effective in reducing smoking rates in adults and thus minimise passive smoking in children. However, research that tests directly the effect of these interventions in reducing tobacco smoke in children’s environments is required.

There is strong evidence that nicotine-replacement therapy decreases smoking rates in adults. A review of over 100 trials indicated one and a half times to twice the likelihood of quitting for the long term with this method\(^9\).

The anti-depressant bupropion also has strong support as a method of quitting, with results indicating double the quit rates compared to no intervention\(^10\).

Group behavioural therapy has been found to lead to double the quit rates compared to self-help information and 2.2 times the rate compared to no intervention\(^11\). Further research must also consider the impact of attendance rates at group sessions by adults with children, as results for adults generally are mixed.

Individual behavioural therapy has also produced good results, with data suggesting one and one half times the quit rate compared with no intervention\(^12\).
Details of specific intervention studies
The following provides details of a collection of studies that have targeted either passive smoking and children specifically or adult smoking generally:

For parents who smoke around their children
A typical intensive counselling program involves the following\(^\text{13}\):
- A 30-45 minute motivational interview at parent’s home
- Intervention targeted to reduce children’s passive smoking in the home
- Attempts made to increase the smoker’s level of readiness for change
- Interview followed up with four telephone counselling calls
- Delivery by a trained health professional
- Feedback given at the outset about household air nicotine, parent’s carbon monoxide level and smoking-related respiratory symptoms
- Written materials on reducing home exposure to tobacco smoke also provided

For adult smokers generally
A typical group counselling program involves the following\(^\text{11}\):
- Six-eight sessions
- At the outset participants sign a contract to quit and make a public declaration
- From the beginning participants change to a less potent brand of cigarettes
- First sessions cover motivation for quitting, health benefits, and planning to quit
- Requires self-monitoring of smoking behaviour
- Involves discussion and sharing experiences
- Instruction given about seeking support from others
- Problem-solving skills introduced, for example identifying high-risk situations for relapse, generating solutions and rehearsing responses (some programs teach managing negative moods associated with quitting as well)
A typical individual counselling program for adult smokers involves the following:\(^4\):

- A video covering reasons for quitting, areas of difficulty, tips for quitting and benefits
- A brief counselling session to assess readiness to quit, develop a personal strategy for quitting based on the individual’s ‘stage of readiness’, and, for those who are ready, set a quit date
- Follow-up visits and telephone calls
- Ongoing for six months
- Staff trained for one to four hours to implement
Annotated summary of intervention studies

Because of the large number of high quality studies that exist to assess the effectiveness of interventions for passive smoking and adult smoking generally, the studies cited below are systematic Cochrane reviews of these studies. For information on the strict criteria that authors of Cochrane reviews are required to meet, see the following link: www3.interscience.wiley.com/cgi-bin/mrwhome/106568753/HOME?CRETRY=1&SRETRY=0

Summary of intervention studies

<table>
<thead>
<tr>
<th>Target</th>
<th>Intervention</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-intensive counselling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>School-based interventions</td>
<td></td>
</tr>
<tr>
<td>All adult smokers</td>
<td>Individual behavioural counselling</td>
<td>Lancaster and Stead (2005)¹²</td>
</tr>
<tr>
<td></td>
<td>Group behaviour therapy</td>
<td>Stead and Lancaster (2005)¹¹</td>
</tr>
<tr>
<td></td>
<td>Nicotine-replacement therapy</td>
<td>Silagy, Lancaster, Stead, Mant and Fowler (2004)⁹</td>
</tr>
<tr>
<td></td>
<td>Anti-depressants</td>
<td>Hughes, Stead, and Lancaster (2004)¹⁰</td>
</tr>
</tbody>
</table>
### Passive smoking and children

<table>
<thead>
<tr>
<th>Study</th>
<th>Participants</th>
<th>Intervention</th>
<th>Results</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Roseby, Waters, Polnay, Campbell, Webster, and Spencer (2002)§                      | 18 randomised control trials or control trials | Range of interventions:  
• smoke-free policies and legislation  
• health promotion  
• social-behavioural therapies  
• technology  
• education  
• clinical  
Run in a community setting, well-child health care setting, or ill-child health care setting. | 4 of 18 studies had significant effect in intervention group:  
• 3 involved intensive counselling for parents.  
• 1 involved a school setting targeting environmental tobacco smoke exposure of children of smoking fathers. | In 12 of the 18 studies environmental tobacco smoke exposure of children was reduced in both intervention and control groups. |
## Section 3: What the research shows

<table>
<thead>
<tr>
<th>Study</th>
<th>Participants</th>
<th>Intervention</th>
<th>Results</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lancaster and Stead (2005)</td>
<td>7000 participants</td>
<td>Individual behavioural counselling</td>
<td>Smoking cessation significantly more likely in intervention group than in control group (odds ratio 1.56)</td>
<td>At least six-month follow-up</td>
</tr>
<tr>
<td></td>
<td>21 randomised control trials or quasi-randomised trials</td>
<td></td>
<td>Intensive counselling not significantly better than brief counselling</td>
<td></td>
</tr>
<tr>
<td>Stead and Lancaster (2005)</td>
<td>55 randomised control trials or randomised trials</td>
<td>Group behavioural therapy Groups were compared to:</td>
<td>Greater cessation with group therapy compared with self help (odds ratio 2.04)</td>
<td>At least six-month follow-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• no intervention • self-help programs • individual counselling • other interventions • group therapy with nicotine replacement therapy versus group therapy alone</td>
<td>Group therapy more effective than no intervention (odds ratio 2.17)</td>
<td>There was variation in the extent to which those offered group therapy accepted the treatment.</td>
</tr>
</tbody>
</table>
### Section 3: What the research shows

<table>
<thead>
<tr>
<th>Study</th>
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<th>Intervention</th>
<th>Results</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Silagy, Lancaster, Stead, Mant and Fowler (2004)   | 103 randomised control trials or randomised trials                          | Nicotine-replacement therapy  | Significantly greater cessation for non-randomised trial group than control groups (odds ratio 1.77)  
Odds ratios for the different forms of nicotine replacement therapy:  
• 1.66 for gum  
• 1.81 for patches  
• 2.05 for tablet or lozenge  
• 2.14 for inhaled  
• 2.35 for nasal spray  
At least six-month follow-up                                                                                           |                                                   |
| Hughes, Stead, and Lancaster (2004)                | Bupropion: 24 randomised control trials or randomised trials  
Notriptyline: six randomised control trials or randomised trials  
Selective serotonin reuptake inhibitors: five randomised control trials or randomised trials | Anti-depressants              | In 19 trials of bupropion alone, cessation was significantly increased (odds ratio 2.06).  
In four trials of nortriptyline alone, cessation was significantly increased (odds ratio 2.79)  
Selective serotonin reuptake inhibitors were not effective in increasing cessation.  
At least six-month follow-up  
There is a risk of approximately 1 in 1000 that seizures will occur with bupropion use. |                                                   |


References


Other references used in the development of the tool

Clinical Guidelines, Royal Children’s Hospital. Respectful discussions with parents about their smoking: suggested lines (from Fresh Air for the Kids-Roseby and Sawyer). Accessed January 5th 2005 from:


The Cancer Council NSW, Car and Home: Smoke Free Zone Campaign. 10 Myths about environmental tobacco smoke and passive smoking. Retrieved January 5th 2006, from:
smokefreezoneorg.ozstaging.com/site_files/s1001/downloads/10 Myths of Passive Smoke.doc

www.quit.org.au/quit/FandI/fandi/c04.htm
Centre for Community Child Health

The Centre for Community Child Health’s mission is to improve the health and wellbeing of all children.

At the forefront of Australian research into early childhood development and behaviour, the Centre has a particular interest in children’s mental health; obesity; language, learning and literacy; hearing; and the development of quality early childhood services.

The Centre is committed to disseminating its research findings to inform public policy, service delivery, clinical care and professional practice.

Professor Frank Oberklaid, an internationally renowned researcher, author, lecturer and consultant, leads a team of over 90 staff from a range of disciplines including paediatrics, psychology, education, early childhood, public health and communications.

Located at The Royal Children’s Hospital, Melbourne, the Centre is a key research centre of the Murdoch Childrens Research Institute and an academic centre of the University of Melbourne.

Further information about the Centre for Community Child Health can be found at www.rch.org.au/ccch
Telstra Foundation

In 2002, as part of its strong tradition of community involvement, Telstra established the Telstra Foundation, a program devoted to enriching the lives of Australian children and young people and the communities in which they live.

The Telstra Foundation supports projects that develop innovative solutions and new approaches to issues affecting children and young people aged 18 years and under, are based on sound research, and develop practical applications of new knowledge and have an emphasis on early intervention.

The Telstra Foundation has two main programs, with the Community Development Fund providing the funding for the practice resource. The Community Development Fund provides grants to charitable organisations for projects that have wide impact and intervene early to address causal factors affecting the health, well-being and life chances of Australia’s children and young people.

Further information about the Telstra Foundation can be found at:
 Criteria for selecting topics

There were a number of criteria used for selecting the topic for each practice resource. These included:

- Importance of the issue in relation to children’s health and development
  There are a number of issues that are very prevalent and impact both on the immediate health and development of the child as well as the impact over the life course.

- Provider need
  Through various forums providers have requested easier access to research based information that will assist directly in their daily interactions with children and families.

- Community need
  Around Australia there is increasing community activity focusing on early childhood. A number of these communities have begun to articulate the desire to support families more effectively through providing services that engage in family centred practice and use research based strategies to address issues that concern parents.

- Parent need and concern
  National consultations have highlighted the issues that parents want more information about. In addition, Australian research has shown that there are a small number of issues that cause parents the most concern about their children.

- Perceived gap between evidence and practice
  There are a number of areas of practice which in general do not reflect research evidence in spite of sound evidence from that research.

- Can be readily incorporated into routine practice
  The primary aim of each resource is to assist professionals in their interactions with children and families. Priority was given to issues about which strategies could be relatively easily incorporated into practice.

- No duplicating of effort
  Consideration was given to whether issues had been addressed elsewhere in similar ways for the same audience.
### NHMRC Guidelines for Levels of Evidence

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Evidence obtained from a systematic review of all relevant randomised controlled trials.</td>
</tr>
<tr>
<td>II</td>
<td>Evidence obtained from at least one properly designed randomised controlled trial.</td>
</tr>
<tr>
<td>III-1</td>
<td>Evidence obtained from well-designed pseudo-randomised controlled trials (alternate allocation of some other method).</td>
</tr>
<tr>
<td>III-2</td>
<td>Evidence obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case-control studies, or interrupted time series with a control group.</td>
</tr>
<tr>
<td>III-3</td>
<td>Evidence obtained from comparative studies with historical control, two or more single-arm studies, or interrupted time series without a parallel control group.</td>
</tr>
<tr>
<td>IV</td>
<td>Evidence obtained from case series, either post-test or pre-test and post-test.</td>
</tr>
</tbody>
</table>
### Glossary of Terms – Research Methodology

Note: Wherever possible these definitions are taken from the *Glossary of Terms in the Cochrane Collaboration, Version 4.2.5, updated May 2005.*

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Case-control study</strong></td>
<td>A study that compares people with a disease or outcome of interest (cases) with people from the same population without that disease or outcome (controls), and which seeks to find associations between the outcome and exposure to particular risk factors.</td>
</tr>
<tr>
<td><strong>Cochrane Review</strong></td>
<td>Systematic summaries of evidence of the effects of health care interventions, intended to help people make practical decisions. For a review to be called a Cochrane Review it must be in the Cochrane Database of Systematic Reviews or the Cochrane Review Methodology Database. These are administered by the Cochrane Collaboration, an international organisation that aims to help people make well-informed decisions about health care.</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>A participant in a randomised controlled trial who is in a group that acts as a comparator for the experimental intervention(s); alternatively, a participant in a case-control study who is in a group that does not have the disease or outcome of interest.</td>
</tr>
<tr>
<td><strong>Control trials</strong></td>
<td>Studies in which participants are assigned to an intervention or control group using specific criteria.</td>
</tr>
<tr>
<td><strong>Effectiveness</strong></td>
<td>The extent to which a specific intervention, when used under ordinary circumstances, does what it is intended to do.</td>
</tr>
<tr>
<td><strong>Evidence</strong></td>
<td>Up-to-date, accurate information about the effects of interventions.</td>
</tr>
<tr>
<td><strong>Randomised controlled trial (RCT)</strong></td>
<td>An experiment in which two or more interventions are compared by being randomly (like tossing a coin) allocated to participants.</td>
</tr>
</tbody>
</table>