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Current Issues in Tobacco Control for Australia

Overview

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Tobacco control has been a top priority for cancer control in Australia for at least four decades. The first firm evidence of the connection between smoking and lung cancer was published in 1950 and greater impetus to the level of knowledge and concern was provided by the first US Surgeon General's report in 1964[1] and the British Royal College of Physicians report in 1962[2]. It has been a hard slog ever since, because tobacco use is so entrenched in social and cultural practices, the tobacco industry has mustered so much influence and the medical and public health lobby has been so weak by comparison.

The pace of progress on tobacco control accelerated in the mid-1990s with the collective assault on big tobacco by most of the US state governments to recover health costs related to treating smokers, resulting in the Master Settlement Agreement. Although the settlement has many problems, it has at least forced the tobacco companies to agree publicly that smoking is harmful to health. With increasing pace of litigation, it is now possible to begin to imagine the "end game" for tobacco, although it may be still many years or decades off.

Framework Convention on Tobacco Control

One sign of this is that tobacco is now recognised as a global problem. The World Health Organisation (WHO) estimates that the annual death toll from tobacco is 4.9 million and rising. To increase the global effort to reduce this epidemic, the WHO has lead the negotiation of the first international treaty on health – the Framework Convention on Tobacco Control (FCTC). The Australian government and NGO delegations played a strong role in the negotiations. Australia is currently completing the formalities to ratifying the treaty and when 40 countries have ratified it, the FCTC will enter into force. Although it is not expected to have a big impact on Australian tobacco control measures, it will substantially strengthen action in many other nations in our region, such as the island nations of the Western Pacific where tobacco control is often weak.

National Tobacco Control Activities

Australia's first National Tobacco Strategy (1999-2004), a partnership between state, territory and federal governments, helped to give some coherence to tobacco control activities. The National Expert Advisory Committee on Tobacco (NEACT), chaired by Professor David Hill, has played a key leadership role in the national strategy. Unfortunately NEACT has now been abolished and there is no clarity about how leadership will be provided for the new five year strategy, now under development.

Michelle Scollo, co-director of the VicHealth Centre for Tobacco Control, has been the driving force in the development of a compelling economic case for increasing investment in tobacco control by Australian governments. Tobacco Control: A Blue Chip Investment in Public Health[3] has been promoted to policy makers, with little visible impact to date. The Commonwealth Government has budgeted $5.16 billion income from tobacco taxes in the next financial year. On the other side of the ledger, it spends a meager $2 million on the National Tobacco Campaign. State and territory resourcing varies considerably, but most states exceed that expenditure on a per capita basis, with Victoria, South Australia and Western Australia doing best. The combined Commonwealth and state investments are all well below the $10 per capita recommended by the Blue Chip manifesto.

Tobacco Product Promotion

Australia has a strong regime to control advertising of tobacco in the media and through sponsorship. The Commonwealth Tobacco Advertising Prohibition Act, in combination with state legislation, has eliminated most obvious forms of promotion, except at the point of sale. The tobacco industry has responded by devising new methods of promotion. Event-based marketing and buzz marketing at youth venues such as nightclubs, rock concerts and rave parties are notable examples. Jane Martin describes these in her contribution to this issue.

Portrayal of smoking in films and television is at record levels in both imported films and local production and there is clear evidence to show that this increases the risk of young people taking up smoking. The Tobacco Advertising Prohibition Act is currently under review. The Cancer Council Australia in alliance with other groups made extensive submissions on these and other issues that need changing. The outcomes of the review are expected to emerge before the end of 2004.

Pack Warnings

Health warnings on tobacco packs are the most direct way of informing smokers of the harm that smoking does and action they can take to quit. Current warnings were introduced in 1995 and have clearly lost their impact. Pictorial warnings with high impact were introduced in Canada in 2000 and a similar regime is to be implemented in Australia in 2006. The warnings will take up 30% of the front and 90% of the back, rather than the 50% of both the front and back favoured by health groups. The Cancer Council's two submissions on these matters can be seen at www.cancer.org.au. Ron Borland explores the issues around pack warnings and the role they can play in more detail in his article, Role of Information on Packages in Tobacco Control.

A Safer Product?

If cigarettes could be made safe, instead of causing the death of half their long-term users, there would be no need for all this effort. If cigarettes could be made safer than they are at present, then presumably the burden of disease they cause might at least be reduced. Caution is needed here, since there have been at least two previous innovations that promised much, but delivered little. The first was the introduction of filters. Smokers rapidly switched preference to filtered varieties partly in the expectation that they were safer. Some filters contained asbestos, or loose fibres that were inhaled into the lungs, which certainly added nothing to their safety. The second major innovation was the measurement and publication on packs of tar and nicotine levels. Many smokers switched to "light" or "mild" variants expecting they were safer. Again this has proved to be a chimera, since smokers typically smoke such variants harder to extract the maximum levels of nicotine from them.

Two papers in this collection explore the questions around making products safer. Bill King examines the prospects for safer products being produced by the tobacco companies. Ellerman and Borland consider the ways in which moves to safer products might be forced on the manufacturers through making tobacco a controlled substance.

Helping Smokers to Quit

Smoking rates continue to decline slowly in Australia. The most recent national survey[4] put daily smoking prevalence at 19.5%, with a further 3.6% less frequent smokers. In the absence of major new campaigns since then, it is unlikely that this figure has dropped substantially. What does seem to be happening, as Miller explores in her paper in this issue, is that the discrepancy between the affluent and well-educated groups and those who are poor and less-educated are widening. In this way, smoking is increasingly a key factor in explaining and reducing health inequalities in Australia. The smoking rates amongst Indigenous Australians are also very high – over 50% in many communities. The group with the highest rates is probably people living with mental illness where rates are around 75%. Again, the high smoking rates are a major factor in the reduced life span of Indigenous people and those living with mental illness.

Although not new, nicotine replacement products (NRT) continue to help many smokers to quit, especially if combined with behavioural counselling and social support. NRT is now available in four forms – gum, patch, inhaler and tablet. Tablets are the most recent innovation and it is possible that more formulations may come on to the market in the future. Another significant change is that NRT products are now available for open sale rather than being scheduled for supply in pharmacies only. Whether supermarkets and other retailers will choose to stock them and the consequent increase in accessibility and possible misuse remains to be seen.

Bupropion (Zyban SR (R)), the only other pharmacotherapy sold for smoking cessation, had substantial uptake when introduced to the Australian market in 2001, especially after it became available on the Pharmaceutical Benefits Scheme. Such high uptake is a clear indication that many smokers want to quit, but need extra assistance to do so. Being available only by prescription brought GPs back to playing an important role in smoking cessation. Prescribing guidelines have recently been changed to require a return visit to the prescribing doctor in mid-course. This is likely to make usage more effective if doctors are able to provide encouragement and deal with any problems as they arise, as well as reducing wastage.

New clinical guidelines for GPs to use effective brief intervention techniques for smokers as part of the standard operating procedure for GPs were launched in June 2004. These guidelines are described in this issue by Suzie Stillman as is their usage for special groups such as smokers with a mental illness. The guidelines further extend the role of GPs as central in smoking cessation.

Passive Smoking

Although the knowledge that active smoking can cause illness and death can be said to be five decades old, the research on passive smoking is more recent, dating mostly from the 1980s. Nevertheless, the awareness that the smoke of others can harm family members, children, co-workers and fellow citizens has had a major impact on public policy. Smoking is often defended as an issue of personal choice where victims bring misfortune on themselves, but the same cannot be said of passive smoking. Hence passive smoking has galvanised the non-smoking majority to demand their right to clean air in public settings and workplaces.

The extent of harm caused by passive smoking is still subject to some dispute. Ridolfo and Stevensen[5] estimated an annual toll of 128, compared to the annual deaths from active smoking of 18,891. Their passive smoking mortality estimate is based on exposure only in domestic settings and it is clear that it is a substantial underestimate. Roder[6] estimates a more accurate figure is of the same order as the road toll – 165 per annum for SA, which would extrapolate to around 2000 nationally. Repace[7], in a special report commissioned for The Cancer Council New South Wales, estimated the annual toll for non-smoking NSW club and bar workers to be 59 per year.

Despite this uncertainty, governments have begun to take action. Smoking is not permitted in workplaces in legislation for most states, with exceptions for hotels and gambling venues (except in Victoria). All workers need to be protected and action is underway to deal with this anomaly. SA and the ACT have announced firm timetables for comprehensive smoke-free workplace and public place regimes and the issue is under active consideration in several other states. Some local government authorities have broken new ground by making playgrounds for children and even beaches smoke-free, issues explored by Todd Harper and Jane Martin in their paper, A Smoke-free Australia – But When?

Litigation

Jonathan Liberman examines the issues around litigation against the tobacco companies in Australia. Litigation has been a powerful mechanism for change in tobacco control and may yet be the mechanism for triggering the end of the tobacco epidemic. In Australia, the action brought by the late Rolah McCabe for compensation for her lung cancer against British American Tobacco (BAT) raised awareness of the actions of big tobacco to defend any litigation by fair means or foul. Although the case was initially successful in the Victorian Supreme Court, as a result of evidence presented that thousands of documents known to exist had been destroyed as part of BAT's "document retention" policy, the case was appealed and is now before the High Court. The McCabe family face crippling costs being awarded against them if the action fails.

The enormous costs and possible risks for individuals bringing action is a major obstacle to litigation in this country. This is why the failure of the Australian Competition and Consumer Commission (ACCC), the body established to act as a watchdog for consumer interests, to fully investigate allegations of misleading and deceptive conduct by big tobacco in Australia is especially disappointing. Although this inaction is the subject of an investigation by a Senate committee, the ACCC has in addition stated that it does not have the resources to undertake a full investigation at present.

Donations to Political Parties

A Private Members Bill, initially sponsored by Mal Washer (Liberal) and Duncan Kerr (Labor), in the Commonwealth Parliament raised the controversial issue of the influence of the tobacco industry on political decision making. The Bill aimed to prevent tobacco industry donations through outlawing public funding of parties that accepted tobacco industry largesse. Although the Bill is unlikely to progress in Parliament, ALP leader Mark Latham has announced that his party will in future reject any donations from tobacco sources. The Prime Minister conspicuously refused a challenge to follow suit.

More recently it has emerged that the former chief-of-staff of the Prime Minister has been employed as a lobbyist by a tobacco company on the issue of tobacco pack warnings. Such is the power and the politics of tobacco control in Australia.

This issue of Cancer Forum summarises only some of the burning issues in tobacco control. Read on for more information and perhaps inspiration to take action in your own way to help end this major health disaster.

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Controlling the Promotion of Smoking – a Lesson in Industry Ingenuity

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Australia has an enviable reputation internationally regarding its legislation limiting tobacco advertising and promotion, particularly in the mainstream media. This has led the tobacco industry to describe Australia's retail environment as a "dark market"[1]. There is no doubt that this approach, together with the development of other elements of a comprehensive tobacco control policy, has helped to bring downward pressure on tobacco consumption and prevalence.[2] (Figure 1) However, it would be naïve to believe that because tobacco advertisements in the print, broadcast and outdoor media are banned, that this has put an end to marketing activities by the tobacco industry. The industry is still actively promoting its products, particularly to young people. Two recent developments provide an opportunity for the Commonwealth Government to curb continuing, but less visible tobacco promotional activity -– the review of the Tobacco Advertising Prohibition (TAP) Act 1992 and the signing of the Framework Convention on Tobacco Control.

Tobacco advertising is particularly powerful with young people as it provides them with socially acceptable images of smoking. It normalises cigarette smoking and associates it with attractive role models and glamorous images.[3] This promotion occurs without the manufacturers making clear the extent of harm the products cause and the risk of addiction.[4] The impact is not just to encourage uptake, the US Surgeon General notes a number of ways in which tobacco advertising and promotion affects consumption:[5]

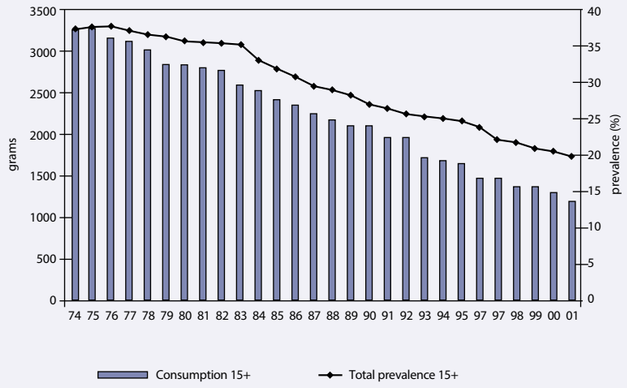
- Encouraging children or young adults to experiment with tobacco products and initiate regular use;
- Acting to reduce current tobacco users' motivation to quit;
- Acting to encourage former smokers to resume smoking; and
- The ubiquity and familiarity of tobacco advertising and promotion may create an environment in which tobacco use is seen as not only acceptable, but likely to be without hazard.

To be effective, bans on tobacco advertising and promotion must be comprehensive, covering all media and uses of brand names and logos. Partial bans have limited or no effect, as the tobacco industry responds by moving their promotional dollar from the restricted media into areas where it is unrestricted.[6] This also has the effect of undermining the cost effectiveness of economic policies intended to reduce overall consumption.[7]

Review of the TAP Act

Legislation restricting tobacco advertising has been in place for many years, commencing with a ban on tobacco advertising on television, cinema and radio in the mid-70s. The Tobacco Advertising Prohibition Act 1992 set a national standard

Figure 1:
Per capita smoking consumption & prevalence, 1974-2001



Source: VicHealth Centre for Tobacco Control

prohibiting print advertising, payment for product placement in films, and sponsorship with the exception of internationally significant events – which will cease in 2006. The review of the Act more than a decade after its introduction was established to "consider whether it has met its objective of limiting the exposure of the public to messages and images that may persuade them to start or continue smoking".[8]

A measure of the scale of tobacco industry marketing in light of the current restrictions at both a state and federal level can be seen in the relationship between advertising agency Belgiovane Williams Mackay (BWM) and their client Imperial Tobacco in 2000. The account was worth $10 million and Imperial was a minor player in the market, controlling a mere 16.5% share. BWM's advertising brief was for "below the line" activity including point of sale material, packaging, events management, e-commerce and relationship marketing.[9]

There are two types of tobacco promotion. One is by those directly involved in the tobacco trade, such as tobacco companies, retailers and advertising agencies – all who stand to benefit from the promotion of the product. The other is promotion of tobacco products and smoking by others, such as broadcasters and filmmakers, who are not directly involved in the tobacco trade and do not stand to benefit from such portrayals. Each of these forms of promotion are explored in more detail in the following outline.

Integrated Tobacco Marketing

The tobacco industry has shifted its focus from mass media advertising (print, television, cinema, radio, billboards), also called 'above the line', to 'below the line' marketing which covers other forms of promotion including direct marketing, events, price reductions, public relations activities, email promotions, displays at the point of sale and so on. For advertisers of most consumer products, a mix of both above and below the line marketing practices is utilised to provide multifaceted support for a brand.[10] Below the line activities are considered economical, unique and attractive to reach the youth market.[11]

Event and Venue Promotions

Tobacco marketing through events such as dance parties and fashion parades has emerged as an important strategy to increase product appeal with youth. According to one promoter, the tobacco companies use marketing consultants to slip their products 'under the radar and into hip events'.[12] Examples of this are the UnLtd events which were used to promote Marlboro. The advertising agency handling the Marlboro account, Leo Burnett, applied to register the UnLtd trademark and the www.unltd.com.au website in August 2000.[13] It promoted dance parties in major cities throughout Australia, featuring high profile international artists. Marlboro cigarettes were promoted exclusively at the venues, along with red white and blue theme colours, synonymous with the American image of the Marlboro brand. The UnLtd event co-sponsors were other brands targeting the youth demographic with products such as energy drinks, clothing and magazines.†

The development of a database was an important part of the marketing mix for research purposes and to establish linkages between patrons and the event organisers. After the event, patrons who had registered interest in promoting forthcoming events were emailed and offered complimentary and reduced price tickets in return for encouraging friends to attend these events. The names of the friends were then forwarded to the event organisers. The cash incentives increased with the number of friends who attended the club event, for example if up to 20 people attended the organisers offered $150.[14] Databases have been developed over many years through special offers linked to tobacco brands, particularly Philip Morris and the Alpine brand.[15]

Marketing at Point of Sale

Advertising where cigarettes are sold, including display of the tobacco pack itself, has a significant impact on members of the public. This is because this advertising is seen many times, particularly by children, in retail environments. As mainstream tobacco advertising has become more restricted, point of sale has become more important to the tobacco industry – "When above-the-line was banned, the retail environment became the front line for brand building, absorbing massive resources and being seen as the primary site for sustaining relationships with the consumer".[16]

Premiums and Value Added Promotions

Promotions such as gifts or a free packet of cigarettes with a tobacco purchase have been used in Australia. These have included lighters, shot glasses and pocketknives. Evidence suggests that these gifts may make young people more likely to take up smoking. Teenagers who can readily name a cigarette brand and who own a tobacco company-sponsored promotional item are more than twice as likely to become established smokers than those who do not.[17]

Promotions through the Pack

The cigarette pack, carrying the trademark, is the cornerstone of the industry's marketing strategies to build rapport and brand image with existing and prospective customers. The tobacco companies use the pack as a communication tool in a number of different ways. For example they have printed on the inside of flip-top packs, printed on or changed the colour of the foil inside the pack, subtly changed pack design to provide novelty and used pack and carton inserts and outserts – used for example to join two packs into a single "mini-carton" and display advertising imagery on these packs".[18]

British American Tobacco (BAT) has adjusted the logo on their Benson and Hedges packs which were then launched through events in nightclubs. A BAT employee said that the packs were created "for fun and to increase interest in the brand" and that they were "playing with the logo because we can't do any advertising anymore".[19]

Tobacco Marketing on the Internet

Exposure to tobacco marketing on the internet is an ever increasing problem. Many websites both in Australia and overseas offer tobacco products for sale and glamorise the products and their use. In the earlier example of the UnLtd events, the website has been used to provide services (promoting upcoming events) and also to host surveys for patrons around smoking and tobacco brand imagery.[20] Websites have also been established on behalf of the tobacco industry to promote non-tobacco products, such as with Wavesnet which promoted fashion accessories and linked to other female orientated websites.[21]

Exemptions for Sport and Cultural Events

The exemption in the TAP Act allowing tobacco sponsorship of events "of international significance" will sunset in October 2006, after which no further events may take place. However, this has been an important tool for the tobacco industry. The Australian Formula One Grand Prix provides an opportunity to launch new brands in Australia, which occurred in 2003 when West was launched in the Victorian market by Imperial tobacco. The West McLaren Mercedes won the event this year, which would have provided further valuable exposure for the brand in newspapers and magazines at no cost. This was acknowledged in the trade magazine Australian Retail Tobacconist:

> The Grand Prix victory is a major marketing coup for West, with the extensive exposure generating significant awareness and credibility for the West brand and product range in Australia… The new cigarettes will enable mainstream smokers in Australia to join the winning team and experience the adrenaline charged action of Formula One.[22]

Promotion through Depiction of Smoking

The tobacco industry and its advertising agencies are not the only organisations involved in promoting smoking. Publishers, broadcasters and filmmakers also play a role by depicting smoking in various mediums. This is of concern because it exposes the public to imagery glamorising and normalising smoking in newspapers, film, on television and in popular magazines.

The increasingly common depiction of smoking in films plays a powerful role in enhancing the social acceptability of smoking. These portrayals influence young people by making them more susceptible to this type of behaviour.[23] Research has shown that over the decade 1988-97 images of tobacco smoking appeared in 85% of top box office films, with tobacco brand names appearing in one quarter – including 20% of those rated for children. Another study of films between 1990 and 1996 found that tobacco use in films is also out of step with actual smoking prevalence, 57% of leading characters smoked, compared with 14% of people with similar social backgrounds in the general population.[24]

Impact of the Framework Convention on Tobacco Control (FCTC)

The FCTC is the world's first public health treaty and contains policies proven to reduce tobacco-related illness and death. It commits governments to action - by signing the convention they declare their intention to meet the specified minimum standards. The treaty will become binding when 40 countries ratify it. Article 13 on tobacco advertising states: "Governments shall, within five years, ban all tobacco advertising promotion and sponsorship. Countries whose constitution does not allow a ban shall restrict all forms of tobacco advertising, promotion and sponsorship".[25]

Given that much tobacco advertising comes through the broadcast of tobacco sponsored events from overseas and internet advertising, as domestic laws become more restrictive the industry will get around these laws by exploiting weaker laws in other jurisdictions. It is important that Australia plays a leading role by ratifying the FCTC and in developing protocols in relation to tobacco promotion.

Recommendations of the Submission to the Review of the TAP Act

The major recommendations that health groups have advocated include:

- A broader definition of tobacco advertisement to ensure that it covers the type of activity that the tobacco industry is increasingly utilising. This would include guerilla marketing; event and venue marketing; point of sale marketing; promotions using the cigarette pack; marketing on the internet; direct marketing and use of premiums. Where communication is absolutely required, it should be limited to the provision of factual information about price, availability and inherent characteristics of products.
- The promotion of tobacco products and smoking by others, including broadcasters, who do not benefit from the promotion needs to be approached in a different way. Public health concerns need to be balanced with other important values such as freedom of expression. Amendments to sections covering "accidental and incidental" promotion and depiction of smoking are suggested, as well as recommendations to address smoking in films.
- Introduction of penalties that are of sufficient size to take into account the impact of the marketing and the incentive of the tobacco industry to do all it can to promote its products.
- Vigorous enforcement of the legislation together with the allocation of adequate resources in order for this to occur.
- Ratification of the Framework Convention on Tobacco Control and a lead role in the development of protocols in those areas where international cooperation is needed to prevent activities outside Australia which weaken the capacity of the TAP Act to achieve its objectives.

Conclusion

The Commonwealth should establish strong, unambiguous laws in relation to all areas of promotion. It is imperative that it does not leave open the possibility of weaker regulation in certain states and territories than the Commonwealth itself can achieve. This would result in different standards in different jurisdictions, depending on their location in a particular state

† Staff from Quit Victoria attended the UnLtd events in Melbourne and witnessed the activities described.

or territory.

The future of tobacco advertising and promotion will depend, to a large extent, on the outcomes of the review of the TAP Act. The examples outlined show how the tobacco industry promotes tobacco use in a "dark market". The lessons from previous decades show that bans on tobacco advertising do work, however the lessons provided by the last 10 years show that we can't approach this issue in a piecemeal fashion; to be effective restrictions must be truly comprehensive.

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The role of information on packages in tobacco control

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The challenges of reducing tobacco use in a society in which its use is widespread should not be underestimated. It requires an integrated, comprehensive approach that adopts a range of strategies[1,2]. This paper considers the role of consumer information on packaging as a strategy to discourage smoking and/or encourage quitting. In it I want to do three things: conceptually position pack information in terms of the roles it might play; briefly review the evidence for it making those contributions; and then sketch out what our optimal package information system might look like.

Left to their own accord, tobacco companies have almost universally failed to provide any warning material in or on packs (or pretty much anywhere else for that matter). The only exceptions we can think of was a cigarette called 'Death' that was briefly sold some years ago, which did have a warning, and the recent move by Philip Morris to introduce warning inserts into packs in some countries. This latter development seems to be part of a new strategy by Philip Morris to appear socially responsible. It should be applauded, but we need constant vigilance, as it may be a thin veneer to cover themselves against future litigation rather than a genuine attempt to serve the public interest.

The task of warning the public has largely been left to health authorities. Authorities have mandated two broad kinds of information: warnings about the harm and information designed to provide levels of certain chemicals or classes of chemicals in the smoke. In some countries, including Australia, contact details to obtain further information (eg a telephone hotline number or website) have also been provided. As far as we know, there has been no formal evaluation of the use of information sources. Informally, it seems to vary with the quality of the service provided and the degree of promotion. There also appears to be a novelty onset effect of a peak in use when a source of information is newly introduced.

Contents information has had some scrutiny. Australian research shows that the introduction of information about tar, nicotine and carbon monoxide (CO) marginally increased smokers' knowledge, however, recall of the levels of these constituents is poor[3]. This poor recall maybe a blessing in disguise as the information on levels of the constituents is misleading if it is taken to be an indicator of likely exposures – which would seem to be the only sensible reason for having it on the pack. The numbers on the pack are based on testing cigarettes using the ISO standard procedure of taking 35ml puffs over two seconds until the cigarette is burned to a predetermined butt length. The Australian numbers are for tar, nicotine and CO. They are reported in bands with the upper limit rounded down, for example, the tar band "not more than 8mg of tar", means between 5.0 and 8.9mg and "not more than 12mg of tar", means between 9.0 and 12.9mg. The main problem with the measures is that most smokers do not puff like the machine; they puff harder, especially for so-called 'light' cigarettes they also occlude ventilation holes in the filter, something the machine does not[4]. International studies[5] have demonstrated that the amount of nicotine smokers take in, as evidenced by the nicotine metabolite cotinine in their saliva, only bears a very weak relationship with the ISO tar level of the brand they smoke. Tar and other smoke constituent information on packs is currently misleading. It is gratifying that the Australian Government is acting to remove this information.

The main function of government-mandated information has been to provide health warnings. In Australia, there have been three sets of health warnings, with a fourth soon to be introduced. The first, from 1973 to 1987, simply read "Warning – Smoking is a health hazard" and was on the bottom of the front and back in colours chosen by the tobacco companies. The second, from 1987 to 1995, included four rotating warnings. They took up 15% of the front and back and again were placed at the bottom of the pack, using colours chosen by the tobacco companies. Research evaluating these warnings[6] showed that the warnings were often designed to be inconspicuous, a function of both designing the warnings into the pack and their position at the bottom of the pack. The third set of warnings, from 1995 to the present, has six rotating warnings covering 25% of the front and 33% of the back, with black text on a white background, both positioned at the top of the pack. The Australian Government has decided to introduce stronger warnings, which will include graphic pictures from the start of 2006. They will take up 30% of the front and 90% of the back, rather than the 50% of both front and back favoured by health groups. Tobacco companies have lobbied strongly against all previous warning systems[7,8] and have been able to have them watered down and/or delayed. The current debate is no different, although only two of the three main companies appear to be opposed; Philip Morris say they accept them. The companies wanted less of the front taken up by warnings and campaigned successfully for 30% of the front. We conducted some simple research, which showed that when smokers put their pack down, they nearly always (95%) were placed front up. Smokers also have the front towards them when taking out a cigarette and cigarette displays in shops rarely, if ever, have the back of cigarette packs displayed. Clearly the front is more important than the back as a place to have warnings.

The impact of health warnings has been studied in more detail than other aspects of packaging information and there is now enough research evidence to draw some clear conclusions. I want to briefly introduce the conceptual models on which current thinking on warning labels is based and then summarise what we know about what works and with whom.

Pack warnings need to be thought of as only one of a range of strategies for better informing smokers and potential smokers about the health risks associated with smoking. They have a number of strengths, but also considerable limitations. Among their key strengths are that they are potentially available to be seen and read by smokers when they are purchasing, or contemplating purchase and when they are about to smoke a cigarette. These are key points in smoking behaviour. On the other hand, there are limits on what can be provided in the limited space available on packs, limits to the extent to which new information can be added and, governed by the jurisdictional base, limits on the kind of information that can be included.

Because of their proximity to tobacco use, health warnings can potentially play a role in inhibiting impulses by potential new users to try or persist in trying cigarettes. They can also act as a stimulus to existing smokers, reminding them of reasons why they should quit, including bringing to mind emotional concerns about the harms of use.

The relatively circumscribed warning material on a cigarette pack could play the role of providing information that was complete and which bears no necessary relationships with other information and/or it could be used as a summary of and reminder about more comprehensive messages. Arguably, in a country like Australia, where generic information about the harms of smoking has been around for decades, the prompting role is likely to be paramount. However, the potential to use warnings to inform about specific conditions that are less understood is still considerable.

To have any impact, health warnings, need to be noticed*. For a long-term smoker, this may not happen frequently. The habit of removing a cigarette from a pack is so over-learned that it often happens without the smoker looking at (or noticing) the pack. Neophyte smokers on the other hand are much more likely to look and being naturally curious about any new product, are much more likely to attend to whatever is there – both warning and tobacco company-controlled information and imagery. The other groups who may be most affected are smokers open to quitting, where it may prompt them towards action and smokers who have recently quit but who are wavering, where sight of the warnings might inoculate them against relapse, if only for a few crucial seconds. A more comprehensive review of mechanisms by which warnings might have effects can be found in a review by Strahan et al[9].

Hill[10] found that knowledge of the second wave of warnings was high shortly after their implementation and CBRC[6] reported that the levels found then were close to maximum levels for recall of the warnings. This suggests that warnings have a strong initial impact. Borland and Hill[3] found that the introduction of the current Australian warnings led to increased understanding, including increased recall of the warnings information. As part of the same evaluation, Borland[11] found that reactions to the old (1987-1995) warnings, in particular forgoing a cigarette after noticing the warning, predicted subsequent cessation activity. That study also showed that the introduction of the strengthened warnings increased this forgoing of cigarettes, suggesting that the new warnings may have led to increased quitting activity.

This study was the first longitudinal study to show behavioural effects of health warnings on tobacco products. More recently Hammond et al[12] studied the introduction of large graphic warnings in Canada and found similar results to those of Borland[11], but extended them to show that the effects

* This may not be strictly correct. By taking up space that could have been used to stimulate increased smoking, the mere presence of warnings could have an effect. Any such effects are ignored in this analysis.

on subsequent behaviour applied to the graphic warnings. Smokers who noticed and/or reacted to the warnings (then in place for several months) were more likely to have engaged in quitting activity three months later. Fong et al[13], as part of the International Tobacco Control Policy Evaluation Survey, has extended this further to demonstrate similar effects for warnings in four countries (USA, Canada, Australia and UK) where the size and prominence of warnings varies greatly. Fong et al[13] also found marked increases in awareness of labels in the UK following a shift from 15% at the bottom in industry chosen colours to 33% black on white. They also found that while the warnings increased in salience, levels of them leading to thoughts of quitting were still below levels for the larger graphic Canadian warnings.

The other important findings are that there appear to be no major adverse consequences[3,14] and there is some evidence for warnings losing some, but not all, of their impact over time. For example, Trotter[15] found a decline of reporting butting out cigarettes prematurely two years after the levels reported by Borland[11], albeit in a differently constituted sample. There is also evidence for positive effects on adolescents. Fong[16] has shown that the Canadian warnings are noticed more than the weak US ones by all adolescents and that the stronger warnings significantly increased adolescent smokers' intentions to quit as compared to the controls.

There is also a large amount of unpublished work. In sum, it indicates that the larger and more prominent the warnings the better and that graphic warnings almost certainly add extra benefit, but this may need to be qualified as graphic pictures that are not direct displays of damage may be relatively ineffective. Warnings do increase smokers' thoughts about quitting, they generate some immediate reactions, like forgoing a cigarette or prematurely butting one out and these things are associated with increased subsequent cessation. They also appear to play a positive role in helping recent quitters to stay quit and may inhibit uptake, but this last proposition remains poorly supported by data. All of these effects are modest, but as the warnings are of minimal cost to health authorities, they almost certainly represent cost-effective strategies for reducing tobacco use, as well as fulfilling important requirements to ensure consumers are well informed.

While warnings have positive effects, there are good theoretical grounds for believing that they could be improved even further. They probably lose some of their potency over time, are not timely and are poorly linked to other tobacco control activity. David Hill[17] has been arguing for a more dynamic system. This would require capacity to rapidly change warnings as new knowledge of health risks emerges. It would also be designed so that imagery used in campaigns could be rapidly placed on packs, thus enhancing the capacity of the pack warning to evoke an entire story from a single image. The system should promote the Quitline number and website (planned for the packs) in other media. There could be tie-ins between pack and point of sale warning and consumer information. An ideal system should also have capacity to more quickly provide better contents information if and when suitable measures are developed. Further, the system should be able to be responsive to ongoing research or deficits in smokers' knowledge and understanding and be able to use the pack as a part of attempts to rectify those deficits. Such a system would require dedicated legislation, but anything less is unacceptable for products as addictive and deadly as smoking. We have made considerable progress in improving the information we provide to smokers, but still have a considerable way to go to achieve all that is both practical and necessary.

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Regulating Tobacco Products

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Tobacco is a unique consumer product in causing a continuing epidemic of illness and premature death among its users while being used as intended. A strong case can be made that many of the current practices of the tobacco industry are illegal[1]. While the promotion of tobacco products has been increasingly restricted in Australia over the past four decades, the product itself has remained almost untouched by any form of control and very limited collection of information. For example, there is no public information available on the performance characteristics of Australian cigarettes after the Commonwealth's testing regime was abandoned in the early 1990s, it is only as a result of a voluntary agreement between tobacco manufacturers and government in 2000, that some information on additives is disclosed through the Department of Health and Ageing website[2].

At least one company has routinely collected data on engineering and performance characteristics of its own and competitors brands[3] and this sort of information should be publicly available. Efforts need to go beyond collection of information to exercising control in the public interest. No attempt has been made to control what additives are allowed, even though many add to the attractiveness of this inherently toxic product and some have been linked to increased addictiveness. Levels of carbon monoxide, tar and nicotine have long been printed on packets and there is a voluntary agreement to limit these, but it is based on a measurement system that bears no relationship to actual exposures, so it is not only useless but systematically misleading. Indeed, reporting notional tar levels has provided new marketing opportunities for "light" and "mild" brands to consumers who are mostly unaware that the numbers are misleading as an indication of intake or harm.

By contrast foods must meet regulatory requirements set by Food Standards Australia New Zealand for safety, standards in production and manufacturing, disclosure of ingredients and nutritional information and are subject to recall when found to be defective, contaminated or unsafe. There is an average of four to five recalls per months. Imagine how quickly Vegemite would be withdrawn from sale if it were discovered that it killed half of its loyal users prematurely.

Medicines and therapeutic goods must conform to demanding standards prior to being registered for use by the Therapeutic Goods Administration (TGA). Nicotine replacement products designed to assist smokers to quit must meet rigid standards of purity, safety and effectiveness to be licensed for sale. Extensive information about usage, possible side effects and contraindications must be included with the product to inform users and the conditions of sale are strictly regulated, for example by pharmacists or prescription only.

A handful of deaths, birth defects, or cases of illness attributable to a drug can be sufficient for it to be prohibited from sale. The recent Pan Pharmaceuticals disaster may have resulted in some deaths, but lack of quality control in their manufacturing processes was sufficient for their license to be withdrawn by the TGA. For a drug to cause 19,000 deaths a year and still be available in every corner shop, supermarket and pubs would be unthinkable.

Emerging Need for Regulation of Tobacco

The harm done by tobacco would seem to be sufficient reason for a regime to regulate the harm that it causes, but for historical, social and political reasons, this has not happened to date. The reasons for this are complex, but include a focus on reducing or eliminating use without consideration of the possibility, indeed likelihood, that there will always be a market for a mind altering substance such as nicotine. Those working in tobacco control are increasingly concerned about this rump of continuing users. There are also new reasons emerging that may force regulatory action. Much of this has to do with product convergence between tobacco products, foods and therapeutic goods.

- The emergence of tobacco products claimed to be safer to smoke (eg Quest 1,2,3, which are low nicotine cigarettes; Omni and Advance which are reduced carcinogen (some) cigarettes) In some cases, they more closely resemble nicotine replacement products than traditional cigarettes (eg Eclipse and Accord are pseudo cigarettes where the tobacco is heated rather than burned).
- Snuff and chewing tobacco products are currently illegal in Australia. Some of these products cause less harm. Swedish Snus (a moist oral snuff) is often singled out as the most promising candidate for a model harm-reduced tobacco product[4].
- Attempts have been made in some countries to market food-like goods that contain tobacco or nicotine. Examples include a toothpaste with tobacco added and drinks or confectionery containing nicotine. To date these have been prohibited in Australia. If such "foods" containing nicotine or tobacco are not permitted, how can tobacco continue to be freely sold?
- Some nicotine-replacement products increasingly resemble cigarettes. The nicotine inhaler shares many features with cigarettes. The pharmaceutical industry has the capacity to produce new forms of nicotine delivery devices that mimic the features of cigarettes (eg rapid uptake of nicotine, pleasant taste etc), but currently are discouraged from doing so. There is concern that new NRT products that are acceptable to smokers as a satisfying alternative to tobacco may perpetuate tobacco use. However, others have argued that such drug "abuse" would be much safer than smoking and has in fact been proposed by tobacco control advocates (eg Henningfield[5]).

The tobacco market is a classic case of market failure. Consumers cannot rationally judge the harms of use (not surprising as the experts can't either), therefore they make consumer choices on things like satisfaction. To date the most satisfying products have been the most harmful (partly because of that attractiveness). If public policy is to be serious and consistent about trying to reduce as far as possible the harms from tobacco use, then regulation of all aspects of the tobacco market, including the product, is essential.

FORUM

If Tobacco Itself is to be Regulated How Should it be Done?

The simplest alternative would be to give the power to regulate the composition and manufacturing of tobacco products to one of the existing regulatory bodies. Several attempts have been made to extend the powers of the US Food and Drug Administration to cover tobacco, so far without success. In Australia there is no equivalent body that covers both food and drugs, so responsibility would need to be given to either the TGA or Food Standards Australia New Zealand. This would cause both bodies some concern in that tobacco is clearly not like the products they currently regulate. Tobacco is almost the opposite of a therapeutic substance such as those that the TGA has responsibility for, although it has some similarities to the "alternative" herbal medicines they also regulate. Similarly, tobacco is not a food like any other, since it is clearly not a part of the nutritional intake and is lethal for long-term users. If these conflicts were considered to be too problematic, a new body might be created specifically to regulate tobacco. In any case, manufacturers would need to be licensed and regularly inspected to ensure they were compliant. The ultimate sanction would be to suspend their license.

What Should be Regulated?

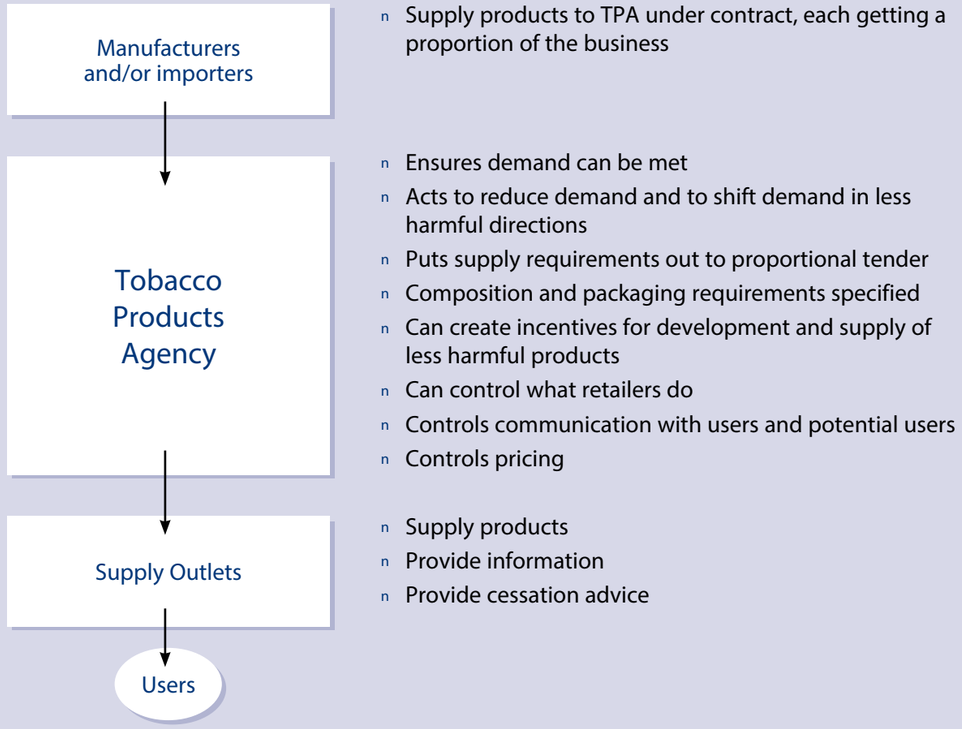
The aim of any regulation must be to reduce the harm caused by the use of tobacco. This can be achieved by some combination of:

- Limiting the level of toxicity of the product, for example by regulating maximum levels of at least some of the main agents known to be harmful such as tobacco-specific nitrosamines, polycyclic aromatic hydrocarbons, hydrogen cyanide, acrolein and heavy metals[6].
- Controlling the level of addictiveness, for example by controlling allowable nicotine levels (although there may be a problem if smokers compensate by increasing the number smoked to achieve desired levels of nicotine uptake).
- Making the product less palatable, for example by removing additives designed to mask harsh taste or add attractive aroma.

The approach needs the best possible science. As our current understanding is limited, it is imperative that regulation allows the flexibility to change to better methods as the science develops. Over time, the levels of toxicity, addictiveness and palatability parameters could be reduced. Yet internationally little has been done. Only two places have implemented any serious regulation of tobacco products. New York State and Canada have both recently moved to ensure that cigarettes are self-extinguishing: that is they go out after a short time if not actively puffed. This has been aimed at preventing death and injury through fires started by cigarettes, rather than preventing harm to the smoker. While a worthwhile move, it is peripheral to the main game.

Regulation is not a panacea. It can be expensive and cumbersome and can even hinder desirable innovations. To the extent that manufacturers' interests are in conflict with regulators, they are duty-bound (to their shareholders) to seek ways to circumvent or sidestep regulation in order to maximise their profits. In doing this they often try to reduce the regulators' effectiveness. The regulatory body can be captured by the industry players through relationships that are either too close or through outright corruption. Regulators can be subject to political control or influence, or starved of resources to do their job properly. Regulation is always under pressure to be minimised or wound back where it conflicts with free-market values.

Figure 1: The Regulated Market Model



Recently, Borland[7] has suggested looking more closely at the patterns of incentives and has suggested restructuring the industry to better align industry incentives with the public interest. Under this approach, which Borland calls a Regulated Market Model, tobacco companies would retain the rights to manufacture tobacco products, but instead of marketing direct to users, they would have only one customer – a Tobacco Products Agency (TPA). The TPA would in turn sell to wholesalers and retail outlets. Smokers would purchase their products from retail outlets in much the same way as they do now. The charter of the TPA would be specifically to reduce the harm caused by tobacco. To pursue this goal it would have powers to:

- Meet demand from customers but act to reduce it over time;
- Call for tenders for supply of products from manufacturers or importers;
- Specify product composition, including limits to toxicity, addictiveness and palatability;
- Create incentives for the development of less harmful products;
- Control communication with users, through advertising, promotions and branding (or the lack of it);
- Control pricing; and
- Use marketing, price or other mechanisms to shift demand in the direction of less harmful products.

The Regulated Market Model is depicted in Figure 1.

Over time, the TPA would move to reduce the toxicity of tobacco products as rapidly as consumer preferences allowed. It could introduce new products conditional on them not having unacceptable interest to new users and, when viable alternatives existed, phase out the more harmful products. As a result of its direct relationship with manufacturers, it would engender a collaborative, rather than antagonistic relationship. Profitability for tobacco companies would be tied to their performance in meeting the needs of the TPA.

With its power over packaging and promotion, it might be expected that the TPA would move to eliminate the value added by branding by supplying product in generic packaging, together with a system of educating users to ensure they are more fully informed of the health consequences of the products and ways to reduce or eliminate risk.

Competition between manufacturers would be preserved, but the industry's ability to produce innovation would be harnessed in the interests of harm reduction rather than maximising sales and profit. In such a system there would be incentives to provide information on product composition and performance to promote their competitive edge to the TPA. The TPA would need to have expertise in product design and toxicology, which at present, is mostly held by manufacturers. In this way, the TPA would act as the ideal fully informed customer, able to assess the risk and rewards of products supplied in the interest of its ultimate smoking customers and the community in general.

A body such as the TPA is subject to some of the same problems of being captured by the industry it seeks to regulate such as political interference or neglect. Ensuring independence, transparency and accountability will need to be a high priority in the establishment of the TPA to reduce this potential.

The adoption of the Regulated Market Model is likely to be difficult. There are few precedents for such a powerful body, although it does have some similarities with the monopolistic export or marketing bodies for agricultural products that have existed for grains, dairy products and fruit and vegetables. It also bears considerable similarity to alcohol marketers in some US states, most of Canada and in Scandinavia. Governments may be unwilling to be associated with the production and sale of tobacco products and the health problems that it entails. Tobacco control advocates may have no doubt that the size of the problem justifies such an unusual solution, but policy makers may not be so convinced. There is no natural constituency to advocate for such a solution beyond the public health groups and perhaps the victims of big tobacco. The industry would no doubt oppose its adoption with all the resources it can muster.

Given these obstacles, it would be unrealistic to expect a TPA to be established in the near future. The trigger for adopting such a model is most likely to be a major crisis, such as the escalation of litigation against tobacco companies or retailers that threatens their very existence. Such a crisis is far from unimaginable, given the rapid increase in the number and extent of successful cases being brought to courts throughout the world.

Conclusions

Tobacco products are in dire need of control to reverse the continuing epidemic of tobacco related diseases that they have unleashed globally in the last century. To date, tobacco products have been regulated only in respect of how they can be promoted and to whom. The time has come to seriously address the need to regulate the product itself to make it less harmful.

Two plausible mechanisms to do this have been discussed. The first is regulation by an existing body such as the Therapeutic Goods Administration or Food Standards Australia New Zealand. If the inherent contradictions of either of these bodies taking on the task are seen as being too great, a new regulatory body may need to be created.

The second alternative is a more radical one and would involve interposing a Tobacco Products Agency between the current manufacturers and the distributors, retailers and smokers. The TPA would have an explicit charter to reduce harm by controlling the product through tender specifications, how it is packaged and how it is marketed. This is likely to be a more effective way of reducing harm, but faces more obstacles in being adopted.

Regulation of the product is the missing plank in comprehensive tobacco control. It's time for governments to start thinking seriously about it.

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Smoking and Social Inequalities

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Introduction

There is an extensive body of literature documenting the relationship between smoking and socio-economic status (SES), both throughout Australia and the world[1-10]. These studies have all shown that people of low socio-economic backgrounds, or living in low socio-economic areas are more likely to smoke tobacco. This effect remains despite SES being measured using a range of different indicators, including income, education, employment status, area of residence, or any combination of these and others. This brief report presents a picture of the socio-economic predictors of smoking in South Australia, which are likely to be very similar for Australia more generally.

Methodology

The Health Omnibus Survey (HOS) data forms the basis of this report. The HOS has been used to monitor progress in tobacco control in South Australia for over a decade and is conducted in spring every year. The response rate has always been at least 70% with a sample size of 3000+. The sample is weighted by age, gender and geographic area to reflect the South Australian population. To determine trends over time, data were used from 1989 onwards (or as early as possible). Where trends were not required, 2002 data were used. Postcodes for all respondents and participants in the HOS were matched against the Index of Relative Socio-economic Disadvantage (IRSD) from the Socio-economic Indexes for Areas (SEIFA) published by the Australian Bureau of Statistics[11]. This summary measure combines a range of information relating to social and economic characteristics of populations in postal areas and gives an overall value of disadvantage for that area. The information used to determine this index includes household income, education, employment status, family structure and occupation[11]. The scores of IRSD for each population are divided into quartiles, for ease of interpretation from highest level of disadvantage (1st quartile) to lowest level of disadvantage (4th quartile). Analyses were conducted using SPSS volume 11.5 and EpiInfo 6.

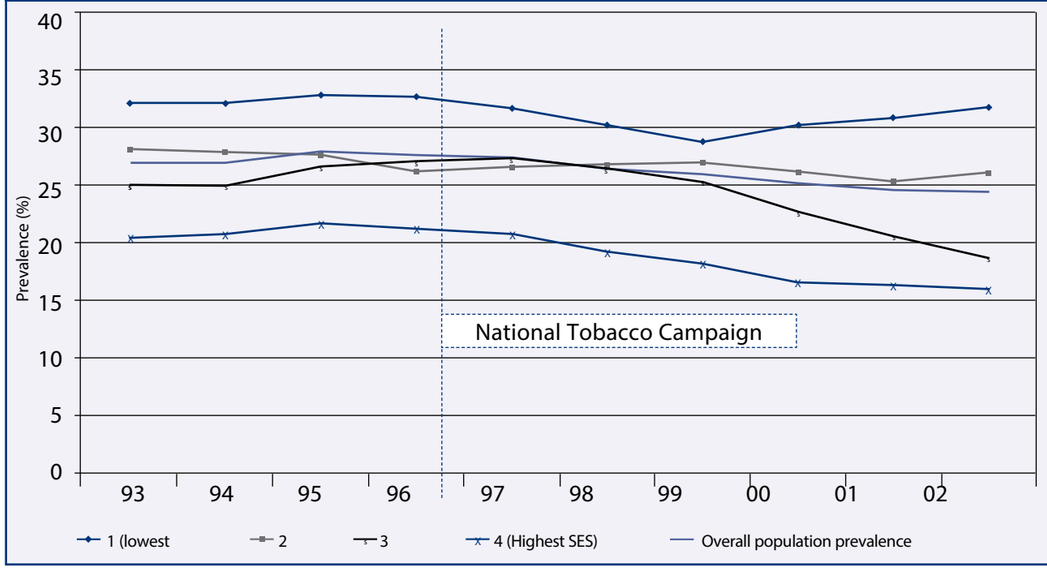
Key Findings

Smoking and the 'Widening Gap'

Evidence from the UK demonstrates that a widening gap is emerging between smoking rates among the most and least advantaged sectors of that society. While smoking rates in the UK have decreased among the more affluent, the same advances have not been observed in the lower social classes[3,12,13]. This has lead the UK Government to set a target to reduce smoking in the whole population and to make most progress in the groups of least socio-economic advantage.

Arguably, tobacco control in Australia has been more progressive than in the UK. In Australia we have had more comprehensive restrictions on tobacco advertising, legislation or policy to restrict smoking in public places and workplaces, considerable excise on cigarettes, internationally acclaimed mass media campaigns to promote quitting and good cessation services for smokers. In 1997, Australia launched the National Tobacco Campaign, deliberately targeting blue-collar workers, because smoking rates were highest and potential gains to public health from quitting were greatest in these groups. Comprehensive evaluations of that campaign suggest that significant quitting occurred in response to that campaign, in blue-collar groups, but also across all other occupational levels[14].

Figure 1:
Smoking prevalence for South Australia over time and by Index of Relative Socio-economic Disadvantage quartiles (1993-2002)



SES = socio-economic status

Figure 1 shows that smoking rates fell in all sectors of the South Australian community from 1997 onwards. However, the gap in smoking prevalence has widened slightly over recent years and particularly since 1999, where the prevalence rates in the lowest SES quartile began to trend upward and those in the highest quartile remained on the downward trend. There is a similar trend for both males and females.

Smoking and Quitting by SES

Some studies from the UK indicate that the increase in disparity observed there may have occurred, at least in part, because smokers in lower social classes find it more difficult to quit smoking. Jarvis[12] argues that although smokers with higher levels of deprivation express as much or more desire to quit smoking than those of lower levels of deprivation, those with high levels of deprivation are less confident about succeeding at quitting and less likely to have made a quit attempt in the past five years.

The South Australian data confirm that there are no SES differences in the desire to quit, however residents in lower SES areas expressed somewhat less confidence about quitting. Smokers in lower SES areas also demonstrated higher levels of consumption (smoking more per day) and higher rates of nicotine dependence. However, differences were not observed in previous quitting attempts, and intention to try to quit in the near future, which is very encouraging.

Smoking and Individual Socio-Demographics

It has been observed overseas that factors of deprivation may reveal more about inequalities in smoking and due to smoking. Deprivation has been measured by combinations of factors including: unemployment; marital status (separated or divorced); education; and occupation. Looking at South Australian data by individual socio-demographics, men were consistently more likely to smoke than women. Those with lower levels of education were more likely to smoke and the greater the level of education the less likely a person was to smoke. Smoking rates were particularly high among the unemployed. Those who were not married/de facto (those who were separated, divorced or never married) were the most likely to smoke, however the gap by marital status is closing rather than widening over time. People in young to middle adulthood are the most likely to smoke. Those who live in country areas or in the Northern Adelaide health regions, had a higher smoking prevalence overall. Obviously many of these variables interact with each other, For example, access to education has increased over time and would therefore interact with measures of age. Multivariate analyses are required to determine whether separate effects exist for many of the socio-demographic variables.

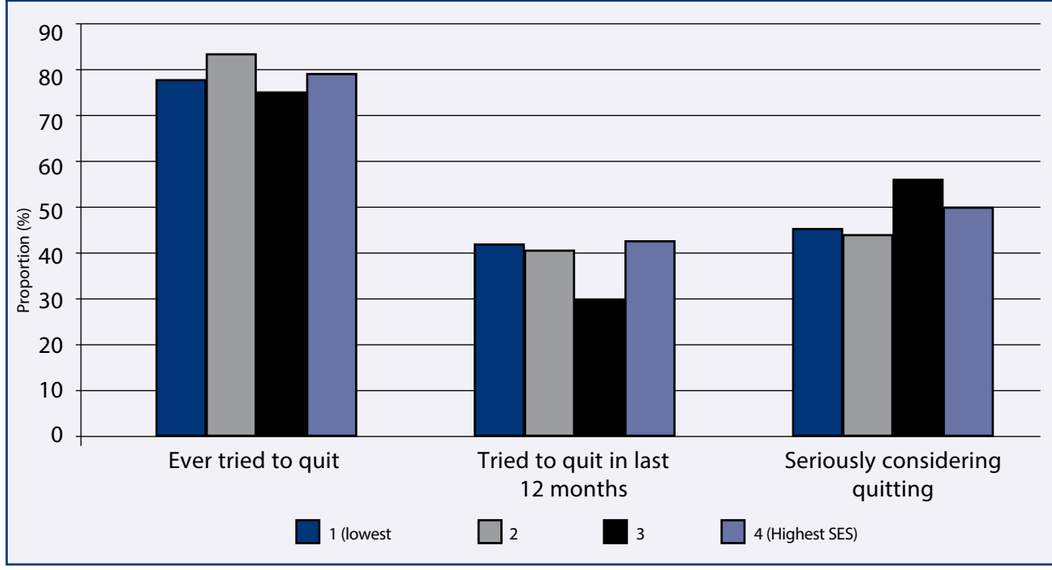
Figures 3 and 4 present some of these data differently and address the question of who are South Australia's smokers? While smoking rates are very high among unemployed people, the vast majority of South Australia's smokers are in full-time or part-time work.

Groups with the Highest Prevalence

The present study did not examine South Australian data on youth smoking and maternal smoking by SES, however the literature suggests that smoking in these groups is inversely related to SES, where prevalence rates increase as SES decreases[15-20]. The literature also reveals a relationship between smoking rates and reported financial stress, with households including smokers reporting more severe financial stress than households with no smokers[21]. This study found that Indigenous Australians had a significantly higher smoking rate than other Australians, which has long been documented and the literature further suggests a strong relationship between SES and prevalence[22].

The literature identifies lone mothers as a group at high risk, with smoking rates three times that of their married counterparts[8]. South Australian data demonstrate slightly more smoking among lone mothers than lone fathers, however, the difference was not statistically significant. People with a

Figure 2:
Quit attempts and intention to quit by Index of Relative Socio-economic Disadvantage quartiles in 2002



SES = socio-economic status

Figure 3:
Educational attainment of SA smokers (2002)

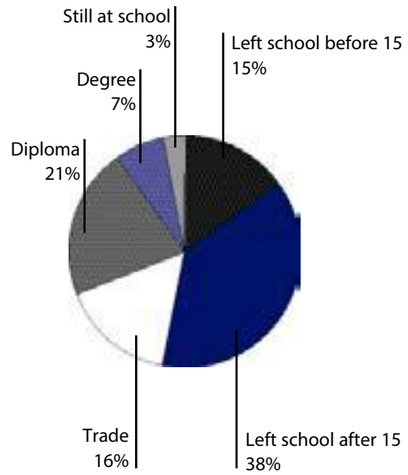
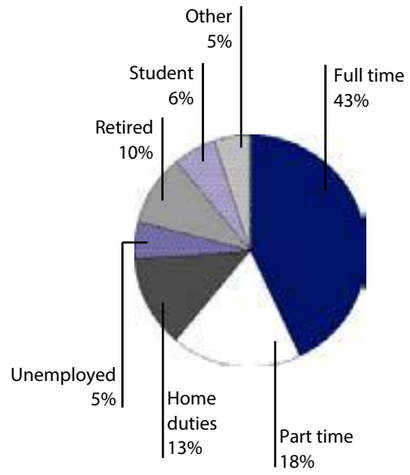


Figure 4:
Employment status of SA smokers (2002)



serious mental illness also show disproportionately high rates of smoking. Rates of smoking vary with different disorders and extremely high rates have been observed among people with disorders such as schizophrenia[23-26].

SES and Passive Smoking

Exposure to passive smoke also varies by socio-economic status. The findings in South Australia are consistent with the literature, whereby those in the lower SES quartile are significantly less likely to live in smoke-free environments than those in the highest quartile. While considerable progress has been seen in white-collar workplaces, mostly through voluntary policy rather than legislation, people working in hospitality and blue-collar settings are being left behind, as they are least likely to be protected from passive smoking at work[27]. However, in domestic settings the gap has not widened, as all groups have gradually been making their homes and cars smoke-free.

Discussion

This report shows that social inequalities are evident in the prevalence of smoking and involuntary exposure to tobacco smoke in South Australia. The findings indicate that equal progress was being made in all SES groups in the late 1990's, but that the gap in smoking prevalence and SES in South Australia has widened slightly since 1999. These findings highlight a need for interventions to be re-focused to address smoking prevalence in males and to reduce the smoking amongst individuals living in lower SES areas. Smoking rates are influenced by a number of personal and environmental variables, but messages encouraging people to quit and reminding them to stay quit are a fundamental foundation to any comprehensive tobacco control strategy[28]. The National Tobacco Campaign (NTC) was targeted precisely at this disadvantaged group with high smoking rates and demonstrated considerable and specific success[1,4]. The divergence of the groups occurs at about the same time that investment in the NTC was diminishing and new material was no longer being produced and aired. A common view is that smoking rates are more analogous to a spring (which needs to be held down), than a screw (which once down will stay down without continued effort). It is very likely that the divergence in smoking rates and the non-decline in the population smoking prevalence figure in 2002, are a consequence of reduced resources for tobacco control at a national level and in South Australia, the absence of new campaign material in 2002, to underpin an environment which encourages smokers to quit and to help people who have already quit.

Introducing legislative measures to prohibit smoking in indoor workplaces (including hospitality venues) will make a major contribution to redress the significant disparity in exposure to tobacco smoke between Australia's most and least affluent sectors. In addition to reducing the unequal burden of disease and mortality associated with passive smoking exposure, smoke-free workplaces have been shown to have flow-on effects to encourage quitting, as well as introducing voluntary smoke-free policies in domestic settings.

Interventions that successfully reduce smoking prevalence and passive smoking exposure need to be targeted to lower socio-economic groups, in order to capture the largest groups of smokers. In addition, there is a case for some interventions that are careful to adapt specifically to the needs of groups with especially high prevalence, including Indigenous people, people with mental illnesses, lone mothers and others in very disadvantaged circumstances. Public health principles require that efforts to target smaller groups with greatest disadvantage (increased equity in outcome) be weighed carefully with the need to maximise overall population gain.

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A Smoke-Free Australia – But When?

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Evidence of the harms of passive smoking is clear. It is a cause of serious health conditions, including lung cancer and heart disease and the only effective means of eliminating the problem is to eliminate it at the source.

Despite this clear message, those most exposed to passive smoking in the workplace (employees working in bars and nightclubs) are least protected from laws and policies banning smoking in the workplace[1,2].

Passive smoking, or breathing in the tobacco smoke from a burning cigarette or the smoke exhaled by a smoker, exposes individuals to carcinogens and toxic chemicals. As a result, passive smoking puts non-smokers at risk of developing a range of diseases and illnesses[4].

In adults:

- heart disease;
- lung cancer; and/or
- irritation of the eyes and nose.

In children:

- sudden infant death syndrome (SIDS) or cot death;
- lower birthweight (where the mother was exposed to environmental tobacco smoke or ETS);
- bronchitis, pneumonia and other lung/airways infections;
- asthma and worsening of asthma in children who already have this disease;
- middle ear disease (otitis media or 'glue ear'); and/or
- respiratory symptoms (coughing, wheezing).

Exposure to ETS has also been linked to other adverse health effects.

In adults:

- nasal sinus cancer;
- cervical cancer;
- miscarriages; and
- stroke[6].

In children:

- adverse effects on cognition and behaviour (affecting learning and awareness);
- decreased lung function (ie. they cannot breathe with as much force or capacity as they would otherwise);
- worsening of cystic fibrosis;
- meningococcal disease[7]; and
- lung complications during and after surgery.[8,9]

The US Centre for Disease Control and Prevention recently warned that people at risk of heart disease should avoid exposure to other people's tobacco smoke because it increases the risk of fatal and non-fatal coronary heart disease in smokers by around 30%. The amount of exposure can also seem

disproportionate to the risk. For example, for a non-smoker who lives with a smoker the risk is increased to one third of that associated with actively smoking 20 cigarettes per day.[10]

In addition, teenagers exposed to smokefree environments are likely to decrease smoking.[11]

Impact on Hospitality Staff

Bar workers are typically exposed to concentrations of environmental tobacco smoke of up to four to six times higher than in other workplaces[12].

Both bar and restaurant workers have a higher risk of lung cancer compared to the general population, partly due to tobacco smoke exposure in their workplace[13].

Workers in the hospitality industry are more likely to suffer from respiratory and irritation symptoms such as wheezing, coughing, sore eyes and sore throats[14]. Importantly, research also shows that when smoking is banned in indoor venues, the health of bar staff improves, even in smokers[15].

Despite the weight of evidence that chronicles the harms of passive smoking, hospitality workers working in the venues that have highest levels of tobacco smoke[16] are those least likely to be protected.[17]

For example, Victorian employees who report working in smokefree workplaces increased from 17% in 1998 to 69% in 2001[18] and a recent study found that 56% of hospitality workers in Victoria reported being exposed to ETS during a typical workday.[19]

Progress towards a complete legislative ban on smoking in all workplaces has been slow. Smoke-free bar laws have been passed in just two states/territories. Smoking will be banned in licensed venues from December 2006 in the Australian Capital Territory and from October 2007 in South Australia.

Progress has been frustrated by opposition from tobacco and hospitality groups, concerns over the economic impact of these policies, whether such laws would be supported by the community and attempts to promote alternative methods to reduce exposure to passive smoking. In fact these concerns are almost entirely without foundation.

Tobacco Industry

The tobacco industry has fought extensively to oppose the introduction of smoke-free laws and policies, probably motivated by the reduced tobacco consumption and reduced profits that inevitably follow the introduction of smoke-free policies.[20]

A Philip Morris assessment of smoke-free laws found that total prohibition of smoking in the workplace strongly affects industry sales: "Smokers facing these restrictions consume 11-15% less than average and quit at a rate that is 84% higher than average. Milder workplace restrictions, such as smoking only in designated areas, have much less impact on quitting rate and very little effect on consumption."[21]

In a review of 26 studies on the impact of smoke-free workplaces on smoking behaviour, researchers found that a 100% smoke-free workplace reduced smoking prevalence by 4% and average daily consumption among smokers by 29% relative to workers subject to minimal or no restrictions.[22]

Smoke-free bars represent lost opportunities for the tobacco industry, as 70% of smokers report smoking more in bars and nightclubs. These smokers are also more likely to be under 30 years of age[23]. This "next generation of tobacco industry customers" is a key target for concerted tobacco industry marketing strategies in bars and nightclubs, following bans on most forms of traditional tobacco advertising[24]. The combination of alcohol and minimal restrictions on smoking present an ideal marketing environment for the tobacco industry.

Tobacco companies have collaborated extensively with hospitality groups in Australia and the United States to block smoke-free laws.[25,26] In Australia, the tobacco industry has sponsored the Australian Hotels Association (AHA), collaborated with them to lobby against smoke-free laws in Tasmania[27] and the Australian Capital Territory[28] and attempted to develop a code of practice to promote the "sensible use of tobacco products in our hotels" through ventilation and partial smoking bans. The AHA and the tobacco industry adopted this approach despite the findings of an AHA survey that the most frequently nominated complaint about hotels by Melbourne bar patrons was that these venues were too smoky and a survey by Philip Morris that identified 42.9% of respondents would go to hotels more often if they went smoke-free, while only 10.6% said they would go less often.[30]

Community Support for Smoke-free Laws

Other studies have confirmed the popularity of smoke-free laws. For example, following the introduction of smoke-free restaurant legislation in Victoria in July 2001, support for the laws among smokers, rose from 53% three months before the legislation, to 76% in April 2002. The percentage of smokers who disagreed with the legislation decreased from 33% to 13% during this time[31].

While the public was experiencing these new smoke-free dining laws, support for smoke-free bar laws increased from 57 per cent in 2000[32] to 72% in 2002[33].

The Economics of Smoke-free Laws

Given the popularity of smoke-free laws and policies it is not surprising that a comprehensive review of 97 Australian and international studies on the economic impact of smoke-free policies in the hospitality industry concluded all of the best designed studies report either no impact or a positive impact of smoke-free restaurant and bar laws on sales or employment. Those that did report a negative impact were supported by the tobacco industry.[34] Some of the longest-standing smoke-free laws are in California, where restaurants have been smoke-free since 1995 and bars since 1998. These smoke-free laws have been positive for business.[35] This accords with the views of one Philip Morris executive who said "the economic arguments often used by the industry to scare off smoking ban activity were no longer working, if indeed they ever did. These arguments simply had no credibility with the public, which isn't surprising, when you consider that our dire predictions in the past rarely came true".[36]

Despite this, the tobacco industry has attempted to influence the debate by claiming smoke-free environments would have a negative impact on Australian hotels and restaurants. The tobacco industry has actively collaborated with hospitality groups in Tasmania[37], Victoria[38] and the ACT[39] to oppose smoke-free laws.

They have used claims that smoke-free legislation banning smoking in restaurants in Tasmania "led to a dramatic reduction in income for some hospitality operators". These statements were based on an AHA-sponsored survey conducted four weeks after the implementation of smoke-free legislation affecting restaurants and some bar areas, asking hotel operators of their impressions of sales and their views on reasons for apparent changes. There is an obvious limitation on impressions as opposed to independently collected, audited (or subject to audit) statements of sales to government authorities.[40]

The impact of smoke-free policies on venues with electronic gambling machines is less clear, with some suggestion that smoke-free policies in such venues may impact on heavy gamblers, forcing them to take a break from gambling.[41] Further studies are needed to determine if smoke-free policies in such venues lead to sustained reductions in revenue.

Elimination

The only effective means of eliminating exposure to passive smoking is eliminating the source of the exposure – ensuring all indoor environments are smoke-free.

The Western Australian and New South Wales state governments convened taskforces to investigate passive smoking and commissioned specialists to report on the effects of ventilation. The report for NSW by Broadbent and Wesley notes that[42]: "Filters used in general ventilation applications are inefficient or ineffective at removing tobacco smoke particles; the gaseous phase is not filtered at all. As with all ventilation codes, standards were established on the basis of acceptable odour levels for various building occupancies. The Australian standard is not a health standard".

Ventilation does not provide an adequate solution to deal with environmental tobacco smoke. There is no practicable level of ventilation that adequately protects people from the health risks of passive smoking. In short, humans may be able to identify smoke-free boundaries, but cigarette smoke does not. The cheapest and most effective option is to ban smoking in enclosed areas.

The National Occupational Health and Safety Commission (NOHSC) states that all atmospheric contaminants in work environments capable of causing ill health should be controlled or eliminated. As early as 1990 the NOHSC resolved, due to the health risks of passive smoking, that a working environment free of tobacco smoke should be the objective for all Australian workplaces[43]. In November 2002, NOHSC adopted a position statement on ETS within the workplace, recommending that "ETS be eliminated from all Australian workplaces as soon as possible, as there is no safe level of exposure to ETS."[44] In October 2003, NOSHC released a guidance note to provide information on how to ensure that no one in the workplace is exposed to environmental tobacco smoke.[45]

Further delays in implementing complete bans on smoking in indoor work environments are not acceptable.

Comprehensive smoke-free laws, including bars, have been passed in Norway, Sweden, Ireland, New Zealand (effective from December 2004), at least 45 Canadian municipalities[46] and six states in the US.

Similarly, the sky did not fall in when smoke-free laws and policies were enacted on public transport, planes, cinemas and most workplaces in Australia.

Australian governments need to act decisively to enact legislation to make all indoor workplaces smoke-free.

The substantial benefits to non-smokers and smokers alike are compelling reasons to act.

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The Tobacco Industry and the Law: Litigation and Legal Responsibility

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Introduction

The harm caused by tobacco does not occur by chance. Right across the world, tobacco products are manufactured, promoted and sold by large, sophisticated multinational corporations. Like other corporations, tobacco companies seek to maximise their profits. Unlike other corporations however, they sell an addictive drug (nicotine) in a form (the cigarette) that kills half its long-term users when used exactly as intended, has no safe level of use and no identified therapeutic benefit.

Not to put too fine a point on it, tobacco companies kill a significant proportion of their customers. Doubtless, they do not aim to do this. Every smoker who dies prematurely represents a loss of custom and surely, this is to be regretted by tobacco company boards and senior management. But this is the undisputed effect of what tobacco companies do and the tobacco industry has known this since the early 1950s ie. for over 50 years.

So, what responsibility does the tobacco industry bear for the harm its products have caused and continue to cause? That question can be addressed on different levels. One can speak of the industry's moral or ethical responsibility, for example. We often hear tobacco companies described as among the most unethical of corporations. But one can also focus on something that is, in the end, more concrete and that can be enforced – legal responsibility. So, what legal responsibility does the tobacco industry bear for the harm its products have caused and continue to cause?

Tobacco Industry Legal Responsibility

Legal responsibility attaches to an individual or corporation's conduct. When the law is working properly, individuals and corporations are held legally responsible for the things they do and the things they fail to do. In a courtroom, judges and juries see and hear the evidence and "find the facts". They then apply the law to those facts and, if an individual or corporation's conduct is found to fall short of their legal obligations, that individual or corporation is held responsible.

The consequences of being held legally responsible vary with the type of legal proceedings. In a civil claim for damages, the payment of compensation will be the primary consequence. In a criminal prosecution, the focus is on punishment, most commonly in the form of imprisonment or the imposition of a financial penalty (such as a fine or confiscation of the proceeds of crime). But in addition to these remedies of compensation and punishment, courts can grant injunctions, ordering a person or corporation to stop doing something (such as to stop making certain false or misleading representations to the public), or ordering that something be done (such as corrective advertising).

What we Know about Tobacco Industry Conduct

Litigation against the tobacco industry in the US over the last decade has exposed the history and nature of tobacco industry conduct for all the world to see. Millions of previously secret internal documents have been released. They tell an extraordinary and disturbing tale. The industry has known of the harmfulness of smoking since the early 1950s and of the addictiveness of nicotine since at least the early 1960s. Rather than coming clean and withdrawing their products from the market to try to put an end to the harm that had come to light, the industry decided to continue with business as usual. There was a conspiracy of denial of harms and addictiveness. Cigarettes were mass marketed aggressively as if they were beneficial, even healthy products. Imagery and associations far removed from the realities of harm and addictiveness were created. All efforts to regulate were fiercely resisted. When consumers began to be concerned by reports of harmfulness, the industry began to market "light" cigarettes. This suggested that these products were less harmful than "regular" cigarettes. Consumers who may otherwise have tried to quit were encouraged on to and reassured by these lighter products. At the same time the industry was designing "light" cigarettes in ways that allowed smokers to "compensate", ie. to draw in harder to ensure that they could get the nicotine hit they were after. Machine-tested figures that allowed products to be called "light" and "low tar" did not accurately reflect actual delivery to smokers. Contrary to tobacco industry suggestions, "light" products did not turn out to deliver any health benefits.

In addition, the tobacco industry has learnt how to design and precisely engineer products in ways that make them more addictive and thus harder to quit. In an article published in the Journal of the American Medical Association (JAMA) in February 1997, David Kessler et al (of the US Food and Drug Administration) wrote of the "disclosure of thousands of pages of internal tobacco company documents revealing that the tobacco manufacturers know that nicotine causes significant pharmacological effects, including addiction, and design their products to provide pharmacologically active doses of nicotine"[1].

Addiction, Causation and Legal Responsibility

This last category of conduct is particularly important. Tobacco industry defences to litigation and criticisms of tobacco litigation that are routinely aired in the media, generally argue that smoking is a behaviour of choice. No-one forces anyone to smoke. If a person chooses to smoke, they have no-one to blame but themselves. These are, however, superficial assertions that do not withstand the scrutiny of legal analysis. The typical tobacco industry consumer begins smoking in childhood. The typical smoker wants to give up, but continues to smoke primarily because of addiction to nicotine. The combination of starting in childhood and addiction give the lie to the glib assertion of "free choice". In an internal document released through litigation in the US, Paul Knopick of the United States Tobacco Institute wrote in 1980: "Shook, Hardy and Bacon [lawyers for tobacco company Philip Morris, based in Kansas City, US] reminds us, I'm told, that the entire matter of addiction is the most potent weapon a prosecuting attorney can have in a lung cancer/cigarette case. We can't defend continued smoking as 'free choice' if the person was 'addicted'"[2]. And how much stronger are these arguments where the level of addictiveness is by design rather than chance?

In law, a person's conduct does not have to be the "sole cause" of another's harm for legal liability to attach. The law does not operate on an all-or-nothing basis. Full responsibility (ie. 100% responsibility) is not required for legal liability. It is enough if a person's conduct "materially contributes to" another person suffering an injury.

The Promise of Litigation

Given the conduct of the tobacco industry, it is easy to understand why litigation against the tobacco industry should have been advocated and pursued. At one level, there are the justice arguments. Those who flagrantly disregard their legal obligations ought to be brought to account. The law falls into disrepute where it is ignored and no consequences are seen to follow. Why bother having laws if they need not be obeyed?

But litigation against the tobacco industry has much that is of practical, as well as symbolic value to offer. First, litigation has the potential to force people to change their behaviour. The payment of damages in civil proceedings is a cost to a defendant. Avoidance of future liability is a factor to be considered in decision-making. The more real the threat of litigation and the greater the liability if it materialises, the more heavily this factor weighs. Where proceedings are brought in the criminal context, the impact on behaviour is perhaps more immediate. Ordinarily, criminal conduct is not permitted to continue.

Second, where conduct has caused loss, civil responsibility can lead to the wrongdoer being forced to bear costs that others, including taxpayers, would otherwise have to bear, such as health care costs and social security payments. This is of particular significance in the tobacco context, given the scale of the harm caused by tobacco.

Third, litigation casts light on what has previously been kept in the dark. Litigation takes place in open court, individuals are cross-examined, documents (at least those that have not already been destroyed) must be disclosed. The process of uncovering the truth in open court and often under the glare of the media, plays an important role in influencing public perceptions about the issues at stake and therefore the context in which policy and regulatory debates are played out.

And fourth, through their injunctive powers, courts can order defendants to do some of the things that now need to be done to reduce the damage that they have caused. One High Court judge has described a mandatory injunction sought under the Trade Practices Act 1974 (Cth) as "apt to counterbalance the injury to the public interest" allegedly sustained by the relevant conduct[3]. And an enormous amount still needs to be done to even begin to counterbalance the harm done to the public interest by the tobacco industry.

Tobacco Litigation in Australia and the US

In the US, successful litigation has been brought both by individuals dying of smoking-related diseases, their surviving families and by state governments seeking the recovery of public medical expenditure. The US Federal Department of Justice is currently in the process of suing the tobacco industry to recover its "ill-gotten gains" under RICO (Racketeer Influenced and Corrupt Organisations) legislation, which is traditionally used against organised crime.

But what of litigation in Australia? Where the conduct of the tobacco industry and the resulting harm have been so alike, why not similar progress in Australia? The answer lies in the

differences between the two legal systems and in the failure of governments and law enforcement agencies in Australia to do anything at all thus far to bring the tobacco industry to legal account.

While there have been attempts by private parties (as opposed to public bodies) to bring the tobacco industry to account in Australia, none has yet succeeded. This says nothing at all about the merits of litigation against the tobacco industry in Australia. In fact, no case has yet made it to trial on the merits in this country. Rather, it testifies to the enormous difficulties faced by individuals in Australia in fighting the tobacco industry in court. The tobacco industry is universally known to be the most aggressive of defendants. It fights litigation as hard as possible, knowing that it can outspend, overpower and usually outlive individual litigants. In Australia, unlike in the US, the general rule is that the losing party in litigation pays the other side's costs. Plaintiffs and potential plaintiffs know that they risk losing everything if their case does not succeed and a case can fail for all sorts of reasons, often having nothing to do with how meritorious the claim itself was. The danger of facing an enormous costs order if litigation fails represents an enormous disincentive to bringing a case. Even if one wants to make a stand in one's dying days and try to prevent others ending up in the same position in the future, why take the risk of leaving one's family with bankrupting debts? In the US, the twin features of potentially massive punitive damages and contingency fees for lawyers can make it worthwhile for law firms to carry the financial burden of litigation. Not so in Australia, where both of these features are missing.

If litigation against the tobacco industry is to be successful in Australia, more likely than not it will need to be very substantially resourced and brought by a body that can be guaranteed to have the resources to see it through to the end. The obvious candidate in Australia is the Australian Competition and Consumer Commission (ACCC), which has responsibility for enforcing the Trade Practices Act 1974 (Cth). Among other things, the Act prohibits misleading or deceptive conduct in trade or commerce (section 52) and unconscionable conduct in consumer transactions (section 51AB). Unfortunately, the ACCC has so far shown no interest in bringing proceedings against the tobacco industry under the Act, though tobacco control advocates hope this will change in the future. Another possibility is prosecution by Directors of Public Prosecutions for breaches of the criminal law for offences such as manslaughter and reckless conduct endangering life [4].

International Recognition of the Importance of Tobacco Litigation

The World Health Organisation's Framework Convention on Tobacco Control recognises the importance of litigation and its place in tobacco control strategies. Article 19 of the Convention provides: "For the purpose of tobacco control, the Parties shall consider taking legislative action or promoting their existing laws, where necessary, to deal with criminal and civil liability, including compensation where appropriate." Litigation against the tobacco industry is likely to continue across the globe and to contribute much to the fight to reduce the death, disease and social costs caused by tobacco.

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Is there a safer cigarette?

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Compelling evidence that cigarette smoking is the principal cause of lung cancer has existed since the 1930s and has been widely disseminated in the English-speaking world since 1950, when several major epidemiological studies of smoking and lung cancer were published in the United Kingdom and the United States[1]. Between 1950 and the mid-1990s, the tobacco industry responded to the ever-increasing body of evidence demonstrating the harm caused by cigarette smoking by steadfastly maintaining that there was no proven causal connection between smoking and any disease. However, as a form of insurance against the failure of the "no proof" argument, tobacco industry spokespeople have long suggested that efforts are being made to produce a "safe" cigarette or, at least, a "safer" one. Knowing that many smokers were unwilling or unable to quit, public health experts have long sought to encourage or coerce the tobacco industry to produce "safer" cigarettes. I will describe current developments regarding "safer" cigarettes later in this article. But first, I will review the "low-tar" program to reduce smoking-related harm, which has been a spectacular failure in public health terms but remains largely intact. Knowing how and why the low-tar program failed helps us to better understand what will be required of a new harm-reduction program that has a reasonable chance of succeeding.

The Low-Tar Program and its Pitfalls.

In the late 1960s, low-tar cigarettes were embraced by public health experts as a potentially useful means of reducing disease and mortality among those smokers who were unwilling or unable to quit[2,3]. The initial reasoning behind the low-tar program was that because, firstly, lung cancer risks increased with more cigarettes per day and more years of smoking and, secondly, tar-painting experiments on mice showed strong dose-response relationships, cigarettes that delivered lower doses of tar to smokers would mean less disease[4]. Later on, when it became clearer that nicotine was addictive, it was also believed that low-tar smokers would have reduced intakes of nicotine, thus facilitating future quitting. Fortunately for the tobacco industry, but unfortunately for everyone else, many smokers decided to switch to low-tar brands and reduce their smoking-related risks, rather than attempt to eliminate them through quitting. What was even more unfortunate for smokers who down-switched was that few would have experienced any real reduction in harmful intakes. Rather, down-switchers merely gained a compelling illusion of reduced risk, through reassuring but misleading numbers printed on the side of cigarette packs and reassuring but misleading sensations of mildness.

The low-tar program had two fatal flaws:

1. Low-tar cigarettes, as identified by the standard smoking machine yield test (which involves 35ml puffs, over two seconds, once per minute), could potentially deliver far more tar and nicotine to smokers than the yield figures suggested. Over time, this problem got worse, as low-tar cigarettes were re-engineered to have increased elasticity or consumer demand responsiveness[5].
2. Most smokers regulate their intakes with relative precision in order to gain rewarding sensations and avoid withdrawal[7]. Consequently, they respond to lower-tar cigarettes by smoking them more intensively in order to gain target nicotine doses. If smokers cannot obtain their target nicotine doses from particular brands, they will generally simply reject those brands.

In short, low-tar cigarettes simply did not provide enough resistance to smokers' unconscious efforts to achieve constant nicotine intakes. This was no accident.

Perhaps the most crucial tobacco industry innovation in developing low-tar cigarettes capable of delivering nicotine doses that would satisfy addicted smokers was filter ventilation. This is the perforation of the filter tipping paper with barely visible or invisible holes between 11mm and 18mm from the end of the cigarette. When a filter vented cigarette is machine smoked a pre-set proportion of each puff consists of fresh air drawn through the vents. This innovation has enabled commercially viable brands in Australia with standard machine-tested tar yields of 1mg and nicotine yields of 0.1mg (figures that invite belief in virtual safety, when compared to regular cigarettes with tar yields of 12-16mg and nicotine yields of 1-1.3mg)[5].

However, as noted above, addicted smokers do not smoke like machines – they unconsciously seek constant intakes of nicotine, rather than constant puff volumes. Consequently, they learn to overcome yield reduction mechanisms. Low-tar smokers block filter vents with their fingers and lips to make the smoke more concentrated. They also take larger and faster puffs, which function to reduce ventilation levels, even in the absence of any vent blocking[8].

Most low-tar smokers are likely to be gaining very similar intakes of nicotine, carcinogens and other toxins to those they would gain from a regular cigarette, but they gain these intakes in larger volumes of more dilute smoke. Because the smoke is more dilute, it is generally milder in taste and less irritating. This provides a powerful source of belief for low-tar smokers that they are indeed smoking less harmful products[9]. A recent survey found that a majority of self-reported 'lights' smokers in Australia continue to believe they get some relative health benefit, despite efforts by health authorities and the media to convey messages to the contrary[10].

Proposals to remove standard tar, nicotine and carbon monoxide yields from cigarette packs and proposals to ban the use of 'light' and 'mild' brand descriptors are currently under consideration by the Australian Government. However, given the high degree to which smokers' sensations influence their beliefs about the harmfulness of the cigarettes they are smoking, there are serious questions about whether enactment of these proposals will be adequate to finally dispose of the low-tar program for safer cigarettes. Cigarettes with filter ventilation are arguably inherently deceptive, rather than simply deceptive in the context of light and mild brand descriptors and standard tar, nicotine and carbon monoxide yield labelling. If the existing variety of products continues to be available, but is merely identified through less explicit means of brand differentiation such as having six different pack colours for each brand family, many smokers will continue to believe they are making a safer choice by smoking one of the more heavily ventilated varieties.

Changing Exposures to Specific Carcinogens and Other Smoke Toxins

The fact that most smokers were preserving their tar and nicotine intakes during the period when machine-tested tar and nicotine yields were declining spectacularly was not the only thing that went seriously wrong with the low-tar program. In so far as tar yields were treated as the main index of potential harm, they were also misleading at another level. This is because exposures to some important carcinogens contained in cigarette smoke appear to have increased over the past three to four decades[11].

In the 1960s, a group of substances called polynuclear aromatic hydrocarbons (or PAHs) formed the focus of attention as potential carcinogens in tobacco smoke[12]. PAHs had long been suspected carcinogens and tar painting experiments on mouse skin showed PAH-rich tar fractions to be the most carcinogenic. Accordingly, PAHs became targets for selective reduction in cigarette smoke. One proposal for reducing PAHs was to increase the nitrate content of tobacco[12]. Subsequent actions by the tobacco industry, such as using tobacco grown with heavier application of fertilisers and using more tobacco stem in blending, had exactly this effect. Increasing nitrogen content also had the effect of reducing machine-tested tar yields, which was also useful for the tobacco industry's purposes of appearing to provide safer cigarettes. However, the pitfall of this means of producing a supposedly safer cigarette was that the very steps that were likely to reduce PAH levels in cigarette smoke were likely to increase the levels of another group of powerful carcinogens, the tobacco-specific nitrosamines (TSNAs).

TSNAs are produced from nicotine and related tobacco alkaloids during curing and combustion, especially in nitrogen-rich conditions[13]. Little was known about TSNAs before the 1970s and TSNA-rich tar fractions did not appear to be particularly carcinogenic when applied to mouse skin[14]. However, other tests of biological activity show TSNAs to be strongly carcinogenic. TSNA exposures also appear to be strongly related to pulmonary adenocarcinoma, a form of lung cancer that has become relatively more prevalent in recent years[11]. Furthermore, there is evidence from the UK and US that the lifetime risks of cigarette smoking increased between the 1960s and the 1980s, particularly lung cancer risks[15]. These findings persist after controlling for number of cigarettes per day and duration of smoking. Thus, they are consistent with increased exposures to carcinogens during the period of the low-tar program and TSNAs are the primary candidate agents.

Recent efforts to produce safer cigarettes.

The tobacco industry now claims to be taking TSNA exposures very seriously and taking appropriate steps, such as re-engineering curing barns and selecting tobacco crops, to ensure that TSNA deliveries are reduced[13]. If TSNA deliveries

can be reduced without increasing PAH deliveries or deliveries of other carcinogens and respiratory/cardiovascular toxins to such an extent that it constitutes a zero-sum game, it would be reasonable to expect that cigarettes would become at least marginally less dangerous. However, the tobacco control community will need to take extreme care that future regulation of specific smoke emissions does not produce a situation where the tobacco industry can meet regulatory limits by allowing dangerous emissions that slip through the regulatory net to increase, thus undermining the anticipated benefits.

It would also be reasonable to expect that selection of tobacco crops grown on soils with low burdens of heavy metals, treated with fertilisers with similarly low heavy metal burdens, could contribute to somewhat less harmful cigarettes[16]. In this case, there is a real danger that use of this strategy could result in shifting of risks from the developed world to the developing world, through dumping of the dirtiest tobacco on the poorest countries with the least power to resist. This would compound the public health disaster that is resulting from the multinational tobacco companies' successes in building developing world markets. Likewise, dumping of high TSNA tobacco on poor countries would constitute an unacceptable form of risk shifting[17].

Finally, it is plausible that some of the innovations employed in specific brands marketed as potential reduced exposure products in the US could play some role in making all commercially available cigarettes somewhat less harmful if they were in general use. For instance, Omni, produced by Vector Tobacco, employs a palladium catalyst to increase combustion (as well as having reduced TSNA tobacco) and it is plausible that this innovation could reduce harmful deliveries. A recent short-term forced switching study[18] found that subjects' levels of TSNA and PAH biomarkers were reduced somewhat during the period they smoked Omni (although the reductions in the PAH biomarker levels did not achieve statistical significance). However, the study also found that subjects' intake reductions were much lower than is suggested in promotional material for Omni. That provides cause for concern. If a new generation of so-called safer cigarettes can produce modest reductions in harmful intakes, but smokers are somehow convinced that they can achieve substantial reductions in risk, the likely adverse effects on quitting and uptake rates will far outweigh the limited benefits for those smokers who are never going to quit.

In conclusion, less harmful cigarettes remain a theoretical possibility but there are substantial obstacles to attaining them in practice. Overcoming these obstacles will necessarily involve governments being willing to regulate the tobacco industry. They must also be willing to provide the necessary resources for adequate surveillance, so those developments serving the interest of public health can proceed and those which do not are brought to a halt.

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Guidelines for health professionals in treating tobacco use and dependence

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The importance of smoking cessation as a public health issue is highlighted in key international and Australian reports. Tobacco smoking is the largest cause of preventable death and disease in Australia and is responsible for the death of approximately 19,000 Australians each year[1]. For example, continued smoking after a cancer diagnosis is associated with decreased survival, increased risk of recurrence of a secondary tobacco-related cancer and post-operative morbidity, as well as increased side effects of chemotherapy and radiation therapy[2]. Many of the adverse health effects of smoking are reversible by cessation.

There is international agreement about an effective role for clinicians in smoking cessation, however a number of surveys of Australian health care providers report very low levels of routine provision of smoking cessation advice and assistance to their patients who smoke[3,4]. The US[5], UK[6], Scotland[7] and New Zealand[8] have developed best practice guidelines and recommendations for smoking cessation interventions by health professionals to assist and encourage them to take a more active role in this important health area. Australian guidelines have recently been developed[9].

Many health professionals can deliver effective smoking cessation interventions, including medical specialists, doctors, nurses, pharmacists and dentists[5]. In 2001, as part of the Australian National Tobacco Strategy, a review of evidence and implications for best practice in smoking cessation intervention in health care settings was completed[10]. The report provides evidence of effectiveness and highlights the role of health professionals, including that:

- Implementing clinic systems designed to increase the assessment and documentation of tobacco almost doubles the rate at which clinicians intervene with their patients who smoke and results in higher rates of smoking cessation[5].
- Brief cessation advice to smokers from doctors delivered opportunistically during routine consultations has a modest effect size, but substantial potential public health impact[11, 5].
- A major benefit of brief opportunistic cessation advice is to motivate a quit attempt (three-to-five fold increase) and to provide support or referral to aid quit attempts[12, 13].
- Brief cessation advice to smokers delivered opportunistically during routine consultations increases the abstinence rate at six months by 30%.
- Provision of nicotine replacement therapy enhances the effectiveness of advice from a doctor. Nicotine replacement doubles the odds of quitting and is effective regardless of the amount of advice given.

Key conclusions of the review were that:

- Asking about smoking status and provision of brief advice independently increase the cessation rate compared to no intervention (Fiore et al 2000). Therefore all health care providers should routinely ask about smoking and provide brief cessation advice and clinic or institutional systems should be established for identification of smokers.
- Assessment of readiness to quit is a necessary first step in planning treatment[5].
- Clinical practice guidelines have been demonstrated to be an effective means of changing the process of health care and improving health outcomes. Therefore professional-specific brief intervention guidelines for health care providers should be developed and promoted. Development and dissemination of professional-specific brief intervention guidelines to health care providers through their respective peak bodies may be a way to increase the profile of smoking cessation as a relevant issue and to address perceived barriers to implementation.

Australian Guidelines for General Practitioners

Health professionals need guidelines and supporting materials that assist them to effectively engage patients appropriate to their stage of change and materials that will be most effective in encouraging quitting. Smoking Cessation Guidelines for Australian General Practice that aim to provide an evidence-based and practical approach to smoking cessation advice in general practice were launched in June 2004[9]. The development of the Commonwealth funded guidelines was coordinated by GP Education Australia and involved a project team with members from the University of New South Wales School of Public Health and Community Medicine, The Cancer Council Victoria, Flinders University and GP Education Australia. A wider reference group and comprehensive stakeholder consultation were undertaken, as well as an extensive literature review. The evidence base that underpins these guidelines was drawn from the National Tobacco Strategy publication Smoking Cessation interventions: review of evidence and implications for best practice in health care settings[10].

The guidelines are based on the "5As" for brief intervention. This is an evidence-based framework for structuring smoking cessation in health care settings and the basis of the United States clinical practice guideline: Treating Tobacco Use and Dependence[5]. The "5As" approach has also been used as the basis of revised guidelines for smoking cessation in New Zealand[8]. The intervention approach for each group of smokers is from the Smokescreen Program[14-18].

The Australian guidelines outline a range of interventions from short, minimal cessation advice from general practice, with the option of referral to the Quitline for ongoing cessation support for the patient, to more intensive in-practice management. Advice is provided based on the smoker's readiness to quit, acknowledging that the smoker's own motivation to stop is a key issue.

The "5As" for smoking cessation in Australian General Practice are:

Ask: If smoking status is unknown, all patients should be asked 'Do you smoke?' and 'Have you ever smoked?'. A brief smoking history of current smokers should be documented.

Assess: A patient's motivation and confidence to quit should be assessed using a non-judgmental question such as, 'How do you feel about your smoking now?'. Assessment of the patient's nicotine dependence and implications of other health issues are also important.

Advise: All smokers should be firmly advised to quit in a way that is clear, supportive and non-confrontational.

Assist: Assistance should be provided based on the assessment process and can have a variable level of clinician involvement. For example, a very brief intervention could be minimal advice and the provision of a Quit Book and the offer of referral to Quitline or appropriate community services.

Arrange follow-up: Follow-up after advice to quit has been shown to increase the likelihood of successful long-term smoking cessation. This could be done by appointment or telephone, or through feedback from a referral service, with the patient's permission.

The Australian guidelines include information about special groups including pregnant and lactating women, adolescents, Aboriginal and Torres Strait Islander people, people from culturally and linguistically diverse backgrounds, people with smoking related disease, people with mental illness and people with substance-use disorders. The guideline package consists of a desktop flipchart, a practice handbook, Quit booklets and the Quitline referral forms. The guidelines were piloted and tested in 14 general practice settings around Australia, including group and solo practices and those in rural and urban settings. Analysis of pilot data showed that they were readily useable and improved self-reported practice.

The Quitline referral process is facilitated using the fax referral forms that can also be accessed electronically on Medical Director. The Quitline was found to be an effective quit smoking service for Australian smokers who are interested in quitting[19]. Callback counselling, such as that provided by some of the state-based Quitline services, is more effective than a single telephone session[20].

While these guidelines have been developed for the general practice setting, the evidence upon which they are based makes them relevant to many health professionals. For example, there is a very real opportunity for cancer clinicians to make use of the fax referral process to Quitline to assist their patients who smoke. In addition cancer clinicians could contribute significantly to the development of Quitline protocols and guidelines to ensure that specific issues for cancer patients related to smoking cessation are addressed appropriately.

Guidelines for other Health Settings

In Victoria, evidence-based smoking cessation guidelines have also been produced for other health settings, including for health professionals working with people with mental illness who smoke and pregnant women who smoke.

Smoking reduction and cessation for people with schizophrenia: guidelines for general practitioners was developed in 2001[21]. The project was funded by the Victorian Department of Human Services and Quit Victoria and was a collaboration between SANE Australia, the University of Melbourne Department of Psychiatry and Quit. People with schizophrenia are rarely encouraged to stop smoking, or given support in their efforts to quit,[22] although research has shown that the majority are interested in quitting[23] and that stopping smoking is possible for people with schizophrenia, especially if treatment is tailored for them[22].

The guidelines aim to inform general practitioners about ways to assist people with schizophrenia who smoke to stop, or at least reduce their smoking.

The guidelines are consistent with the "5As" approach and emphasise identifying smokers and assessing readiness to quit. For this population, assessment of the risks of smoking reduction and cessation for the individual smoker are also important for safe smoking cessation, due to the possibility of precipitation or exacerbation of psychotic symptoms, the development of clinical depression and the change in medication effects. Assistance includes writing an individual plan, appropriate use of nicotine replacement therapy, group support if appropriate, and available and frequent monitoring. The guidelines are available at www.dhs.vic.gov.au/acmh/mh/publications.

Quit Victoria has also developed Quitline guidelines for safe smoking cessation for callers with mental illness.

The Three Centres Consensus guidelines on Antenatal Care: guidelines for smoking cessation intervention was completed in 2001[24]. Funded by the Victorian Department of Human Services, the project was coordinated by the Royal Women's Hospital, Southern Health and Mercy Hospital for Women. The Cancer Council Victoria and Quit Victoria assisted with the development of the specific guidelines for smoking cessation using an evidence-based method involving the development of search questions, a systematic literature search, critical review and appraisal and integration of the findings with clinical expertise.

The evidence from the literature appraisal indicated that smoking cessation interventions reduce smoking rates, decrease perinatal morbidity and mortality and are cost-effective[25] Most effective interventions for pregnant women are intensive, have multiple formats (eg. brief counselling, self-help resources), have multiple contacts, including follow-up, are not group sessions and include the partner. The evidence on nicotine replacement therapy was insufficient to develop guidelines.

The most accurate method of identifying pregnant smokers is to use a multiple-choice answer format, "Which statement best describes you now?", rather than a yes/no format[25]. The guidelines were informed by clinical expertise, are brief, use the "5As" framework and include the level of evidence to support each step and references. The over-arching guideline is to routinely offer smoking interventions to all women who smoke or have recently quit.

In the maternity-care setting Guidelines for Shared Maternity Care Affiliates was also developed in 2002 by the Mercy Hospital, the Royal Women's Hospital and Sunshine Hospital and included smoking cessation intervention guidelines also based on the "5As" strategy[26]. The "shared care" model is one in which a low-risk woman is cared for by both hospital staff and a community-based antenatal carer, a GP, obstetrician, or community-based midwife.

Both guidelines are available at www.health.vic.gov.au/maternitycare/projects.htm.

Despite the important role health professionals can play in smoking cessation intervention, there are a number of barriers reported by doctors to providing opportunistic smoking cessation advice, including lack of time and pessimism about the effectiveness of encouraging patients to quit. Evidence-based, best-practice guidelines that offer a choice of strategies from brief smoking cessation intervention and referral to support services (such as the Quitline) for ongoing support for the patient, to more intensive assistance by the clinician or practice, can help to address these barriers.

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Supporting Australians with Cancer: A Critical Review of Complementary Therapies in Oncology

A Rao

Acknowledgement

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Introduction

Complementary and alternative medicine has had an increasingly prominent role in health care, particularly in oncology. It has been defined as "diagnosis, treatment and/or prevention which complements mainstream medicine by contributing to a common whole by satisfying a demand not met by orthodoxy or by diversifying the conceptual frameworks of medicine"[1]. A distinction is often made between "alternative therapies" – those used instead of mainstream therapies – with potentially biologically active components, and "complementary therapies" used in addition to mainstream therapies in a largely supportive role[2].

In Australia, the prevalence of complementary and alternative medicine use has been measured at 52.1%[3], increasing from 48.5% in the same population seven years earlier[4]. Interestingly, the public paid nearly four times as much for alternative therapies than for pharmaceuticals[3]. Increasing use and expenditure has also been demonstrated in the USA, with 42.1% of the population using at least one alternative therapy[5]. In Europe, use varies greatly between countries, with an overall prevalence of 20-50%[6], but as few as 8.5% of the population visiting a complementary or alternative medicine practitioner in the UK[7].

The use of complementary and alternative medicine is particularly significant in patients who have cancer. A systematic review found that use ranged from 7-64%, with average use in adult cancer patients being 31.4%[1]. An Australian study found that 21.9% of cancer patients were using complementary and alternative therapies, 40% of patients did not discuss these therapies with their physician[8]. Amongst elderly women in Australia, it has been demonstrated that cancer patients use complementary and alternative therapies significantly more often than patients without cancer[9].

Given the increasing desire of cancer patients to use complementary and alternative therapies, as well as the failure of mainstream treatments to provide desired outcomes, it seems paramount that clinicians have a good understanding of the evidence available in this field. This critical review aims to provide an overview of the current evidence pertaining to a range of complementary therapies that are used in a supportive role in the treatment of cancer patients. Treatment modalities considered are: acupuncture, music therapy, massage and touch therapies, and psychological interventions. The efficacy of these complementary therapies in terms of improvement in symptoms and quality of life is examined and evidence that relates to their impact on immune function and survival is also explored.

Method

This is not a systematic review of all available data. However, a thorough search of the MEDLINE, EMBASE, CANCERLIT, PsychINFO databases and the Cochrane Controlled Trials Register was conducted to identify relevant studies, with an emphasis on identifying randomised controlled trials (RCTs). In addition, identified papers were reviewed for further relevant citations. This review was limited to data published in the English language.

Acupuncture

Acupuncture originated from traditional Chinese medicine up to 2500 years ago[10]. Traditionally, needle insertion, heat or pressure is applied to specific acupuncture points, to cause harmony following imbalances in "yin-yang" and "qi." In modern times, various versions of acupuncture have developed globally, some of which utilise standardised points and do not have a metaphysical basis[11].

The analgesic and anti-emetic effects of acupuncture have been most adequately explored in patients with cancer. An RCT compared individualised auricular acupuncture with insertion at placebo acupuncture points and no acupuncture, in patients who had chronic neuropathic pain arising after treatment of cancer[12]. At 60 days, auricular acupuncture had a significantly lower visual analogue score for pain when compared to placebo and control groups. A comprehensive systematic review of acupuncture anti-emesis trials[13] concluded that superior anti-emetic control was achieved in patients with cancer when acupuncture involving the P6 acupuncture point was performed. An RCT involving women with breast cancer, found that patients in the acupuncture group had a significantly lower number of emesis episodes and higher proportion of emesis-free days when compared with both the placebo and control groups[14].

Other novel uses of acupuncture for symptom control in cancer patients have been reported, but are yet to be investigated adequately. A small, uncontrolled pilot study demonstrated significant improvements in breathlessness up to 90 minutes after acupuncture[15]. Improvements following acupuncture for patients with pharmacologically refractory vasomotor symptoms have been reported in two case series, a series of women with breast cancer[16] and a series of men with prostatic carcinoma[17]. A single case report documents the successful use of acupuncture to treat unexplained sweating related to an inoperable lung cancer[18].

No evidence of improvement in immune function or survival following treatment with acupuncture was found. One uncontrolled study of cancer patients evaluated T-cell and NK cell activity before and after a course of five electro-acupuncture sessions, but was unable to detect any significant change[19].

Massage and Touch Therapies

Therapeutic massage is the "rhythmic and methodical stretching and compressing of the muscles and connective tissue through touch of the therapist's hands"[20]. It may be used in conjunction with aromatherapy, which involves the perceived therapeutic use of plant essences[21]. Reflexology is a technique that involves the application of pressure to areas of the feet or hands in order to produce effects in other parts of the body[22]. Massage techniques are differentiated from healing or therapeutic touch, which are energy therapies involving use of the practitioner's hands above and on the body, restoring harmony and balance to the energy system[20]. Reiki is a related form of spiritual healing which also involves the use of touch[21].

An RCT comparing therapeutic massage with standard care in patients undergoing autologous bone marrow transplant found that the massage group had significantly decreased distress and nausea scores[23]. A small pilot study, which randomised cancer patients in a hospice to massage or standard care, was unable to detect any differences in pain intensity, analgesic use and quality of life[24]. Smaller quasi-experimental studies, which considered effects pre- and post-intervention, have also demonstrated improvements in pain[25-27] and anxiety[25,28] following therapeutic massage in patients with cancer.

In terms of other therapies, a randomised trial examining the use of aromatherapy combined with full body massage in patients attending a palliative care centre, detected significant improvements in anxiety, severity of physical symptoms and quality of life[29]. Reflexology has been considered in cancer patients with metastatic disease, with an RCT demonstrating that pain scores were significantly reduced immediately after the intervention, although there was no significant difference 24 hours after intervention[30]. A randomised crossover trial which aimed to compare therapeutic massage, healing touch

Recommendations Supporting the Use of Psychological Therapies in Cancer Patients (Adapted from Reference 42)

Outcome Targeted By Psychological Intervention	Tentative Recommendations
Anxiety	n Long-term benefits of structured or unstructured counselling n Short-term benefits of self-practice
Depression	n Medium-term benefit of group therapy n Long-term benefit of education and structured counselling.
General or Overall Effect	n Unstructured counselling n Long-term benefits of education, counselling, cognitive behavioural therapy, communication skills training n Medium-term benefit of group therapy n Immediate benefits of interventions involving significant others, education and communication skills training.
Hostility	n None
Stress or Distress	n Non-therapist structured counselling n Medium-term benefits of group therapy, cognitive behavioural therapy, communication skills training n Self-practice not recommended for further investigation
General or Overall Functional Ability or Quality of Life	n Medium and long-term benefits of counselling and guided imagery
Coping or Control Skills	n Immediate benefits of group therapy
Vocational or Domestic Adjustment	n None
Interpersonal or Social Relationships	n Long-term benefits of counselling
Sexual or Marital Relationships	n Long-term benefits of therapist delivered, individual interventions involving education and counselling
Nausea	n Medium-term benefits of relaxation and guided imagery
Vomiting	n None
Pain	n None
Fatigue	n Medium-term benefits of group therapy and cognitive behavioural therapy
Overall Physical Symptoms	n None
Conditioned Nausea	n Self-practice and hypnosis n All interventions in immediate period n Medium-term benefits of guided imagery
Conditioned Vomiting	n Immediate benefit of self-practice and hypnosis; relaxation training, guided imagery, self-practice and hypnosis n Medium-term benefits of relaxation and guided imagery
Survival	n None
Immune Outcomes	n Benefits of group psychiatric intervention in medium or long-term periods (to be treated with caution, based on one study)

and caring presence with standard care, found that all intervention groups had significantly decreased total mood disturbance[20] with therapeutic massage significantly improving anxiety and healing touch significantly improving fatigue. When compared with standard opioid management, in an RCT of advanced cancer patients, Reiki was demonstrated to significantly improve pain and psychological components of quality of life scores[31].

There is little evidence relating to massage therapies and effects on immune function or survival outcomes in patients with cancer. A crossover study of homosexual men[32], some of whom were HIV-positive, demonstrated a significant increase in natural killer cell cytotoxicity during the massage period. These findings may prove to be relevant to cancer patients.

Music Therapy

Music therapy involves the use of a variety of active and passive music-based experiences, which can be either live or recorded, in the context of a therapeutic relationship[33]. In oncology in-patients, a randomised trial comparing live and tape-recorded music demonstrated statistically significant improvements in mood and physical discomfort in patients treated with live music therapy[34]. In an RCT of patients with a haematologic malignancy admitted for autologous stem cell transplantation, subjects receiving an individualised program of live music therapy had a significant total improvement in mood[35]. Another RCT investigating live individualised music therapy in cancer patients entering a hospice program, found that quality of life was significantly higher in the music therapy group and that it increased over time, in spite of decreasing physical status[36].

A significant reduction in symptoms was recorded in the intervention group of an RCT exploring the effects of recorded music therapy on nausea and vomiting in patients receiving standard anti-emetic therapy whilst undergoing bone marrow transplantation in a comprehensive cancer centre[37].

The effect of music therapy on pain has been explored in less rigorous studies. A small study with a crossover design could not detect a significant improvement in pain or analgesic use when music therapy was used[38]. An uncontrolled study of hospice patients, comparing pain control before and after a single individualised session of music therapy, reported a significant improvement[33].

There is little evidence to suggest that music therapy improves immune function or survival. A small, uncontrolled pilot study of cancer patients found a significantly increased level of salivary IgA (both concentration and secretion) after live music therapy[39]. The only study which commented on length of life after music therapy found no significant difference between the intervention and control groups[36].

Psychological Therapies

Although controversial[40], there is a suggested link between psychological factors and cancer progression, for example a large population-based cohort study of women with breast cancer found that high scores for depression and hopelessness were associated with increased risk of relapse or death at five-year follow-up[41]. Consequently, much has been published regarding the use of psychological therapies in oncology, including, but not limited to: counselling; group therapy; relaxation; hypnosis; meditation and imagery. A recently published comprehensive systematic review examined 627 papers that reported on trials of psychological therapies for cancer patients[42]. This review employed stringent criteria for both inclusion and analysis. Hence, its recommendations provide a useful guide for the clinical role of such therapies in cancer patients. A summary of the tentative recommendations of this review is detailed in the table on the previous page, with further investigation of various other interventions also being recommended.

Discussion

This critical review provides an overview of the current evidence regarding the use of four modalities of complementary medicine in oncology. This review is not without limitations. For practical purposes, the review was limited to publications in the English language. Given the origins of the various therapies, a greater appreciation of the available evidence might have been gained if papers published in other languages had been reviewed. While a number of databases were searched, an important database in the field of complementary medicine (CISCOM) was unable to be accessed at the time that this review was conducted. Furthermore, no effort was made to contact experts in the field for references from their own personal collections, or to source unpublished data.

The studies identified in this review revealed a number of factors that make quality research challenging in the field of complementary medicine. For instance, it must be accepted that double-blinded trials are often difficult to conduct, given the nature of the therapy being examined and the therapist's knowledge[43]. Furthermore, good placebo therapies are not always available and there is a role for the development of such placebos in future research. There is acknowledgement that simply the presence of an empathetic professional may have some therapeutic effect[20,43], hence a study that compares an intervention with such a presence, in addition to standard care, should be viewed as more rigorous. The very nature of some complementary therapies may require that treatments are individualised for each patient. Hence a study design which recognises the need for individualisation may provide more meaningful evidence of the efficacy of a particular complementary therapy than one which seeks complete standardisation.

This review demonstrates that there is an emerging body of good evidence to support the use of acupuncture, music therapy, massage and touch therapies and psychological therapies as adjuncts to mainstream treatments for the improvement of symptoms and quality of life. Given the level of patient use of such therapies, there is a real need for further investigation with large, well-designed studies to confirm the recommendations that these complementary therapies should be used in oncology, and to explore their use for the management of symptoms for which the current evidence is minimal.

Disappointingly, the evidence relating to the impact of these complementary therapies on immune function and overall survival was not found to be convincing. The field of psychoneuroimmunology, which considers the psychological modulation of immune function, is well-established in modern scientific literature[44]. Important concepts for cancer include: the impact of stress on natural killer cell cytotoxicity and elimination of metastatic tumour cells; links between stress and carcinogenesis including alteration of DNA repair mechanisms and the possibility of conditioned immune suppression during chemotherapy[45]. The contradictory results regarding immune function and overall survival when psychological therapies were examined, and the poor methodology employed when other complementary therapies were studied, provide inadequate evidence to recommend the use of such therapies to improve immune function or overall survival. The listed hypothesised mechanisms highlight the potential for well-designed, rigorous research to resolve these important issues.

Conclusion

Australians affected by cancer are increasingly using complementary therapies, often without informing their treating physician. Hence it is vital for clinicians to have an understanding of the evidence for the use of complementary therapies, allowing them to openly and effectively discuss such treatments with their patients. Encouragingly, there is emerging evidence that complementary therapies can improve various symptoms and quality of life in cancer patients. Therefore, increasing awareness and utilisation of such therapies has the potential to reduce the impact of cancer on the Australian community. Future research should seek to further clarify these findings and provide an adequate understanding of the impact that complementary therapies may have on immune function and overall survival of cancer patients.

* This article is the winning essay in The Cancer Council Australia's cancer-related student essay competition. As the winner Aparna Rao will attend the World Health Organisation's Collaborating Centre for Cancer Education's 'Oncology for Medical Students' summer school. Ms Rao is a sixth-year medical student at the University of Western Australia.

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Cancer reporting award winner

The Australian Financial Review journalist, Jill Margo, has been named winner of the inaugural Awarding Cancer Enlightenment (ACE) Reporter Award.

Open to consumer journalists providing independent, accurate, clear and timely information on advances in cancer prevention, treatment and care, the ACE Reporter Award is an initiative of the European School of Oncology and sponsored by Eli Lilly.

Finalists for the 2004 award, the first time an Australian award was presented, included Julie Robotham of the Sydney Morning Herald, Amanda Place of The Age and Marnie McKimmie of The West Australian.

Each journalist was asked to submit a number of articles, judged by a panel comprising representatives of The Cancer Council Australia, European School of Oncology, Brain Foundation, National Breast Cancer Centre, Prostate Cancer Foundation of Australia, Australian Lung Foundation, National Breast Cancer Foundation, Cancer Voices NSW, Asbestos Diseases Society of Australia and Leukaemia Foundation.

Cancer Forum is pleased to reproduce one of Jill Margo's winning articles – An early test can foil cancer fatality - with the kind permission of The Australian Financial Review.

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Men's Health

"Bowel cancer is highly curable if it is detected early enough."
Andrew Penman, NSW Cancer Council

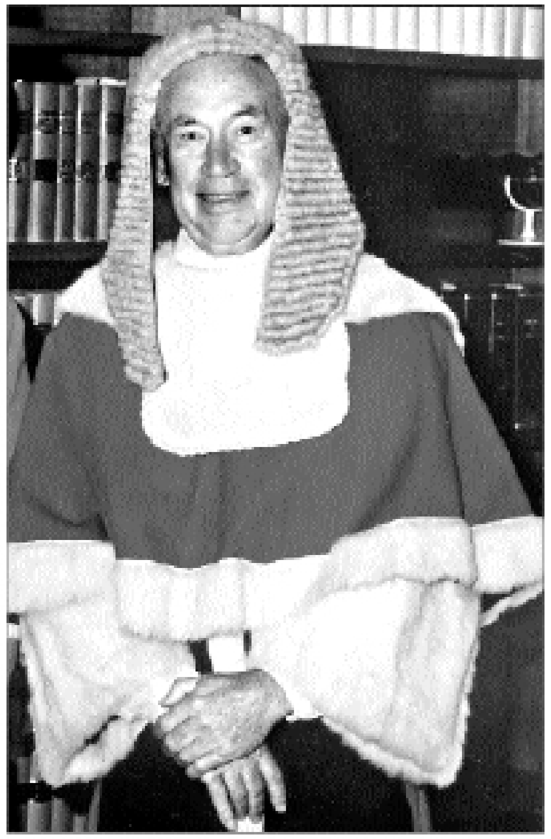
An early test can foil cancer fatality

Jill Margo

KEY FACTS

- Bowel cancer is the most common notifiable cancer in Australia.
- Altogether 11,200 new cases are diagnosed in Australia each year.
- Every day 12 Australians die from bowel cancer.
- One in 21 Australians will develop bowel cancer by age 75.

Source: Cancer Council NSW



Russell Bainton had been living with bowel cancer for five years.

REPORTS

Australian behavioural research in cancer

New Results

- Centre for Behavioural Research in Cancer (CBRC), VIC

Public opinion about smoke-free policies in bars, nightclubs and gambling venues

Public opinion related to the introduction of smoking bans in hospitality venues was examined using data from population surveys conducted annually among Victorian adults between 2000 and 2003. The data indicate strong public support for bans on smoking in bars, nightclubs and gambling venues. Over three-quarters of the sample agreed with recent legislative amendments restricting smoking in licensed and gambling venues. Approximately seven out of 10 respondents approved of the introduction of smoking bans in bars and nightclubs in 2003, while support for bans in gambling venues was higher, at around 80%. Public approval for the introduction of bans in bars, nightclubs and gaming venues increased between 2000 and 2003 among both smokers and non-smokers. Among smokers, approval for smoking bans in bars and nightclubs doubled over this period. The increase in community support for smoking bans in hospitality venues have occurred in a climate of legislative reform in tobacco control, including increasing smoking bans in public places, further restrictions on tobacco promotion, and tougher penalties for sales to minors. While current Victorian legislation places some restrictions on smoking in some hospitality venues, only a total smoking ban in all venues will fully protect patrons and staff from the hazards of exposure to tobacco smoke.

- Centre for Behavioural Research in Cancer Control (CBRCC), WA

Public awareness, understanding and utilisation of ultraviolet (UV) forecasts

Australia has the highest rate of skin cancer of any country in the world with over 200,000 new cases being reported each year and over 6000 of these being potentially fatal melanomas. The Australian Bureau of Meteorology began forecasting UV radiation levels in major population centres in September 1996 using the UV Index. The literature suggests that public awareness and exposure to the UV index is high, but recall and utilisation is low. With funding from The Cancer Council WA, CBRCC aimed to assess current levels of public awareness, recall, understanding, attitude and utilisation of the UV index through six discussion groups with males and females aged between 16 to 21, 22 to 30, and 31 to 45 years. Results confirm that while awareness of the UVI is high, comprehension is poor and utilisation extremely low. A major criticism of the UVI was that forecasts rarely dip below the 'extreme' category throughout the Australian summer, thereby negating their predictive value. As such the groups strongly advocated new danger categorisations to suit Australian conditions. The merits of different formats from around the world for presenting the UVI were also viewed and discussed. Three new formats were developed as a result of these discussions and are in the process of being tested with 600 individuals via intercept surveys. Participants are being shown the newly developed formats illustrating various UV conditions and asked to describe appropriate sun protective behaviours for each. Responses to each format will be compared to a control allowing judgements to be made about which, if any, is the superior presentation method.

Physical activity and cancer prevention project

CBRCC was commissioned by the Cancer Council WA to investigate whether messages linking physical exercise to cancer prevention (new message) are more persuasive than messages about cardiovascular disease prevention (established message). Intercept interviews were conducted with 281 respondents aged 30-60 years screened for physical inactivity (i.e., those who did exercise regularly). Respondents were shown information about physical activity and its link either to bowel cancer or heart disease and then asked to complete a self-completion questionnaire. Perceived credibility of both messages was high but respondents in the heart disease condition achieved higher behavioural intentions than those in the bowel cancer condition. In addition the top box response was substantially lower in the bowel cancer than the heart disease condition. Perceived personal relevance of the message, particularly in top box response, was substantially lower in the bowel cancer than the heart disease condition. The study highlights the need to increase the salience of the risk of bowel cancer in the community.

- Centre for Cancer Control Research (CCCR) and the Tobacco Control Research and Evaluation Program (TCRE), SA

Benefits of a Chronic Disease Self Management Program (CDSMP) for people affected by cancer

The CDSMP, developed by Stanford University, is a structured, six-week, peer-led program designed to increase self-efficacy skills among people with chronic illness. Randomised control trials have demonstrated health benefits for people affected by arthritis, asthma, diabetes and heart disease. The CDSMP which focuses on coping with symptoms such as depression and fatigue, may also be beneficial to people affected by cancer, but to date has not been evaluated in this population group. A qualitative evaluation study was undertaken with participants of two programs, jointly run by The Cancer Council South Australia and the Arthritis Foundation specifically for people with cancer. In-depth telephone interviews were conducted four to six weeks post course. Major outcomes for participants included: 1) a decreased sense of isolation; 2) motivation and skills to improve their health behaviours and well-being; and 3) a sense of regaining control and achievement through goal setting. The course appeared to suit people who were recovering after treatment but may not be as relevant for those still dealing with acute disease/treatment issues.

Information and support needs of people with genetic predisposition to cancer

The information and support needs, and preferred options for services to meet these needs, were accessed via a postal survey

of South Australia Familial Cancer Service clients who tested positive for mutations for BRCA, HNPCC and FAP. The issues of most concern to this group that are currently not being addressed adequately related to surveillance and screening options and lifestyle choices to reduce risk. Respondents expressed a strong preference for accessing information via a specialised web site (62%), but were also interested in further follow-up with genetic counsellors (60%), and information days/evenings (51%). There was less interest in programs that focused on peer support. However the level of interest may still be sufficiently high to warrant establishing support groups (43%) or telephone peer support (32%). The needs and preferences of respondents did not vary significantly between those with BRCA mutations and those with HNPCC or FAP related mutations.

Psychological health over time in the advanced cancer setting: further findings from the Canberra Cancer Quality of Life Project

A cohort of subjects (163 patients and 136 caregivers) from The Canberra Hospital was followed for six months. Patients with advanced cancer were observed until death and censored 31 March 2003 (nine patients remained alive). As measured by the SF36, patients maintained remarkably good psychological health, consistently reporting scores within the standard norms. At week one the mental health for a matched group of 100 mean score was 75.7 (std error mean 1.48) and at week 18 it was 77.7 (std error of 1.60). A general social environment factor is being considered as the explanation. The population had higher socio-economic levels across key indicators: high education levels, high rates of home ownership (67% had fully paid for their homes, 18% only had a mortgage), high quality employment environment providing financial security with 55% currently or previously employed in the public sector (with at least some superannuation), high car ownership with 63% still able to access their own transport albeit with assistance. Social networks and emotional support were good even with restricted social functioning (SF mean scores of 62.7 at week 1 and mean scores of 60.5 at week 18), with 93% (100% males and 87.5% females) identifying somebody with whom they could share their feelings, 80% that they had family support, and two thirds indicated they could share their feelings with friends and with the doctor.

Gay Men and Tobacco Project

TCRE was commissioned to evaluate the first phase of the Gay Men and Tobacco Project, which was coordinated by Gay Men's Health at the AIDS Council of South Australia. The aim of this project was to develop a health promotion campaign targeted specifically at gay, homosexually active, and HIV-positive men. The evaluation revealed some very positive results particularly around the final targeted campaign promotional materials, and the tailored cessation courses.

Research in the Pipeline

n CBRC

Reducing cancer patients' psychosocial needs: a randomised controlled trial

Research has shown that a diagnosis of cancer places immense physical and psychological demands on individuals and that many have unmet psychosocial needs. A team of researchers from the Cancer Council Victoria and University of Newcastle have been awarded an NHMRC grant to assess the effectiveness of a tailored, patient-focused intervention that aims to reduce the psychosocial needs of people with cancer. The research team at the University of Newcastle is being led by Professor Rob Sanson Fisher and Dr Victoria White is leading the team at the Cancer Council Victoria. Six hundred participants, aged between 18 and 80 years, recently diagnosed with Stage I, II, IIIa, or IIIb, colorectal cancer will be recruited through the Victorian Cancer Registry. Participants will be randomly assigned to either their usual care for cancer or to an intervention, called the Pathfinder Program. Participants in this study will complete questionnaires at study entry and at six, 12, and 18-months post cancer diagnosis. These questionnaires will assess supportive care needs, psychiatric morbidity, quality of life and social support. Treatment and socio-demographic information will also be obtained. Following completion of the first, second and third questionnaires, participants in the intervention group will receive written feedback on their questionnaire responses. Intervention participants will also be assigned a Cancer Information and Support Services (CISS) trained volunteer, called a Pathfinder. The Pathfinder will provide over-the-phone support and information to the participant. They will assist the participant to identify ways to reduce their unmet needs. Pathfinders will provide ongoing support for a 12-month period. Michelle Macvean from CBRC commenced as the Project Coordinator in February 2004 and is working closely with the CISS Pathfinder Program Manager, Sarah Pratt, to plan and implement this research project and the Pathfinder support program.

n CCCR and TCRE

Evaluation of the 'Peer Support Program Activities for Tobacco and Smoking'

Quit SA worked in collaboration with the Peer Support Foundation to trial a package designed to address tobacco smoking in the school setting. TCRE is currently working to evaluate the impact of the program on students' knowledge of the health effects of smoking and smoking behaviour to determine whether the resource should be implemented on a larger scale in SA peer support programs.

Evaluation of the Smoke-free Pregnancy Project

Quit SA is working in collaboration with the Women's and Children's Hospital and the Lyell McEwin Health Service on a project to reduce smoking prevalence amongst pregnant women in South Australia (particularly for those attending these hospitals). TCRE is currently finalising an evaluation plan for this project. The evaluation will involve population monitoring of smoking prevalence amongst pregnant women and women of childbearing age, the examination of quit rates of women attending antenatal services in the Women's and Children's Hospital and Lyell McEwin Health Service; the examination of quit rates of those contacting and being referred to the pregnancy specific Quitline, and a survey of staff implementing the project on their experiences.

Correctional Services Cessation Project

Quit SA has been running cessation courses and providing subsidised Nicotine Replacement Therapy for correctional services staff (both prisons and community centres) in South Australia. TCRE will be conducting telephone follow-up interviews and collating feedback forms from 50 staff who utilised these services. Quit rates and satisfaction with the services provided by Quit SA will be investigated.

Evaluation of the Smoking Cessation Project (Phase II) at Noarlunga Health Service

The Smoking Cessation program is funded by the Department of Human Services and is being implemented at Flinders Medical Centre, Repatriation General Hospital and Noarlunga Health Service and builds on a previous program at these hospitals. The program aims to integrate brief smoking cessation interventions for patients into routine health care in hospitals with linkages to general practitioners and Quit SA for further follow-up. TCRE is currently conducting an evaluation of the program at the Noarlunga Health Service.

n Centre for Health Research and Psycho-oncology (CHeRP), NSW

Proactive telemarketing of a smoking cessation telephone counselling service

One-in-five Australians is a regular smoker and evidence suggests that as many as four out of five smokers want to quit. Despite the availability of support services that can be effective in helping people to quit, such as telephone helplines, only a small number of smokers seek help from these services. One solution to the low use of such services is to pro-actively contact and offer support with quitting to smokers in the community, rather than relying on smokers to take the first step in seeking help. Drs Chris Paul and Raoul Walsh, in collaboration with members of Hunter Population Health, are conducting a study which will involve proactively contacting a random sample of households and offering intensive, personalised telephone counselling to smokers to support them in the quitting process. The counselling sessions will focus on supporting those smokers ready to quit, as well as motivating other smokers not ready to quit immediately. Such a service will provide treatment access to smokers who might not otherwise seek assistance to quit, thereby greatly increasing the potential impact of quit smoking services at a community level. If the study is successful it will provide a new model for the delivery of smoking cessation services to the community. Potential intervention with all smokers, including those not currently considering quitting, will result in an increase in the number of smokers quitting, thus saving many lives. The study is funded by the National Heart Foundation and has also received the prestigious 2004 National Heart Foundation (NHF) Rudolf Gerstl Research Award at the National Heart Foundation AGM.

The impact of group music therapy with recently diagnosed breast cancer patients

Whilst music therapy is well-established in the UK, Europe and the USA, it is a relatively new profession in Australia, first established in Melbourne in the mid-70s. Studies in the area of cancer care have mainly focused on palliative care and the end stage of a patient's life. Sarah Burns, under the supervision of Associate Professor Afaf Girgis of CHeRP and Dr Jon Adams of the Centre for Clinical Epidemiology and Biostatistics at the University of Newcastle, is undertaking an innovative study as part of her PhD to evaluate the impact of group music therapy on the psychosocial and physiological well-being of women aged 55 and over who have recently been diagnosed with breast cancer. The research will be an extension of pilot work conducted by Sarah in the United Kingdom which indicated that a one-off group music therapy session lowered levels of tension, increased levels of energy and improved the cancer patients' mood and overall sense of well-being. A multi-method approach will be used consisting of quantitative psychosocial testing tools, physiological testing of saliva for sIgA (salivary immunoglobulin A - a marker of immunity) and salivary cortisol (a marker of stress) and qualitative participant memory-work and semi-structured interviews. It is hypothesised that participants receiving the group music therapy intervention will have better psychosocial outcomes, increased immunological functioning and decreased levels of stress post-intervention when compared to the control group. Qualitative data collected will be analysed to identify recurrent themes present and to further explore the meaning and process of each participant's experience of group music therapy. This project will be the first of its kind to be carried out in Australia and will give more understanding of the potential benefits of an ongoing 10-week group music therapy program with recently diagnosed breast cancer patients. It will help music therapists provide a more effective service for this population, give more understanding to the medical profession of the value of music therapy in the area of cancer care and will add empirical evidence to the music therapy literature.

n VCRCC

Colorectal cancer and quality of life

The Centre for Research in Cancer Control, in collaboration with the University of Queensland, Queensland University of Technology and the Royal Brisbane Hospital, is conducting a population-based, longitudinal study, examining the process of diagnosis, treatment outcomes and subsequent quality of life for colorectal cancer patients up to two years after diagnosis. Ultimately, the aim of this study is to provide the first comprehensive picture of the impact of diagnosis and treatment on the well-being and quality of life of colorectal cancer patients in the first two years after their diagnosis, to describe those patients most at risk from psychological distress and other sequelae, and to recommend ways in which the unmet needs of some of these patients may be addressed. Over 1200 patients are expected to participate in the study. Those who take part will complete a postal questionnaire and a telephone interview within six months of their diagnosis. The questionnaire and interview will be repeated at one year and again two years after their diagnosis. Additionally, questionnaires will be sent to participants' doctors to elicit details related to the diagnostic process, tumour stage and site, prognostic indicators, treatment and co-morbidity. Funding is being sought to extend follow-up to five years after diagnosis.

Promoting healthy lifestyles

While the Australian population are largely aware that to maintain optimum health they should not smoke, should take regular exercise and should eat a healthy diet with a high intake of fruit and vegetables and low intake of saturated fat, about a quarter of the population still smokes, and almost half don't get enough exercise for health benefit or have an adequate diet. Over the past 13 years, Associate Professor Eakin has evaluated programs that help patients with a variety of chronic medical conditions, including cancer, to lead healthier lifestyles. This research has shown that, while there are a substantial number of groups and classes available in metropolitan areas to help people stop smoking, exercise and eat well, those people who need it most are unlikely to avail themselves of such programs. Eakin, along with colleagues from Queensland University of Technology and the University of Queensland, was recently awarded a National Health and Medical Research Council grant to evaluate a randomised controlled trial of a telephone-delivered lifestyle intervention program for patients in remission from a variety of cancers, as well as those with type 2 diabetes and high blood pressure. Five hundred patients will be recruited from general practitioners in a disadvantaged community south of Brisbane and followed over 12 months. The intervention group will be offered telephone counselling to help improve exercise and eating habits along with supporting semi-tailored mailed information. The control group will receive feedback from their baseline assessment and untailored health information sent to them throughout the intervention period.

This project will have important population health implications for the wide-scale delivery of lifestyle-intervention programs, both for cancer survivors, and for patients with other chronic conditions.

An investigation of the utility of primary care skin cancer clinics in Queensland

Skin cancer is the most common type of cancer in Australia and Australia has the highest incidence of melanoma and non-melanoma skin cancer in the world. Compared to its population, Queensland has a disproportionately high number of SCCs, BCCs and melanoma. Despite the lack of proven benefit, screening of the skin for early signs of skin cancer appears to be increasing. Primary care skin cancer clinics have emerged following identification, often by local GPs, of a perceived need within a community, for a readily accessible clinic where skin examinations are conducted. The clinics, usually staffed by GPs with a special interest in skin cancer, are designed to offer open access consultations to the community for the diagnosis and treatment of skin cancers and pigmented lesions. Potentially, by specialising in the area of skin cancer, doctors within these skin clinics may see a higher number of incident cases than doctors within general practice. At a recent national workshop on melanoma diagnosis sponsored by the National Cancer Control Initiative, it was stated that "to fully understand the role these clinics play, further information is needed on who attends these clinics, the number of consultations, the benign to malignant excision ratio, the breakdown of diagnoses and the use of photography or other forms of imaging". To this end, a multi-centre, collaborative study is being developed by researchers from the Queensland Cancer Fund, the Queensland Institute of Medical Research and the University of Queensland, which will aim to provide detailed data on the casemix and diagnostic ability of doctors in primary care skin clinics, and to compare these with data from usual general practice. The study will document the volume and casemix of lesions examined and excised in skin clinics and usual general practice, diagnostic performance in each setting, the various determinants of clinical diagnosis and management strategy, and the characteristics of those who choose to attend skin clinics compared to general practice. This study will inform debate about the most appropriate ways to detect skin cancer in the community, and whether skin clinics are providing benefits above those able to be provided by doctors in general practice. Funding applications are pending.

NEWS

n CBRC

CBRC has welcomed Dr Michelle Macvean, Pathfinders Project Coordinator, Vanessa White, Shade Study Research Coordinator, and Daniella Germain, QUIT Research and Evaluation Officer. Michelle is coordinating the NHMRC funded project Reducing Cancer Patients' Psychosocial Needs, which aims to assess the effectiveness of a tailored, patient-focused intervention in reducing the psychosocial needs of people with cancer. Vanessa is coordinating the NHMRC funded project, Shade Intervention in Secondary Schools, which is designed to assess the efficacy of a shade development intervention aimed at reducing adolescents' sun exposure. Daniella's main focus is on the development and coordination of various projects and research papers for QUIT Victoria and CBRC.

Several researchers from CBRC presented at the recent World Conference on Health Promotion and Health Education held in Melbourne during April 2004. Dr Melanie Wakefield presented a talk entitled Think. Don't Smoke: Are tobacco company youth smoking prevention campaigns effective? Over the past several years, Phillip Morris has commenced television advertising in many countries aimed at encouraging youth not to smoke. This presentation summarised this initiative and international research which indicates that these campaigns have been largely ineffective in influencing youth smoking, but very effective in promoting the company as a responsible citizen. Dr Suzanne Dobbinson presented the results of a recent study exploring the compliance of 30 solarium centres operating in inner Melbourne with Australian Standard recommendations for providing information about skin cancer risk to customers and restricting access to high risk groups such as people with skin that burns easily. Dr Helen Dixon presented a review of research on smoking in movies, focusing on historical product placement deals, movie content analysis and audience research. Helen's paper was presented as part of a session on marketing by the tobacco industry. Robyn Mullins' presentation was titled Using Quantitative and Qualitative Research to Develop Mass Media Campaigns: PapScreen Victoria, which described the methodology used in formulating a media campaign. Quantitative data was used to define an appropriate target audience for a television campaign and this information was used to help develop the brief to the advertising agency. Focus groups were then used to determine which of the proposed advertising concepts was likely to be the most effective. Quantitative evaluation of the campaign was also discussed.

Visit our website www.cancervic.org.au/cbrc for information about current CBRC research projects, details of our latest publications and access to the CBRC Research Paper Series.

n CBRCC

Ms Kati Donovan recently completed her Masters of Public Health under supervision at CBRCC. Her thesis investigated alcohol advertising in popular magazines. The findings suggest the alcohol industry frequently violates the Alcoholic Beverages Advertising Code.

Mr Geoffrey Jalleh made a presentation entitled 'The influence of message framing on the effectiveness of sun protection messages' at the recent World Conference on Health Promotion and Health Education held in Melbourne in April 2004. He presented the results of a study that investigated the use of positive versus negative message framing to develop more effective communication strategies to encourage the adoption of sun-protective behaviours. A total of 836 young adults arriving at Cottesloe Beach were asked to read an information brochure using either positively or negatively framed information about sun protection and then to complete a questionnaire on their attitudes and behavioural intentions towards sun behaviours. The time participants arrived and the time they left the beach were recorded. Although respondents in both conditions spent less time in the sun than they intended, the negatively framed condition spent substantially less time in the sun than they intended compared to those in the positively framed condition: 28 versus 13 minutes.

n CCCR and TCRE

TCRE is currently collating all research and evaluation projects conducted in the period of 2001-2004 to publish in Tobacco Control Research and Evaluation Report Volume 2. This document will be released in November this year.

Jacqueline Hickling and Sinead Quinn attended the World Conference on Health Promotion and Health Education in April and presented four posters. The topics for the posters were: Smoking and Social Inequalities in South Australia; Mounting Public Support for Smoke-free Bar and Gaming Venues in South Australia; Community Perceptions about Tobacco Control Policy and the Tobacco Industry; Quit Mass Media Campaign Comparisons: South Australia 2001-2003.

CHeRP

Dr Chris Paul and investigators were awarded the prestigious 2004 National Heart Foundation (NHF) Rudolf Gerstl Research Award, for their NHF-funded research grant entitled: 'The effectiveness of pro-active telemarketing of a smoking cessation telephone counselling service'. The presentation was made at the NHF AGM in Sydney on Tuesday, 27 April.

Associate Professor Afaf Girgis and Dr Sibilah Breen from CHeRP, along with Dr Paul Glare from the Royal Prince Alfred Hospital and Amanda Neil from the University of Newcastle, have been successful in obtaining two years' funding from the National Health and Medical Research Council – Palliative Care Research Program, for their research into the cost-effectiveness of models of supportive care coordination for patients with advanced cancer.

Associate Professor Afaf Girgis, Dr Chris Paul and Claire Johnson from CHeRP, together with external collaborators Professor David Currow (Flinders University of South Australia), Professor Linda Kristjanson, Edith Cowan University) and Amanda Neil (University of Newcastle) have also been successful in obtaining funding from the Commonwealth Department of Health and Ageing for research into the analysis of qualitative research and a national survey to inform needs-based utilisation of palliative care in Australia. This funding is to undertake the first two phases of a six-phase program of palliative care research under consideration by the Commonwealth.

CHeRP would like to welcome Dr Jiong Li who has commenced a three-year appointment as a University of Newcastle Postdoctoral Research Fellow working with CHeRP, the Discipline of Health Behaviour Sciences and Hunter Population Health. The Fellowship was competitively awarded as part of the University of Newcastle Strategic Initiative Fund Fellowship Scheme. Dr Li was previously based in Denmark where he completed his PhD research on the mortality and morbidity in bereaved parents.

n VCRCC

The Sylvia and Charles Viertel Charitable Foundation has made a significant contribution to the Queensland Cancer Fund for the development of the Fund's Centre for Research in Cancer Control. In recognition of the Foundation's generous and on-going contribution, the Centre will henceforth be known as the Viertel Centre for Research in Cancer Control.

Many thanks for the contributions of Victoria White (CBRC), Owen Carter (CBRCC), Kerri Beckmann (CCCR and TRCE), Narelle Mills (CheRP) and Kate Troy (VCRCC).

16TH LORNE CANCER CONFERENCE, 12-15 FEBRUARY 2004

Abstract

Major themes presented at the 16th Lorne Cancer Conference included haematopoiesis, cell cycle, genomics and cancer therapy, for which a number of distinguished speakers were invited. Plenary orations this year were delivered by multiple award winner Janet Rowley (University of Chicago) and Nobel Laureate Lee Hartwell (Fred Hutchison Cancer Research Centre).

Joint session with the Lorne Protein Conference

The conference began with a now traditional joint session with the preceding 29th Annual Conference on Protein Structure and Function. Steven Stacker (Ludwig Institute for Cancer Research, Melbourne, Australia) outlined the biochemistry of VEGF stimulation of lymphangiogenesis and how this may affect cancer metastasis and lymphedema. The session's second speaker, David Carling (MRC Clinical Sciences Centre, London, UK) explained the importance of the AMP-regulated protein kinase in the regulation of cellular energy balance and how this relates to disease. Specifically, mutations in LKB1, a kinase upstream of AMPK has been shown to be responsible for inherited cancer (Pertz-Jeghers syndrome) and that the biochemical basis for this is the requirement of LKB1 for the function of AMPK.

Cell Cycle Control

As one of the major themes of the conference, cell cycle control was addressed by Patrick O'Farrell (University of California San Francisco, San Francisco, USA) as an incompletely explained phenomenon. In several elegant movies cell division was demonstrated to take far longer than is commonly perceived, as the cytoplasmic bridge that joins cells prior to division was observed to persist for hours after furrow ingression was completed. In addition, the textbook definition of cytokinesis was shown to be incomplete, in that chromosomal migration away from the kinetochore and toward the cell poles (typically after laser separation) does not occur appropriately outside its normal place in the cell cycle. To understand what facilitates this, a screen of RNAi mutants inducing multinucleation of drosophila cells was investigated. Fascinating mutants were described including knockouts for Rho-dependant kinases Citron kinase and Rock. Ablation of Rock stopped anaphase B elongation of the cell and meant that the spindle collided with the poles of the cell and that the spindle fibres buckled drastically towards the cell equator. Citron Kinase was shown to be involved in stabilisation of the cytoplasmic bridge, as its absence meant the bridge was not broken, and cells abruptly fused (in about one minute) nearly two hours after furrow ingression occurred.

Also utilising the well-described physiology of Drosophila melanogaster, Iswar Hariharan (MGH Center for Cancer Research, Charlestown, USA) conducted a screen for mutations affecting cell growth by comparing proliferation of wildtype and mutant cells in the fly eye on the basis of pigmentation. In this fashion several unpublished negative regulators of cell growth were identified. The F-box protein Archipelago was shown to degrade both myc and Cyclin E, thus affecting cell growth. A novel kinase complex affecting cell growth was also defined, comprising two protein kinases (Hippo and Warts) scaffolded by a third protein (Salvador). This complex restricts cell growth and promotes apoptosis making it a potentially efficacious tumour suppressor. Lastly, unpublished data concerning Capicua (Cic) was presented, identifying its role in growth and the receptor tyrosine kinase / Ras pathway. Cic mutant cells grow faster but with normal size and specification as opposed to other mutants downstream of Ras, for example Pointed mutants, which fail to specify photoreceptor cells. This leads to the interesting hypothesis that cellular signals for growth and specification

downstream of Ras are independently controlled.

Predisposition to cancer is one of the potential results of defects in DNA damage responses. Kum Kum Khanna (Queensland Institute of Medical Research, Brisbane, Australia) highlighted that these defects can also lead to immune deficiencies, neurodegeneration, telomere defects and ageing, thus, her work focuses on the stability of DNA and cell cycle checkpoints, particularly in response to DNA damage. ATM (ataxia-telangiectasia mutated) is an important protein kinase involved in the regulation of checkpoint responses and is recruited to sites of double-stranded breaks of DNA. Mice deficient in ATM are sensitive to ionising radiation, lose G1, S and G2/M checkpoints and demonstrate chromosome instability.

Also researching the cell cycle Bruce Stillman (Cold Spring Harbor Laboratory, New York, USA) explained work on Origin Recognition Complex (ORC) proteins which are involved in marking sites of DNA for replication. Orc2 was knocked down in eukaryotic cells using siRNA and led to lack of DNA replication and arrest in mitotic state associated with severe spindle defects. Protein staining of these cells suggested an altered composition of the centrosome and analysis of spindle checkpoint proteins denoted an absence of Mad2 on the kinetochores, raising issues about Mad2-dependent checkpoint signalling in mitosis. As presented at this conference, some of the complexities underlying the association of cell cycle and cancer are being elucidated, exposing potential targets and pathways for future therapies

Haematopoiesis

A week after celebrating 50 years in science at the Walter and Eliza Hall Institute of Medical Research (WEHI) Donald Metcalf (WEHI, Melbourne, Australia) was describing the phenotypes of two lines of mice (Plt3 and 4) arising from an ENU mutagenesis screen directed towards genes involved in the regulation of platelet production. These mice demonstrated mild anaemia, deficient levels of B lymphocytes and an increased level of megakaryocyte progenitors and platelets. The genotype of these mice showed that two independent point mutations in the myb gene lead to this phenotype. Interestingly, this is in contrast to the myb knockout mouse, which is not viable. The specific interactions abrogated by these point mutations should provide insight into important haematopoietic pathways relevant to platelet production.

Thea TIsty (University of California San Francisco, San Francisco, USA) discussed her investigations of the early molecular and genetic events of breast cancer, a disease which is frequently diagnosed after appropriate treatment can be applied. She has developed an elegant in vitro model based on normal breast tissue which identifies signalling pathways and genes that enable cells to bypass normal proliferation barriers and acquire the genomic changes that are pivotal to the development of cancer. Amongst the molecular descriptions, increasing COX-2 expression appears to correlate with this breast cancer model and is overexpressed in many other solid tumours. Colocalisation of COX-2 and p16 (a molecule involved in cell cycle control) was also observed in a percentage of tumours studied. Currently, COX-2 inhibitors are prescribed for arthritis and inflammation but clinical trials are taking place to test their efficacy in the treatment of colon cancer.

Concerning the role of haematopoietic stem cells (HSCs) as a potential therapeutic agent through transplantation, Margaret Goodell (Baylor college of Medicine, Houston, USA) presented a large body of work towards an understanding of the nature of HSC differentiation and self-renewal upon transplantation. As potential proof of transdifferentiation, a single bone marrow derived HSC can proliferate in damaged liver. The process by which this occurs was not due to a switch in the fate of the cell, but rather engraftment, a rare process whereby fusion occurs of the transplanted HSC with a hepatocyte. This raised the point that hepatocytes by their nature being more accepting of a multinuclear, multiploid state, may show a preference for the process of transdifferentiation of HSCs. All in all the many facets of haematopoiesis relevant to cancer and its therapy highlighted its utility and importance to the conference.

Recent Innovation in Cancer Research

Several speakers outlined recent innovations in research relevant to cancer. Michael Gould (McArdle Laboratory for Cancer Research, University of Wisconsin-Madison, USA) has developed a yeast-based screen to analyse ENU mutaganised rats, and hence found those with loss of function for specific genes. Screening less than 2000 mutants Gould identified BRCA2 knockout rats, which unlike their mouse knockout counterparts, were viable. The BRCA2 knockout rat instead had a decreased life span, tumours, cataracts, kidney disease and an overt loss of sperm in the testes and germ cells from ovaries.

Also utilising ENU mutagenesis technology, this time in mice, Ben Kile (Baylor College of Medicine, Houston, USA) described a screen to bypass traditional bottlenecks in mapping and maintenance of ENU mutagenised mice. To do this a balancer chromosome was designed and used in a recessive mutant screen. 230 new recessive mutations were identified, 88 of which mapped alongside the balancer chromosome therefore enabling their rapid identification.

While investigation of protein networks is currently the focus of much attention, the generation of genetic interaction maps is not as prevalent. Brenda Andrews (Department of Medical Genetics and Microbiology, University of Toronto, Canada) has developed a method defining genetic interaction maps with up to 4000 interactions. This method is termed Synthetic Genetic Array (SGA) and involves analysis of yeast double mutants by crossing gene mutations into an array of viable mutants. Double mutants are then tested for phenotypes affecting viability and fitness which would place the two genes in associated pathways. Results suggested that the genetic interaction map is in the order of 100,000 interactions – possibly 10 times more complex than the protein interaction map. Furthermore, Andrews suggested that the position of a gene in a partially-mapped network was predictive of its interactions, in that a gene is more likely to be associated with the neighbours of a gene it already interacts with.

Trends in Cancer Therapy

The Ashley Dunn Oration was delivered this year by Lee Hartwell (Fred Hutchison Cancer Research Center, Seattle, USA) who won the Nobel Prize for Medicine (physiology) in 2001. Hartwell initially provided an insightful review of cancer therapy, emphasising that the death rate from cancer over the last five decades has remained unchanged and that the number of drugs in the pipeline towards therapy is in decline. In what was clearly the most controversial proposition presented at the conference, Hartwell suggested that in fact the current dogma of cancer research is fundamentally flawed. Instead, as opposed to researching therapy, data presented showed that the most benefit science could deliver to cancer patients would be through early diagnosis by which recovery rates are drastically improved. The gauntlet was thrown down to researchers to drop therapeutic research in favour of diagnostic research, for which many tools are now becoming available. Hartwell envisages a day in which a handful (a ball-park figure of 100 was suggested) markers in serum could diagnose cancer specifically and lead to more efficacious treatment. The challenge will be to convince people with money to support such a vision, however data presented in this oration suggested that future victims of cancer would not be hard to convince.

The question of whether we are focusing on the right targets and strategies for combating cancer was also discussed by Janet Rowley (University of Chicago, Chicago, USA) in a plenary session on Haematopoiesis. Rowley has performed extensive research on the Philadelphia chromosome - from its discovery to cloning and its role in acute myeloid leukaemia. As cancers have distinct morphological features based on their genotype, concentrating on one gene at a time is less profitable than research using a more global approach. The Rowley lab has developed SAGE (serial analysis of gene expression) as a tool to analyse gene transcripts in an unbiased, comprehensive fashion. Data provided indicated that transcriptional activation in the genome is probably a magnitude higher than is currently believed. Therefore the conclusion to be drawn was that, especially in the treatment of cancer where mutations, translocation and epigenetics also play a role, genotypic-specific therapies will probably be the future of cancer research.

Although there is a continuing push for new and better therapies, the success of current therapeutics and clinical trials cannot be ignored. Many different therapies are being tested with positive results from clinical trials. These include using anti-VEGF antibodies (Avastin) which reduces tumor vascularisation hence apprehending tumour growth (Jennifer LeCouter, Genentech Inc, San Francisco, USA) and the development of a vaccine against human papilloma virus (Suzanne Garland, Royal Women's Hospital, Melbourne, Australia) to decrease the risk of cervical cancer through persistent oncogenic HPV infection. The traditional treatments of chemotherapy and radiotherapy are often debilitating and induce complications including oral mucositis. Clinical trials are underway in the use of rhuKGF to induce epithelial cell proliferation and survival to decrease the severity and duration of this complication (Alessandra Cesano, AMGEN Inc, Thousand Oaks, California, USA).

Closing Remarks

Poster presentations this year were of uniformly outstanding quality and deserving of the six independently funded poster prizes. Marnie Champ was recognised for her contribution as the best postdoc/student speaker of the conference. In closing Doug Hilton (WEHI, Melbourne, Australia) highlighted three facets of the meeting which he believed were instrumental to its success. These were, the demonstration of stellar science by all contributing members, free student registration (provided by the anti-cancer council) and a social environment that contributes to new and continued friendships amongst the scientific community.

Acknowledgments

The authors acknowledge Doug Hilton and Warren Alexander, joint chairmen of the Lorne Cancer Conference Organising Committee, and also Helene Martin and Jacqui Laird, meeting coordinators.

Cervical screening conference stream

More than 200 people from around the globe heard from internationally renowned experts at the one-day stream on cervical screening, held at the Melbourne Exhibition Centre in April 2004. The Cancer Council Australia hosted the stream, which was part of the 18th World Conference on Health Promotion and Health Education.

Dr Gael Jennings, board member of The Cancer Council Australia, opened the program on behalf of the Cancer Council, by challenging the audience to reconsider cervical screening practices in Australia. Is the screening interval appropriate? What can we do better to meet the needs of Australia's Indigenous population? Should existing funds allocated to cervical screening be re-directed within the program and used more effectively?

The challenging issues raised by Dr Jennings were continued throughout the day. Many Australian delegates may have been surprised to hear from Professor Valerie Beral's (University of Oxford, England) presentation that cervical cancer is the second most common cancer death in women worldwide, with 80 per cent of cases and deaths occurring in less developed countries. Cervical screening in Australia has been highly successful, with the mortality rate from cervical cancer halved during the last two decades. While Australia enjoys this success, the picture cannot be replicated all over the world.

Dr Heather Mitchell (Director, Victorian Cytology Service, Australia) highlighted in her presentation that even though Australia's national cervical screening program could be considered a public health success story, there are still challenging issues facing the program. Firstly, as new developments contest the appropriateness of the conventional Pap test, there is a need to undertake local research to help determine which of the new developments will help Australia's program. Secondly, the difficulty of reviewing existing policies needs to be addressed, and finally, there is the ongoing challenge of how to engage underscreened women, including Indigenous women, migrant groups, and older women.

A forum on cervical screening couldn't be held without some focus on the human papilloma virus (HPV), and the exciting possibilities that lie ahead with HPV testing and HPV vaccines. Professor Ian Frazer (Centre for Immunology & Cancer Research, University of Queensland, Australia) and Associate Professor Suzanne Garland (Microbiology and Infectious Diseases Unit, Royal Women's Hospital, Australia) provided an update on the HPV vaccine, and discussed potential clinical applications of HPV testing. Early phase trials of the therapeutic vaccine are encouraging - good news for the 5 million or so women already infected with HPV. Furthermore, with strong evidence that prophylactic vaccines prevent HPV infection, research is currently underway to determine how long protection lasts once vaccinated.

With these exciting possibilities ahead and the enormous advances in understanding cervical cancer, women are increasingly being told about HPV. Dr Kirsten McCaffery (University of Sydney, Australia) presented on the psychosocial implications of HPV, and anticipates that HPV information is likely to change women's perceptions of cervical cancer and screening. She highlighted the need to educate the whole community about HPV, and in order to minimise any negative

psychosocial impact, key messages should normalise the infection.

Strategies on how to empower and engage women were also highlighted in the conference stream. Ms Anne Allan-Moetaua and Ms Ngamata Skipper (National Screening Unit, Ministry of Health, New Zealand), and Ms Sandy Angus (Queensland Cervical Screening Program, Queensland Health, Australia) presented their work targeting Indigenous women from New Zealand, the South Pacific and Australia. With Australian Indigenous women dying of cervical cancer at a higher rate than other women, these presentations provided inspiration and direction – and importantly, strategies that could be adopted by other screening programs.

In order to showcase existing good practice at the local level, the stream also included two oral presentation sessions and a poster presentation session. These sessions allowed for local activities and research to be presented, and for delegates to be further inspired by the terrific work that is happening at the "grass roots" level. The one-day program was summarised in the final session, with an exciting debate-provoking hypothetical facilitated by Dr Nick Carr from the ABC's George Negus Tonight program.

Some people may have thought that with reduced mortality rates from cervical cancer, cervical screening in Australia was no longer a priority health issue. However, the diversity of issues raised on the day has ensured that the program in Australia will remain vibrant and important for some time to come.

The Cancer Council Australia would like to acknowledge the assistance of the Australian Government for their funding support towards the stream, and to the Cervical Screening Conference Stream Organising Committee for their organisation of the stream.

Cancer research outcomes review, 1990-2002. Adelaide: The Cancer Council South Australia, 2004

K Kirke and J Hickling

The Cancer Council South Australia (TCCSA) invested over $20 million dollars in cancer research between 1990 and 2002, mostly in project and fellowship grants. In 2002, the TCCSA Board endorsed a review of outcomes, both for accountability and planning purposes.

All 122 recipients of grants during 1990-2002 were sent a questionnaire for self-completion, covering such topics as the perceived impact of their TCCSA funded research on cancer control, gaining further research funding from other sources, patent acquisition, and health policy. Also explored was the extent to which results were published in peer-reviewed journals, were publicly available in other literature, and were the subject of presentations in scientific or other public forums. Apart from these outcomes, recipients were asked to provide their impressions of the relative importance of various categories of TCCSA research funding.

Survey recipients received multiple questionnaires when they had gained more than one TCCSA grant during 1990-2002. About 50% of those contacted provided at least one completed questionnaire in this the survey.

The majority (86%) claimed that their grant had contributed positively to their careers, two thirds of them stating that it had led to further funding from the NHMRC or other sources. About 10% had gained, or were in the process of gaining patents, and almost half indicated that they had participated in policy or other advisory bodies at least partly in response to their TCCSA grant. Over 90% had published their results in scientific journals or were submitting a report for publication. The great majority (93%) were still active in cancer research.

The Cancer Council South Australia is involved in a broad range of cancer control programs, including initiatives in prevention and early detection, non-clinical patient support, palliative care, and the application of data systems to support cancer control. Notably, for each of these areas, at least 50% of grant recipients reported that their research grants would have had no impact.

The greatest impact was reported to have been in knowledge of cancer biology and treatment gains. This reflected the most commonly funded fields, which were cell biology, followed by molecular biology, therapeutics, biochemistry and clinical trials, in that order. By comparison, relatively few grants were directed at epidemiology, health services or behavioural research. The attitudes of respondents reflected this distribution. While 99% reported that research in cancer biology was important or very important, only about a half assigned this level of importance to behavioural research and only a similar proportion did so for psycho-oncology.

The authors made a number of recommendations in response to findings, including:

- Funding more research fellowships to support new investigators and overseas researchers wishing to return to South Australia.
- Increasing numbers of two-year project grants, and including a small number of three-year grants, at the expense of one-year grants.
- Increasing the proportion of grants directed at prevention and early detection, including behavioural research, community education, surveillance and epidemiology, and palliative and supportive care.
- Developing a methodology for evaluating outcomes of funded projects and fellowships six months after termination of grants, and at three and six years, and for participation in this evaluation to be a condition of the original funding.

NEWS & ANNOUNCEMENTS

Need for better coordinated care, says new President of The Cancer Council Australia

People diagnosed with cancer would benefit from a more coordinated approach to care and support services, according to the new President of The Cancer Council Australia, Mrs Judith Roberts AO.

"We need a greater emphasis on the multidisciplinary approach to treatment and care of cancer patients," Mrs Roberts said. "Such an approach would help address the 'cancer care lottery' frequently highlighted by consumer groups."

The Cancer Council CEO, Professor Alan Coates, welcomed Mrs Roberts' election and said her strong advocacy and extensive experience in health and community organisations made her an ideal choice as President of The Cancer Council Australia.

Mrs Roberts and Professor Coates also paid tribute to the immediate past President, Professor Ray Lowenthal, who they said had been a key advocate in furthering the cause of cancer control in Australia.

Mrs Judith Roberts AO

Professor Ian Frazer has been elected Vice President of The Cancer Council Australia. Mrs Roberts and Professor Frazer will serve terms of three years.

Cancer Council forum on cancer control in Indigenous communities

The Cancer Council Australia will hold a discussion forum in Darwin in August aimed at reducing the impact of cancer in Aboriginal and Torres Strait Islander communities Australia-wide.

The forum, from 25 to 26 August, will feature presentations from health professionals involved in cancer control in Indigenous communities and from Indigenous cancer survivors, as well as open discussions to gain insight into cancer from an Aboriginal and Torres Strait Islander perspective.

A key driver of the forum, The Cancer Council Australia's past President Professor Ray Lowenthal, said the incidence of certain cancers and overall cancer survival rates among Indigenous Australians compared unfavourably with those of non-Indigenous Australians and that the forum would focus on ways to take the agenda forward.

"The forum will aim to raise the profile of Aboriginal and Torres Strait Islander cancer issues and look at building alliances with other non-government agencies to ensure cancer control in Aboriginal and Torres Strait Islander communities is on the political and public health agenda," Professor Lowenthal said.

The Cancer Council Australia and its state and territory member bodies initiated the forum, which has received financial assistance from the Federal and Northern Territory Governments and the Cancer Council NT, along with organisational support from the National Aboriginal Community Controlled Health Organisation (NACCHO).

For more information, contact Ellen Kerrins at The Cancer Council South Australia on (08) 8291 4111 or email ekerrins@cancersa.org.au or download the forum registration and draft program at www.cancer.org.au.

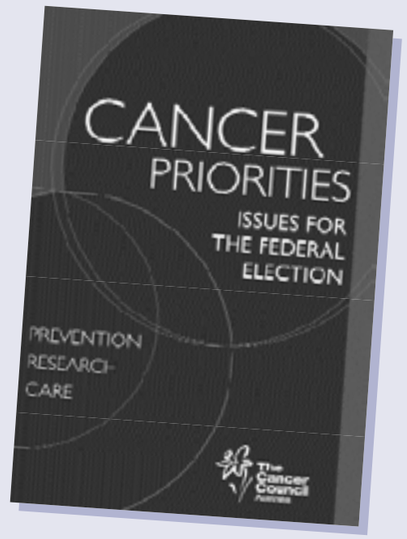
Government, Opposition urged to adopt Cancer Council's eight-point federal plan

In the lead-up to the federal election, The Cancer Council Australia is seeking commitment from all major federal political parties to adopt a list of national cancer control priorities as formal health policy over the term of the next Parliament.

Cancer priorities: issues for the federal election, was developed by The Cancer Council Australia, its member organisations and committees, as the most practicable cancer control measures to pursue in a federal policy context.

The priorities include: a comprehensive tobacco control program; a national cancer care agency; improved services for rural, regional and Indigenous communities; increased support for cancer research; funding for clinical trials capacity building; a national SunSmart program; a national physical activity and nutrition program; and a comprehensive bowel cancer campaign.

Cancer priorities: issues for the federal election is available on The Cancer Council Australia's website at www.cancer.org.au.



New Cancer Council position statements

Position statements on Early detection of breast cancer, Passive smoking and Stopping smoking have been released by The Cancer Council Australia.

The documents are available on The Cancer Council's website: www.cancer.org.au/positionstatements.

Position statements are written by The Cancer Council's expert committees and are based on the evidence available. All statements are reviewed regularly, in accordance with The Cancer Council Australia's position statements policy.

Daffodil Day looking for believers

The Cancer Council Australia is gearing up for another successful Daffodil Day on Friday 20 August, with hopes of raising $9.5 million.

Two million fresh daffodils and a range of merchandise will line stalls at train stations and shopping centres to raise funds for cancer research, control programs, advocacy, education and support services.

Inspiring belief that cancer can be beaten is the motivation behind this year's Daffodil Day creative campaign. The television, radio and print campaign taps into the optimism that Australians maintain as they continue to strive for a cancer-free future.

COSA meeting takes integrated approach

The Clinical Oncological Society of Australia will hold its Annual Scientific Meeting at the National Convention Centre in Canberra from 24-26 November.

With the theme of Cancer Care: An Integrated Approach, the meeting will include a mix of multidisciplinary plenary sessions and symposia, workshops, breakfast meetings and a hypothetical. National and international speakers will talk on a wide range of specialities and disciplines.

The meeting will be held jointly with the Australasian Association of Cancer Registries, Surgical Oncology Group of the RACS, ANZ Gynaecological Oncology Group, the Australian Lung Foundation Lung Cancer Consultative Group and the Australasian Lung Trials Group.

For the full program and online registration go to www.cosa.org.au, call the ASM secretariat on 02 9280 0577 or email cosa@pharmaevents.com.au.

Excellence award to cancer researcher


Associate Professor Robyn Ward

Associate Professor Robyn Ward* has won the 2004 Commonwealth Health Minister's Award for Excellence in Health and Medical Research.

Professor Ward, of the University of NSW Clinical School at St Vincent's Hospital, won the honour for her achievements in colorectal cancer research.

Presenting the award, which included a prize of $50,000, Federal Minister for Health and Ageing, Tony Abbott, described Professor Ward as an outstanding candidate who had been active in biomedical research in Australia since 1991. "The award acknowledges her significant record of achievement in translational and clinical cancer research," he said.

The first woman to win the award, Professor Ward's key research achievements include: development of human antibodies to treat cancer to the stage of clinical testing; identification of the important role for precursor lesions (hyperplastic polyps) in the development of subtypes of colorectal cancer; and the description of the first example of germline epimutations causing human disease (in particular a hereditary form of colorectal cancer).

*Professor Ward is a member of the Editorial Board of Cancer Forum

Cancer Council Vice President elected to Australian Academy of Science

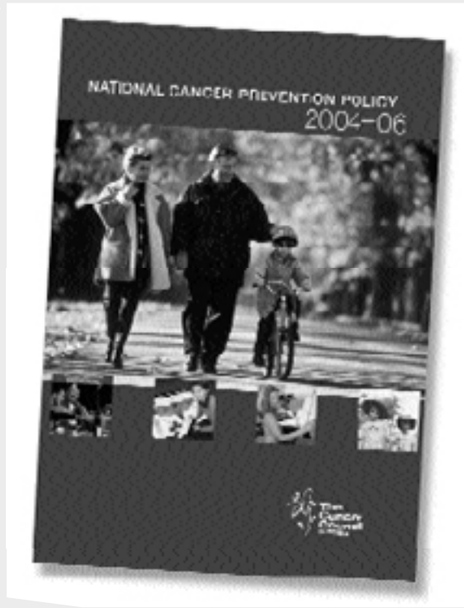
The recently elected Vice President of The Cancer Council Australia, Professor Ian Frazer, has added the prestigious fellowship of the Australian Academy of Science to his impressive curriculum vitae.

Cancer Council President, Mrs Judith Roberts AO, said Professor Frazer's election to the Australian Academy of Science was fitting recognition for one of Australia's outstanding scientists.

"Ian is renowned worldwide for developing the first papillomavirus prophylactic vaccine and is widely respected as a leading immunologist, health administrator and teacher," Mrs Roberts said. "Only 16 scientists each year are elected as fellows of the academy, after being judged by their peers to have made an exceptional contribution to knowledge in their field."

Mrs Roberts said the fact that Professor Frazer gave his time voluntarily to his role at The Cancer Council Australia showed he had "the personal commitment and passion to match his professional and scientific credentials".

Cancer Council advocates national approach to cancer prevention



A concerted and comprehensive national approach to cancer prevention is the theme of The Cancer Council Australia's National Cancer Prevention Policy (2004-2006), launched this month.

The National Cancer Prevention Policy sets out measures to help reduce the impact of preventable risk factors, such as smoking, ultraviolet radiation, inadequate diet and physical inactivity. It also examines the benefits of screening for early detection of breast, cervical, bowel and prostate cancers and melanoma.

The Cancer Council Australia's Chief Executive Officer, Professor Alan Coates, said Australia was a world leader in the prevention of many cancers and much of that success was derived from the collaborative work of cancer councils and federal, state and territory governments.

"However, we could do much better," Professor Coates said. "Many of the 85,000 new cases of cancer diagnosed in Australia each year could be prevented through risk minimisation or treated more effectively through early detection."

The National Cancer Prevention Policy, which establishes a framework for governments to invest in improved cancer prevention, is the result of detailed work by the public health workers and clinicians who comprise The Cancer Council Australia's Public Health Committee and its sub-committees.

Professor Coates paid tribute to the authors of the policy, in particular Dorothy Reading (Chair of the Public Health Committee) who coordinated its development and production.

The National Cancer Prevention Policy (2004-06) is available online at www.cancer.org.au

Integrative oncology conference

The Society for Integrative Oncology (SIO) will hold its first international conference in New York in November.

Oncologists and health professionals will share their knowledge of complementary therapies in cancer, botanicals and evidence-based research.

The three-day conference, from November 17-19, will cover state-of-the-art integrative therapies, including their scientific validity, clinical benefits, toxicities and limitations.

For the full program and registration details visit www.integrativeonc.org

Cell lung cancer keynote for online oncologists forum

A presentation from a leading international oncologist in the field of non-small cell lung cancer will head the second online 20:20 Oncologist Forum, to be held on Thursday, 2 September.

Oncologists throughout Australia and New Zealand will be able to interact and discuss the presentation with the speaker and the panel online and in real time.

To register visit www.oncologistforum.com

The 20:20 Oncologist Forum is supported by an educational grant from Bristol-Myers Squibb Oncology.

Australia's Biggest Morning Tea raises over $6 million

Australia's Biggest Morning Tea has again proven a huge success, raising in excess of $6 million dollars.

There were many special morning tea moments, from small office morning teas to the entire population of Queensland's Magnetic Island gathering for a spectacular morning tea extravaganza.

Politicians also lent their support, with the Prime Minister, John Howard, and Minister for Health and Ageing, Tony Abbott, attending morning teas, along with a Federal Government contribution of $100,000.

Money raised will fund vital research, education programs and support services for people affected by cancer.

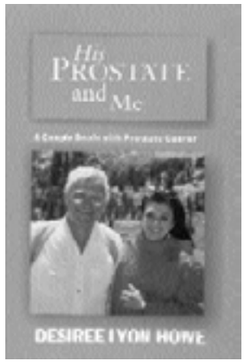
BOOK REVIEWS

His prostate and me (2002)

D L Howe
Published by Winedale Publishing Houston (2002)
ISBN 0-9701525-7-4. 169 pages

This book gives an honest and frank account about a couple's journey through a diagnosis of prostate cancer and treatment. The author, a patient education and advocacy expert, undertakes a mini medical school course offered for lay people at a local American College of Medicine to help her understand anatomy and the terminology being used. The couple read several books on prostate cancer and view hundreds of prostate cancer internet sites.

The book recognises the emotional and clinical maze that recently diagnosed people are confronted with and discusses different treatment options for prostate cancer in an easy to understand manner. The author also looks at lifestyle issues such as diet and complementary medicine. Adjustments to changed sexuality and dealing with continence is discussed openly. The author highlights the need to have close family support and strongly recommends support groups as well as talking to individuals who have been through a similar experience. The importance of a medical team who communicate well with their patients is also advocated.



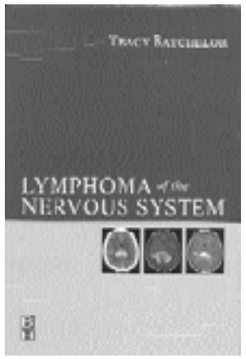
The couple go on to support many people. This includes input into the development of an internet site that helps families going through a prostate cancer diagnosis. With the assistance of a golf professional, the couple were able to develop and air a television commercial which resulted in thousands of prostate cancer awareness brochures being sent to men. They also speak at public awareness meetings. An enormous amount of energy and drive has been given by this couple to raise awareness about prostate cancer, and the need for knowledge and support.

Robyn Metcalfe
Men's Cancer Program
The Cancer Council Victoria
Carlton, VIC

Lymphoma of the nervous system

T Batchelor (ed)
Published by Butterworth-Heinemann (2003)
ISBN: 0-7506-7406-7. 202 pages plus index
RRP: A$128.70

Lymphoma of the Nervous System is likely to be the only book of its type. It aims to give a comprehensive overview of lymphoma and its involvement with the nervous system. The bulk of the discussion is about Primary Central Nervous System Lymphoma (PCNSL). Other topics include: neurological complications of lymphoid malignancies, complications of lymphoma therapy and three special topics regarding intra-ocular lymphoma, neurolymphomatosis and intravascular lymphoma of the nervous system respectively. This book has all the typical benefits and flaws associated with a small textbook on a specific topic.



On the positive side, there is enormous detail and substantial reference lists for most of the chapters. The section on PCNSL is wide-ranging and includes discussions on the pathology, epidemiology, clinical features, neuro-imaging and management of this uncommon but fascinating condition. Similarly, discussion on rarer aspects of lymphoma and the nervous system are well detailed and provide deep levels of information for the enquiring reader.

On the other hand, the book is poorly edited with much repetition of information. For example, the classification of lymphoma is described in detail in Chapter 1 and in case you skipped Chapter 1, Chapter 2 duplicates the information. There is also an unnecessary duplication of information regarding the special topics given that the chapter on PCNSL has adequate detail on these rare aspects of lymphoma and the nervous system.

Finally, there is the universal concern of all reviewers regarding timely references. The book is published in 2004, but this reviewer could rarely find references from 2003. The field is moving sufficiently quickly to render a proportion of this textbook out of date.

As usual, I find little to recommend this textbook given that the fundamental information is already available in large texts and new information can be sought from the internet and recently published literature.

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Clinical Trials Australia
Royal Melbourne Hospital
Parkville, VIC

Gastrointestinal oncology

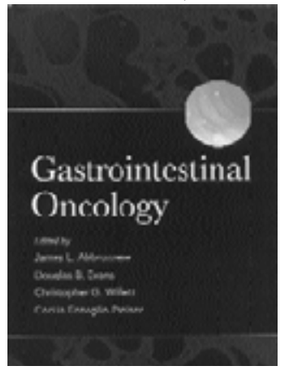
J L Abbruzzese, D B Evans, C G Willett,
C Fenoglio-Preiser (eds)
Published by Oxford University Press (2004)
ISBN: 0-1951-3372-2. 892 pages plus index.
RRP: A$390.00

This is one of the most comprehensive textbooks I have read on the subject of gastrointestinal oncology. It comes at a time when there have been some significant improvements in outcomes for patients with cancer of the upper and lower gastrointestinal tracts. The 74 chapters were contributed by 131 authors from the United States and edited by four well-respected experts in the fields of medical, surgical, radiation and pathological oncology.

Gastrointestinal Oncology begins with a section covering oncological principles common to all gastrointestinal cancers. This includes epidemiology, prevention and screening, inheritance, developmental biology of the GI tract, patho-biology, surgery, radiation oncology, chemotherapy, vaccines and gene therapies. The section finishes with the newer promising modalities of angiogeneic and antimetastatic targets.

The main section provides a detailed examination of each anatomical tumour group in terms of its epidemiology, pathogenesis, pathology, natural history, diagnostic and staging investigations. I was impressed by the attention given to current knowledge of the molecular events associated with the development of specific cancers. Management of potentially resectable disease is discussed in separate chapters. The discussion of adjuvant therapy is concise and up-to-date, listing the results of the sentinel studies. Locally advanced and non-resectable metastatic disease, which unfortunately is still a frequent mode of presentation, are given equal and appropriate attention. Lymphoma and sarcoma of the GI tract are dealt with in separate chapters.

The final section is rather unique in a textbook of this type in that it is entirely devoted to palliative care. It covers the important aspects of nutritional support, management of obstruction and pain control.



Overall, the text is evenly balanced, written in concise language and designed to give the reader an in-depth knowledge of their chosen area. In this sense, it is a highly recommended resource for specialists and trainees in surgical, medical and radiation oncology, and would be of interest to GI radiologists, gastroenterologists and palliative care physicians. It would be an ideal purchase for members of a multidisciplinary gastrointestinal cancer group, where clinicians need to have a sound understanding of the scope and limitations of treatment modalities outside of their particular area of expertise.

Stephen G Archer
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Perth, Western Australia

Image-guided diagnosis and treatment of cancer

A V D'Amico et al (eds)
Published by Humana Press (2003)
ISBN: 1-5882-9114-6. 267 pages plus index.
RRP: A$125.00

The book is divided into three sections with Part 1 dealing with image-guided diagnosis, Part 2 with image guided therapies and Part 3 with new innovations in imaging.

Contrary to the title of the book, the authors only described imaging techniques, diagnosis, staging, treatment and outcomes of prostate cancer and breast cancer with single chapters in Part 1 and Part 2 dealing with diagnostic imaging and image guided surgery of the CNS.

The text is very well organised and written in a style that is very easy to follow. The book is comprehensive and can be used as a reference work.

This textbook successfully bridges the gap between image-guided diagnosis using ultrasound and magnetic resonance imaging. The superior outcomes achieved by image-guided therapy using MRI of the prostate and breast is highlighted.

As image-guided therapies become increasingly sophisticated, the ability to measure the response to chemotherapy and utilise gene expression is becoming more of a reality. The book succeeds in highlighting these new technologies.

The response of breast cancer to neoadjuvant therapy and of prostate cancer to thermal therapy is also discussed in depth in the third section of the book dealing with innovations in imaging.

MRI guided intervention in neurosurgery is interesting to read about, but is not applicable in our local situation due to the current restrictions in MRI imaging.

In summary, Image-Guided Diagnosis and Treatment of Cancer mainly deals with prostate and breast cancer and not with the whole spectrum of oncological conditions as the title suggests. The two chapters on the central nervous system are interesting but not relevant to our local conditions. This textbook is recommended for oncologists, radiotherapists, urologists and interventional radiologists, with some special interest in prostate and breast cancer.

Dr Lourens Bester
Mayne Health Diagnostic Imaging
Westmead Private Hospital
Westmead, NSW

Chronic lymphocytic leukemia: molecular genetics, biology, diagnosis and management

G B Faguet (ed)
Published by Humana Press (2003)
ISBN: 1-5882-9009-9 414 pages plus index
RRP: A$145.00

At the beginning of my career, chronic lymphocytic leukemia (CLL) was an obscure condition for which there were no answers; no precise ideas on etiology, diagnosis, or prognosis, and no therapy that had any long-term impact. "Put him on Chlorambucil and send him home" would be the consultant physician's instructions (and entire repertoire of management).

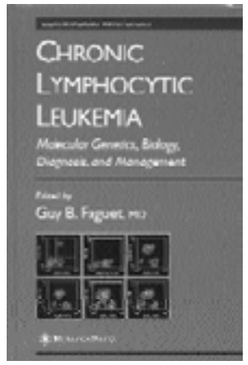
Now we have a rather different view of this disease, and an entire textbook describing the explosion of knowledge about

it over the last 10 years. This book contains chapters by many of the key figures in the laboratory and clinical world of CLL and encompasses sections on the molecular genetics and cell biology of the disease, the relevance of this information to prognosis and recent data on new clinical therapeutic developments.

The highlights? Aside from collating basic and diagnostic laboratory science with clinical advances into one textbook, I was impressed by the chapters on genetics and molecular biology of CLL, which synthesised much of the recent advances in pathogenesis and their prognostic relevance. In particular, the description of the division of CLL cases into those with somatic hypermutations in the variable region of the immunoglobulin heavy chain gene, which have an excellent prognosis, and those with unmutated VH genes, which have a poor prognosis.

There is an excellent introductory chapter on the natural history of the disease, and a superb summary of clinical management by Guillame Dighiero. Terry Hamblin has also written a whimsical chapter on the cellular origins of CLL. Glimpses of possible future curative strategies are given in chapters on combination chemotherapy, monoclonal antibody treatment, bone marrow transplantation and gene therapy.

The downsides? Mostly in editing. There is far too much repetition and one can see that a considerably tauter and more focused volume would have been possible with better editorial control of the subject matter from the diverse array of contributors. This was particularly evident in the chapters on antibody and immune-based strategies for treatment, where there was much annoying repetition of material. Inevitably, the tyranny of publication deadlines has resulted in omission of late-breaking news: the remarkably high (and durable) complete response rates observed in over 200 previously untreated patients with progressive CLL entered on a Phase II study of combination therapy with Cyclophosphamide, Fludarabine, and Mabthera at the University of Texas at MD Anderson Cancer Centre. This is a finding which is being evaluated in a randomised trial in Europe, but if confirmed will change our mindset about CLL being an essentially incurable illness.



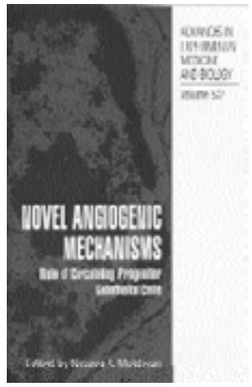
This is not a book for the trainee in oncology, nor for oncologists practising outside of haematological malignancies. It will appeal to haematologists interested in a comprehensive overview of this disease, particularly with the extensive bibliographies provided with all chapters. I will certainly be referring a lot to my copy in future.

Professor Ken Bradstock
Chair Australian Leukaemia Study Group
Head of Blood & Marrow, Transplant Service
Westmead Hospital
Westmead, NSW

Novel angiogenic mechanisms: role of circulating progenitor endothelial cells (CPECs)

N I Moldovan (ed)
Published by Kluwer/Plenum (2003)
ISBN: 0-3064-7697-5 114 pages plus index
RRP: US$120.00

Often conference proceedings contain such dated, disparate information that there is no point in purchasing or attempting to read the monograph. This little volume is quite different – the papers introduce a significant change in the concepts associated with the formation and maintenance of blood vessels.



Dr Moldovan is to be congratulated on assembling, editing and introducing the articles, which are all associated with the hemopoietic/endothelial cell axis. He even introduces a new concept of cell co-operation (between monocytes and CPEPs and/or endothelial cells) in the formation of new blood vessels, including arterioles.

Although the index is minimal, the articles are short and well directed. It is easy to find your way around the book and the overlap between some of the articles reinforces the new concepts (rather than being redundant or confusing).

The articles in this volume cover new concepts in angiogenesis and hemopoiesis with such clarity that both novices and professional angiogenesis scientists/clinicians will find useful information for their research, teaching and strategic thinking.

The first concept which leaps out is the role of the CPEPs in endothelial cell replacement. There appears to be several ways to form endothelial cells – directly from hemopoeitic stem cells, from more mature progenitors which are capable of forming monocytes (macrophages), dendritic cells and endothelial cells or from the activation of endothelial cells. The broadening of the potential of the lineage specificity for the granulocyte-macrophage progenitors has been suggested for many years, but the context provided by angiogenesis puts the role of the circulating monocytes into a new physiological context.

There are excellent chapters linking the genetics of hemopoietic cells and endothelial cells and the cell surface phenotype of the CPECs, monocytes and dendritic cells.

The infiltration of tumour deposits by endothelial cells is discussed in terms of VEGF attraction and activation. Not only does VEGF induce the release of CPECs, but it also activates these cells so that they can accumulate and mature at sites of tissue damage or remodeling (eg during tumorigenesis). The conundrums associated with tumour neo-angiogenesis and vasularization are discussed in considerable detail.

The role of cytokines in the generation of circulating endothelial progenitor cells, the production of monocytes and endothelial cells is presented clearly. Indeed, the specificity of different VEGFR ligands appears to account for the balance of cell production along the monocyte or endothelial cell lineages. Several articles suggest that both monocytes and endothelial cells may be necessary for optimal endothelial cell production. Dr Moldovan presents his own paper on the role of monocytes for producing tissue tunnels which are then "invaded" by CPECs (or activated endothelial cells) to finish up as endothelium lined vessels. He points out that in some situations vessels may be formed by monocyte tunneling in new tissues (eg tumours) without endothelial lining.

This volume is an excellent introduction to modern concepts in angiogenesis and will take readers well beyond sprouting and endothelial cell migration etc. It serves as an excellent introduction to an exploration of movement in the field over the last two years and will trigger novel ideas when the new concepts are considered for lymphangiogenesis or epithelial/mesencchym/endothelial transitions during tumour progression.

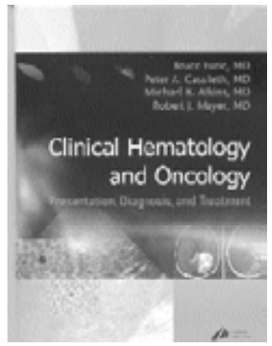
I recommend this book to cell biologists, cancer researchers and students looking for a top-quality introduction to modern concepts in angiogenesis.

Professor Tony Burgess
Ludwig Institute for Cancer Research
Parkville, VIC

Clinical haematology and oncology: presentation, diagnosis and treatment

B Furie et al (eds)
Published by Churchill Livingstone (2003)
Distributed in Australia by Elsevier
ISBN: 0-4430-6556-X 1260 pages plus index
RRP: A$215.60

The intention with this book is to provide a clinically useful, readily accessible guide to the diagnosis and management of patients with haematologic and neoplastic diseases. The authors believe they fill "the niche between the encyclopedic textbooks on haematology and medical oncology and the broad textbooks of internal medicine by maintaining a clinical focus throughout". It is apparently intended for a wide audience.



There are 122 chapters and just over 1200 pages. The authors are drawn from a broad selection of major American academic and clinical institutions. The approach is therefore much more North American than Australian. The colour plates are of reasonable value. The book is divided into five sections: presentations; therapeutics; evaluation and treatment of haematologic and oncologic diseases; special considerations (e.g. febrile neutropenia, thrombo-embolic complications of cancer, tumour lysis syndrome), and supportive care (screening and genetic counselling, unorthodox approaches, psychosocial issues, sexual dysfunction, symptom management).

The chapters on presentations tend to be short. There is a clear attempt to cover general medical causes (e.g. differential diagnosis of peripheral neuropathy or hypercalcaemia) before getting on to cancer-related causes. But the differential diagnoses seem to be a little too limited. For example, causes of all neuropathies are limited to a list of 20 possibilities. By way of comparison, my treasured copy of Hurst's Medicine for the Practicing Physician lists 36 causes for symmetric distal polyneuropathy, 11 causes for mononeuropathy multiplex, and seven causes for a motor predominant-neuropathy.

In the disease-related sections, the broad and complex topic of lymphomas is spread across six chapters. The WHO classification is discussed in chapter 64 and yet chapter 67 persists in referring to intermediate and high-grade lymphomas, using the superseded terminology from the REAL classification.

In the treatment of intermediate grade non-Hodgkin's lymphomas, the results of the Fisher et al intergroup study of 1993 and PALMA study are quite rightly given preference; there is no discussion of the results of the GELA study here. Thus, the principal advances of the last five years in the treatment of lymphoma are not included, although paradoxically some of the early trials of MabThera in follicular lymphoma are.

The discussion on breast cancer appears reasonably extensive.

A chapter on Symptom Management covers a number of central areas in palliative care too quickly, with a strong emphasis upon pharmacological intervention. The chapter on Unorthodox Approaches to Cancer Therapy also does quite a thorough job of discussing what (little) is known about, in particular, herbal mixtures and dietary supplements.

Overall though, the book suffers from being too cursory for anyone seeking detailed information. It is probably better considered as a broad introductory text. It may well suit some departments as a readily accessible text for junior medical staff and other health professionals seeking slightly more information on a particular topic. A senior nurse colleague studying for a post-graduate degree finds it very useful.

Dr David Joske
Haematology Department
Sir Charles Gardiner Hospital
Nedlands, Western Australia

The home health guide to a cancer-free family

G Kune
Published by Michelle Anderson Publishing (2003)
ISBN: 0-8557-2346-7. 300 pages.
RRP: A$27.95

With our current understandings of the mechanisms of cancer induction it is not possible to promise a cancer-free family. Even if a family were to undertake everything prescribed in this book, the incidence of cancer in that family would not fall by more than 50%.

However, a 50% reduction in the incidence is certainly well worthwhile and the title should not distract from what is otherwise an excellent edition to the plethora of books, brochures, pamphlets and videotapes now available to those wishing to lower their risk of cancer.

Gabriel Kune has produced an excellent, well-written and very comprehensive description of what is now known to be useful in lowering cancer incidence rates in the community. While much of the information in this book is not new, it is certainly worthwhile to have it presented so clearly and comprehensively in one publication. Some sections read like a

lecture to undergraduate students, with the use of such terms as "lymphatics", "sputum cytology" and "chromosomes", but there is an excellent glossary for those confused by the technical terms in the text. Of particular value are the sections in the back half of the book, relating to specific cancers. These would be most helpful for those at risk for a specific cancer.

For those wanting to get to the crux of the subject matter of this book, the tables 23.1, 23.2 and 23.3 summarise the important messages of this excellent contribution to the growing cancer prevention literature in the community.

The essential message of this book is that a good diet, avoidance of excessive sunlight, no smoking (active or passive) and a good exercise regimen are the way to live a life with minimum cancer risk. The section on diet is particularly comprehensive.

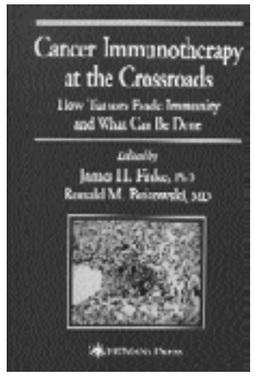
Overall this book can be strongly recommended to anyone looking for a comprehensive review of currently accepted preventative measures for lowering cancer incidence and would be of particular value to those who wish to explore the preventative aspects of a specific cancer.

W H McCarthy
Emeritus Professor of Surgery (Melanoma & Skin Oncology)
The University of Sydney
Sydney, NSW

Cancer immunotherapy at the crossroads: how tumors evade immunity and what can be done

J H Finke and R M Bukowski (eds)
Published by Humana Press (2003)
ISBN: 1-5882-9183-9. 372 pages plus index.
RRP: A$135.00

Over the past 15 years there has been much excitement in the oncological world in the prospect of cancer cure with immunological techniques. Initially cytokines, later vaccines - genetically transduced autologous cells, autologous dendritic cell-based being the most popular. Despite the theoretical advantages, durable complete responses are few and the majority of patients die of progressive disease.



This timely book approaches the other end of the equation – why are we failing?

Many immunological books are hard to read – with complex scientific jargon, acronyms and abbreviations. This book is very readable.

The authors discuss the most likely reason for the failure of therapies to induce a curable host immune response. Whether this be HLA class I antigen defects – with the loss, selective loss or down regulation of surface antigens. The evidence is present that this occurs in particularly aggressive metastatic disease and may require one or two genetic mutations. Importantly in all chapters evidence is presented of new work in the laboratory which may help overcome these defects.

Other aspects covered include cellular malfunction in cancer – we are particularly interested in the evidence for dendritic cell and T-cell failure.

Immune suppression by the secretion of interlurkin–10, secretion of tumor gangliosides and the recognition that tumour cells may escape destruction by immune affected cells by expressing the FAS ligand on the cell surface. Again, all of these mechanisms are detailed with excellent references at the end of each chapter.

This book is good reading for all those interested in oncological immunotherapy. Do not be discouraged by the title as it has been very well edited. I congratulate both of them for their effort.

Dr Michael O'Rourke
Mater Brisbane
Brisbane, QLD

Proteases and their inhibitors in cancer metastasis

K M Foidart, R J Muschel (eds)
Published by Kluwer Academic Publishers (2002)
IBN: 1-4020-0923-2 256 pages plus index
RRP: US$115.00

Proteases and Their Inhibitors in Cancer Metastasis is volume 4 in the series "Cancer Metastasis – Biology and Treatment". The book is a collection of 12 chapters on proteases and the role they play in cancer metastasis. The chapters are mini reviews and are of 10 – 30 pages in length.

The book was published in 2002 and as such the reviews only cover material up to that date. The advances in this field of research are moving forward at a rapid rate and a new edition would see many more chapters covering greater areas. This comment is not meant as a criticism of this well put together book.

The majority of the book is mainly devoted to the study of matrix metalloproteases, as well as serine proteases and heparinases. A comprehensive description of the biology of these proteases is given along with the changes that occur as the cell becomes cancerous. One chapter is devoted to the use of tissue models used to study tumour-stroma interactions.

Some of the highlights of the book include the chapter on tissue models, as it relates the use of such models to examine metastasis under in vitro conditions. Similarly the study on matrix metalloprotease inhibitors highlights the problems in designing specific inhibitors for the different family members (at last count more than 25 have been identified).

The role of TIMPs (tissue inhibitors of metalloproteases) in metastasis is evaluated and its possible role in therapy is discussed. Angiogenesis plays an important role during the metastatic process, and the role of heparinases and serpins in this process are covered comprehensively in three chapters.

All the review chapters are short and succinct and contain a wealth of information on the topic they cover. All chapters have extensive reference lists, which will be of great assistance to those working in the field or about to enter. The diagrams are also clear, concise and easy to follow and explain some of the protease signalling pathways and gene sequences, as well as protease inhibitor structures.

As mentioned earlier, until a new treatise is written on proteases in cancer metastasis, this book will be a useful addition to the library for those researchers who are working in this area. It would be a useful reference for students as well, but not for clinicians as most of the results presented are at the preclinical stage.

Dr Terrence Piva
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Bundoora, VIC

Micrometastasis

K Pantel (ed)
Published by Kluwer (2003)
ISBN: 1-4020-1155-5. 184 pages plus index
RRP: US$115.00

This is a small book but definitely not light reading. It is comprised of nine freestanding chapters, written by 20 collaborators, predominantly from Germany and the USA, covering selected aspects of micrometastatic malignant disease.

There is a general introductory chapter addressing definitions, basic methodologies and underlying technical difficulties leading to erroneous experimental results. The remaining eight chapters address very specific experimental, laboratory diagnostic or clinical aspects of micrometastatic disease as it relates to head and neck, breast, prostate, lung (non-small cell), oesophageal, colorectal, gastric and pancreatic cancer and melanoma.

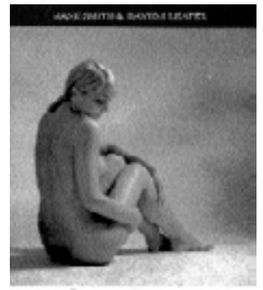
Various techniques are explored with each cancer type, such as immunohistochemistry, nucleic acid-based approaches (predominantly PCR), harvesting and concentrating cells from peripheral blood or bone marrow, as well as more exotic techniques including so-called "plaque hybridisation assay", which the author concedes is very robust, but far too labour-intensive to be used in general diagnostic laboratories.

The book is excellently referenced but, understandably, only sparsely illustrated. The presentation is easily manageable and some considerable effort has been taken to standardise the format of otherwise unconnected chapters. It is clearly intended for the research scientist or post-doctoral fellow whose specific field of interest is laboratory-based research and will be of relatively little practical value to the diagnostic pathologist or medical oncologist.

Professor Peter Russell
Senior Histopathologist
Royal Prince Alfred Hospital
Camperdown, NSW

Breast lumps – a guide to diseases of the breast

J Smith and D J Leaper
Published by TFM Publishing Limited



This book enters a fairly crowded market of "breast health" books, aimed mainly at women and primary healthcare workers. This market has been well served with publications such as those by Susan Love, Miriam Stoppard and indeed most women's magazines.

I suspect this book would appeal most to women who are having a breast symptom investigated or who have been diagnosed with breast cancer.

The book follows a fairly standard and logical format, introducing breast anatomy and diseases and then following the patient's cancer "journey" through screening, diagnosis, hospital admission and treatment to palliative care.

My immediate impression was a book of many words and few pictures – some chapters have detailed diagrams but many have not – particularly notable when you want to see "what it looks like", such as after reconstruction.

There are, for the experienced reader, a few irritating errors and out-of-date and misleading comments, such as "cysts only occurring in nulliparous young women, gestational breast cancer being inflammatory, and sentinel node injection into axilla and tamoxifen being useful for nearly all women with breast cancer".

Overall the most useful chapters were not the factual breast cancer ones, for which there are many other excellent brochures, web sites etc., but those explaining practicalities, such as "going into hospital, anaesthesia, after surgery, post-operative complications and prostheses".

Does this book have a valuable place in the current crowded marketplace? To be honest, there are probably more useful publications – my current favourite is by two UCL doctors (a surgeon and a medical oncologist) called Patient Pictures: Clinical drawings for your patients. BREAST CANCER. By Mohammed Keshtgar and Rob Stein. Published by Health Press Ltd. Oxford. 2003.

Given this is likely to be read by women with breast cancer, does it contain enough information? Again I think many women would need to supplement the facts presented with, for example, internet searches.

As this is a UK book, how relevant is it to an Australian audience? Generally quite relevant, although the more involved role of the GP in Australia is overlooked.

Can you dip in and out? Or if you wanted to read it cover-to-cover, is it do-able? The main chapters that are useful are the

practical ones which you can dip into. Cover-to-cover expect three to four hours of solid reading – unrelieved by many pictures, diagrams or cartoons!

Prof Christobel Saunders
School of Surgery & Pathology
University of Western Australian Cancer Society
Nedlands, WA

Late effects of childhood cancer

H Wallace and D Green (eds)
Published by Arnold
ISBN: 0-3408-0803-9. 401 pages plus index.
RRP: £110.00

Late Effects of Childhood Cancer has been edited by two of the true experts in the area. Dr Daniel Green, a paediatric oncologist in Buffalo, New York, organises a superb conference on Late Effects every two years. He assembles a stellar cast of speakers of whom co-editor Hamish Wallace (paediatric oncologist based in Edinburgh) is often both a guest speaker and lively commentator.

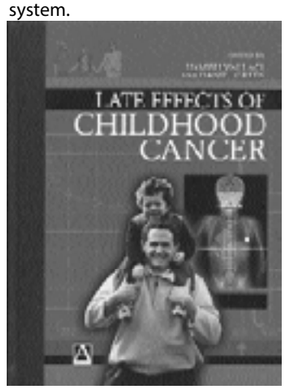
One in 900 20-year-olds today is a survivor of childhood malignancy. Significant long-term health and psychological effects occur in around 30% of these young people and clinicians in a wide variety of practice can expect to see such a patient.

This book is well set out, with sections dealing with each organ system, as well as chapters on quality of life and healthy lifestyle issues.

Each chapter is written by a specialist in a particular organ system and though some of the more severe late effects, as pointed out in the foreword, will no longer be seen because of changes in treatment, discussion of these problems is important in a historical context, serving to emphasise the importance of long-term follow-up of any of our medical treatments.

The section on neurological consequences is disappointing as it focuses predominantly on acute rather than long-term effects of treatment. Our own work reveals some significant problems following radiotherapy, eg epilepsy and stroke of which clinicians need be aware. There is further discussion of radiation effect on cerebral vessels in a later chapter.

The chapters on other organ systems are very comprehensive and extremely readable by both a general physician as well as those more used to reading oncology publications. Each chapter has simple graphs and tables to indicate site and effects of specific treatments. There is also a column of key points highlighting the important messages for the body system.



Chapters on testicular, ovarian function and fertility are very well written by authors at the forefront of research and clinical practice. The foremost concern of many of long-term survivors is future fertility potential. Each of these chapters gives an overview of basic physiology, effects of the various treatment modalities, suggested investigations and research aimed at preserving fertile potential in young cancer patients undergoing treatment. There is also discussion of ethical and legal issues and options for family formation.

There is a detailed chapter addressing late effects following bone marrow transplantation (BMT), important as BMT rates increase in developed countries. This chapter is also important to aid discussion with children and families contemplating BMT, so as to try to ensure realistic expectations of this modality of treatment.

Finally, the chapters on second malignancy, quality of life, healthy lifestyle and prevention strategies are vital for clinicians caring for the long-term survivors of childhood malignancy, so as to maximise good outcomes and ensure that the complication rate does not rise in parallel with cure rates.

I would strongly commend this book to any clinician interested or involved in the care of young people including general practitioners, paediatrician and general physicians, as well as specialists in the many systems affected by treatment of malignancy. Oncology nurses, a highly specialised and competent group who often have the primary contact for long- term survivors, as well as allied health professionals with an interest in childhood cancer, will find this book an excellent resource.

Dr Helen Somerville
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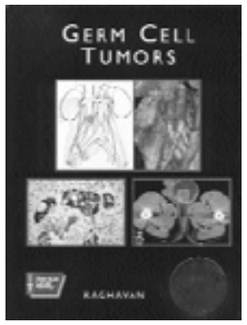
Late Effects Oncology Clinic
The Children's Hospital at Westmead
Sydney, Australia

Germ cell tumours

D Raghavan
Published by BC Decker (2003) Distributed in Australia by Elsevier
ISBN: 1-5500-9082-8. 362 pages plus index.
RRP: A$356.40



Germ Cell Tumours is a comprehensive textbook that reviews the biology, presentation, investigation and treatment of germ cell tumours. Edited by Derek Raghavan, it is a new addition to the American Cancer Society Atlas of Clinical Oncology series.

The text is extensively illustrated with excellent reproductions of clinical photographs, diagnostic images, operative views, gross specimens, histopathology, anatomical and surgical diagrams. The accompanying CD includes all text and illustrations in a single PDF.

This is a comprehensive textbook with an emphasis on management. The authorship is international with Australian contributions from Guy Toner, Michael Boyer, Lisa Horvath, David Quinn and Christopher Sweeney.

Introductory chapters on biology, epidemiology, presentation, imaging, markers, anatomy, pathology and prognostic factors provide an excellent background.

Surgical management of the testis, retroperitoneum and distant metastases are covered in separate chapters. Chemotherapy is extensively covered with separate chapters on seminoma, good prognosis non-seminoma, poor prognosis non-seminoma, high dose chemotherapy, salvage therapy, acute toxicities and late toxicities. Radiation for seminoma, surveillance for stage I disease, central nervous system disease, extragonadal and pediatric germ cell tumours also have separate chapters.

The book closes with chapters on resources for patients, psychosocial outcomes, end-of-life issues and pain management.

This is an excellent and comprehensive resource for clinicians and teachers.

Martin Stockler
Senior Lecturer in Cancer Medicine and Clinical Epidemiology, University of Sydney
Co-Director of Cancer Trials, NHMRC Clinical Trials Centre, U of Sydney
Medical Oncologist, Sydney Cancer Centre - RPA & Concord Hospitals
Director, Cancer Trials NSW, The Cancer Council NSW
Royal Prince Alfred Hospital
Camperdown, NSW

Cancer at your fingertips: all your questions answered about living with cancer

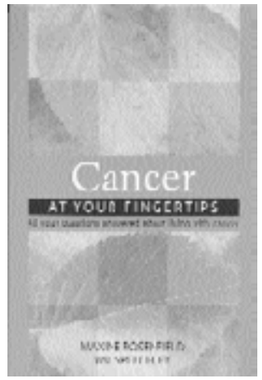
M Rosenfield and V Speechley
Published by McGraw-Hill Companies Inc
ISBN: 0-0747-1372-8. 191 pages plus index.
RRP: A$29.95

This book has been written specifically for Australian and New Zealand readers. It is refreshing to read information pertinent to local conditions, including detailed appendices listing useful contacts for support and information. The book is written for any member of the community who has experienced cancer and is designed to be "dipped into" rather than read from cover-to-cover. This means that there is some repetition, but given the aim of the book this is unavoidable unless complex cross-referencing is done, which would be cumbersome for the general reader.

The text follows essentially a chronological approach, describing what is known in general about cancer and the means by which it is diagnosed. The section on treatment is clearly articulated, explaining in practical terms the treatment modalities commonly employed. There is a large chapter on complementary therapies, reflecting the aim of the authors to respond to questions frequently asked by patients. This section provides a balanced overview of many complementary therapies, appropriately indicating that many techniques such as relaxation and meditation can be effectively employed to assist in coping with pain or anxiety. The chapter on follow-up incorporates many practical issues such as physical activity, coping with prostheses or aids and more personal matters such as sexuality and anxiety about cancer recurrence. Throughout these sections the authors have maintained a balanced approach, acknowledging the difficulties without downplaying their impact, but pointing to potential sources of assistance and offering hope of improving adjustment over time.

The penultimate chapter on life after cancer covers many issues raised previously in the book, including potential contributions to the development of cancer and expands to consider employment, leisure activities and insurance. It is very welcome to see an approach suggesting that the individual reclaim physical activity in a measured way, whilst explicitly stating that expression of emotion about the experience is appropriate and helpful.

In an earlier chapter, the authors have indicated that there is no clear evidence that stress causes cancer, but have missed the opportunity in this section to advise patients that "forcing" themselves to be positive with the hope that this will help them to survive the disease is not supported by evidence and often poses a considerable burden. The final chapter encompasses disease progression and terminal illness, in a balanced and sensitive manner.



Overall this book will be of considerable use to the person newly diagnosed with cancer, their family or friends. One disappointment in the material covered is the failure to broach the subject of depression and anxiety.

The authors have attempted to respond to the questions commonly raised by patients and perhaps patients are less likely to ask about feeling depressed. However, depressed mood is a common but treatable problem in many cancer populations and some debunking of myths about depression being "just an understandable reaction" would have been helpful.

In general, however, the book gives information easily intelligible for the non-scientific reader, covering a broad range of issues within a local context.

Dr Jane Turner
University of Queensland

CALENDAR OF MEETINGS

CALENDAR Of MEETINGS – AUSTRALIA AND NEW ZEALAND

Date	Name of Meeting	Place	Secretariat
2004			
August			
4-7	Medical Oncology Group Australia Faculty Radiation Oncology	Cairns QLD	Pharma Events Ph: +61 2 9280 0577 Fax: +61 2 9280 0533 Email: conferences@pharmaevents.com.au
8-12	International Society for Nurses in Cancer Care 13th International Conference on Cancer Nursing	Sydney NSW	MP Events Tel: +61 3 9418 3930 Email: kirsten@mpevents.com.au www.isncc.org
8-14	Australia & Asia Pacific Clinical Oncology Research Development (ACORD) Workshop	Palm Cove QLD	Medical Oncology Group of Australia Level 6, 52 Phillip Street, Sydney NSW 2000 Tel: +61 2 8247 6207 Email: fmarine@bigpond.com or mog@racp.edu.au
25-26	Reducing the impact of cancer on Aboriginal and Torres Strait Islander communities: Ways Forward	Darwin NT	Pharma Events C/o PO Box 265 Annandale NSW 2038 Fax: +61 2 9280 0533 Email: conferences@pharmaevents.com.au
October			
21-24	Royal Australian and New Zealand College of Radiologists, Faculty of Radiation Oncology Annual Scientific Meeting	Perth WA	Event Edge Tel: +61 8 9387 1488 Fax: + 61 8 9387 1499 Email: info@eventedge.com.au Web: www.ranzcr.edu.au
November			
8-9	27th Annual Oncology Nurses Group Conference	Brisbane QLD	Oncology Nurses Group Conference Secretary Queensland Cancer Fund PO Box 201 Spring Hill QLD 4004 Tel: + 61 7 3258 2263 Fax: + 61 7 3257 1306 Email: ADewar@qldcancer.com.au Web: www.qldcancer.com.au
10-14	Leura V International Breast Cancer Conference	Sydney NSW	Leura V Conference Managers Tour Hosts Conference & Exhibition Organisers Level 4, 66 King Street Sydney NSW 2000 Tel: +61 2 9248 0800 Fax: +61 2 9248 0894 Web: www.bci.org.au/leura
21-26	Australian Health and Medical Research Congress	Sydney NSW	ASN Events Secretariat Tel: +61 3 5983 2400 Email: congress@asnevents.net.au Web: www.ahmrcongress.org.au
24-26	31st COSA Annual Scientific Meeting	Canberra ACT	31st COSA Annual Scientific Meeting Pharma Events Ph: +61 2 9280 0577 Fax: +61 2 9280 0533 Email: cosa@pharmaevents.com.au Web: www.cosa.org.au
2005			
May			
25-28	Trans-Tasman Radiation Oncology Group Annual Scientific Meeting	Darwin NT	Pharma Events Ph: +61 2 9280 0577 Fax: +61 2 9280 0533 Email: conferences@pharmaevents.com.au
October			
6-9	Royal Australian and New Zealand College of Radiologists, Faculty of Radiation Oncology Annual Scientific Meeting	Sydney NSW	RANZCR Level 9, 51 Druitt Street Sydney NSW 2000 Tel: +61 2 9268 9777 Fax: +61 2 9268 9799 Email: ranzcr@ranzcr.edu.au Web: www.ranzcr.edu.au

CALENDAR Of MEETINGS – International

Date	Name of Meeting	Place	Secretariat
2004			
August			
7-11	6th International Conference on Head and Neck Cancer	Washington DC USA	Robin Wagner Concepts in Meetings & Events 1805 Ardmore Blvd Pittsburgh - 15221 - Pennsylvania Tel: +1 (412) 243 5156 Fax: +1 (412) 243 5160 Web: www.headandneckcancer.org/
25-28	7th World Congress of Psycho-Oncology	Copenhagen Denmark	The Danish Cancer Society Strandboulevarden 49 Copenhagen - 2100 Denmark Web: www.ipos2004.dk/
September			
1-4	12th International Society of Endocrinology Congress	Lisbon Portugal	International Society of Endocrinology (ISE) 51-53 Bartholomew Close London - EC1A 7BE United Kingdom Fax: +44 171 796 4676
16-19	SIOP 2004: International Society of Paediatric Oncology	Oslo Norway	Congrex Holland BV PO Box 302 Amsterdam Netherlands 1000 AH Tel: +31 2 0504 0200 Email: siop@congrex.nl Web: www.siop.nl
18-19	Alimentary Disease Weekend	Pokfulam Hong Kong	Alimentary Disease Weekend Secretariat Department of Surgery University of Hong Kong Medical Centre Queen Mary Hospital, Pokfulam, Hong Kong Email: ADW2004@hku.hk
23-25	9th Central European Lung Cancer Conference	Gdansk Poland	Department of Oncology and Radiotherapy Medical University of Gdansk ul Debinski 7 Gdansk - 80-211 - Poland Tel: + 48 58 349 2270 Fax: + 48 58 349 2270 Web: www.lungcancer.pl/
October			
3-7	ASTRO: 46th Annual Meeting	Atlanta USA	American Society for Therapeutic Radiology and Oncology 12500 Fair Lakes Circle Suite 375 Fairfax Virginia 22033 USA Tel: +17 0 3227 0170 Email: meetings@astro.org
3-8	10th Biennial Meeting of the International Gynecologic Cancer Society	Edinburgh Scotland	International Gynecologic Cancer Society PO Box 6387 Louisville, Kentucky, USA Tel: +1 50 2891 4460 Web: www.igcs.org
10-14	6th Congress of the European Association of Neuro-Oncology	Jerusalem Israel	Ortra 1 Nirim St PO Box 9352 Tel Aviv – 61092 - Israel Fax: +972 3 638 4455
15-16	The 9th International Conference on Geriatric Oncology: Cancer in the Elderly	San Francisco California USA	Heather Drew Imedex, Inc 70 Technology Drive Alpharetta - 30005 - Georgia United States of America Tel: +1 770 751 7332 Fax: +1 770 751 7334 Web: www.imedex.com/calendars/oncology.htm
24-28	23rd Annual European Society for Therapeutic Radiology and Oncology Meeting (ESTRO 23)	Amsterdam Netherlands	ESTRO 23 Secretariat Avenue E Mounier 83 Brussels, Belgium 1200 Tel: +32 2775 9340 Email: info@estro.be Web: www.estro.be

Date	Name of Meeting	Place	Secretariat
29 Oct- 2 Nov	29th European Society for Medical Oncology Annual Meeting	Vienna Austria	ESMO Secretariat via la Santa 7 CH-6962 Viganello-Lugano Switzerland Tel: +41 9 1973 1919 Web: www.esmo.org/congress2004
November			
5-7	Oncology Nursing Society Institute of Learning	Nashville Tennessee USA	Oncology Nursing Society 125 Enterprise Drive Pittsburgh Pennsylvania 15275-1214 USA Tel: + 1 86 6257 4667 Email: meetings@ons.org Web: www.ons.org
10-12	11th Hong Kong International Cancer Congress	Pokfulam Hong Kong	11th HKICC Congress Secretariat Dept of Surgery University of Hong Kong Medical Centre Queen Mary Hospital Hong Kong Tel: +8 52 2818 0232 Fax: + 8 52 2818 1186 Email: hkicc@hku.hk Web: www.hkicc.org
17-19	1st International Conference for Oncologists and Other Health Care Leaders	New York USA	Barrie Cassileth Memorial Sloan-Kettering Cancer Center 1275 York Ave New York - 10021 - New York Tel: +1 212 639 2000
17-19	First International Conference of the Society of Integrative Oncology	New York USA	SIO Registration 19 Mantua Road, Mt Royal, NJ 08061, USA Web: www.integrativeonc.org
December			
3-7	46th Annual Meeting of the American Society of Hematology	San Diego California USA	American Society of Haematology 1900 M street NW Suite 200 Washington DC 20036 USA Tel: +1 20 2776 0544 Email: meetings@hematology.org Web: www.hematology.org
3-6	27th Annual San Antonio Breast Cancer Symposium	San Antonio Texas USA	Cancer Therapy & Research Center SACI, Rich Markow San Antonio, Texas, USA Fax: +1210 949 5009 Email: Rmarkow@saci.org Web: www.sabcs.org
15-16	4th International Meeting of Hepatocellular Carcinoma: Eastern and Western Experiences	Wanchai Hong Kong	4th HCC-EWE Congress Secretariat Department of Surgery, University of HongKong Medical Centre Queen Mary Hospital, Pokfulam Tel: + 85 2 2818 0232 Fax: + 85 2 2818 1186 Email: hccewe04@hku.hk Web: www.hcc-ewe.org
2005			
January			
26-29	Primary Therapy of Early Breast Cancer	St Gallen Switzerland	Hans-Jörg Senn St. Gallen Oncology Conferences Rorschacherstr. 150 St. Gallen - 9006 Switzerland Tel: +41 71 243 0032 Fax: +41 71 245 6805 Web: www.oncoconferences.ch/index.html
February			
10-14	American Society for Blood and Marrow Transplantation Annual Meeting	Keystone CO USA	American Society for Blood and Marrow Transplantation 85 West Algonquin Road Suite 550 Arlington Heights Illinois 60005 USA Tel: +1 84 7427 0224 Email: mail@asbmt.org

Date	Name of Meeting	Place	Secretariat
March			
3-6	58th Annual Cancer Symposium of the Society of Surgical Oncology	Atlanta Georgia USA	D.K. Kubis - Society of Surgical Oncology 85 W Algonquin Rd Suite 55 Arlinghton Heights IL - 60005 Tel: +1 (847) 427 1400 Fax: +1 (847) 427 9656 Web: www.surgonc.org/
April			
16-20	96th Annual Meeting of the American Association for Cancer Research	Ahaheim California USA	AACR 615 Chestnut Street 17th Floor Philadelphia, PA USA 19106-4404 Tel: +1 21 5440 9300 Email: meetings@aacr.org
28 Apr- 1 May	Oncology Nursing Society's 30th Annual Congress	Orlando Florida USA	Oncology Nursing Society 125 Enterprise Drive Pittsburgh Pennsylvania 15275-1214 USA Tel: +1 86 6257 4667 Email: meetings@ons.org Web: www.ons.org
June			
2-5	EHA-10: 10th Annual Meeting of the European Haematology Association	Stockholm Sweden	Eurocongres Conference Management Jan van Goyenkade 11 Amsterdam Netherlands NL-1075 HP Tel +31 20 679 3411 Eha2005@eurocongres.com www.ehaweb.org
8-11	9th International Conference on Malignant Lymphoma	Lugano Switzerland	Olga Jackson Lymphoma Conference Secretary viale Cattaneo 23 Lugano - 6900 Tel: +41 91 921 4561 Fax: +41 91 921 4563 Web: http://www.lymphcon.ch/
23-26	2nd Quadrennial Meeting of the World Federation of NeuroOncology	Edinburgh Scotland	EANO 6 Secretariat Federation of European Cancer Societies Avenue E Mounier 83 Brussels, Belgium 1200 Tel: +32 0 2775 0201 Email: eano6@fecs.be
July			
3-6	11th World Conference on Lung Cancer	Barcelona Spain	Heather Drew Imedex 70 Technology Drive Alpharetta - 30005 - Georgia Tel: +1 770 751 7332 Fax: +1 770 751 7334 Web: www.2005worldlungcancer.com/2005WLC/
October			
16-20	ASTRO: 47th Annual Meeting	Denver Colorado USA	American Society for Therapeutic Radiology and Oncology (ASTRO) 12500 Fair Lakes Circle Suite 375 Fairfax Virginia 22033 USA Tel: +1 70 3227 0170 Email: meetings@astro.org
December			
2-6	47th Annual Meeting of the American Society of Hematology	San Diego California USA	American Society of Haematology 1900 M street NW Suite 200 Washington DC 20036 USA Tel: +1 20 2776 0544 Email: meetings@hematology.org Web: www.hematology.org

THE CANCER COUNCIL AUSTRALIA

The Cancer Council Australia is the peak national cancer control organisation. Its members are the leading state and territory cancer councils, working together to undertake and fund cancer research, prevent and control cancer and provide information and support for people affected by cancer.

MEMBERS
The Cancer Council ACT
The Cancer Council New South Wales
The Cancer Council Northern Territory
The Cancer Council South Australia
The Cancer Council Tasmania
The Cancer Council Victoria
The Cancer Council Western Australia
Queensland Cancer Fund

AFFILIATED ORGANISATIONS
Australasian Association of Cancer Registries
Clinical Oncological Society of Australia Inc
Palliative Care Australia

CEO
Professor A Coates AM, MD, FRACP, AStat

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Hon S Lenehan BA, DipMan, MBA, FAICD
Mr R McGowan
Assoc Professor S Smiles RN, RM, ICC, BHA, GradDipPSEM
Professor J Ward MBBS, MHPEd, FAFPHM, PhD
Dr K White PhD

CLINICAL ONCOLOGICAL SOCIETY OF AUSTRALIA INC

The Clinical Oncological Society of Australia (COSA) is a multidisciplinary society for health professionals working in cancer research or the treatment, rehabilitation or palliation of cancer patients.

It conducts an annual scientific meeting, seminars and educational activities related to current cancer issues. COSA is affiliated with The Cancer Council Australia.

EXECUTIVE COMMITTEE
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Professor B Stewart MSc, PhD, FRACI

MEMBERSHIP

Further information about COSA and membership applications are available from:
www.cosa.org.au or cosa@cancer.org.au

Membership fees for 2004

Ordinary Members: $140
Associate Members: $80
(includes GST)

INTEREST GROUPS

ANZ Children's Haematology and Oncology
Breast Oncology
Cancer Nurses Society of Australia
Cancer Research
Data Managers
Epidemiological
Gastrointestinal Oncology
Gynaecological Oncology
Lung Oncology
Medical Oncology
Melanoma and Skin
Neuro-oncology
Palliative Care
Pharmacy
Psycho-Oncology
Radiation Oncology
Regional and Rural Oncology
Social Workers
Surgical Oncology