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# Advertising of disease and prescription medicines to Australian consumers

Danika Hall

*University of Wollongong, danika\_hall@uow.edu.au*

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**ADVERTISING OF DISEASE AND PRESCRIPTION  
MEDICINES TO AUSTRALIAN CONSUMERS**

**THIS THESIS IS PRESENTED IN FULFILMENT OF THE  
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF**

**DOCTOR OF PHILOSOPHY**

**FROM THE**

**UNIVERSITY OF WOLLONGONG**

**BY**

**DANIKA VALERIE HALL, BA, MED  
SCHOOL OF HEALTH SCIENCES**

**2010**

**CERTIFICATION**

I, Danika Hall, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy, in the School of Health Sciences, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Danika Hall

4 March 2010

## **VERIFICATION**

This statement verifies that the greater part of the work in the above-named manuscripts is attributed to the candidate. Danika Hall contributed to study design, undertook data collection and analysis, and prepared the first draft of each manuscript. She then responded to editorial suggestions of co-authors, and prepared the articles for submission to the relevant journals. Details on the contributions of co-authors can be found in Chapter 1, Section 1.1 (Structure of the Thesis).

Professor Sandra C. Jones (Primary Supervisor)

Danika V. Hall (Candidate)

4 March 2010

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## **PUBLICATIONS CONSTITUTING THIS THESIS**

### **Published Articles**

Hall, D.V and Jones, S.C. (2007), 'Branding of Prescription Medicines to Australian Consumers', *Australasian Marketing Journal*, Vol. 15 No. 2, pp. 97 - 107.

Hall, D.V. and Jones, S.C. (2008), 'Australian Consumer Responses to DTCA and Other Pharmaceutical Company Sponsored Advertisements', *Australian New Zealand Journal of Public Health*, Vol. 32, pp.471-478.

Hall, D.V., Jones, S.C. and Iverson, D.C. (2009), 'A Content Analysis of Disease Awareness Advertisements in Popular Australian Women's Magazines', *Medical Journal of Australia*, Vol. 191, No. 11/12, pp. 625-629.

### **Articles Accepted for Publication**

Hall, D.V., Jones, S.C. and Hoek, J. (accepted), 'Direct to consumer advertising vs. disease awareness advertising: Consumer perspectives from down under', *Journal of Public Affairs*.

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### **Articles Under Review**

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## OTHER PUBLICATIONS ARISING FROM THIS THESIS

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Hall D.V., Jones S.C. and Iverson D.C. (2009), 'Industry partnerships for health nonprofits and disease awareness advertising', In *Australian and New Zealand Marketing Academy Conference*, Melbourne, Australia: Monash University.

Hall D.V. (2009), 'High levels of confusion for cholesterol awareness campaigns (response letter)', *Medical Journal of Australia*, Vol. 190, No. 5, p.285.

Hall, D.V. (2008), 'High levels of confusion for cholesterol awareness campaigns', *Medical Journal of Australia*, Vol. 189, No. 6, pp. 326-328.

Hall, D.V. and Jones, S.C. (2008), 'Corporate social responsibility, condition branding and ethics in marketing', In *Australian and New Zealand Marketing Academy Conference*, Sydney, Australia: University of Western Sydney.

Hall, D.V. and Jones, S.C. (2006), 'Cute and cuddly or creepy crawly: pharmaceutical branding to Australian consumers,' In *Inaugural Conference on Disease Mongering*, Newcastle, Australia: University of Newcastle.

Hall, D.V. and Jones, S.C. (2006), 'Direct-to-consumer branding of prescription medicines in Australia'. In *Australian and New Zealand Marketing Academy Conference*, Brisbane, Australia: Queensland University of Technology.



## **ABSTRACT**

### **Background**

Direct-to-consumer advertising (DTCA) of prescription medicines is prohibited in Australia, but pharmaceutical companies can provide information about the health condition for which they manufacture a prescription product – commonly referred to as disease awareness advertising (DAA). The pharmaceutical industry purports that DAA provides education regarding health conditions and different treatment options, and may encourage early diagnosis and treatment. However consumer and public health advocates are concerned that DAA has the potential to inflate the perceived prevalence of disease, increase consumer anxiety, and result in unnecessary visits to doctors. They believe it provides an indirect method of advertising prescription medicines to consumers, and has the potential to increase the uptake of newer medicines whose risk profiles are not fully understood. While studies overseas have demonstrated that DAA can increase consultations regarding the advertised disease, as well as prescriptions for the advertiser's product, there has been no research conducted in Australia regarding DAA, or consumers' attitudes toward this form of advertising.

### **Method**

This research project examined recent cases of pharmaceutical industry-sponsored DAA in Australia, and undertook a content analysis of advertisements in popular women's magazines. To determine how Australian consumers perceive DAA, and how this compared to their perceptions of DTCA, a survey was conducted using matched DAA and DTCA as stimuli. General attitudes to DAA were compared with results from a similar study conducted in New Zealand exploring attitudes to DTCA. Finally, an intercept survey explored attitudes of older Australian women towards hypothetical DAA for two health conditions. Sponsor logos and the amount of disease information were manipulated in the advertisement stimuli.

### **Results**

Pharmaceutical companies use a range of persuasive techniques in DAA, and while the name of the product is not included, other branding techniques, such as spokes-characters and campaign names, may convey the identity of the product. The most

common type of information found in DAA in popular Australian women's magazines (which included advertisements sponsored by government and non-profit organisations) was treatment information, and industry advertisements more often provided information about treatment and prevalence.

In the survey research, despite pharmaceutical company branding on the DAA stimuli, most participants did not attribute a direct commercial intent (to sell a treatment or product) to the advertisements. They perceived the advertisements were designed to provide information and to make them more proactive about their health. Similar to New Zealand consumers considering DTCA, Australian consumers valued DAA for the information it provides about health conditions and treatment options; however they may have been considering DAA sponsored by government and/or non-profit organisations. Participants perceived DAA to be useful in discussions with their doctor, but were ambivalent as to whether it helped them in making health decisions.

Following exposure to DAA stimuli, most participants agreed that they would talk about the condition with their doctor or talk about a treatment with their doctor, and up to half expressed an intention to ask for a prescription or referral. In the intercept survey, older women exposed to advertisements with less disease information were less likely to be satisfied that adequate information was provided, but were more likely to express an intention to ask their doctor for a prescription or a referral.

## **Discussion**

The results suggest that DAA, particularly advertisements with limited disease information, can stimulate demand for prescription medicines. Despite purporting an educational function, most industry DAA focus on treatment information and many utilise persuasive techniques which may convey the identity of the product. This has implications for regulators of pharmaceutical advertising in Australia, as activities which encourage patients to seek a prescription for a specific product are prohibited.

The results demonstrate the commercial intent (and potential commercial success) of industry DAA. However, it is concerning that most consumers (our research indicates up to 90%) do not recognise this intent, and they may be less critical in

evaluating advertisements. While consumers value the information provided in DAA, many advertisements fail to provide detailed or comprehensive disease information. The regulation of DAA requires strengthening, with specific recommendations regarding the amount and breadth of disease information to be included.

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## LIST OF KEY ACRONYMS AND DEFINITIONS

ANZTPA	Australian New Zealand Therapeutic Products Authority
DAA	Disease Awareness Advertising (also referred to as Disease Awareness Campaigns or DACs)
DAC	Disease Awareness Campaign (disease advertisements that are conducted as part of a broader promotional strategy such as advertisements in a range of mediums and targeting various audiences)
DTCA	Direct to Consumer Advertising of prescription medicines
FDA	Food and Drug Administration, United States of America
GAO	Government Accounting Office, United States of America
MA	Medicines Australia
MHRA	Medicines and Healthcare products Regulatory Agency, United Kingdom
NPO	Non-profit organisation
OTC	Over-the-counter medications
PBS	Pharmaceutical Benefits Scheme, Australia
QUM	Quality Use of Medicines
TGA	Therapeutic Goods Administration, Australia

## **1. CHAPTER 1: INTRODUCTION AND AIMS**

Pharmaceutical industry promotion of medicine and disease has targeted consumers for hundreds of years (Baudot, 1991; Donohue, 2006). However these promotions, particularly for prescription medicine products, have become more common over the past 20 years with the advent of direct-to-consumer advertising (DTCA) of prescription medicines in the United States (US) and New Zealand. In Australia, where DTCA is prohibited, companies are limited to promoting awareness about the diseases or health conditions for which they manufacture a prescription medicine product. This form of advertising is commonly referred to as disease awareness advertising (DAA) and can include information on the disease (such as the symptoms), but cannot include the name or brand of a prescription medicine product. This introductory chapter provides a brief background of DTCA and DAA, and the regulation of pharmaceutical advertising for prescription medicines in Australia. It identifies that limited research has been conducted into DAA, and outlines the series of studies conducted for this thesis which aimed to increase understanding of the types, content, and consumer perceptions, of pharmaceutical promotions.

### **1.1 Background**

Western culture is becoming increasingly medicalised, with previously non-medical problems redefined as health conditions requiring pharmacological treatment (Conrad and Leiter, 2004; Finlayson and Mullner, 2005). A related phenomenon is the ‘pharmaceuticalisation’ of health, where resources are increasingly provided for research, education and promotion of pharmacological remedies over other potential solutions (Toop and Mangin, 2002). For some conditions where previously the only approach was behaviour change strategies (such as diet/exercise to reduce obesity) there is now a range of prescription, over-the-counter and complementary medicines.

A range of stake-holders have contributed to the increasing medicalisation of society including doctors and other health professionals, pharmaceutical companies, governments, health insurers, and advocate groups, as well as consumers themselves (Conrad and Leiter, 2004; Dear and Webb, 2006). Pharmaceutical companies serve to gain by creating new markets, or expanding existing markets, for their products

and thus increasing profits (Moynihan, et al., 2002). The media are also important agents of medicalisation in informing consumers of new diseases or symptoms as well as new or emerging treatments (Woloshin and Schwartz, 2006). Since the patients' rights movement of the 1970s, consumers themselves have challenged the autonomy of doctors and health authorities and have demanded access to information regarding treatment options (Donohue, 2006; Mackenzie et al., 2007). More recent advances in technology since the 1990s (including the Internet) have further enabled consumers to inform themselves about diseases and potential treatments and become more actively involved in their health care decisions (Donohue, 2006).

### 1.1.1 Prescription Medicines

The increasing demand for, and reliance on, medicines within western societies has significant economic and social implications. This is particularly the case for prescription medicines as they are deemed by regulatory authorities as having higher risk, and can only be obtained with the written consent of a health professional (Australian Government Department of Health and Ageing, 2007a). While it is generally acknowledged that medicines can significantly improve individual and public health, there are also potential negative outcomes, such as the lack of efficacy of a product, adverse side effects, and poly-pharmacy (the use of five or more medicines, commonly associated with sub optimal prescribing and increased risk of negative outcomes for the patient (Hilmer, 2008)).

Improving standards of living coupled with the ageing of populations in western societies has led to heightened consumer expectations about their health and longevity (Heath, 2006). Consumers are increasingly looking toward pharmaceutical solutions for what may previously have been considered elements of a natural ageing process (such as balding) or for complex social and behavioural problems (Conrad and Leiter, 2004; Heath, 2006). For example, Viagra has been promoted to treat any degree of erectile dysfunction (Lexchin, 2006). In some instances, patients may perceive prescription medicines to be more effective than over-the-counter alternatives, or may request prescription medicines inappropriately. For example, a study has shown that patients experiencing upper-respiratory tract infection often

request antibiotics from their doctor, but actually require pain relief for their symptoms (van Driel et al., 2006).

In countries such as Australia that provide national health cover (where the cost of approved pharmaceutical products is subsidised) increasing reliance and over-use of medicines comes at a cost to the tax-payer, as well as to the individual. The Australian Government's Pharmaceutical Benefits Scheme (PBS) has subsidised the cost of prescription medicines for over 60 years. The cost of the PBS is reported as approximately \$7 billion per year, but is estimated to reach \$8.2 billion in 2009/10 (Australian Government Department of Health and Ageing, 2009a). In an effort to improve the rational use of medicines, the Australian Government instigated the National Medicines Policy in 1999 (National Prescribing Service, 2009). Key objectives included: timely and affordable access to medicines; medicines meeting standards of quality, safety and efficacy; the Quality Use of Medicines (QUM); and maintaining a responsible and viable medicines industry. The objectives called for accurate information about medicines and their use to be available for consumers and health professionals, as well as responsible advertising that will enhance public health (Australian Government Department of Health and Ageing, 2009b).

However Lofgren and de Boer (2004) describe that while the Australian government was concerned most with affordability and access of pharmaceuticals prior to the 1980s, the neo-liberal governments since that time have increasingly considered the interests of the pharmaceutical industry. Heath (2006) recognises that governments have to balance support for industry with a sustainable health care system. However she suggests the ongoing focus on the treatment of disease is also an effort of governments to alleviate potentially more difficult responsibilities of disease prevention or addressing social causes (Heath, 2006). While the pharmaceutical industry in Australia claims to support QUM (Medicines Australia, 2009), others argue that the industry may prioritise its commercial duty to shareholders over its social duty (Vitry, 2004).

Following the large-scale development and success of penicillin during the late 1930's, the pharmaceutical industry has dramatically evolved with the establishment of in-house research and development programs and rapid rates of discovery and

introduction of new drugs (Malerba and Osrsenigo, 2002). The industry has become increasingly successful and powerful on a global scale, with impressive growth rates and profits throughout the 1990s. The past decade, however, has brought new challenges including shorter patent periods and increasing competition from generics (Moss and Schuiling, 2003). The increasing cost of research and development, with fewer returns by way of innovative or 'block-buster' pharmaceutical products, has resulted in a shift in focus from research and development to aggressive marketing practices, many of which have attracted criticism (Angell, 2006).

Pharmaceutical companies have been accused of playing an active part in disease mongering (Mintzes, 2006; Moynihan and Cassels, 2005), which is defined as "widening boundaries of treatable illness in order to expand markets for those who profit from treatments" (Moynihan, et al., 2002 p. 886). The influence of the industry on the medical profession has been heavily criticised, and marketing practices such as providing gifts and continuing medical education activities, as well as pharmaceutical representative visits to doctors, are linked to increased and unnecessary prescribing (Australian Consumers' Association, 2008b; Breen, 2004). Other marketing practices of the pharmaceutical industry that target the general public, including direct-to-consumer advertising and public relations activities, have also been criticised as having adverse effects and resulting in outcomes that are contrary to QUM (Brown, 2009; Vitry, 2004).

#### 1.1.2 Advertising of Prescription Medicines to Consumers

Direct-to-consumer advertising (DTCA) of prescription medicines is currently prohibited in Australia by the Therapeutic Goods Act (Australian Government Department of Health and Ageing, 2007b). However, the practice does occur in the neighbouring country of New Zealand, as well as in the US. There is ongoing debate regarding the potential benefits and harms of DTCA in these two countries, as well as nations that have considered its adoption (including Canada and Europe).

Pharmaceutical companies and proponents argue that DTCA provides consumers with important information regarding medicines and health conditions, and that it can assist in earlier diagnosis and treatment, improved doctor/patient relationships, and medication compliance (Auton, 2007; Bonaccorso and Sturchio, 2002). Opponents



argue that DTCA is about increasing profit rather than improving public health, and that it can lead to over-prescribing of unnecessary, costly and potentially harmful pharmaceutical products (Lyles, 2002; Mintzes, 2002). For example, the manufacturers of the product Vioxx, Merck Sharp and Dohme, are still facing public criticism, lawsuits and class action after undertaking aggressive DTCA in the US without adequately disclosing that the product increased rates of myocardial infarctions and stroke (Consumers International 2006, Topol 2004). The company had annual sales of more than \$US1 billion for Vioxx, and was spending more than \$US100 million on DTCA despite mounting evidence of the risks. More than 80 million patients had taken the medicine by September 2004 when the drug was withdrawn and it is estimated that tens of thousands of patients had major adverse events as a result of taking Vioxx (Topol 2004). There is concern that while DTCA is persuasive, it often lacks educational value (Kaphingst and DeJong, 2004; Woloshin et al., 2001) and this may result in tension between doctors and patients requesting a prescription, or a misuse of consultation time as the doctor attempts to re-educate patients regarding the suitability or risks of the prescription product (Toop and Mangin, 2006).

The advertising of prescription medicine in Australia is currently regulated by the pharmaceutical industry body Medicines Australia (MA) via a Code of Conduct. Edition 15 of the Code of Conduct was in effect from 2007 until the end of 2009 (Medicines Australia, 2006). Sections of the Code relevant to marketing directly to consumers included Section 9.4 (Promotion to the General Public) and Section 9.5 (Patient Education). These sections allowed for the advertising of health conditions or diseases, and general information on the broad range of treatments that may be available, but prohibited the naming of a particular product or brand (Medicines Australia, 2006). This form of marketing is commonly called 'disease awareness advertising' (DAA), but is referred to as 'help-seeking advertising' in the US and Canada, and 'disease awareness campaigns' or DACs in the United Kingdom (UK).

A national review of the Australian Drugs, Poisons and Controlled Substances Legislations in 2000 examined literature from New Zealand and the US with regard to DTCA, and weighed up the potential costs and benefits to the Government, consumers and the pharmaceutical industry. The review did not support a relaxation

of the current prohibition (Galbally, 2000). The Review considered “unbranded product advertising” but concluded that permitting such advertising for prescription medicines would potentially have similar negative outcomes as for DTCA. DAA was also considered, and identified as a form of advertising that circumvents the prohibition of DTCA in Australia. The Review recommended that a Code of Practice should be developed with specific requirements for DAA such that these advertisements would benefit the community as a whole (Galbally, 2000).

Since the Review, there has been speculation about the potential introduction of DTCA in Australia with the establishment of the Australian New Zealand Therapeutic Products Authority (ANZTPA) in 2003 and in the prelude to the Free Trade Agreement with the US in 2004 (Harvey et al., 2004). The Therapeutic Products Advertising Code drafted as part of the establishment of ANZTPA recognised and defined DAA as “...information that aims to raise awareness regarding specific diseases, including public health campaigns...” (ANZTPA, 2005 p. 9). The ANZTPA code also recognised unbranded product advertising, and stated that it “promotes the use and supply of a product by inviting the consumer to seek information about symptoms or conditions and/or their treatment or management while not referring overtly to any particular branded product,” (ANZTPA, 2005 p. 9). However, the Code was not explicit as to whether this type of advertising was permissible for prescription medicines. The establishment of ANZTPA stalled in the New Zealand Parliament in 2007, however there is potential that the process will be resumed (ANZTPA, 2007).

### 1.1.3 Disease Awareness Advertising

Much of the debate that surrounds DTCA is relevant to industry-sponsored DAA. The pharmaceutical industry claims that it provides an important educational function, particularly for health conditions that are under-diagnosed, and may help consumers to identify symptoms and seek help. However, like DTCA, DAA has also been identified as a form of ‘disease mongering’, and some pharmaceutical campaigns have been criticised for encouraging consumers to identify with the symptoms or risk factors of an advertised condition in order to increase the potential market for a prescription medicine (Moynihan and Cassels, 2005). Further, there is

concern that DAA may encourage consumer reliance on medications to solve what may be social or behavioural problems, has the potential to increase consumer fear and anxiety, and may potentially drive consumers to visit their doctors unnecessarily (Mintzes, 2006; Moynihan and Henry, 2006).

Only two studies, one in the US and one in the Netherlands, have been identified that considered the influence of DAA on consumers. Both demonstrated the capacity of DAA to increase consultations for the advertised conditions, and prescriptions for the advertiser's products (Basara, 1996; t'Jong et al., 2004). While exploratory research in Australia has considered consumer attitudes towards DTCA (Jones and Mullan, 2006; Miller and Waller, 2004; Vatjanapukka, 2004), there is no identified research into consumers' attitudes towards DAA, or whether attitudes towards DAA and DTCA differ. Further, while case studies of DAA have been identified across a range of media (Australian Consumers' Association, 2008a; Hughes and Minchin, 2003), no studies have attempted to quantify the prevalence of DAA in Australian media.

Despite the recommendations of the National Review, a specific code of conduct to regulate the content of pharmaceutical company DAA has not been developed in Australia. This differs from other countries such as the UK and the US where there are specific guidelines for industry in the provision of DAA to consumers (Food and Drug Administration, 2004; MHRA, 2005). In Australia, the growing awareness of controversial cases of DAA (Efrat, 2004; Hall, 2008; Hughes and Minchin, 2003) and complaints to Medicines Australia with regard to potential breaches of the Code of Conduct suggest that regulation of DAA in Australia could be strengthened.

## **1.2 Aims**

This research project aimed to contribute to knowledge regarding pharmaceutical company advertising of medicines and disease in Australia, and to determine consumer responses to this advertising in order to inform future advertising regulation in the interest of public health.

Specific aims of the research included:

1. To determine the extent and nature of pharmaceutical company-sponsored advertisements in the Australian mass media, and specifically in Australian magazines, including:
  - The provision of disease information in advertisements;
  - The sponsors of advertisements; and
  - The use of branding and other persuasive techniques.
  
2. To determine Australian consumer responses to DAA, including:
  - Their behavioural intentions as a result of viewing advertisements;
  - Their perceptions of advertisements generally, and specifically their perceptions of targeted disease awareness advertisements and adequacy of disease information;
  - Their perceptions of DAA compared with their perceptions of DTCA (including Australian and New Zealand consumers' perceptions); and
  - Their attitudes towards the sponsors of DAA including their perceptions of the intent of the advertisement and advertiser.

### **1.3 Structure of the Thesis**

This thesis is submitted in fulfilment of the requirements of a Doctor of Philosophy in Public Health in Style 2, where chapters are prepared as journal articles. Chapters 2 through to 8 comprise seven articles, three of which have been published, and the remainder submitted for editorial review. Please note, that while the articles are formatted according to the guidelines of each journal, the referencing has been changed to Harvard style for consistency within the thesis.

Chapter 2 provides a review of literature on the use of branding techniques by pharmaceutical companies in the promotion of prescription medicine. It describes some recent cases of pharmaceutical sponsored promotions and discusses the implications for public health and advertising regulation. This article was written by the candidate with co-author Professor Sandra Jones, and was published by the *Australasian Marketing Journal* in 2007.

Chapter 3 describes results of a mail survey that was conducted to elicit Australian consumers' perceptions of DAA. The results are compared with results from a New Zealand study, to determine how Australian perceptions of DAA differ to New Zealand perceptions of DTCA<sup>1</sup>. This article was written by the candidate with co-authors Professors Sandra Jones and Janet Hoek. Professor Hoek supervised the conduct of the New Zealand survey, analysed and reported on the New Zealand data, and contributed to the literature review and discussion. This article was submitted to the *Australasian Marketing Journal* in November 2009 and is under review.

Chapter 4 describes an additional component of the mail survey which explored Australian consumers' attitudes towards New Zealand magazine advertisements for prescription medicines (DTCA) and matched Australian pharmaceutical company-sponsored advertisements. This survey explored what consumers valued in the advertisements and their reported behavioural intentions after exposure. The article was written by the candidate with co-author Professor Sandra Jones, and was published by the *Australian New Zealand Journal of Public Health* in 2008.

Chapter 5 describes a content analysis of disease advertisements that appeared in six popular women's magazines over a 12 month period. The analysis sought to categorise the types of advertisements and their sponsors, as well as exploring the types of disease information provided and the use of persuasive techniques. The article was written by the candidate with co-authors Professors Sandra Jones and Don Iverson, and was published by the *Medical Journal of Australia* in 2009.

The results of the content analysis informed the final research study which was an intercept survey of older Australian women who were shown hypothetical DAA for two relatively unknown health conditions. The intercept survey results are reported in Chapters 6, 7 and 8. Participants were allocated one of eight different stimuli as their first advertisement, and then received the second advertisement for the other health condition with the same sponsor and information manipulation as the first advertisement. A web-based randomising resource was used to generate a list of stimuli combinations to be assigned to participants in order. Research assistants

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<sup>1</sup> Please note that the candidate was not involved in the conduct of the New Zealand survey.

underwent training, and were instructed to allocate the advertisements to participants in the order that they appeared on the list.

Chapter 6 describes the behavioural intentions of the women following exposure to the DAA, and what they perceived to be the intention of the advertisements. The article was written by the candidate with co-authors Professors Sandra Jones and Don Iverson, and was submitted to the *Australian Health Review* in February 2010.

Chapter 7 describes results of the intercept survey relevant to older Australian women's perceptions of the adequacy of disease information in advertisement stimuli and whether this influenced their attitude towards the advertisement. The article was written by the candidate with co-authors Professors Sandra Jones and Don Iverson, and was submitted to the *Australian New Zealand Journal of Public Health* in November 2009.

Chapter 8 describes the results of the intercept survey relevant to older Australian women's attitudes towards varying sponsors. The article was written by the candidate with co-authors Professors Sandra Jones and Don Iverson, and was submitted to the *Health Education* in March 2010.

The final chapter (Chapter 9) provides a summary and comparison of the findings of the research including the types and content of pharmaceutical advertising in Australia, consumer perceptions of advertising, and its potential effects on their behaviour. This chapter provides suggestions for improved regulation of pharmaceutical advertising in Australia, and recommendations for future research.

### 1.3.1 Health Conditions Addressed in the Thesis

Within the studies reported in the thesis, disease advertisements cover a wide range of health conditions, however the advertisement stimuli in Chapter 4 are for Alzheimer's disease and weight loss, while the advertisement stimuli for Chapters 6, 7 and 8 are for osteopenia and fibromyalgia. This section describes the treatment of these conditions with prescription medicines in the Australian context, and the potential for disease advertising.

### Alzheimer's disease

Alzheimer's is the development of multiple cognitive deficits including memory impairment, but also language and/or motor impairment and disturbance in organisational skills which causes significant loss of occupational and social functioning (NSW Health 2003). There is a gradual onset and progressive decline. Alzheimer's disease most often occurs over 65 years, but can occur as early as 40 years. In Australia, there are clinical criteria for the diagnosis of Alzheimer's disease (NSW Health 2003); management includes behavioural and social modifications for sufferers and their carers as well as pharmacotherapy (acetyl cholinesterase inhibitors). There are currently three products in Australia including Galantamine Hydrobromide (Reminyl), Rivastigmine (Exelon) which was the subject of a New Zealand DTCA used as stimuli in the study described in Chapter 4, and Donepezil Hydrochloride (Aricept) which was the subject of an Australian DAA in Chapter 4. There is evidence for the use of acetyl cholinesterase inhibitors to treat the symptoms of Alzheimer's disease, and some evidence for improved outcomes with early treatment (Alzheimer's Australia 2006). There is also PBS criteria for the prescription of acetyl cholinesterase inhibitors (Pond & Brodaty 2004).

### Weight loss

In 2005 it was estimated that 47 % (7.5 million) of Australians aged over 15 years were overweight, and approximately one third of these were obese (AIHW 2010). People who are overweight and particularly people who are obese are at greater risk of experiencing cardiovascular disease, high blood pressure, Type 2 diabetes, and a range of other health problems for women (AIHW 2010). The Australian "Clinical Practice Guidelines for the Management of Overweight and Obesity in Adults" states that pharmacotherapy treatment should only be considered for patients who have been unsuccessful in losing weight in other ways, including education, counselling and dietary and/or physical activity interventions, and have impaired health due to their weight (Commonwealth of Australia 2003). There are prescription medications available with some evidence for efficacy, including orlistat (Xenical) which is now an OTC medication but was previously prescription only (Egger 2008), and during that time was the subject of DAA campaigns in Australia and New Zealand which attracted some controversy (Vitry, 2004; Coney 2001). Other weight loss

prescription medicines include phentermine (Duromine) which is an adrenergic stimulant, and sibutramine (Reductil) which is an appetite suppressant and was the subject of the advertising stimuli (both Australian and New Zealand) in the study described in Chapter 4.

### Osteopenia

Osteopenia refers to a state of lower bone density which can potentially increase the risk of developing osteoporosis (Osteoporosis Australia 2007). Clinical guidelines in Australia recommend that women aged 45 years and over be assessed for risk factors for osteoporosis (RACGP 2010) and that bone mineral densitometry occur every two years for postmenopausal women over 65 years or those over 45 years with other risk factors. There are three potential prescription medicine categories for the prevention of osteoporosis in post menopausal women, and Australian clinical guidelines recommend the use of two in reducing the risk of osteoporotic fractures by increasing bone mineral density in postmenopausal women at risk (RACGP 2010). As such, it is feasible that pharmaceutical companies in Australia would sponsor awareness advertising about osteopenia to encourage women to undertake bone density testing and preventative treatment as has occurred in the US (Alonso-Coello et al., 2008).

### Fibromyalgia

Fibromyalgia is a condition characterised by widespread pain, fatigue and sleep disturbances but can be difficult to diagnose (Arthritis Australia, 2009). There are no Australian-specific guidelines for diagnosis, and as such, the American College of Rheumatology classification criteria are the most commonly used (Ee, 2008). There is some evidence for treatment with prescription medicines including amitriptyline, fluoxetine as well as serotonin and norepinephrine reuptake inhibitors; however a multidisciplinary approach including patient education is recommended (Ee, 2008). Prescription medicine advertising for the treatment of fibromyalgia has occurred in the US (for example 'Lyrica' or pregabalin); the growing recognition of the condition in Australia suggests that disease advertising by pharmaceutical companies may also occur here.



This research project aims to improve understanding of pharmaceutical advertising targeting Australian consumers to address a gap in knowledge and to generate new information to inform future regulation and health policy. It is hoped that this research will ultimately improve the provision of information about disease and medicines in Australia to better educate consumers and benefit public health.

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## **2 CHAPTER 2: BRANDING OF PRESCRIPTION MEDICINES TO AUSTRALIAN CONSUMERS**

**Article published in the *Australasian Marketing Journal***

**Hall, D.V** and Jones, S.C. (2007), 'Branding of Prescription Medicines to Australian Consumers', *Australasian Marketing Journal*, Vol. 15 No. 2, pp. 97 - 107.



## **2.1 Executive Summary: Implications for Policy Makers**

With the rise of generics, and limited periods in which to exploit patent monopoly and recoup expenditure on research and development, pharmaceutical companies are under pressure to develop enduring trademarks and brand power. There is increasing recognition within the industry that strong brands and brand names are remembered, and that both doctors and consumers remain loyal to them, even after patent expiration (Blackett and Harrison, 2001; Schuiling and Moss, 2004).

Brand development and brand management in the pharmaceutical sector is complex due to the specific nature of pharmaceutical products as well as the regulation of promotional activity. Building brand value directly with consumers can be achieved through a variety of marketing strategies, including emotional appeals via direct-to-consumer advertising (DTCA) in the countries where it is permitted. In countries such as Australia where DTCA is not allowed, pharmaceutical companies target most of their branding activities to doctors or health care professionals, however some activities such as disease awareness campaigns (DACs) can be used to generate awareness among consumers.

In Australia, the marketing of prescription pharmaceutical products is self-regulated via the Medicines Australia Code of Conduct (Medicines Australia, 2006a). This paper explores some recent cases of DACs, and other advertisements for prescription pharmaceuticals, that have many elements of branding or use pseudo brands (without actually naming the product). For policy makers, it is important to be aware of such brand-building techniques within the pharmaceutical industry, and to consider whether current sections of the Code of Conduct regarding promotion to consumers provide adequate guidance for industry, or whether more specific regulation is required.

## **2. 2 Abstract**

Brand development and brand management is complex in the pharmaceutical sector due to the specific nature of pharmaceutical products and their life-cycles, as well as the regulation of promotional activity. The building of strong brands is becoming increasingly important for the industry, and consideration is being given to developing more expressive or emotional values of brands over traditional functional values and attributes. In Australia, brand-building activity for prescription pharmaceuticals primarily targets the medical profession in an effort to achieve brand recognition, brand preference and brand loyalty and, in turn, increase prescriptions. Despite direct-to-consumer-advertising of prescription pharmaceuticals not being allowed in Australia, there have been cases of unnamed product advertisements and disease awareness campaigns that serve to increase consumer awareness of brands. This paper provides a review of issues influencing brand building in the pharmaceutical sector as well as recent examples of brand-building activities that target Australian consumers.

## 2.3 Introduction

Kotler, Adam, Brown and Armstrong (2003) define a brand as a “name, term, sign, symbol or design, or a combination of these, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors” (p.631). The brand helps customers to make choices by delineating the unique qualities and value that the product or service provides to the customer (VanAuken, 2003 p.xi). Brands are argued to assist customers to make purchase decisions in increasingly cluttered retail environments, providing a useful cue as to product quality, attributes and ‘personality’ (Aaker, 1997; Maheswaran et al., 1992; Park and Srinivasan, 1994). Brands can offer intangible benefits that go beyond the functional benefits of a product (Schuiling and Moss, 2004).

There are numerous factors that constrain branding activity and other marketing practices in the pharmaceutical sector when compared with the traditional consumer goods sector. Prescription pharmaceutical products by nature are high risk and emotionally charged, and in some instances they may have life or death implications (Chandler and Owen, 2002). Pharmaceutical products have relatively short life-cycles – they have short-term patent protection and usually only hold exclusivity for 15 years in the major world markets (Blackett and Harrison, 2001; Moss, 2001). The pharmaceutical industry is one of the most regulated industries globally, and unlike other product categories, pharmaceutical brands cannot be transferred to a new product following patent expiration (Moss and Schuiling, 2004). In the past, pharmaceutical marketing has tended to concentrate on research and development (R&D), and the creation of the ‘blockbuster product’ rather than the building of brands. As such, pharmaceutical companies have, until recently, focused their branding activities around products and product attributes as well as engaging in some corporate branding (Moss, 2001).

Direct-to-consumer advertising (DTCA) of prescription medicines is legal only in the United States (US) and New Zealand, and there is active debate over the impact of DTCA within these countries as well as other countries considering its adoption

(Hoek and Gendall, 2002; Hoek and Gendall, 2004; Lyles, 2002). Some of the argued benefits include the provision of health information to consumers, involving consumers in health decision-making, and potentially improving patient compliance (Auton, 2007; Harker and Harker, 2007). Some of the concerns over DTCA include the focus on profit to the pharmaceutical industry as opposed to public health, the potential for disease mongering, the creation of a ‘pill for every ill’ mentality, and a possible negative impact on doctor/patient interactions (Coney, 2002; Mintzes et al., 2002).

Prescription pharmaceutical marketing activities in countries where DTCA is not allowed (including Australia) tend to target the doctor or health care professional, rather than the actual consumer of the product (Chandler and Owen, 2002). While personal sales or drug detailing has dominated pharmaceutical marketing to doctors, a range of other brand-building activities are evident, including advertising in journals, sponsoring educational events, educational materials, promotional merchandise and even advertising via medical administration software.

Pharmaceutical sponsored activities that target consumers directly also utilise brands, albeit usually corporate brands, including public relations activities, disease awareness campaigns (DACs), educational events and materials.

Marketing practices, particularly for prescription pharmaceutical activities, are heavily regulated in most Western nations. In Australia, they are self-regulated by the pharmaceutical industry via Medicines Australia. Medicines Australia’s Code of Conduct provides standards for prescription pharmaceutical advertising and other promotions including the behaviour of the medical sales force. The Code of Conduct was first established in 1960, and Edition 15 of the Code recently took effect (Medicines Australia, 2006a). Two committees oversee the Code of Conduct. The Code of Conduct Committee provides an adjudication function for complaints that arise regarding pharmaceutical promotional, however there have been few complaints with regard to activities targeting consumers – the majority of complaints are made by pharmaceutical companies regarding competitor activity (Medicines Australia, 2005). The Monitoring Committee provides “proactive monitoring” of promotional activities (Medicines Australia, 2006a), however there is no provision

for pre-vetting of advertisements (as currently occurs in New Zealand) to improve compliance *prior* to production or release.

This paper examines ways in which companies develop brands for prescription pharmaceutical products, as well as factors that impact upon or constrain brand building, in particular branding that targets Australian consumers. It also examines how, despite current advertising regulation and the prohibition of DTCA, pharmaceutical companies are building brand awareness for prescription medicines among Australian consumers; illustrated with recent examples of unnamed product advertisements and DACs.

## **2.4 Literature Review**

Branding in the pharmaceutical industry has experienced considerable transformation over the past 15 years, primarily due to the advent of generic drugs which by the early 1990s had infiltrated almost every product category (Blackett, 1992). Earlier research tended to focus on brand development and effects in relation to prescribers. For example, Stern and Ehrenberg (1995) undertook studies of prescribing habits of 240 general practitioners (GPs) in the UK during 1986 and found that market share (as opposed to individual brand attributes) provided a strong predictor of prescribing habits and brand loyalty. They also found that the degree of prescribing loyalty for a particular brand only varied slightly between brands, and that generics attracted similar loyalty to named brands (Stern and Ehrenberg, 1995). Stern (2000) reports on behavioural data from 1998 of a sample of 290 GPs in the UK, and found that contrary to pharmaceutical industry perceptions, GPs are not either prescribers of generics or prescribers of brands, but instead prescribe both forms – and often for the same drug. The work of Stern and Ehrenberg (1995) demonstrated a lack of brand preference among GPs in the UK, and this conceivably is one of the factors that led pharmaceutical companies to target consumers in building brand value, as patient requests for specific brands would potentially influence prescribing behaviour.

Since the dramatic increase of DTCA in the US in the mid 1990s (Donohue, 2006) research into prescription pharmaceuticals has considered the impact of branding on

consumers, for example the influence of DTCA and patient's requests for prescription medicines on prescribing decisions (e.g., Mintzes et al., 2002). In a survey of 288 US residents, Singh and Smith (2005) found that behavioural intentions (intention to discuss advertisements with their physician and intention to ask about a specific brand) were influenced by a greater awareness of specific branded drugs via DTCA. In addition, consumer surveys in the US have consistently found that DTCA increases the likelihood of consumers requesting and receiving prescriptions for a specific brand-name pharmaceutical (Heinrich, 2002). Heinrich (2002) estimated that in 2000, as a result of seeing or hearing a DTCA, 8.5 million US consumers requested and received a prescription for a branded medicine from their doctor.

While brand development has not been a major focus of the industry in the past, the rise of generics and the gradual decline in product breakthroughs (Angell, 2006) have placed pharmaceutical companies under pressure to develop enduring trademarks and brand power. Other threats for manufacturers of prescription pharmaceuticals include the push from governments and private health funds to subsidise generics, and the growing availability of generics via the Internet (Schuiling and Moss, 2004; Spence-Stone, 2002). Pharmaceutical companies are gradually recognising the benefits of brand-building, particularly in the post-patent stage of a product's life (Blackett and Harrison, 2001; Schuiling and Moss, 2004). There is increasing recognition within the industry that strong brands and brand names are remembered, and doctors (as well as consumers) remain loyal to them even after patent expiration (Blackett and Harrison, 2001; Schuiling and Moss, 2004). Rotfeld (2005) agrees that pharmaceutical brand names retain value initially after patent expiration, and describes how companies attempt to extend patents prior to expiration by releasing slight variations of the product such as higher dose rates or time release variations, or combinations with other products. There is also the opportunity for some products to achieve brand success by moving from prescription-only status to over-the-counter availability post-patent (Chandler and Owen, 2002).

There is increasing evidence of the power of the corporate brand in creating trust and conveying credibility (Moss, 2001; Schuiling and Moss, 2004), and Schroff (2003) describes corporate branding in the pharmaceutical industry as "an opportunity

waiting to happen” (p.58). Moss and Schuiling (2004) recommend that product brand names be linked to corporate brand names and describe that doctors as well as consumers look for reassurance of quality and safety in a pharmaceutical brand, and are influenced by the image of the company. It has even been suggested that pharmaceutical companies can become more competitive and develop greater brand equity via socially responsible actions such as providing essential pharmaceutical products to the least developed nations at low cost (Ross-Wooldridge et al., 2004).

In recent years, challenges for corporate branding in the pharmaceutical sector include merger activity and consequent changes to corporate names and identities, for example the merger of Ciba-Geigy and Sandoz to form Novartis. When developing a strong association between the corporate brand and the product brand, there is also the risk that if the latter falls into disrepute it may negatively impact on the corporate brand (Schuiling and Moss, 2004). For example, the Merck corporate brand was negatively effected following the withdrawal of its arthritis medication Vioxx in 2004; Merck was ranked 30 and 32 in the Business Week ‘100 Top Brands’ in 2003 and 2004 respectively; however the company did not make the 100 Top Brands in 2005 or 2006 (Business Week, 2004, 2005, 2006). When the safety of Pfizer’s cox-2 inhibitor, Celebrex, also came into question, the company chose not to withdraw their product, although they did suspend advertising of the product to consumers (Arnold and Hyde, 2005). Pfizer suffered an initial drop in stock prices as well as declines in new prescriptions for Celebrex, however the overall brand rating in the 100 Top Brands only fell from 29 in 2004 to 31 in 2005 (Business Week, 2004, 2005).

As well as some corporate branding, the pharmaceutical industry has focused on product-attribute branding, which can be defined as the promotion of functional values of the product (Blackett and Harrison, 2001; Schuiling and Moss, 2004). Importantly for pharmaceutical products, these values include safety (for example, minimal side effects) and efficacy (for example, improvement in condition compared with no treatment or other product). Other functional values include convenience (complexity of dosage) and cost effectiveness. In a content analysis of 320 DTCA from 1989 to 1998 in the US, Bell, et al. (2000) found that the most common appeals used were effectiveness, symptom control, innovativeness and convenience. An

example of product-attribute branding is a recent US advertisement for Relpax, a migraine medicine, which emphasised efficacy: “Relpax works fast. For some people it starts to work in 30 minutes. Most get back to their day in 2 hours. Clinical studies prove that with Relpax more people got relief with just one dose than those taking Imitrex” (Pfizer, 2005).

There has been criticism that pharmaceutical branding in the past has focused too much on product attributes and functional values of the brand (e.g., Blackett and Harrison, 2001; Moss, 2001), and that it should build more expressive or emotional values that the consumer or prescriber can identify with. These authors recommend that pharmaceutical marketing should reinforce the benefits, personality and ‘human’ values of their product. In a content analysis of 208 DTCA from the US, Roth (2003) found that transformational messages that emphasised benefits such as happiness or social approval created greater brand awareness than informational messages, but stated that transformational messages are “used the least (relative to informational messages) and are being used less often over time” (p.189). There is considerable concern that the more emotive style of promotion for prescription pharmaceutical products will manipulate consumers, play on their vulnerabilities and encourage a ‘pill for every ill’ mentality (Coney, 2001; Mansfield et al., 2005). This concern is also held for doctors and health professionals – for example, a recent study into pharmaceutical marketing practices in the UK (Devlin et al., 2005) concluded that “brands are designed and marketed to satisfy emotional as well as rational benefits and there is a desire by the industry to exploit health professionals’ emotional needs and vulnerabilities” (p.11).

There is argument within the pharmaceutical industry that branding will never achieve for pharmaceuticals the results it has for the consumer goods sector (Lerer, 2005; Schroff, 2003). These authors argue that personal selling is still the cornerstone of pharmaceutical marketing and that a separate branding paradigm is required for this sector. They elucidate that branding in the pharmaceutical sector needs to take into account the diverse audiences of pharmaceutical promotion – including the patient, the doctor, and other health professionals such as pharmacists, as well as regulators and government departments – as they all potentially influence the purchase decision. Schroff (2003) also argues that pharmaceutical product



benefits are the same regardless of product or therapy area (that is, the benefit is improved health and well-being for the patient), and that this makes pharmaceutical marketing very different to consumer packaged goods in that the latter can be more easily differentiated by benefits. Schroff (2003) and Lerer (2005) agree that the nature of pharmaceutical marketing is complex and dynamic, and that the pharmaceutical industry needs to be proactive and innovative to respond to constant changes such as government or health fund decisions regarding subsidisations of certain products.

#### 2.4.1 Developing a Pharma ‘Superbrand’

The building of brands can be achieved through a variety of marketing strategies, including emotional appeals via DTCA (in the countries where it is permitted) as well as unnamed product advertising, DACs, public relations activities, and regular sales and educational activities targeting GPs and other health professionals. Increasingly, brand building has been suggested as the solution to the many marketing issues faced by pharmaceutical companies (Blackett and Harrison, 2001; Moss, 2001; Schuiling and Moss, 2004). It has been suggested that pharma ‘superbrands’ are capable of surviving patent expiration and can achieve “a bond with the consumer at a level which transcends mere functional performance” (Weston, 1999 p.3). Brand development includes the steps of developing brand value, brand personality, and brand identity (or how the brand appears to its audience) (Blackett and Harrison, 2001; VanAuken, 2003).

Brand value is the essence of what the brand delivers to the consumer. Important to brand value are the unique attributes of the brand that support the value and provide differentiation from other brands. These can be functional or emotional elements, but traditionally within the pharmaceutical market there should be considerable scientific evidence to support claims. A television advertisement by Roche for Xenical (weight loss drug) was criticised in New Zealand for providing too much focus on the emotional benefits of the brand (50 seconds of the 60 second commercial) such as being attractive, carefree and spontaneous, and too little on the functional benefits (remaining 10 seconds); and their failure to mention important information such as side effects (Coney, 2002).

Brand personality is the emotional qualities of the brand that the target market can identify with. Blackett and Harrison (2001) describe brand personality as the ‘expressive values’ of a brand or what the brand says about the consumer. Brand personality is often achieved through visual imagery; the use of celebrity endorsements (for example actor Gary Sweet promoting Levitra in Australia) (Australian Consumers' Association, 2008); or the use of a spokes-character to make consumers more comfortable with, or to humanise, a product. Spokes-characters are also effective in helping consumers to associate with particular functional values of a brand. For example, they might represent qualities of the brand such as being powerful, strong or gentle, or they might represent the disease that the brand is treating. GlaxoSmithKline targeted Australian GPs over a two-year period with a campaign featuring ‘Puff’, a dragon spokes-character for an asthma medication (Seretide). This campaign won a national marketing award as it succeeded in increasing brand recognition among GPs by 16%, and sales achieved 115% of forecast (National Marketing Institute, 2002).

Brand identity combines the sensory components of the brand that create recognition and convey the positioning, personality and values of the brand. Brand names, logos, colours, shapes, images, fonts, jingles, tag-lines and packaging all contribute to the brand identity. Brand names in the pharmaceutical sector are fundamentally different to most consumer products in that they have two names – the product brand name (for example, Coversyl), and the generic name (for example, perindopril) (Schuiling and Moss, 2004). Brand names are often developed based on the chemical substances the product is derived from (for example, Temaze from temazepam), the disease the product will treat (for example, the name Lariam was derived from the word malaria), the drug class (for example, Lipostat from the statin class of drugs), the corporate name (for example, Scheriproct from Scherring Pharmaceuticals) or a newly invented name.

Brand names carry with them a range of associations, whether these come from concrete references or lexical meanings (O'Shaughnessy and O'Shaughnessy, 2004). Weston (1999) describes the importance of developing a user-friendly brand name that “evokes wellness rather than illness” and has “global appeal” (p. 4). Prescription

medicines used to treat erectile dysfunction provide some good examples. The name Levitra was derived from elevate, but also ‘Le’ suggests masculinity and ‘vitra’ is similar to vitality and virility. Similarly, Pfizer named their product ‘Viagra’ to suggest vigour and strength, while rhyming with Niagara and evoking images of free and forceful flow (Anonymous, 2003), although in recent times some have suggested that these connotations may be beyond the thought processes of the target audience (O'Shaughnessy and O'Shaughnessy, 2004). The letter X is commonly used in drug nomenclature as it is often associated with technology and innovation, and the letters Z, C and D are also used to imply potency of a drug (McNeil, 2003).

The development of trade-marks and logos is fundamental to building a memorable brand, as is consistency of design and colours. For example, the Levitra flame has become a well known trademark and is commonly used in DTCA in the US without reference to the drug name (Angell, 2006). Packaging may be closely aligned to the trademark and to the shape and colour of the drug itself; for example, Viagra’s blue diamond-shape trademark featured on GP advertising in Australia is also the colour and shape of the Viagra tablet itself. Parry (2003) refers to the effectiveness and versatility of packaging, citing the example of Sarafem which is in fact another drug – Prozac. Prozac, which is made by Lilly and used to treat depression and mood disorders, was nearing patent expiration, so Lilly re-marketed the same active ingredient as a lavender coloured pill, complete with new packaging and promotion featuring sunflowers. This ‘new’ product, Sarafem, had been developed to treat Premenstrual Dysphoric Disorder – a rare and extreme form of premenstrual syndrome in women.

#### 2.4.2 Branding Disease

The concept of branding a condition was explored by Parry (2003) with the view that “if you can define a particular condition and its associated symptoms in the minds of physicians and patients, you can also predicate the best treatment for that condition” (p.43). Parry (2003) identifies three different strategies that can be used to brand a condition and associate it with a product:

- increasing the importance of a disease (see example of onychomycosis described below);

- re-defining or reducing stigma relating to a disease (for example, erectile dysfunction or weight loss advertisements); or
- developing a new condition to create recognition of an unmet need, then introducing the product to meet that need (for example, the case of restless legs syndrome in the US – see Woloshin and Schwartz 2006).

The primary technique used by pharmaceutical companies to brand diseases is DACs, however DACs pose ethical issues for pharmaceutical companies; as Consumers International (2006) describe this style of advertising, it is “often disguised as corporate social responsibility, and has been shown to create a subtle need among consumers to demand drugs for the conditions, while giving consumers a sense of trust in the pharmaceutical companies” (p.25). One particular criticism of pharmaceutical sponsored DACs is that they create awareness and increase the importance of diseases where there are larger and more lucrative markets, such as lifestyle conditions rather than potentially more serious, life-threatening illnesses (Consumers International, 2006; Glatter, 2004). However, it could be argued that DACs for more life-threatening conditions have greater ethical implications. For example, a DAC in the US regarding breast cancer risk, sponsored by Astra Zeneca, was followed by branded advertisements for Nolvadex (a product to reduce the risk of breast cancer), also sponsored by Astra Zeneca (Hogle, 2001). Consumer groups expressed concern about this advertising campaign, in particular the presentation of relative risk rather than absolute risk which was potentially misleading for consumers; but also that information regarding breast cancer was provided for commercial gain (Hogle, 2001).

DACs may take the shape of advertisements in the mass media, or other techniques such as advertorials or magazine articles coupled with pamphlets and other promotional materials including posters, often on display at the point of decision making (doctor’s waiting rooms). Industry representatives describe DACs as effective in growing the market and increasing product uptake, and are reported as being particularly beneficial for products that are market leaders (Carpenter, 2003; Pharma in Focus, 2004). While there is limited research into consumer responses to DACs, Hall and Jones (2007) found Australian consumers were more likely to find a DAC to be valuable than both unnamed product and named product advertisements

(DTCA). Consumers were also more likely to perceive the DAC as trying to provide information about a medical condition, as opposed to trying to sell a product or treatment – which was commonly selected for the other advertisements.

#### 2.4.3 Regulation in Australia

As previously mentioned, DTCA is not legal in Australia; as such, the majority of pharmaceutical marketing, including advertising and branding, is directed at health care professionals and/or prescribers. This activity is currently self-regulated by the pharmaceutical industry via the Medicines Australia Code of Conduct, Edition 15. DACs and unnamed product advertisements that target consumers are legal in Australia and are also self-regulated via the Code of Conduct.

Section 9 of the Code (Medicines Australia, 2006a) details how the pharmaceutical industry should interact with the general public in Australia; it specifically covers “Promotion to the General Public” (9.4) and “Patient Education” (9.5). These sections of the Code prohibit the promotion of a prescription medicine product directly to consumers, or the provision of any encouragement for consumers to seek a prescription for a product. The code, however, does allow for educational information on medical conditions and the range of treatments that may be prescribed by a consumer’s GP (Medicines Australia, 2006a).

Medicines Australia provides limited guidance as to what defines an advertisement for prescription medicines, other than reiterating the current Therapeutic Goods Association (TGA) definition, and suggesting that media releases as well as information published on the Internet are included in the definition of advertising (Medicines Australia, 2006b). Specific guidelines regarding what can and cannot be included in DACs are limited, especially when compared with guidelines of other nations, including the UK and US (Food and Drug Administration, 2004; Macias et al., 2007; MHRA, 2005; PhRMA, 2005). The Australia New Zealand Therapeutic Products Authority (ANZTPA), which is in the process of establishing a Trans Tasman regulatory scheme for therapeutic products, provides a definition in its draft advertising code. ANZTPA state that DACs must not identify the therapeutic product, but can contain “information that aims to raise awareness regarding specific

diseases, including public health campaigns, [and] must be factual and balanced and support consumers in making informed healthcare choices” (ANZTPA, 2005, p.9).

## 2.5 Case Studies

### 2.5.1 Disease Awareness Campaigns (DACs)

A recent Australian example of a DAC was the promotion of onychomycosis (a usually benign fungal infection of toe and/or fingernails) by Novartis, the makers of Lamisil, a treatment for onychomycosis. Their DAC (including television and print advertising) featured an extremely unattractive spokes-character that personified the fungus, and introduced himself to consumers as “Hi, I’m Digger...I’m a Dermatophyte and I love living under your nails!” Australian GPs were concurrently targeted with identically branded advertisements featuring ‘Digger’; however these urged GPs to “check diabetic patients’ feet for onychomycosis, which can lead to serious complications.” It is noteworthy that the GP-targeted advertisements focused on patients with diabetes, whereas the consumer-targeted advertisements appeared to be directed at all consumers. Campaigns of a similar nature were also held in the US (Langreth and Herper, 2006), the UK (Jackson, 2003) and the Netherlands (Sheldon, 2002). A study in the Netherlands (t’Jong et al., 2004) analysed changes in consultation and prescribing patterns prior to and following the commencement of the DAC. It was found that prescription rates for Lamisil and onychomycosis-related consultations increased considerably following the launch and throughout the campaign, while prescriptions for the competitor product decreased. However, the authors are critical of the impact of the campaign on the workload of doctors and describe how the Dutch Society of General Practitioners opposed the campaign as “an unnecessary focus on an unimportant health problem” (t’Jong et al., 2004, p.931).

Another recent example of branding used in an Australian DAC was the Baxter-sponsored advertisement for meningococcal C vaccine. This print-based advertisement featured an image of the feet of a dead person lying on a mortuary bench, with a detachable tag stuck to a toe providing the following information: “Almost one in two meningococcal C cases are adults. Two in ten infected lose toes,

fingers or limbs. One in ten die. Meningococcal C can strike out of the blue. Don't wait to VacCinate. Take this to your GP and ask about vaccination today." This advertisement attracted a complaint to Medicines Australia and was found to be in breach of the Code of Conduct Section 9.5 (Patient Education) as it did not provide balanced information regarding prevalence of the disease and the message was presented in a way that could cause community alarm. The Complaints Committee took issue with the tear-off portion to be taken to the GP as these potentially encouraged prescriptions of Neiss Vax C. There was also concern regarding the prominence of the manufacturer's name as well as other branding techniques, such as the colouring and capitalisation of the letter C, which clearly linked the advertisement to their product despite the fact that the product's name was not mentioned (Medicines Australia, 2004). This example suggests that more specific detail in the Medicines Australia Code of Conduct would be useful in guiding pharmaceutical companies regarding branding techniques that can and cannot be used in DACs.

### 2.5.2 'Unbranded' Product Advertisements and the Pseudo Brand

The draft Australia New Zealand Therapeutic Products Advertising Code has defined several types of advertisements that are relevant for prescription medicines including 'unbranded advertisements' (ANZTPA, 2005), previously referred to in this paper as "unnamed product advertisements". Unbranded advertisements are described as an advertisement that "promotes the use or supply of a product by inviting the consumer to seek further information about symptoms or conditions and/or their treatment or management while not referring overtly to any particular branded product," (ANZTPA, 2005, p.9). These are clearly differentiated from DACs which raise awareness regarding specific diseases and may discuss symptoms plus a range of treatment options. ANZTPA's definition of an 'unbranded advertisements' provides recognition of a new type of advertisement that is emerging in Australia as well as other countries where DTCA is prohibited (Hall, and Jones, 2006; Mansfield et al., 2005; Mintzes, 2006; Pharma in Focus, 2004). However we question the term 'unbranded' as there are many elements of branding within recent advertisements of this genre, illustrated by recent cases described below.

Recent examples of ‘unbranded’ product print advertisements targeting consumers in Australia include the Levitra *When?/Now* and the Viagra *Welcome Back Tiger* campaigns for products used to treat erectile dysfunction. These campaigns ran in popular magazines including Australian Readers Digest which has an older readership, and the advertisements encouraged consumers to ask their doctors regarding treatment. The makers of Viagra and Levitra, Pfizer and Bayer Healthcare respectively, were simultaneously advertising with identical advertisements to GPs in the medical press but the version for doctors featured the product names and the requisite product information. The Viagra campaign utilised a spokes-character (tiger) as well as consistent colours and fonts, and the positive imagery of a mature man (with tiger head) and seemingly satisfied woman sitting together on a couch. Interestingly, the tiger character has been prominent in subsequent campaigns and appears as both a character and a trademark (or logo) in consumer advertisements, making it synonymous with the product. As such, Pfizer are creating a virtual or pseudo brand for the product Viagra that can be used directly with consumers to convey the identity of the brand without naming the product.

A similar series of ‘unbranded’ product advertisements by Abbott Australasia (manufacturers of Reductil – a weight loss drug) featured close-up images of attractive and seemingly confident overweight men and women. Each advertisement featured the text or trademark *i decide*, and used branding techniques such as consistency of fonts and colours. The emotive and positive nature of the text in these advertisements (as with those previously described) could be classified as ‘transformational messages’ (Rossiter and Percy, 1997). Transformational messages focus on positive end states and desired emotions. For example, in the *i decide* series the text reads: “Today I decided to stop being fat...Losing weight means you’ll feel much happier about your body, wear the clothes you love and feel great about yourself too...”. As previously mentioned, the use of transformational messages in pharmaceutical advertising has been shown to generate greater brand awareness with consumers in the US (Roth, 2003). Hall and Jones (2007), however, found considerable differences among consumers as to who they thought the advertiser was when they viewed the ‘unbranded’ advertisement for Reductil described above. Of the 102 participants who viewed an ‘unbranded’ advertisement, 22% thought the advertiser was *i decide* (the campaign name), while 18% thought the advertiser was



the Government or a Medical Association and only 15% correctly identified Abbott Laboratories. There were also considerable differences among participants who viewed a similar but ‘branded’ version (i.e., the product was named) of the advertisement intended for a New Zealand audience. Of the 98 participants in this condition, 43% identified the advertiser as Reductil (the product name), 21% identified a pharmaceutical company, and only 13% correctly identify Abbott Laboratories. From these results, it appeared that consumers perceived the most prominent logo in the advertisement (*i decide* in the Australian version and Reductil in the New Zealand version) to be the advertiser of the product, and suggests that the use of a campaign name with a logo such as ‘I decide’ may also act as a pseudo brand for the product.

The prevalence and the effects of these ‘unbranded’ product advertisements on consumers and their interactions with GPs in Australia requires further research and exploration, particularly when similarly branded campaigns target GPs concurrently. A criticism of these advertisements is that they do not appear to support the ‘spirit’ of the Medicines Australia Code of Conduct, in that they allude to a particular prescription product by using elements of branding or pseudo brands. As yet however, there have been no rulings in relation to this form of pharmaceutical advertising in Australia, and aside from the draft ANZTPA Advertising Code, there is limited acknowledgement of their existence and no specific guidelines to better regulate their content. Medicines Australia has the opportunity to provide stricter guidelines to prevent the use of pseudo brands in the next revision of the Code of Conduct. Until that time, the Monitoring Committee as well as independent researchers could determine if this type of branding of prescription medicines is increasing in Australia, and what effect it has on consumers. In Canada, while DTCA is not legal, reminder advertisements which provide the name of a product without stating its use, as well as disease state awareness advertisements, are allowed (Gardner et al., 2003). There has been considerable concern regarding instances where these two types of advertisements are aired concurrently: one for a product, and another for the disease it is designed to treat; particularly when aspects of the brand identity such as colours, logos, fonts, characters are evident in both advertisements (Mintzes, 2006).

## 2. 6 Conclusion and Future Implications

Brand building for prescription pharmaceutical products has traditionally focused on classical product or functional attribute promotion, however pharmaceutical companies are increasingly concentrating on the emotional concerns of prescribers and consumers, and reinforcing the benefits, ‘personality’ and ‘human’ values of their products. In countries more liberal in health care marketing and branding such as the US, there is an increase in DTCA (Elliott, 2004) plus DACs to consumers (Thomaselli, 2004), and considerable debate over whether this adversely affects public health. In Australia, while DTCA is not allowed, recent cases illustrate that brand building activity for prescription pharmaceuticals is targeting consumers as well as (and often in conjunction with) the traditional audience of doctors and other health professionals. Pharmaceutical companies’ use of branding techniques in DACs and ‘unbranded’ product advertisements such as using trademarks, logos, campaign names and spokes-characters can be seen as pseudo branding – conveying the identity of the product while not actually naming it. Further research is needed in Australia to determine how consumers perceive pharmaceutical company sponsored advertising and pseudo brands for prescription medicines. The cases described in this paper indicate that regulation of promotion of branded prescription medicines to consumers in Australia is deficient. Further analysis of the current regulatory system, as well as the assessment of potential alternative approaches such as government regulation, is required.

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### **3 CHAPTER 3: DIRECT-TO-CONSUMER ADVERTISING VS. DISEASE AWARENESS ADVERTISING: CONSUMER PERSPECTIVES FROM DOWN UNDER**

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### 3.1 Executive Summary

Australia and New Zealand have close economic relations and their governments have actively promoted stronger trade relationships, however the countries have differing positions regarding pharmaceutical industry advertising of prescription medicines. In New Zealand, direct-to-consumer advertising (DTCA) of prescription medicines is permitted, while in Australia, pharmaceutical companies are limited to advertising about the diseases or conditions for which they manufacture a treatment, referred to as disease awareness advertising (DAA).

This study found that consumers from Australia and New Zealand held similar views regarding DTCA and DAA. Perceived benefits included increased awareness of conditions and treatment options, and improved discussions with doctors, benefits that proponents of DTCA have argued will eventuate (Auton, 2007; Bonaccorso and Sturchio, 2002). While Australian consumers were ambivalent about whether DAA assisted them to make better health decisions, New Zealanders perceived more negative outcomes resulting from DTCA. These outcomes included unbalanced information, inappropriate requests to doctors, increased reliance on medications, and confusion, and reflect arguments outlined by those opposed to DTCA (Mintzes, 2002; Toop et al., 2003).

These findings suggest countries currently considering rescinding bans on DTCA should act cautiously as the risks may outweigh the benefits. Further, it appears that consumers see DAA as fulfilling a similar purpose to DTCA, and producing analogous benefits.

Interestingly, the New Zealand survey found considerable support for a neutral information service that would replace DTCA, an idea first tested by Toop et al. (2003). Although the form this service might take was not examined in either the Australian or the New Zealand survey, providing consumers with dispassionate information could simultaneously satisfy their desire for knowledge while also addressing the concerns they have raised about commercial information.

### **3. 2 Abstract**

At present, only the United States and New Zealand allow direct-to-consumer advertising (DTCA) of prescription medicine. In other countries where DTCA is not allowed, including Australia and the United Kingdom, pharmaceutical companies undertake disease awareness advertising (DAA). In DAA, advertisements do not name a drug directly, but provide general information about diseases and treatments, and encourage consumers to talk to their doctor. Similar debate surrounds these two forms of advertising, yet while past research has explored consumers' attitudes and behaviour in response to DTCA, little consideration has been given to DAA. This paper compares Australian consumers' perceptions of DAA with New Zealand consumers' perceptions of DTCA. Despite differences in the type and extent of advertising, respondents perceived similar benefits including heightened awareness of treatment options and improved discussions with doctors. However, New Zealand respondents associated many negative outcomes with DTCA including unbalanced information, inappropriate requests to doctors and consumer confusion.

### 3.3 Introduction

Direct-to-consumer advertising (DTCA) occurs when pharmaceutical companies promote prescription medicine brands to the general public, via mass media or other media including the Internet. An alternative, disease awareness advertising (DAA), occurs when pharmaceutical companies or other organisations (including the government and non-profit organisations) promote diseases or conditions, rather than named treatments (ANZTPA, 2005). Pharmaceutical companies use DAA to promote diseases or conditions for which they produce a treatment, and typically do so in jurisdictions where DTCA is prohibited (Mintzes, 2006).

DTCA is currently legal in only two countries within the Organisation for Economic Cooperation and Development (OECD), the United States (US) and New Zealand. There is on-going debate in both countries about the benefits of DTCA, growing concern about the potential harms it may cause (Moynihan and Bay, 2007; Toop et al., 2003), and speculation about its future (Royne and Myers, 2008). Other countries, including Canada, European Union, and Australia, have considered introducing DTCA, and it remains a topical regulatory question in many countries (Gardner et al., 2003; Toop and Mangin, 2006, 2007).

Questions about the benefits delivered by DTCA have focused attention on its origins and effects. Mandese (2005) suggested that the key beneficiaries of DTCA were media and advertising groups, both of which played important roles in its introduction, and have lobbied for more relaxed regulatory oversight. However, Donohue (2006) suggested DTCA had its genesis in the patients' rights movement of the 1970s where it reflected a change from the 'learned intermediary' model of healthcare to a partnership model. She suggested that DTCA capitalizes on consumers' desire for empowerment, a point recognized by pharmaceutical companies, which have funded patient advocacy groups (Jacobson, 2005). Yet, while DTCA provides information, its profit motive continues to trouble medical and social researchers (Coney, 2002).

Proponents of DTCA argue that it educates consumers about new medicines and the diseases these treat (Auton, 2004, 2007; Bonaccorso and Sturchio, 2002). Other benefits thought to accrue from DTCA include earlier diagnosis, more informed discussions with doctors, and increased compliance with treatment regimens (Auton, 2007). Recent studies suggest that DTCA also provides information to groups with lower health literacy, and so may help reduce health inequities (Kaphingst, et al., 2005). However, Mintzes (2002) concludes that DTCA may mislead consumers by inflating the likely benefits they will receive from taking a treatment and downplaying the risks and side effects. Toop et al. (2003) extend this point and argue that DTCA creates an over-reliance on medications when behavioural or lifestyle changes may achieve better long-term outcomes. DTCA may not only promote less optimal treatment paths, but Toop and Mangin (2006) also suggest it may damage doctor-patient relationships by stimulating requests for advertised drugs that do not suit patients' overall health profile. They conclude that the difficulty of dealing with poorly-informed requests could reduce the high level of trust required between doctors and patients and result in misallocation of consultation time.

In many countries where DTCA is not permitted, consumers are exposed to pharmaceutical company-sponsored DAA, which is designed to create awareness of diseases and the availability of treatments. For DAA, a similar debate over its ethics and effects has occurred (Glatter, 2004; Mintzes, 2006). Moynihan and Henry (2006) argue that, like DTCA, DAA will encourage healthy people to believe they may require potentially unnecessary tests or medication. Furthermore, Mackenzie et al. (2007) suggest DAA disguises itself as a community service by obscuring its commercial intention, a point noted also by Hall and Jones (2007) who suggested that DAA uses branding techniques that circumvent the ban on DTCA. By contrast, proponents argue that DAA educates consumers about diseases and conditions, enables them to keep up to date with new treatments, and encourages those who are potentially at risk to visit their doctor (Angelmar et al., 2007; Wielondek, 2005). These arguments clearly reflect themes evident in the long-running debate over DTCA and raise questions about consumers' perceptions of these different forms of pharmaceutical advertising. The current study examined Australian and New Zealand consumers' perceptions of DAA and DTCA respectively. The findings provide the first insights into how consumers respond to DAA, enable a comparison of

consumers' perceptions of DAA and DTCA, and may help to inform regulatory decisions about pharmaceutical promotions facing many developed nations.

### 3.3.1 Advertising Expenditure and Media Exposure

Glatter (2004) suggests DTCA offers potential returns to manufacturers and Toop et al. (2003) recorded sharp spikes in prescriptions following DTCA campaigns. The US Government Accountability Office (GAO) reported a trend of increasing expenditure on DTCA. Although promotion to physicians still outweighed spending on DTCA, television and magazine DTCA increased at twice the rate of detailing to doctors during the 1997 to 2005 period (US GAO, 2006). However, more recent data have indicated a slight drop in US spend on DTCA between 2006 and 2007 (\$US4.81 billion to \$US4.77 billion) (IMS Health, 2008). New Zealand data reflect these patterns; pharmaceutical companies spent an estimated \$NZ38 million (\$US30.5 million) on DTCA in 2006; this represented the largest category of advertising spending on therapeutic products (Ministry of Health, 2006) and was a 217% increase on the \$NZ17.5 million spent on DTCA in 1999.

Growth in expenditure on DTCA has been paralleled by an increase in consumer awareness. A recent US poll reported that 91% of respondents had heard or seen prescription drug advertisements (USA Today et al., 2008). Exposure occurs predominantly via television, which remains the dominant DTCA medium, although print media are also important (Brownfield et al., 2004; Frosch et al., 2007; Hoek et al., 2004). Wijesinghe and Norris (2008) reported that the frequency of medicine advertisements during 4pm – 8pm on New Zealand television in 2001 and 2006 had increased from .72 advertisements per hour to 1.14 advertisements per hour. DTCA promotions declined as a proportion of medicine advertisements from 28% in 2001 to 17% in 2006, although this appears to reflect an increase in the number of over-the-counter (OTC) and complementary medicine promotions.

In 2006, pharmaceutical companies in Australia spent an estimated \$AUD190 -200 million on mass media advertising (Nielsen Media Research AdEx, 2006), however it is difficult to ascertain how much of this was spent on DAA as this figure includes

OTC advertising. In Europe, it was estimated that spending on DAA would grow to \$US345.5 million in 2008 (Mintzes, 2006).

Despite the limited literature on consumers' responses to DAA, there is some evidence that this advertising increases awareness of the advertised health conditions and prescriptions of the sponsor's product (Basara, 1996; t'Jong et al., 2004). A recent content analysis examined the prevalence of DAA in top circulating Australian women's magazines and concluded it constituted approximately 12% of all therapeutic advertisements (Hall et al., 2009); this finding suggests its potential exposure is at least moderate.

### 3.3.2 Advertising Regulation

The US Food and Drug Administration (FDA) regulates and oversees DTCA. The FDA has an explicit 'fair balance' criterion that requires information about a drug's benefits be balanced by information about its potential risks and side effects (Hoek et al., 2004). Despite this criterion, recent content analyses have questioned whether this balance is achieved, particularly in television advertisements (Kaphingst, et al., 2004; Macias et al., 2007), and the GAO had doubts about the adequacy of consumer protection FDA regulation afforded (US GAO, 2006).

Critics of the US regulatory model suggest self-regulation is more efficient than government regulation and makes no demands on tax payer funds (Calfee, 2002). New Zealand relies on such a system and the advertising industry is responsible for developing codes of practice and administering the complaints body that adjudicates complaints (Hoek and Gendall, 2002). The New Zealand system evolved rapidly in response to concerns raised by politicians and health professionals following DTCA's emergence in the late 1980s, and rapid growth during the late 1990s. Following the development of a self-regulatory code, the Advertising Standards Authority devised a pre-vetting system to improve compliance with the code. New Zealand regulation does not require the same extent of risk/benefit information as the US (Hoek et al., 2004), and risk/side-effect information tends to occupy a third of a print page of advertising, whereas in the US, usually a full page or more is required. Complaints about all advertising can be made to the Advertising Standards

Complaints Board, which adjudicates these (Advertising Standards Authority New Zealand, 2008).

Despite these measures, DTCA has generated considerable concern and leading health professionals called on the New Zealand Minister of Health to review the regulatory lacunae that enabled DTCA to flourish. Two reviews conducted by the New Zealand Ministry for Health (Ministry of Health, 2000, 2006) received polarized submissions. While the advertising and pharmaceutical industries favoured retaining DTCA under a liberal self-regulatory system, health professionals and consumer groups, which constituted the majority of submitters, supported a complete ban on DTCA.

In Australia, the Therapeutic Goods Act prohibits advertising of prescription medicines directly to consumers (Australian Government Department of Health and Ageing, 2007). However, the development of a Trans-Tasman regulatory scheme for therapeutic products with New Zealand (the Australian New Zealand Therapeutic Products Authority or ANZTPA) led to speculation that Australia would allow DTCA, although this has not yet eventuated. Currently, Australian pharmaceutical companies target consumers via DAA and unbranded product advertisements, neither of which include the brand name of the prescription medicine indicated for the disease or health condition (Hall and Jones, 2007). Disease awareness advertising can be sponsored by government and other organisations as well as the pharmaceutical industry and usually provides information on the condition itself, whereas industry-sponsored unbranded product advertisements promote the use or supply of a product without referring directly to a brand (ANZTPA, 2005). Medicines Australia, an industry body, monitors this advertising and provides a complaints service, but does not vet or otherwise restrict placement of DAA (Medicines Australia, 2006).

The fact that pharmaceutical advertising has emerged in different guises, is subject to different regulatory systems, and yet stimulates similar debate, suggests that further research exploring consumers' perceptions of pharmaceutical promotions would provide regulators with a more robust evidence base to inform their decisions. The



following section reviews existing evidence on US and New Zealand consumers' views of DTCA.

### 3.3.3 Consumer Perceptions

Existing research suggests US and New Zealand consumers hold generally positive attitudes toward DTCA and believe it provides them with useful information about health conditions and treatments, and facilitates discussions with doctors (Deshpande et al., 2004; Hoek et al., 2004; Mehta and Purvis, 2003). However, consumers are more ambivalent about the overall worth of DTCA, particularly its role in improving the decisions they make about their health (Hoek et al., 2004; USA Today et al., 2008). Recent surveys in the US have found growing negative attitudes towards DTCA, including a dislike of advertisement content and the perceived ubiquity of DTCA (Friedman and Gould, 2007a; USA Today et al., 2008).

A US survey of 1,695 adults found that 67% of respondents felt DTCA provided education about treatments and encouraged people to seek help for conditions or diseases about which they had been previously unaware (USA Today et al., 2008). These findings are generally similar to those reported in New Zealand, where a survey of 625 residents found that 91% believed DTCA helped make people aware of new medicines (Hoek et al., 2004). Between half and two thirds of New Zealand respondents found DTCA useful (61%), and thought it helped people have better discussions with their doctors (64%); however, only half felt it helped people to make better decisions about their health (52%).

Friedman and Gould (2007a) surveyed 321 US residents and reported high awareness of DTCA (96%), but noted some negativity towards it; over half reported that they disliked seeing advertisements for prescription drugs. Nevertheless, 59% still agreed that, overall, DTCA was a good thing (Friedman and Gould, 2007a). In a USA Today survey, 53% of adults thought prescription drug advertising was a good thing, however 68% felt that DTCA appeared too frequently on television and 66% felt it encouraged people to take medications that they did not really need (USA Today et al., 2008).

Studies of more specific population groups have reported similar findings. DeLorme, Huh and Reid (2007) conducted in-depth interviews with older Americans (n=25) to explore their views of DTCA. While these participants thought DTCA affected others more than themselves, they nevertheless paid attention to DTCA, and believed it helped them learn about drug benefits and risks, and assisted them to locate further information. However, they noted that DTCA lacked balance, portrayed unrealistic outcomes and created pressure on viewers to talk with their doctors. Respondents also complained about the quantity and frequency of DTCA (DeLorme et al., 2007).

Because DTCA does not exist in Australia, work exploring consumers' likely responses has been hypothetical. Miller and Waller (2004) surveyed 619 individuals and reported that 53% felt DTCA would provide useful information while 58% felt it would make the public more aware of the benefits prescription medicines could offer (Miller and Waller, 2004). However, only 32% agreed that it was proper for prescription medicines to be advertised, and almost half (48%) felt that DTCA would not improve the quality of prescription medicines available in the future (Miller and Waller, 2004). These findings are consistent with Vatjanapukka and Waryszak (2004) who reported mixed responses to DTCA, particularly among those more knowledgeable about prescription medicines. Jones and Mullan's (2006) analysis of older Australians' views also concluded that participants held ambivalent views about DTCA; while they recognized it could inform their discussions with doctors, they also thought it could be confusing and promote reliance on medications.

To date, no studies have compared whether consumers exposed to DTCA differ in their perceptions and behaviours from those exposed to DAA. This omission is serious, since global trade and economic alliances are becoming more prevalent and assume a high level of regulatory congruence. New Zealand and Australia have close economic relations and their governments have actively promoted stronger trade relationships. Advertising of prescription medicines in both countries is self-regulated via industry codes of conduct and a complaints process (Advertising Standards Authority New Zealand, 2009; Medicines Australia, 2006). Despite their physical proximity, New Zealand and Australia have very little cross-border advertising, thus the media environments are largely insulated from each other.

The current study examined Australian and New Zealand consumers' general perceptions of DAA and DTCA respectively and determined perceived benefits or weaknesses of these advertising formats. The natural experiment created by New Zealand and Australia's differing stance on DTCA enables development of an evidence base that may be useful for countries currently reviewing their position on prescription pharmaceutical advertising, such as Canada and Europe.

### **3.4 Methodology**

The Australian survey questionnaire was conducted in 2006 and questions were based on surveys previously developed and tested by Hoek et al. (2004) and Hoek and Gendall (2004) to elicit consumer responses to DTCA in New Zealand in 2002 and 2003 respectively<sup>1,2</sup>. The New Zealand questionnaire was part of a broader survey conducted in 2006 to examine New Zealanders' views on advertising and how this should be regulated. The questions relating to prescription medicine were based on those previously used by Hoek et al. (2004) and Hoek and Gendall (2004). Although both surveys were based on existing instruments, there were minor differences in the question wording and the scales used.

The Australian sampling frame was a purchased database of mail addresses for a metropolitan area in New South Wales. A total of 2800 addresses were randomly sampled, and a pre-test was administered randomly to 400 of these addresses. The pre-test resulted in 56 responses (response rate of 14%), following which minor modifications were made to the wording of one question. The remaining 2400 addresses were sent the revised survey questionnaire with an information sheet<sup>3</sup>.

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<sup>1</sup> Refer to Question 13 of Appendix A for the Australian questionnaire

<sup>2</sup> Note that the Australian survey was part of a larger survey designed to elicit consumer responses to New Zealand DTCA and matched Australian DAA, the results of which are reported in Chapter 4 (Hall and Jones 2008).

<sup>3</sup> Refer to Appendix B

The New Zealand sample were 2000 people randomly selected from the electoral roll (registration to vote is mandatory in New Zealand, thus the electoral roll is a comprehensive database of adults aged 18 years and over).

### 3.5 Results

For the Australian survey, a total of 357 surveys were returned (representing a response rate of 15%); all responses were used along with those from the pre-test, resulting in a total of 413 responses. For the New Zealand survey, a total of 998 respondents completed and returned their survey (after deducting ineligible and gone-no-address returns, this represents a valid response rate of 56%). Data from both surveys were weighted so the samples' age-sex distributions matched census data; the Australian data matched the metropolitan area<sup>1</sup> from which the sample was drawn and is similar to the national age-gender profile, while the New Zealand data matched the national age-gender profile. The following section reports on Australian and New Zealand consumers' perceptions of DAA and DTCA respectively.

#### 3.5.1 Australian Perceptions of DAA

Australian participants were asked whether they agreed or disagreed with nine general statements about DAA (see Table 3.1) on a five point agree-disagree scale. Agree and strongly agree responses were aggregated. Most respondents (80%) agreed that DAA makes people aware of disease/conditions and different treatment options and almost two thirds agreed that DAA helps people to have better discussions with their doctors. While 62% agreed that DAA is designed to increase positive health behaviours such as diet and exercise, some respondents may have considered government public health and non-government sponsored advertisements as well as those sponsored by pharmaceutical companies; thus this estimate may be higher than if respondents had considered only pharmaceutical company sponsored

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<sup>1</sup> however of the participants in the current study 24.4% were born overseas whereas 2006 census data shows 21.5% born overseas, and in the current study 35.5% had bachelor degree qualification or higher whereas census data shows only 13.9%.

DAA. Just over half (52%) felt that DAA helps them to make better decisions about their health.

When considering DAA's intent, 72.2% agreed that this advertising was designed to sell more medicine or medical products, and around 40% agreed that it was to make the disease itself seem more important or to increase visits to doctors. Over a third (36%) felt that DAA confuses people about what diseases they may be at risk of developing, while just over one quarter (26%) felt that advertisements about diseases and conditions are often difficult to understand.

Table 3.1: Australian responses to statements regarding DAA

<b>Statements<sup>1</sup></b>	<b>% Agreement (inc. strongly agree + agree) (n=413)</b>
Advertisements <u>help make people aware</u> of disease/conditions and different treatment options	80
Advertisements alert people to disease <u>in order to sell more medicine or medical products</u>	72
Advertisements about diseases/ conditions <u>help people have better discussions with their doctor</u>	65
Advertisements alert people to disease <u>in order to increase positive health behaviours such as diet or exercise</u>	62
Advertisements about diseases/ conditions <u>help people make better decisions</u> about their health	52
Advertisements alert people to disease <u>in order to make the disease itself more important</u>	43
Advertisements alert people to disease <u>in order to increase visits to doctors or other health professionals</u>	40
Advertisements about diseases/ conditions <u>confuse people about what disease they may be at risk of developing</u>	36
Advertisements about diseases/ conditions <u>are often difficult to understand</u>	26

<sup>1</sup> Emphasis used in original instrument

### 3.5.2 New Zealand Perceptions of DTCA

To explore respondents' views on DTCA, New Zealand participants were asked the extent to which they agreed or disagreed with eleven general statements (see Table 3.2) on a four point agree-disagree scale. Agree and strongly agree responses were aggregated. Most respondents (84%) agreed that DTCA overemphasises drug benefits and most thought DTCA does not provide balanced information about the risks and benefits of the medicine. Half agreed that people probably feel confused by the information given in DTCA. The majority (78%) believed that prescription medicine advertising makes people more aware of options to treat their health problems, however over 80% considered that most people lack the technical knowledge required to tell whether an advertised medicine is safe for them. Nearly two thirds agreed that advertising for prescription medicines helps people have more informed discussions with their doctor; however, a similar proportion thought DTCA leads people to ask their doctor for medicines that may not suit them. Over half believed that DTCA makes people rely more on medicines to treat their health conditions, though only 12% thought it harms the relationship that patients have with their doctor.

Table 3.2: New Zealand responses to statements regarding DTCA

<b>Statements</b>	<b>% Agreement (inc. strongly agree + agree) (n=998)</b>
Prescription medicine advertisements over-emphasise the benefits and don't explain the risks enough	83
Most people lack the technical knowledge to tell whether an advertised medicine is safe	81
Advertising for prescription medicines makes people more aware of options that could treat their health problems	77
Advertising for prescription medicines leads people to ask their doctor for medicines that may not be suitable	67
Advertising for prescription medicines helps people have more informed discussions with their doctor	64
It would be better if money spent on regulating prescription medicine advertising was used to provide a neutral information service	60
Advertising for prescription medicines makes people rely more on medicines to treat health conditions	54
Most people probably understand the information in advertisements for prescription medicines	48
Most people probably feel confused by the information in advertisements for prescription medicines	47
Prescription medicine advertisements provide balanced information about a medicine's risks and benefits	26
Advertising for prescription medicines harms the relationship patients have with doctors	12



Sixty percent of New Zealand respondents agreed that it would be better to spend the money that is used to regulate prescription medicine advertising on a neutral information service. There was a strong preference for a government agency to manage regulation of prescription medicine advertising (33%), followed by an independent group (15%), the advertisers and the media (6%) and just under a fifth (17%) of New Zealand respondents thought that the advertising of prescription medicines should not be allowed; the remainder were either unsure (8%) or in favour of a combination of a government agency, independent group and advertisers and the media to manage prescription medicine advertising (21%).

### 3.5.3 Responses to Similar Questions

Four questions within the respective surveys were similar and the results of Australian and New Zealand respondents to these questions is compared in Table 3.3.

Table 3.3 Comparison of Australian and New Zealand responses

Statements	% Agreement New Zealand (n=998)	% Agreement Australia (n=413)
Advertising for prescription medicines makes people more aware of options that could treat their health problems /	77	
Advertisements <u>help make people aware</u> of disease/conditions and different treatment options		80
Advertising for prescription medicines helps people have more informed discussions with their doctor /	64	
Advertisements about diseases/ conditions <u>help people have better discussions with their doctor</u>		65
Most people probably understand the information in advertisements for prescription medicines /	48	
Advertisements about diseases/ conditions <u>are often difficult to understand</u>		26
Most people probably feel confused by the information in advertisements for prescription medicines /	47	
Advertisements about diseases/ conditions <u>confuse people about what disease they may be at risk of developing</u>		36

### 3.6 Discussion

Despite the differences in the questions and scales of the surveys conducted in either country, as well as differences in the types of pharmaceutical advertising, there are several similarities between the Australian and New Zealand results.

#### 3.6.1 Generating Awareness

Very similar proportions of both samples agreed that the purpose of DAA and DTCA is to make people aware of health conditions and treatment options. These findings are similar to US surveys, which reported high levels of agreement with the proposition that DTCA helps increase awareness of options or new medicines (Hoek et al., 2004; USA Today et al., 2008). Similar proportions of Australian and New Zealand respondents reported feeling informed about treatment options, irrespective of whether they saw DAA or DTCA. This suggests that in Australia, even unbranded promotions create high levels of treatment awareness.

#### 3.6.2 Health Decisions and Health Behaviour

Australians were ambivalent about whether disease awareness advertisements help them to make better health decisions, which is similar to results relating to DTCA from earlier New Zealand and US consumer surveys (see Hoek et al., 2004). More recent findings suggest views towards DTCA as an information source have become more negative in the US; for example, Friedman and Gould (2007a) reported that only 41% of their respondents agreed that DTCA helped them to make better decisions about their health (Friedman and Gould, 2007a). Furthermore, only 19% of physicians thought DTCA assisted their patients to make better health decisions (Friedman and Gould, 2007b).

While the results revealed some similar patterns, important differences were also evident. For example, while 55% of New Zealand respondents felt that DTCA makes people rely more on medicines to treat medical conditions, 62% of Australian respondents felt that DAA is designed to increase other positive health behaviours such as diet and exercise. Although New Zealand respondents were not asked about the potential lifestyle benefits that DTCA might promote, the proportion who felt

DTCA offered a ‘pill for every ill’ suggests fewer would be likely to agree that DTCA brought wider benefits. Only 40% of Australian respondents felt that DAA was designed to encourage consumers to visit a doctor or health professional, even though Medicines Australia stipulates that this information must be included in DAA (Medicines Australia, 2006). A high proportion of New Zealand respondents agreed that DTCA would prompt consumers to ask for drugs that may not suit them. This implies that studies examining the influence of pharmaceutical promotions on interactions with health professionals should also explore the types of requests that would be made and the likely health benefits that would ensue.

### 3.6.3 Interaction with Doctor

The majority of respondents in both countries (65%) agreed that pharmaceutical advertising improves discussions with their doctor. These proportions are similar to those reported in earlier New Zealand surveys, which in turn are very similar to US survey results. Just under two thirds of respondents in these countries (64% New Zealand and 61% US) felt that DTCA helps people to have better discussions with their doctor about their health (Hoek et al., 2004). Murray et al. (2004) surveyed 3209 US residents and found DTCA encourages patients to disclose health concerns to their doctors and helps some to feel more confident and in control of their consultation. While studies into US physicians’ attitudes concur that DTCA may help patients to initiate discussions with their doctor (Murray et al., 2003; Weissman et al., 2004), Friedman and Gould (2007b) found, only 27% of the 416 physicians they surveyed felt DTCA gave patients adequate information to decide whether to discuss a drug with their doctor.

Over two thirds of the New Zealand respondents (68%) felt DTCA led to requests to doctors for medicines that may not be appropriate, an identical finding to the 2008 USA Today poll. Studies of US physicians’ attitudes have found that around 80% felt DTCA led to inappropriate requests for unnecessary prescriptions (Friedman and Gould, 2007b; Weissman et al., 2004). Toop et al. (2007) argue that responding to such requests and re-educating patients can detract from valuable consultation time; this problem requires further research to assess whether other adverse outcomes result. Twelve percent of New Zealand respondents agreed that DTCA harms the

doctor-patient relationship; this is a higher proportion than Murray et al. (2004) reported; their US work estimated that only 5% of respondents who took DTCA information to their doctors thought this had negatively affected their relationship.

#### 3.6.4 Consumer Understanding of Advertising

Nearly three quarters of Australian respondents (72%) agreed that DAA aimed to sell more treatments (or medical products). These results imply Australians are aware that DAA has a profit motive and may allay concerns that consumers falsely perceive DAA to be a community service. However, further research is required to determine how Australian consumers respond to actual DAA with varying sponsors before these concerns can be put aside. Similar research could be undertaken in New Zealand, particularly given that 60% of respondents felt resources spent on regulating DTCA could be better spent providing neutral drug information.

With regard to the confusion caused by advertisements, 48% of New Zealand respondents thought that most people felt confused by the information in DTCA. By contrast, 36% of Australian respondents felt that DAA confused people about the disease they may be at risk of developing. However, New Zealand respondents were almost twice as likely to report difficulties in understanding DTCA (49%) than Australians (26%). This result may reflect the more detailed product information required in DTCA, which includes technical details that lay people are unlikely to understand; this interpretation is supported by the finding that 81% of New Zealand respondents agreed most people lacked the technical knowledge to judge the safety of an advertised product.

These findings are supported by previous studies identifying the potential of pharmaceutical promotions to mislead or confuse consumers (Jones and Mullan, 2006; Kaphingst and DeJong, 2004). Our findings also support earlier recommendations to improve DTCA, including requiring a more effective balance of risk and benefit information (Kaphingst, et al., 2004) and presenting important risk information in a stand-out window format (Stotka et al., 2007). Use of more quantitative data to support benefit claims and reducing emotional appeals that suggest a disease is more prevalent or a drug more efficacious than is really the case

would also help to increase the ease with which lay consumers understand DTCA (Woloshin and Schwartz, 2006; Woloshin et al., 2001). Finally, the use of consumer friendly language is recommended to promote understanding and reduce the demands on doctors (Handlin et al., 2003; Kaphingst, et al., 2004).

### **3.7 Limitations**

A significant limitation of the Australian survey is the low response rate which may result in a level of non response bias. Unfortunately, due to resource limitations, follow-up methods that have been shown to improve response rates, such as reminder letters and telephone calls, were not possible. Another limitation is that Australian respondents had viewed either New Zealand DTCA or Australian DAA within the broader survey (results of which are reported in Chapter 4 (Hall and Jones 2008)) and this may have influenced their responses to the questions about advertising in general. As previously mentioned Australian respondents may have considered government or non-government sponsored DAA or even OTC advertising when responding to the questions and there may have been a level of social desirability bias as a consequence. It is feasible that responses specific to pharmaceutical company sponsored DAA for prescription medicines would differ. Further, the surveys only asked about perceptions of DTCA and DAA, and respondents may have answered differently if asked about their behaviour intentions, or their actual behaviour. The two surveys used different sampling methods, different measurement scales and different questions; however, as the purpose of the research was to compare general perceptions of DAA and DTCA, the questions needed to reflect the different regulatory environments and the data were suitable for comparisons outlined.

### **3.8 Conclusion**

Australian and New Zealand consumers value DAA and DTCA for generating awareness of disease and treatment options and improving discussions with their doctors. Overall, Australian consumers found DAA less confusing than New Zealanders found DTCA, although further work is required to test how exposure to

DAA and DTCA, respectively, influences consumers' understanding and knowledge. Respondents were ambivalent about whether pharmaceutical advertising improved their decision making and a neutral information service may be a more effective means of improving their knowledge of diseases and treatment options. Future work examining information credibility, the trust respondents place in different sources, and the likelihood they would use information from these, will also be important as decisions regarding the adoption and continuation of DAA and DTCA are made. Perhaps most critically, however, future research should also locate consumers' views within the broader ethical and economic debate over prescription medicine promotions and the optimal means of providing consumers with information that is in their best interests.

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#### **4 CHAPTER 4: AUSTRALIAN CONSUMER RESPONSES TO DTCA AND OTHER PHARMACEUTICAL COMPANY SPONSORED ADVERTISEMENTS**

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## 4.1 Abstract

**Objective:** The current study aimed to elicit and compare the responses of Australian consumers towards New Zealand direct-to-consumer-advertisements (DTCA) for prescription medicines and matched pharmaceutical company-sponsored advertisements from Australia.

**Methods:** A survey questionnaire was mailed to a random sample of residents in a metropolitan area in NSW, Australia. Potential participants were randomized to receive one of four different advertisements: two for weight loss and two for Alzheimer's disease. A total of 413 responses were received and analysed.

**Results:** Participants reported that they were not likely to ask for a prescription from their doctor as a result of seeing any of the advertisements in the study. The Australian disease awareness advertisement that did not refer to a medicinal treatment was perceived as more valuable than the New Zealand DTCA or other Australian advertisement. Overall, participants found it easier to make sense of the more informational advertisements, and felt that there was insufficient information regarding the disease/condition and treatments in the more emotive and transformational advertisements.

**Conclusions:** While there is concern over potential negative effects of pharmaceutical-sponsored disease awareness advertisements, this study found that Australian consumers perceived an informational advertisement with a list of disease symptoms to be valuable.

**Implications:** These findings contribute to current debate in New Zealand and Australia regarding DTCA and disease awareness advertising, and have the potential to inform guidelines relevant to the advertising of prescription medicine in each country.

## 4.2 Background

### 4.2.1 Advertising of Prescription Medicines in Australia and New Zealand

Direct-to-consumer advertising (DTCA) can be defined as pharmaceutical-company sponsored advertising of prescription medicines that directly targets consumers via the mass media. Currently, DTCA is only legal in two countries within the Organisation for Economic Cooperation and Development, the United States (US) and New Zealand. DTCA was not anticipated in New Zealand, and it came about in the early 1990s primarily because there was no specific legislation to prevent it. It is currently regulated by the pharmaceutical industry, but underpinned by legislation (The Medicines Act 1981 and The Medicines Regulations 1984). This regulation includes a pre-vetting system, a separate monitoring system and a complaints management process that involves lay-people in complaint adjudication (Hoek and Gendall, 2002). In Australia, DTCA is prevented by the Therapeutic Goods Act 1989, and the advertising of prescription medicines is regulated by the pharmaceutical industry via Medicines Australia (MA). Section 9 of the Medicines Australia Code of Conduct (Medicines Australia, 2006) details how the pharmaceutical industry should interact with the general public in Australia; it specifically covers “Promotion to the General Public” and “Patient Education” (9.5). These sections of the Code prohibit promotion of a specific prescription medicine product to consumers or providing encouragement for consumers to seek a prescription for a product. The code does, however, allow for educational information on medical conditions (such as disease awareness advertisements) and the range of treatments that may be prescribed by a doctor (Medicines Australia, 2006). Despite the ban on DTCA in Australia, there have been instances where pharmaceutical advertisers have skirted current regulations by using advertising and branding techniques to promote a specific prescription medicine product but without mentioning the product’s name (Hall and Jones, 2007).

#### 4.2.2 Direct-to-consumer Advertising (DTCA) Debate

There is considerable argument regarding the risks and benefits of DTCA in the countries that currently allow for it as well as countries that have considered its potential adoption including Australia, Canada and the European Union (Hoek, 2008; Lexchin and Mintzes, 2002; Mintzes, 2006). Arguments for DTCA which are usually espoused by the pharmaceutical industry include: the provision of information regarding symptoms, undiagnosed conditions and new treatments to consumers; the involvement of consumers in their healthcare; and potential improvements to the doctor patient relationship including compliance with medication regimes (Auton, 2004, 2007). Arguments against DTCA which are usually espoused by consumer groups, medical professions and public health advocates include: it encourages disease mongering; the emphasis on profit outweighs public health and education; it has a negative impact on doctor/patient interactions and leads to inappropriate prescribing; it encourages the consumption of new drugs which may have unforeseen risks; and it leads to increased pharmaceutical costs for governments (Hoek, and Gendall, 2002; Lexchin and Mintzes, 2002; Toop and Richards, 2002). There is concern among general practitioners in New Zealand that DTCA generates unnecessary visits and inappropriate requests for medications by patients and, as a result, valuable consultation time is spent re-educating patients who have been misinformed by advertisements (Toop and Mangin, 2007; Toop and Richards, 2002). There is also the concern that DTCA will increase the mentality that all life's problems require pharmaceutical solutions, and that the resources of pharmaceutical companies in marketing as well as research will overpower any other efforts to improve health such as counseling or behaviour change interventions. Toop and Richards (2002) refer to this concept as the 'pharmaceuticalisation of health' and others as 'disease mongering' (Moynihan et al., 2002; Toop and Richards, 2002).

#### 4.2.3 Disease Awareness Campaigns (DACs)

The Australia New Zealand Therapeutic Products Authority (ANZTPA) is in the process of establishing a trans Tasman regulatory scheme for therapeutic products, however this recently faltered in the New Zealand Parliament and developments are currently suspended (ANZTPA, 2007). ANZTPA refer to DACs in their draft advertising code, stating that they must not identify the therapeutic product but can



contain “information that aims to raise awareness regarding specific diseases, including public health campaigns, [and] must be factual and balanced and support consumers in making informed healthcare choices,” (ANZTPA, 2005, p.9).

Pharmaceutical sponsored DACs may take the shape of advertisements via the mass media or other techniques such as advertorials in magazines or newspapers, public service announcements, pamphlets and other promotional material such as posters. There is argument that this promotional activity is of particular concern as it purports to provide a community service (i.e. provision of health information) while its real purpose is to sell a product (Glatter, 2004; Mackenzie et al., 2007). For example Mackenzie et al (2007) describe DACs in Australia as “infomercials” which “evade the [DTC] advertising ban by masquerading as community education and not mentioning the drug itself.” (p225).

Similar debate surrounds DACs as that surrounding DTCA. There is concern that these advertisements will only be seen for diseases where there are larger and more lucrative markets, such as lifestyle conditions (Consumers International, 2006; Glatter, 2004). There are also claims that these advertisements generate unnecessary fear and encourage disease mongering and greater reliance on medications to solve social and behavioural problems (Mintzes, 2006; Moynihan and Henry, 2006). However DACs can also be seen as providing important information that assists consumers to identify symptoms and seek more information and/or treatment for previously untreated conditions (Bonaccorso and Sturchio, 2002). It is considered particularly important for diseases where there is considerable under-diagnosis (e.g., diabetes).

The provision of disease and prescription medicine information by pharmaceutical companies is the subject of current review in Canada and Europe. In Canada, concerns regarding DACs and similarly branded reminder advertisements (described in Figure 4.1) led to a review in 2004 by the House of Commons Standing Committee on Health. They recommended that Health Canada immediately enforce the prohibition of DTCA and improve the monitoring and complaints process. It was also recommended that publicly funded, independent information on prescription medicines be made available to Canadians. The Health Council of Canada has also

called for the repeal of a clause in the Food and Drug Act that allows for reminder advertisements, as well a review of cross-border exposure to DTCA (Mintzes, 2006).

In Europe, the European Commission recently held a public consultation over a Legal Proposal on Information to Patients regarding Prescription Medicines, to which the majority of responses were that pharmaceutical companies were not appropriate sources for such information (European Commission, 2008). The European Commission had previously proposed to sanction DTCA in 2000 however this was rejected in 2002 by the European parliament (Richards, 2008). While there is international concern from government, health and consumer lobby groups regarding the capacity of pharmaceutical companies to provide objective and non-promotional information on prescription medicines and disease, it is of interest to consider how consumers perceive and respond to this phenomena.

Figure 4.1: Classification of pharmaceutical company-sponsored advertising for prescription medicine targeting consumers

<b>Advertisement Type</b>	<b>Other terms</b>	<b>Countries Applicable</b>	<b>General Requirements</b>
Direct-to-consumer (DTCA)	Product claim advertisement	US New Zealand	Include product name and can include specific product benefits. Must also include details of costs, risk and side effects (New Zealand). Must include a fair balance of risk and benefit information and a major statement of the main risks (US). Refer to (Hoek et al., 2004) for further details.
Reminder Advertisement	Price advertisement	Canada US	Include the name of a product and cost/dosage information only.
Disease Awareness Campaign (DAC)	Disease Awareness Advertising (DAA) 'Help Seeking' advertisement Unbranded product advertisement	Australia Canada European Union New Zealand United Kingdom US	Provide information generally on diseases such as symptoms and prevalence. May mention that treatments are available but cannot name specific products. Usually includes advice to "talk to your doctor".
Unbranded product advertisement		Australia and potentially elsewhere	"...promotes the use or supply of product by inviting the consumer to seek further information about symptoms or conditions and/or their treatment or management while not referring overtly to any particular branded product," (ANZTPA, 2005).

#### 4.2.4 Consumer Responses to DTCA and DACs

In Australia, a 2004 exploratory survey of 619 consumers in Sydney found that that Australians do not have strong feelings for or against DTCA (Miller and Waller, 2004). Another 2004 study of 863 consumers (Vatjanapukka, 2004) found that 53% were unaware that DTCA was not legal in Australia and only 37.8% felt that DTCA would contain important information that patients needed to know regarding prescription drugs. However in the same study, nearly half of the respondents felt that DTCA could provide valuable information regarding the risks and benefits of prescription medicines and over 45% felt DTCA would motivate them as well as assist them to discuss conditions with their doctor. A study conducted in 2005 into the responses of older Australians with regard to DTCA (2006) found that participants reported limited perceived benefits but expressed concern that DTCA may cause people to ask their doctor for inappropriate medicines, rely more on medicines to solve their health problems, and become more confused. Consumer surveys in the US have consistently found that DTCA increases the likelihood of consumers requesting and receiving prescriptions for a specific brand-name pharmaceutical (Heinrich, 2002).

There are limited studies regarding consumer responses to specific pharmaceutical company sponsored DACs, however one study has been reported in the Netherlands (t'Jong et al., 2004). The studied campaign provided information regarding onychomycosis, a usually benign fungal infection of toe and/or fingernails. The advertisement was sponsored by Novartis, the makers of Lamisil, a treatment for onychomycosis. The authors analysed consultation and prescribing patterns prior to and following the commencement of the campaign and found that onychomycosis-related consultations increased considerably after the launch of the campaign, as did prescription rates for Lamisil (2004). The campaign was criticized by the authors as it increased the workload of doctors for what might be considered a minor health problem, and potentially at the expense of more critical consultations. Similarly, Pfizer's disease awareness campaign for erectile dysfunction, coupled with DTCA in the US, created considerable demand for their product (Viagra) but was criticized for targeting younger men who are less likely to need the product, and for positioning the product as a lifestyle drug (Lexchin, 2006).

#### 4.2.5 Advertising Strategy

An understanding of consumer perceptions and responses to DTCA and DACs can be complemented by an understanding of advertising tactics that are commonly used by pharmaceutical companies or their advertising agencies to elicit the desired consumer attitudes and behaviour. The Rossiter-Percy grid (Rossiter and Percy, 1997) was initially developed to enhance creative execution tactics in advertising, but can also be used in an analysis of advertising creative to determine the intentions of advertisers. The grid categorises consumers' attitudes in terms of type of decision regarding the product (low involvement vs. high involvement) and the type of motivation (informational for negatively originated motivation vs. transformational for positive-ending motivation). Generally, advertisements for disease or prescription medicines evoke problem avoidance or problem solving motivations and for that reason, informational quadrant tactics are recommended (Rossiter and Bellman, 2005). However content analysis research has found transformational tactics are also being employed by the pharmaceutical industry (Roth, 2003), and there is common criticism that emotional appeals in DTCA create the perception that happiness and wellbeing is just a prescription away (Frosch et al., 2007; Welch Cline and Young, 2004).

### 4.3 Current Study

While there is considerable research into the responses and intentions of consumers following exposure to DTCA in the countries where it is permitted, there is limited research in countries such as Australia where DTCA is not allowed. There is also limited research into Australian consumer's responses to other forms of pharmaceutical-sponsored advertising including unbranded product advertisements (for prescription medicines) and DACs (refer to Figure 4.1 for descriptions). The current study aimed to elicit and compare Australian consumer responses towards DTCA from New Zealand and matched advertisements from Australia including their ease of comprehension of advertisement information; their attitudes towards the advertisement and their intentions to request further information/prescription.

Two disease/condition types were selected for the study: Alzheimer's disease and obesity. Alzheimer's disease is the most common form of dementia, and dementia is reported as carrying 3.5% of Australia's total disease burden (measured in disability-adjusted life years) (Mathers et al., 1999). An estimated 4% of the total burden of disease and injury in Australia is attributed to overweight and obesity (Mathers et al., 1999). Consumer perceptions of the severity of these diseases/conditions however may differ. In a study conducted with six focus groups in Western Australia, participants were asked what they thought were the most serious diseases in Australia, and what health problems or diseases they personally worry most about getting (Carter et al., 2002). In response 13% identified obesity and only 4% identified dementia as the most serious disease in Australia, but 17% identified dementia as the disease they were personally most worried about contracting, while obesity was not identified for this second question.

#### **4.4 Method**

A direct-mail survey questionnaire<sup>1</sup> was used based on surveys previously developed and tested by Hoek et al (2004) and Hoek and Gendall (2004) to elicit consumer responses to DTCA in New Zealand in 2002 and 2003 respectively. A purchased database of addresses from the white pages directory for a metropolitan area was used as the sampling frame. A total of 2800 addresses were randomly sampled, and a pre-test was administered randomly to 400 of these addresses. Addresses randomly received one of four different advertisements with the survey questionnaire. While the advertisement differed, all other aspects of the questionnaire were identical. The different advertisements (described in Figure 4.2)<sup>2</sup> were:

1. A New Zealand weight loss treatment advertisement (NZW).
2. A matched Australian weight loss advertisement (AW).
3. A New Zealand Alzheimer's disease advertisement (NZA) for a product used to treat the disease.
4. A matched Australian Alzheimer's disease advertisement (AA).

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<sup>1</sup> Refer to Appendix A.

<sup>2</sup> Also refer to Appendix C

Figure 4.2: Description of stimulus (pharmaceutical company-sponsored advertisements)

Ad reference	NZW	NZA	AW	AA
Advertisement Type	DTCA	DTCA	Unbranded product advertisement	Disease awareness advertisement
Product type	Weight loss treatment	Alzheimer's disease treatment	Weight loss treatment	Alzheimer's disease awareness
Product identification/information	Product name included and requisite information regarding risks/side effects	Product name included and requisite information regarding risks/side effects	Product name not included but featured campaign name "idecide"	No product or treatment information.
Images	Face of an overweight woman	Elderly woman seated with a female carer	Face of an overweight man	Face of elderly man embraced by a young girl (possibly his granddaughter)
Headline	When I met my new man I decided to stop being fat	Do you, any of your family members or loved ones, have Alzheimer's Disease?	I decided to stop eating too much	How could I ever forget you?

The pre-test resulted in 56 responses (response rate of 14%), following which minor modifications were made to the wording of one question. The remaining 2400 addresses were sent the revised survey questionnaire. There were 357 returned surveys (response rate of 15%) and all responses were used along with those from the pre-test, resulting in a total of 413 participants.

## 4.5 Results

The median age of participants was 49.5 years, with 70.3% female. This differs to the demographic data for the sampling frame (and to the 2006 census data for Australia) where the median age was 37 years with 50.7% female (Australian Bureau of Statistics, 2007). The returned, anonymous responses were entered by a research assistant using SPSS Version 15. Initial analysis was performed by cross-tabulating responses to the four different advertisements for each of the questions on the survey and performing Pearson's Chi-Square analysis.

### 4.5.1 Attitudes Toward the Advertisement

When asked how valuable they found the advertisement (see Table 4.1), participants viewing the AA advertisement were more likely to find the advertisement *extremely valuable* or *valuable* than those viewing other advertisements ( $\chi^2=25.072$ ,  $p<.001$ ). Participants viewing the NZW advertisement were more likely to find the advertisement *not very valuable* or *not at all valuable* ( $\chi^2=56.805$ ,  $p<.001$ ).

Table 4.1: Perceived value of advertisements

	Advertisement type viewed (n=343*)			
	NZW (%) n = 86	AW (%) n = 85	NZA (%) n = 70	AA (%) n = 102
Extremely valuable	3.5	16.5	12.9	21.6
Valuable	24.4	32.9	52.9	62.7
Neutral	22.1	29.4	15.7	9.8
Not very valuable	36.0	17.6	10.0	2.9
Not valuable at all	14.0	3.5	8.6	2.9
Mean Score <sup>1</sup>	3.33	2.59	2.49	2.03

<sup>1</sup> on a 5 point scale where 1 = extremely valuable and 5 = not valuable at all

\*does not include pre-test data as this question was modified in final survey.



When participants were asked about their perceptions of the advertisement's intent (see Table 4.2), they were more likely to perceive the AA advertisement as trying to *provide information about a medical condition* as opposed to *sell a product or treatment* which was more commonly selected for the other advertisements ( $\chi^2 = 175.545$ ,  $p < .001$ ). For the New Zealand advertisements (i.e. the DTCA) participants were most likely to select *sell a product or treatment*.

Table 4.2: Perceived intent of advertisements

What do you think this advertisement is trying to do?	Advertisement type viewed (n = 393*)			
	NZW (%) (n=93)	AW (%) (n=97)	NZA (%) (n=93)	AA (%) (n=110)
Sell product or treatment	82.8	32.0	59.1	18.2
Provide information about treatment	8.6	22.7	19.4	5.5
Encourage talking to doctor	4.3	36.1	7.5	33.6
Provide information about medical condition	2.2	8.2	9.7	42.7
Encourage asking for prescription	2.2	1.0	4.3	0

\*due to missing responses

#### 4.5.2 Comprehension and Provision of Information

Most participants (see Table 4.3) found the information in the Alzheimer's advertisements *very easy* to make sense of. For the AW advertisement, participants generally found the information *very easy* or *quite easy* to make sense of. For the NZW advertisement the majority of participants found the information *quite easy* however participants viewing this advertisement were more likely to find the information *quite difficult* to make sense of than those viewing other advertisements ( $\chi^2 = 31.323$ ,  $p < .001$ ).

Table 4.3: Perceived ease of understanding the advertisement information

<b>How easy was it to make sense of the information?</b>	<b>Advertisement type viewed (n = 400*)</b>			
	NZW (%) n= 94	AW (%) n = 100	NZA (%) n = 92	AA (%) n = 114
Very easy	17.0	48.0	64.1	67.5
Quite easy	38.3	35.0	25.0	28.1
Neither easy nor difficult	23.4	11.0	4.3	3.5
Quite difficult	21.3	5.0	4.3	0.9
Very difficult	0	1.0	2.2	0

**\*due to missing responses**

For information provided regarding the *medical condition itself* (see Table 4.4), the majority of participants viewing Alzheimer advertisements felt that adequate information was provided while the majority of those viewing the weight loss advertisements felt that adequate information was not provided. For all advertisements, but particularly for the Australian advertisements, participants felt that there was not adequate information provided regarding the *treatments available* or the *risks associated with treatments*. Most participants felt that there was not adequate information provided regarding the *benefits of treatment* particularly for AW and for NZA, Most participants felt there was adequate information provided regarding *how/where to get further information*, especially so for NZA and AW. Note that it is a requirement for DTCA in New Zealand to provide a source for further information. Interestingly, participants were less likely to find adequate information provided regarding *how/where to get further information* in the AA advertisement compared with the other advertisements ( $\chi^2=19.427$ ,  $p<.001$ ). In the AA advertisement there was a suggestion to “check with your doctor” rather than providing a web address or 1800 number for further information as was offered in the other advertisements.

Table 4.4: Percentage of respondents agreeing that adequate information was provided

	<b>Advertisement Type Viewed (n=392*)</b>			
	NZW (%)	AW(%)	NZA(%)	AA(%)
	(n = 93)	(n =95)	(n = 91)	(n = 113)
how/where to get further information?	80.4	93.8	91.2	74.3
the benefits of treatments?	45.7	19.8	20.9	43.1
the treatments available?	39.8	26.3	31.9	16.5
the risks of treatments?	34.4	2.1	29.3	7.5
the medical condition itself?	26.9	31.6	60.4	62.8

\*due to missing responses

#### 4.5.3 Behavioural Intentions

Participants were asked to imagine that the disease or condition was relevant to them personally, and then asked questions regarding contact with their doctor. The majority of participants for each advertisement agreed that they would talk about the condition with their doctor (see Table 4.5), however this was significantly more likely for participants in the Alzheimer's advertisements ( $\chi^2=16.702$ ,  $p<001$ ). A similar case was found for talking about the treatment with their doctor but significantly more so for the Alzheimer's advertisements ( $\chi^2=15.697$ ,  $p<.001$ ). The majority of participants across all advertisements felt that they would not seek a prescription from their doctor as a result of reading the advertisements, however the participants viewing the Alzheimer's advertisements were more likely to perceive that they would do so than those viewing the weight loss advertisements ( $\chi^2=10.283$ ,  $p=.016$ ) (see Table 4.5).

Note that participants were asked about their own health and the health of their family, including experience with Alzheimer's disease and overweight/obesity. There were no significant differences in responses across the four advertisements. Of

the participants that viewed the advertisements regarding Alzheimer's disease only one reported direct experience with Alzheimer's disease and 19.6% reported having a family member experience the disease. Of the participants that viewed the weight loss advertisements, 49.2% reported being overweight, while 62.3 % reported a family member being overweight.

Table 4.5: Percentage of people reporting that they would take specific actions after reading the advertisement (if relevant to them or a family member)

	Advertisement type viewed (n = 383*)			
	NZW (%) (n = 89)	AW(%) (n = 92)	NZA(%) (n = 89)	AA(%) (n = 113)
talk about the condition with doctor	60.7	55.4	89.9	95.6
talk about the treatment with doctor	57.3	61.6	93.0	95.3
seek a prescription from doctor	37.8	24.2	47.4	49.5

\*due to missing responses

## 4.6 Limitations

Limitations of the study include the relatively low response rate and small sample size as well as the higher proportion of older and female participants in the survey, making the data less able to be generalised to other populations. The matching of advertisements was less than ideal, with the New Zealand weight loss advertisement offering a pedometer as a give-away while the Australian advertisement did not. While efforts were made to match the New Zealand advertisements as closely as possible, the selected Australian Alzheimer's advertisement was more of the genre of a DAC. This particular advertisement may have been perceived as more credible (and potentially more valuable) due to the renown of the sponsor company which has consistently been ranked around 30 within the 100 top brands over the past five years (Business Week, 2003, 2005, 2006). It is difficult, therefore, to confidently extrapolate how consumers might respond to other disease awareness advertisements sponsored by less well-known companies. Participants may have been more familiar

with the Australian advertisements as these have appeared in popular Australian magazines, while the New Zealand DTCA format with product and side-effect disclosure may have appeared foreign. This may have resulted in an over- or under-estimation of the likely effects in the event that these advertisements become widely available in Australia. Other limitations include that participants were only shown one advertisement on one occasion rather than measuring the effects of an advertising campaign or seeing an advertisement in its usual context, and comparisons could only be made between participant responses to one of four advertisements rather than within-participant responses to all four advertisements.

#### **4.7 Discussion**

Participants were significantly more likely to perceive the Australian advertisement for Alzheimer's disease to be extremely valuable or valuable compared with the other advertisements. This advertisement could be classified as a disease awareness advertisement as it provided information regarding the symptoms of Alzheimer's disease without promoting a particular product or treatment. Conversely, participants found the DTCA (in particular the NZW advertisement) to be not very valuable or not at all valuable. While there is considerable evidence in the countries that allow DTCA that consumers find it of value (Deshpande et al., 2004; Hoek, et al., 2004; Mehta and Purvis, 2003) these new results suggest they may find DACs to be more valuable. It should be noted that the median age of participants in the study was 49.5 years which is higher than the general population, and would potentially be more concerned about dementia than a younger sample.

Participants were more likely to perceive the AA advertisement as trying to provide information about a medical condition as opposed to sell a product or treatment. This finding – that participants were not more cynical regarding the intent of the disease awareness advertisement – may alarm public health and consumer advocates, particularly as this advertisement was perceived to be more valuable. The sponsor of AA produces a product to treat Alzheimer's disease, and presumably this would have been a large part of their motivation in creating awareness of the disease. For the New Zealand advertisements (DTCA) where the product name and requisite product

information was evident, participants were most likely to identify the advertisement as trying to sell a product or treatment. For the Australian advertisements, where product name and information cannot be included, but each of the advertisements encouraged readers to talk/check with their doctors, participants were more likely to identify that the advertisement was encouraging them to talk to their doctor.

In the current study it was significantly more likely for participants receiving the Alzheimer's advertisements to consider talking with their doctor regarding the disease, and about the treatment. While the majority of participants in the current study did not consider seeking a prescription as a result of reading the advertisements, they were most likely to do so for the Alzheimer's advertisements. It could be considered that while there are a variety of methods to prevent, treat and manage obesity (such as physical activity and dietary changes, as well as medication), there are limited and potentially only pharmacological options to treat Alzheimer's disease. This may in part be the cause of participants viewing the Alzheimer's advertisements being more likely to discuss the conditions and treatments with their doctor. It could also be considered that patients feel more comfortable talking with their doctor or with others about Alzheimer's disease as it is perceived as a medical condition which the sufferer has no control over, whereas they may be less inclined to discuss being overweight or obese as it is perceived more as a social issue with multiple, complex causation and associated stigma.

A greater percentage of participants had either themselves been overweight, or had experience of a family member being overweight than had had experience with Alzheimer's disease, and this may have effected their processing of advertisement information, their attitude toward the advertisement, and their reported intentions to take action. While advertisement involvement was not measured in the current study, there is evidence that participants suffering with a disease or condition have higher involvement with advertisements regarding that disease/condition than non-sufferers, particularly when exposed to high levels of risk information (Kavadas et al., 2007).

Participants viewing the Alzheimer's advertisements found it easier to make sense of the information than those viewing the weight loss advertisements which could be attributed to the informational content of the former. The Alzheimer's

advertisements, particularly the AA advertisement, provided information on the disease and symptoms, while the weight loss advertisements were more visual, with limited text, and a focus on treatment. According to the Rossiter and Percy model previously described, most DACs and DTCA are classified as informational because they elicit a problem-solving or problem-avoidance motivation. However the weight loss advertisements in the current study contained many emotional and transformational elements as they focused on positive end states, they used a seemingly confident and happy “expert user” as the presenter who was also someone the target audience would aspire to or identify with (Rossiter and Percy, 1997). Interestingly, when Roth (2003) examined message strategies in DTC print advertisements and how they effect brand-level advertising he found that advertisements conveying patient happiness as a result of using a drug were associated with higher levels of advertisement awareness and that disease information did not increase brand awareness levels (advertisements with symptom information were associated with lower brand awareness). It is troubling that pharmaceutical companies are increasingly using these persuasive techniques which appear to be effective from a marketing viewpoint, while public health and consumer advocates are calling for less emotional and more informational content in DTCA.

In terms of adequacy of information, the results of the current study demonstrate that participants found the more transformational styles of advertising (the weight loss advertisements) provided insufficient information regarding the condition itself and treatments available. Interestingly, more participants viewing the NZW advertisement felt that there was adequate information available regarding the benefits of treatment than the risks (45.7% vs. 34.4%). This contrasts with the other New Zealand DTCA (NZA) where more participants felt there was adequate information about the risks of treatment than the benefits (29.3% vs. 20.9%). This occurred despite both advertisements containing the requisite risk information panel at the bottom of the advertisement. This is of interest as New Zealand DTCA regulation does not include the same strict criteria for fair balance of risk/benefit information as the US (Hoek et al., 2004). Potentially, the more emotional and promotional style of the NZW advertisement (compared with the more informational style of the NZA advertisement) achieved this contrasting result in the current study, however it could also be related to the free Pedometer on offer in the NZW

advertisement which may have been perceived as information on an additional benefit of treatment. Participants viewing Australian advertisements felt there was not enough information regarding the treatments available, nor the benefits/risks of treatment. This was expected as the Australian advertisements are compliant with Medicines Australia Code of Conduct requirements and do not mention a specific product (Medicines Australia, 2006). Under the Code there is capacity for disease awareness advertisers to provide the full range of treatment options, but in this instance, the advertisers elected to provide only symptom information.

#### **4.8 Conclusion**

Participants were not likely to report an intention to ask for a prescription from their doctor as a result of seeing any of the advertisements in this study. Participants were more likely to find the disease awareness advertisement to be valuable than the unbranded product or DTC advertisements. While more research is required to determine the persuasive effects of, and consumer responses to, a range of DACs, this study suggests that consumers are less critical of pharmaceutical company sponsored advertisements of this genre than DTCA and unbranded product advertisements. It is evident from the study that participants found it easier to make sense of the more informational style advertisements, and felt that there was insufficient information regarding the condition and treatments in the more emotive and transformational advertisements. These findings could inform future revisions to the regulation of pharmaceutical sponsored advertisements for prescription medicines in both Australia and New Zealand, and (if re-enacted) the ANZTPA Advertising Code. In the interests of consumers and public health, advertising guidelines should encourage more informational advertisements, and more transparency regarding the intent of the advertiser particularly for DACs, such as a generic disclosure that the advertisers make product(s) to treat the condition/disease advertised.



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## **5 CHAPTER 5: A CONTENT ANALYSIS OF DISEASE AWARENESS ADVERTISEMENTS IN POPULAR AUSTRALIAN WOMEN'S MAGAZINES**

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## 5.1 Abstract

**Objective:** To examine the nature of disease awareness advertising (DAA).

**Design:** Therapeutic advertisements in six popular Australian women's magazines were monitored between April 2006 and March 2007. A subset of advertisements was included in the study based on criteria derived from a definition of DAA. Unique advertisements were analysed by four independent coders.

**Main outcome measures:** Types of advertisements and their sponsors, the types of disease information present, and the persuasive techniques utilised.

**Results:** Of 711 advertisements identified, 60 met the inclusion criteria for DAA, and 30 of these were unique. Over one-third of the advertisements were classified as “unbranded product advertisements”, which promote a product without referring directly to a brand. DAA sponsored by pharmaceutical companies most often provided treatment and prevalence information. Most (22/30) advertisements used emotional appeals; 15 of these used “happiness/healthiness/wellbeing”.

**Conclusions:** The educational value of industry-sponsored DAA could be improved if regulations and guidelines stipulated disease information requirements, such as inclusion of risk-factor and symptom information. Regulators should provide guidelines regarding “unbranded product advertisements”, and the acceptability of other persuasive techniques. Further research into DAA is required and should consider advertisements in a range of media and behavioural responses.

## 5.2 Introduction

In countries where direct-to-consumer advertising (DTCA) of prescription medicine is prohibited, pharmaceutical companies can indirectly promote medicines via disease awareness advertising (DAA) (Hall and Jones, 2007; Mintzes, 2006). DAA typically contains information on a disease and recommends that consumers speak to a doctor for further information. Companies sponsor DAA for conditions for which they manufacture a treatment, and often run concurrent branded advertising campaigns that target general practitioners (Hall and Jones, 2007).

DAA sponsored by pharmaceutical companies may negatively influence consumers, generate unnecessary fear, and create a greater reliance on medications to solve social and behavioural problems (Mintzes, 2006; Moynihan and Henry, 2006). DAA has been identified as a form of disease mongering or “widening the boundaries of treatable illness in order to expand markets for those who sell and deliver treatments” (Moynihan, et al., 2002). DAA is often directed at lifestyle conditions for which there are large, lucrative markets (e.g., balding or erectile dysfunction) (Consumers International, 2006; Glatter, 2004). A Dutch study found that a DAA campaign increased disease-related consultations and prescriptions for the advertiser’s product for what may be considered an unimportant health issue (t’Jong et al., 2004).

However, DAA can also provide information to help consumers identify symptoms and seek information about and treatment for previously untreated conditions (Wielondek, 2005). Advocates consider DAA to be particularly important for diseases that are considerably under-diagnosed (e.g., diabetes). In Australia, advertisers of therapeutic goods are bound by the Therapeutic Goods Act 1989 and the Therapeutic Goods Administration (TGA) Therapeutic Goods Advertising Code (Australian Government Department of Health and Ageing, 2007), which prohibit DTCA. Although the definition and regulation of DAA is not explicit in the current Code, this form of advertising was recognised in a review of the therapeutic goods legislation (Galbally, 2000). The review identified pros and cons of industry DAA, including its potential use as a method of skirting current regulations that prohibit

DTCA. It called for the development of a code of practice with clear parameters for DAA, with an aim to increase the potential benefits and decrease the potential disadvantages. The formative Australia New Zealand Therapeutic Products Authority (ANZTPA), which aims to establish a trans-Tasman regulatory scheme for therapeutic products, defined DAA in its draft advertising code (ANZTPA, 2005). The establishment of ANZTPA, however, faltered in New Zealand Parliament, and it may not be re-instigated for some time.

In Australia, pharmaceutical company advertising for prescription medicines, including DAA, currently falls under the jurisdiction of Medicines Australia, a self-regulatory industry body. The Medicines Australia Code of Conduct is designed to complement the requirements of the Act and the TGA Code. Although prior approval of advertisements is not required, there is a monitoring committee and member companies may be required to submit promotional material for review at various times (Medicines Australia, 2006). Section 9.5 of the Medicines Australia Code of Conduct (15th edition) allows for “patient education”, including advertising or provision of information on medical conditions and the broad range of treatments that may be prescribed by doctors. The Code stipulates that patient education should: be current, accurate, and balanced; not focus on a specific product or treatment; include a statement directing consumers to seek further information about the condition or range of treatments; not encourage patients to seek a prescription for a product; not cause alarm or misunderstanding; and not raise patients’ hopes of successful treatment (Medicines Australia, 2006).

We aimed to determine the nature of DAA in popular Australian magazines, including the types of disease information provided and the use of persuasive techniques, in an effort to inform future regulation of pharmaceutical industry DAA.

### **5.3 Method**

We used content analysis, as this method has been successfully employed in the United States (US) to examine DTCA (Bell, Kravitz et al., 2000; Frosch et al., 2007; Shah et al., 2003). We chose to study women’s magazines, as women have been



identified as being more involved in health-related decisions, and studies in the US have indicated a greater incidence of DTCA in women's magazines (Bell, Kravitz et al., 2000; Shah et al., 2003). The two highest-circulating monthly magazines, the three highest-circulating weekly magazines that contained therapeutic advertisements, and the highest-circulating health magazine were selected for the study. Monitoring was conducted from April 2006 to March 2007.

Advertisements where the focus was a disease or condition were included for analysis. We used the definitions in the ANZTPA draft advertising code. ANZTPA describes DAA as "information that aims to raise awareness regarding specific diseases, including public health campaigns, must be factual and balanced, and support consumers in making informed healthcare choices", and unbranded product advertising promotes the use or supply of product by inviting the consumer to seek further information about symptoms or conditions and/or their treatment or management while not referring overtly to any particular branded product (ANZTPA, 2005).

Advertisements regarding health behaviours or procedures (e.g., domestic violence or eye checks) were not included unless they contained some mention of a disease associated with these behaviours. Advertisements where a branded product or service was promoted (e.g., over-the-counter products or government vaccination programs) were excluded. Disease advertisements where a separate but potentially related over-the-counter product advertisement appeared on the same or adjacent page were included, along with the original placement context, but coders were asked to focus on the disease advertisement.

We employed directed content analysis for the study, where categories and codes were derived from relevant theory and prior research (Hsieh and Shannon, 2005). Three coders had qualifications and experience in marketing, and one had medical qualifications and experience as a general practitioner. One of us (D.V.H) facilitated individual training with each coder, as recommended by Kolbe and Burnett (1991). Coders made decisions on the sponsors, type of disease information provided, target audience, emotional appeal and use of branding techniques. Advertisements were coded for the presence or absence of disease information, but coders did not analyse

the accuracy of information. More detailed information regarding the establishment of categories and codes is available from the authors<sup>1</sup>.

Following the completion of coding, data were entered into SPSS V.15. The level of intercoder agreement was tested using the proportional reduction in loss (PRL) approach, which is suited to qualitative data, particularly where subjective coder judgements are made about marketing and promotional material (Rust and Cooil, 1994). The PRL is considered to be, under the assumptions of generalisability theory, an equivalent measure to Cronbach's  $\alpha$  (Rust and Cooil, 1994). For the PRL, inter-rater agreement is calculated for each variable; the reliability score is then established using tables provided by Rust and Cooil (1994). The score is contingent on the number of coders and response categories. A minimum score of .7 is considered adequate for exploratory work.

#### **5.4 Results**

We identified 711 advertisements for 207 therapeutic products (including over-the-counter and natural products) in the initial monitoring process (see Figure 5.1). Initially, 83 advertisements were identified as DAA; however, 23 were excluded as they did not meet the inclusion criteria (see Figure 5.1). The remaining 60 advertisements were analysed for frequency by magazine source (see Table 5.1) and disease or condition advertised (see Table 5.2).

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<sup>1</sup> Refer to Appendix D for coding sheet

Figure 5.1: Disease awareness advertisements selected from initial sample

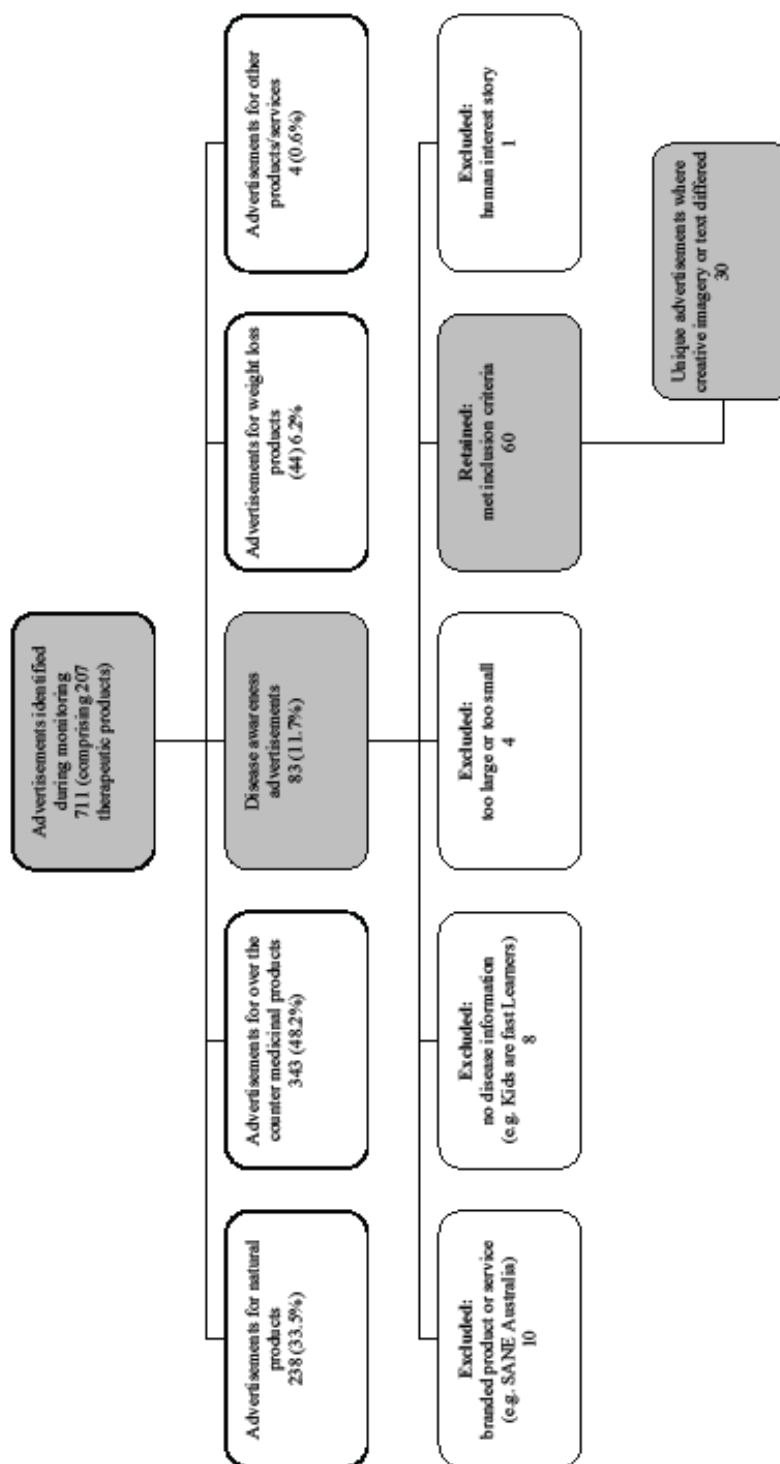


Table 5.1: Magazine source of 60 disease awareness advertisements, April 2006 to March 2007

Magazine	Size*	Circulation	Advertisements
Reader's Digest	154	352 000	22
Good Medicine	162	70, 031	11
Woman's Day	496	480 564	8
Australian Women's Weekly	256	605 039	7
New Idea	456	391 388	6

Table 5.2: Number of times diseases or conditions were advertised in six magazines, April 2006 to March 2007

Disease or condition	No.
Cervical cancer	13
Melanoma or skin cancer	9
Genital herpes	6
Erectile dysfunction	5
Asthma	4
Cramps	4
Multiple sclerosis	4
Skin conditions	2
Nasal congestion	2
Onychomycosis (foot fungal conditions)	2
Prostate problems	2
Whooping cough	2
Arthritis	1
Osteoporosis	1
Bruises	1
Muscle pain	1
Tinnitus and vertigo	1

The most frequently advertised conditions were cervical cancer, melanoma or skin cancer, genital herpes, and erectile dysfunction (see Table 5.2). These advertisements were part of larger advertising campaigns that occurred across a range of media during the monitoring period.

Of the 60 advertisements, 30 unique advertisements (i.e., with unique text or imagery) were identified, and these were provided to the four coders for analysis. Most advertisements (22) targeted men and women, five targeted women only, and three targeted men only. Adults were targeted in all advertisements — most (21) targeted adults in general, six targeted young adults and three targeted older people.

#### 5.4.1 Advertisement Sponsor and Type

Of these 30 advertisements, 13 had no identifiable advertiser or sponsor, nine were sponsored by pharmaceutical companies, three by government, three by non-government organisations and two by a combination of advertisers (PRL = 0.97). Most advertisements (19) were classified as DAA, with the remaining 11 classified as unbranded product advertisements (PRL = 0.80).

Analysis of sponsor by advertisement type showed that most unbranded product advertisements (7/11) had no identifiable sponsor. These advertisements could be classified as “advertorials” as they commonly appeared alongside an advertisement for an over-the-counter product. However, four of the nine industry-sponsored advertisements were also classified as unbranded product advertisements.

#### 5.4.2 Disease Information

Table 5.3 shows the number of advertisements where the various types of disease information were present and the reliability scores for each.

Table 5.3: Presence of different types of disease information in 30 advertisements in six magazines, April 2006 to March 2007

<b>Disease information type</b>	<b>Number of advertisements where present</b>	<b>PRL reliability score</b>
Treatment	28	0.95
Cause/aetiology	21	0.87
Symptoms	21	0.98
Prevention	19	0.85
Risk factor(s)	16	0.78
Prevalence	13	0.92

PRL = proportional reduction in loss.

The most common form of disease information in advertisements was treatment information, followed by information on the cause or aetiology of the disease/condition as well as symptom information. PRL reliability scores ranged from 0.78 for risk factors to 0.98 for symptoms. Analysis of disease information by sponsor showed that the advertisements sponsored by pharmaceutical companies more often provided prevalence and treatment information, whereas advertisements without identifiable sponsors tended to provide information in all areas apart from prevalence (see Table 5.4).

Table 5.4: Disease information provided in 30 advertisements in six magazines, April 2006 to March 2007, by sponsor

<b>Disease information type</b>	<b>Government (n = 3)</b>	<b>Non- government organisation (n = 3)</b>	<b>Pharmaceutical company (n = 9)</b>	<b>Combination of sponsors (n = 2)</b>	<b>Sponsor not identified (n = 13)</b>
Treatment	3	3	7	2	13
Cause	3	2	3	0	13
Symptoms	0	2	4	2	13
Prevention	3	1	3	2	10
Risk	3	2	2	0	9
Prevalence	3	2	7	0	1

#### 5.4.3 Persuasive Techniques

Emotional appeals (imagery that aroused feelings) were identified in 22 advertisements (PRL = 0.95). Of these, the most commonly used appeal type (of eight possibilities) was happiness/healthiness/wellbeing (15), and the second most common was fear/revulsion/loss (3) (PRL = 0.94). The advertisements containing fear/revulsion/loss appeals were the melanoma and skin cancer advertisements that formed part of an Australian Government advertising campaign.

Thematic analysis of coder responses to the implicit intent of the imagery (the meaning implied by imagery) demonstrated similar themes to the responses for emotional appeal type. An interesting finding was that the imagery in a series of genital herpes advertisements conveyed contradictory messages regarding the prevalence of the condition. Whereas the text stated that “1 in 8” people have genital herpes, the coders felt that the imagery portrayed much higher prevalence levels. For

example, one advertisement showed an image of six female symbols, where four were coloured black and two coloured red. The coders agreed that the implicit message was that two in six women have genital herpes.

Coders unanimously agreed that 15 advertisements contained a corporate brand or logo. Fourteen advertisements had other forms of branding present, such as a campaign name, logo or icon, including seven of the nine industry-sponsored advertisements. Examples of advertisements examined and their characteristics are shown in Figure 5.2.

Figure 5.2: Examples of four advertisements and their characteristics

Sponsor	Main image	Main text	Category	Disease information	Target audience	Emotional appeal	Branding
Bayer Healthcare	Photograph of two bananas side by side, one pointing up and one pointing down	“Erection difficulties? Your doctor can point you in the right direction”	Unbranded product advertisement	Treatment	Men	Humour	Small image from another advertising campaign and flame symbol
CSL Laboratories	Photograph of adolescent girl leaving home with a camping rucksack	“You can’t stop your daughter from growing up, but you can help protect her from cervical cancer”	Disease awareness advertisement	Cause; prevalence; prevention; treatment	Adults	Happiness/healthiness/wellbeing	Text: “guard against cervical cancer”
Not identified	Photograph of skeletal spine	“Understanding osteoporosis”	Disease awareness advertisement	Cause; risk factors; prevention; treatment	Older adults	Not present	Not present
Australian Government	Photograph of surgeon’s hand cutting skin with a scalpel	“Not everyone with melanoma dies, some just go through hell”	Disease awareness advertisement	Cause; risk factors; prevalence; prevention; treatment	Young adults	Fear/revulsion/loss	Illustrative symbols; text: “protect yourself in five ways from skin cancer”



## 5.5 Discussion

Our results indicate that DAA comprises a small proportion of all therapeutic advertising in popular Australian magazines, and is sponsored by industry, government and non-government organisations. Almost half the industry-sponsored advertisements were classified as “unbranded product advertisements”, which promote the use or supply of a product without referring directly to a brand (ANZTPA, 2005). The most common form of disease information in all advertisements was treatment information, and industry-sponsored advertisements more often provided information regarding treatment and prevalence.

These results suggest that a primary objective of industry DAA is to provide information about a treatment in order to sell a product. Although this may appear logical from a marketing viewpoint, consumer advocates are concerned that the public is unaware of the profit motive of DAA (Mackenzie et al., 2007; Mintzes, 2006). Further research is required to determine actual responses, but it is possible that consumers would not recognise the commercial intent of industry DAA, and perceive it to be a community service, similar to government advertisements. A possible solution is more transparent disclosure that the advertiser makes a product to treat or prevent the condition advertised; however, the use of such a disclosure would require research and testing, as it may act as a form of advertising similar to DTCA, or have other adverse effects.

The results have implications for health professionals, as industry DAA is required to include a statement to encourage patients to “ask their doctor” (Medicines Australia, 2006). However, if advertisements focus on treatment and do not include adequate information on risk factors, doctors may spend more valuable consultation time responding to inappropriate requests for treatment and re-educating patients (Toop and Mangin, 2007).

Our results suggest that the pharmaceutical industry could improve DAA through the provision of more comprehensive disease information, such as symptom and risk factor information. Medicines Australia could provide more detailed and specific guidelines for DAA, as recommended in a Council of Australian Governments

review (Galbally, 2000). Such guidelines are provided by the Medicines and Healthcare products Regulatory Agency in the United Kingdom. The Agency guidelines state that information in DAA should be: accurate; current; substantiated; comprehensive in covering the key characteristics of the disease including identification of the symptoms and risk factors; and balanced such that treatment information is not unduly emphasised (MHRA, 2005). The identification of unbranded product advertisements may also be useful for Medicines Australia for future revisions to their Code of Conduct, as there is currently no acknowledgement of, or guidelines for, this form of advertising. This differs from the TGA advertising code, which recognises unbranded therapeutic product advertisements in relation to non-prescription medicines (Australian Government Department of Health and Ageing, 2007).

We found that most industry-sponsored DAA used branding techniques, such as campaign names, logos or symbols. The use of branding techniques has previously been identified in Australian DAA as potentially circumventing the prohibition on DTCA, as companies create a “pseudo brand” that conveys the identity of the product without naming it (Hall and Jones, 2007). As in studies of DTCA in the US (Frosch et al., 2007; Welch Cline and Young, 2004), the most prominent emotional appeal that we found was positive (happiness/healthiness/ wellbeing). An analysis of visual features in DTCA in the US found that advertisements commonly portray models with positive personal characteristics. Consumers may associate prescription drugs with social rewards via observational learning and conclude that “a healthy appearance and active lifestyle is only a prescription away” (Welch Cline and Young, 2004).

Our methodology was based on analyses of DTCA conducted in the US (Bell, Wilkes et al., 2000), and in response to formative industry-focused advertising regulation in Australia (ANZTPA, 2005). Specific codes relevant to non-profit or government advertisements were not devised, and therefore recommendations for these advertisements have not been made. Another limitation of our study is the small sample of unique advertisements that resulted from the monitoring and inclusion process. This prevented statistical analysis and comparisons with content analyses conducted into DTCA.

Although further research into DAA across a range of media is required, as is research into behavioural responses to this form of advertising, we have demonstrated that DAA is present in popular Australian magazines and is sponsored by profit and non-profit organisations. Most industry DAA contained treatment information, and almost half were classified as “unbranded product advertisements”. Medicines Australia could improve the educational value of industry DAA by providing specific and detailed guidelines to pharmaceutical marketers regarding the presence of different types of disease information, as well as guidelines on the use of persuasive techniques.

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## **6 CHAPTER 6: WOMEN'S REPORTED BEHAVIOURAL INTENTIONS FOLLOWING EXPOSURE TO DISEASE AWARENESS ADVERTISING**

Article submitted to the *Australian Health Review*, February 2010

**Hall, D.V.**, Jones, S.C. and Iverson, D.C. (submitted), 'Women's reported behavioural intentions following exposure to disease awareness advertising', *Australian Health Review*

## 6.1 Abstract

**Objective:** In countries where direct-to-consumer advertising of prescription medicines is prohibited, pharmaceutical companies sponsor Disease Awareness Advertising (DAA) which can provide disease information but cannot directly promote a prescription medicine product. This study examined the impact of DAA exposure on women's reported behavioural intentions.

**Design:** Participants were recruited via mall-intercept method and were randomly shown two advertisements, following which they completed a questionnaire.

**Setting:** A commercial shopping centre in a metropolitan area in NSW, Australia.

**Participants:** 241 women aged between 48 and 85 years responded to 466 advertisements.

**Intervention:** The stimuli were print magazine advertisements about osteopenia and fibromyalgia. Sponsors and the amount of disease information were manipulated.

**Results:** The majority of participants reported an intention to ask their doctor about the health condition and to ask about treatments and tests. Participants were more likely to report an intention to ask their doctor for a prescription or referral if they saw an advertisement with limited disease information than those viewing advertisements with more detailed information.

**Conclusion:** When limited disease information is provided, DAA can stimulate demand for prescription medicine products. The regulation of industry-sponsored DAA requires strengthening, with specific guidelines on the inclusion of more detailed disease information.

## 6.2 Introduction

There is growing concern in Australia and elsewhere regarding the influence of the pharmaceutical industry on the prescribing habits of doctors (Angell, 2006; Moynihan and Cassels, 2005). Concern has centred around marketing practices that directly influence doctor's prescribing behaviour (Mansfield et al., 2006), as well as pharmaceutical promotions that directly target consumers.

Direct-to-consumer advertising (DTCA) of prescription medicines is currently only legal in the United States (US) and New Zealand, and there is evidence that it influences consumers to make requests to doctors for prescription medicines (Frosch et al., 2010; Hoek et al., 2004). DTCA initiated requests from consumers have been found to influence doctors to prescribe the advertised medicines (Frosch et al., 2010; Gilbody et al., 2005).

While DTCA is not legal in Australia, pharmaceutical companies can engage in disease awareness advertising (DAA) which targets consumers via a range of media. DAA cannot include the name or information about a specific prescription medicine, however it can include disease information such as the symptoms and prevalence of a disease, as well as general treatment information (Medicines Australia, 2006). DAA is utilised in many western nations, and is referred to as 'help seeking advertising' in Canada and the US. Research into the effects of DAA demonstrate that it can increase consultation rates as well as prescriptions for the advertiser's product (Basara, 1996; t'Jong et al., 2004).

Proponents of DTCA and DAA claim that the pharmaceutical industry can provide valuable information regarding health conditions and help consumers to identify symptoms and seek help (Auton, 2007; Bonaccorso and Sturchio, 2002). DAA is considered particularly important for conditions where there are high levels of under-diagnosis, such as diabetes (Wielondek, 2005).



However, it has been suggested that industry-sponsored DAA in Australia circumvents regulations that prevent DTCA (Mackenzie et al., 2007), and that some advertisements promote an association between the disease and a prescription product, even if the name of the product is not included (Mintzes, 2006). Often there are concurrent campaigns targeting doctors which use the same creative techniques but include product information (Hall and Jones, 2007).

Industry-sponsored DAA has been identified as a form of disease mongering or “widening boundaries of treatable illness in order to expand markets for those who profit from treatments” (Moynihan, et al., 2002, p.886). There is also concern that DAA tends to focus on ‘lifestyle conditions’, such as obesity or erectile dysfunction, where there are lucrative markets (Glatter, 2004). Other DAA has been criticized for promoting health conditions with vague or non-specific symptoms, or exaggerating the prevalence of a condition and using fear appeals, such that consumers are encouraged to identify themselves as suffering with, or consider themselves at greater risk of contracting, the advertised condition (Moynihan and Cassels, 2005). Consistent with criticism of DTCA (Bell et al., 2000), it has been found that while DAA can be eye-catching and emotive, it often provides very limited disease information (Hall et al., 2009).

DAA in Australia is currently regulated by the industry body, Medicines Australia. Until recently, guidance for DAA was under Section 9.5, ‘Patient Education’ in the Code of Conduct Edition 15 (Medicines Australia, 2006). This section stipulated that educational material should not stimulate the demand for prescription of a particular product, but should include: a description of the medical condition and general treatment information; a statement directing patients to seek more information from their doctor; and balanced information that does not create undue concern or misunderstanding in the community (Medicines Australia, 2006). Edition 16 of the Code of Conduct recently came into effect with a specific section (Section 12.7) on ‘Disease Education Activities in Any Media’ (Medicines Australia, 2009). The guidelines are similar, but state that the advertisement should focus on the condition itself and its diagnosis rather than treatment, and that key characteristics of the health conditions should be included (Medicines Australia, 2009).

The purpose of the current study was to determine the impact of DAA on older Australian women's perceptions of their susceptibility to, and the severity of, two advertised health conditions. We also aimed to determine whether women would respond differently to a range of behavioural variables (including their intention to seek further information, talk to their doctor and request a prescription or referral) if they viewed advertisements for health conditions with differing amounts of information and differing sponsor logos.

### 6.3 Method

The study design included the development of mock DAA for two health conditions that affect older women. Print magazine advertisements were used as there are high and growing levels of readership in Australia, particularly among women (Magazine Publishers of Australia, 2007). The advertisements were developed using marketing-communication principles (Rossiter and Bellman, 2005; Rossiter and Percy, 1997) and included similar styles of imagery and quantity of text as found in current DAA in Australian magazines (Hall et al., 2009). The advertisements provided information regarding two low profile health conditions: osteopenia, which is a state of early bone loss which can potentially increase the risk of developing osteoporosis; and fibromyalgia which is a disorder of the central nervous system associated with intensified pain due to abnormal sensory processing. Both conditions have been subject to controversy as to their clinical importance, and there is concern that they have the potential for disease mongering (Alonso-Coello et al., 2008; Berenson, 2008). The authors could find no evidence of mass media education or pharmaceutical promotions about these conditions in Australia. This differs from the US where there has been promotion by pharmaceutical companies of treatments for these conditions over the past few years (Berenson, 2008; Kelleher, 2005).

Two different manipulations were applied to the advertisements: the amount of information provided and the sponsor logos<sup>1</sup>. For the information manipulation, participants received either limited disease information (brief descriptions of the

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<sup>1</sup> Refer to Appendix E for examples of stimuli.

symptoms, and how to seek further information) or more detailed disease information (fuller descriptions of the symptoms, disease causation, diagnosis and management as well as how to seek further information). For the sponsor manipulation, fictional logos at the bottom of the advertisement varied between non-profit, pharmaceutical company and a combination of these two (co-sponsored). Research assistants approached women in a commercial shopping centre within a metropolitan area in NSW, during retail hours over five consecutive days in November 2008. Refusals and ineligible respondents were recorded. Consenting participants were randomly assigned an advertisement for one health condition, and then received an advertisement for the other health condition with the same sponsor and information manipulation. For example, if a participant was randomly assigned the co-sponsored, high information advertisement for fibromyalgia, she would subsequently be shown the co-sponsored, high information advertisement for osteopenia. Participants viewed the advertisements and completed the questionnaires<sup>1</sup> independently. All participants read an information sheet<sup>2</sup> and following participation, were debriefed regarding the hypothetical nature of the advertisements and offered contact details for relevant health support organisations.

Data was analysed using descriptive and non-parametric statistics. Mann-Whitney U tests were used to identify relationships between variables as this test is considered more appropriate than t-tests for nominal and scale variables which fail to satisfy the assumptions of normality (McCrum-Gardner, 2008). A score was created for perceived severity of the condition, which included responses to three bipolar adjective scales for how distressing, serious and inconvenient it would be to experience the condition. Item-to-total correlations were high ( $>.830$ ) and inter-item correlations were between  $.51$  and  $.67$ , indicating that none of the items were redundant. The internal consistency of the scale was measured using Principal Components Analysis. Only one component was extracted with an eigenvalue greater than one; it explained 73.9% of variance. All items loaded with values greater than  $.840$ . Cronbach's alpha for the three-item scale was  $.822$ , indicating an appropriate level of internal consistency.

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<sup>1</sup> Refer to Appendix F

<sup>2</sup> Refer to Appendix G

## 6.4 Results

A total of 977 women were approached to participate in the study, with 30% agreeing, however only 82.5% of those agreeing were eligible. Demographic data was not collected for the women that refused to participate in the study and as such it cannot be determined what percentage was eligible<sup>1</sup>. A total of 241 women aged between 48 and 85 years (median age of 64) participated in the survey. Sixty seven percent were born in Australia, and 14.6% were born in the United Kingdom; 93% spoke English at home. Approximately half had achieved Year 12 or higher education level, and 54% were retired. The demographic profile of participants is similar to women in this age group in the local government area, however participants in the study were found to have higher levels of educational attainment as an estimated 18% of women in this age group in the local government area have achieved Year 12 or higher education level.

Participants were asked about where they most often get information regarding disease or health conditions; while the most nominated source was their doctor (82%), television (45%), pharmacists (40%), internet (37%) and magazines (36%) were also cited as sources of health information.

Questionnaires were completed for a total of 466 advertisements; 232 on fibromyalgia and 234 on osteopenia, and most participants rated the advertisements as easy to understand. While 36% agreed that they or someone they knew well had suffered from fibromyalgia, 64% agreed that they or someone they knew well had suffered from osteopenia.

### 6.4.1 Behavioural Intentions

Participants were asked, as a result of seeing the advertisement, which of a list of six actions they would take. Seventy seven percent of the women agreed that they would talk with their doctor about the condition, 73% agreed they would ask about treatments or tests, 64% agreed they would look for information as directed by the advertisement and 55% agreed they would look for information from other sources.

Close to half (49%) agreed they would ask their doctor for a prescription or a referral as a result of viewing the advertisement, whereas only 23% agreed they would do nothing.

Contingency table analysis indicated a statistically different result between reported behavioural intentions for the two different health conditions, such that participants were more likely to report an intention to talk to their doctor about the condition ( $p=.029$ ) and to ask their doctor about treatments or tests ( $p=.024$ ), after viewing the advertisement for osteopenia (see Table 6.1).

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<sup>1</sup> Refer to Appendix H

Table 6.1: Percentage of agreement with behavioural intention by condition type

Behavioural intention		Condition Type		$\chi^2$
“As a result of seeing this advertisement would you...”	Fibromyalgia (n=232)	Osteopenia (n=234)	p-value	
Talk to your doctor about the condition	73.1%	81.7%	.029	
Ask your doctor about treatments or tests	68.3%	77.8%	.024	
Look for information as directed by the advertisement	63.1%	65.5%	.596	
Look for information from other sources	55.0%	55.5%	.916	
Ask your doctor for a prescription or a referral	45.1%	52.5%	.123	
Do nothing	25.0%	20.6%	.291	

Behavioural intentions did not differ significantly between the sponsor manipulations. When considering the two information levels between the health conditions, there were no significant differences for participants viewing high or low information levels for the advertisements for fibromyalgia (see Table 6.2). However For the osteopenia advertisements, participants viewing low information advertisements were more likely to report an intention to ask their doctor for a prescription or a referral ( $p=.015$ ) than those viewing high information advertisements (see Table 6.3). Considering all participants, Mann-Whitney U tests showed that those who reported an intention to ask for a prescription or referral were more likely to be older ( $p<.001$ ), and less educated ( $p<.001$ ).

Table 6.2: Percentage of agreement with behavioural intention by information manipulation: Fibromyalgia

Condition Type	Fibromyalgia n=232		
	Information level		$\chi^2$
Behavioural intention	High (n=54)	Low (n=178)	p-value
“As a result of seeing this advertisement would you...”			
Talk to your doctor about the condition	71.2%	73.7%	.420
Ask your doctor about treatments or tests	63.5%	69.8%	.245
Look for information as directed by the advertisement	59.6%	64.1%	.333
Look for information from other sources	48.1%	57.1%	.164
Ask your doctor for a prescription or a referral	41.2%	46.3%	.314
Do nothing	28.0%	24.1%	.349

Table 6.3: Percentage of agreement with behavioural intention by information manipulation: Osteopenia

<b>Condition Type</b>	<b>Osteopenia n=234</b>		
	<b>Information level</b>		<b><math>\chi^2</math></b>
<b>Behavioural intention</b>	<b>High (n=56)</b>	<b>Low (n=178)</b>	<b>p-value</b>
“As a result of seeing this advertisement would you...”			
Talk to your doctor about the condition	76.4%	83.3%	.167
Ask your doctor about treatments or tests	69.8%	80.2%	.082
Look for information as directed by the advertisement	57.4%	68.0%	.103
Look for information from other sources	48.1%	57.8%	.139
Ask your doctor for a prescription or a referral	38.5%	57.0%	.015
Do nothing	23.4%	19.7%	.361

When considering personal experience (if they or someone they knew well had suffered from the advertised health condition), participants viewing fibromyalgia advertisements and reporting personal experience were significantly more likely to report an intention to look for information from other sources and request a prescription or referral from their doctor than those participants without personal experience (see Table 6.4). For participants viewing osteopenia advertisements,



participants reporting personal experience were more likely to report agreement to all behavioural intentions with the exception of do nothing (see Table 6.5).

Table 6.4: Percentage of agreement with behavioural intention by personal experience: Fibromyalgia

<b>Condition Type</b>	<b>Fibromyalgia</b>		
	<b>n = 219 (13 missing responses)</b>		
<b>Behavioural intention</b>	<b>With personal experience n = 79</b>	<b>Without personal experience n = 140</b>	<b><math>\chi^2</math> p- value</b>
Talk to your doctor about the condition	76.3%	71.0%	.251
Ask your doctor about treatments or tests	69.3%	67.6%	.463
Look for further information as directed by the advertisement	64.0%	61.5%	.417
Look for further information from other sources	64.4%	49.6%	.028
Ask your doctor for a prescription or referral	54.1%	39.4%	.030
Do nothing	20.6%	27.1%	.202

Table 6.5: Percentage of agreement with behavioural intention by personal experience: Osteopenia

Condition Type	Osteopenia		
	n=227 (7 missing responses)		
Behavioural intention	With personal experience n = 146	Without personal experience n = 81	$\chi^2$ p-value
Talk to your doctor about the condition	86.7%	72.2%	.007
Ask your doctor about treatments or tests	82.4%	68.8%	.018
Look for further information as directed by the advertisement	71.6%	53.9%	.007
Look for further information from other sources	59.9%	48.1%	.064
Ask your doctor for a prescription or referral	59.1%	39.2%	.004
Do nothing	14.8%	31.3%	.007

Note that a Bonferroni adjustment of alpha to <.008 to prevent possible T1 errors associated with multiple tests would render some of these results not significant.

#### 6.4.2 Perceived Severity and Susceptibility

Participants perceived both conditions to be severe (mean score of 4.53 for fibromyalgia and 4.42 for osteopenia on a six point scale); there was no significant difference between scores for the two conditions. When asked to rate how likely it would be that they would experience the advertised conditions (on a six-point scale

where one was not at all likely and six was very likely), participants perceived themselves to be susceptible to both conditions (mean score of 3.40 for fibromyalgia and 3.88 for osteopenia), but significantly more susceptible to osteopenia ( $p=.007$ ). No significant differences were found across the sponsor or information manipulations.

Participants who nominated an intention to ask their doctor for a prescription or a referral were significantly more likely to perceive higher susceptibility to the health conditions (mean score of 4.14 compared with 3.12 for participants who did not intend to ask,  $p<.001$ ), and have higher severity scores (mean score of 4.77 compared with 4.28,  $p<.001$ ).

## 6.5 Discussion

The results indicate that participants exposed to the advertisements with less disease information may be more likely to express an intention to ask their doctor for a prescription or a referral as a result of seeing those advertisements. This finding is of concern for general practitioners as requests for prescription medicines or referrals as a result of viewing DAA may cause tension in their relationship with patients, and valuable consultation time may be lost responding to inappropriate requests for treatment and re-educating patients as has been found for DTCA (Murray et al., 2003). The results have important implications for regulation in Australia, as they indicate that DAA can stimulate demand for prescription medicine products, particularly if limited disease information is provided. If the purpose of industry-sponsored DAA is to provide education rather than stimulate demand for prescription medicines, regulators should provide more guidance to advertisers as to what types of disease information (such as symptom, cause, prevalence and risk factor information) and what level of detail should be provided. While the effect of the very recent and more specific guidelines for DAA in Medicines Australia's Code of Conduct Edition 16 are yet to be determined, there is potential that even more prescriptive guidelines are required, such as those made by the Medicines and Healthcare products Regulatory Agency in the United Kingdom (MHRA, 2005).

The results demonstrate the importance of providing prevalence and risk factor information in DAA to assist consumers to more accurately identify their susceptibility. Just over one quarter of participants estimated that it was very likely that they would experience fibromyalgia in the future, whereas international data suggests between 2% and 10% of women have the condition (Wolfe et al., 1995). Similarly, 36% estimated that it was very likely that they would experience osteopenia, while an Australian study of women aged over 50 years found a prevalence of 15% (University of South Australia et al., 2007). These results provide some support for the notion that DAA can inflate the perceived prevalence of advertised disease (Moynihan, et al., 2002).

Most participants reported an intention to look for further information, talk to their doctor about the condition and ask about treatments or tests, however further research is needed to determine if intentions result in actual behaviour. The high level of reported intentions following exposure to the DAA has potentially positive implications for organisations attempting to generate awareness of health conditions among this group, particularly for under-diagnosed conditions. However, this potentially also has negative implications, as the advertisements in the study were for diagnostically controversial conditions, where there is inconclusive evidence for pharmacological treatment (Alonso-Coello et al., 2008; Berenson, 2008). Participants with the intention to ask for a prescription or referral perceived a higher level of susceptibility to, and severity of, the health conditions, and were found to be older and less educated. While further research is required, this suggests that older and less educated women are particularly open to the influence of DAA, and would benefit most from the provision of impartial health information.

These findings are consistent with the Health Belief Model which posits that perceived susceptibility and perceived severity, along with other factors including cues to action or media/education, combine to predict the likelihood of behaviour intention (Janz et al., 2002). The current study, however, did not consider other factors in the model including perceived benefits and barriers to taking action and self efficacy.

The results of the current study can be compared with a study in the US involving 1465 women who were exposed to DTCA in a test magazine (Mehta and Purvis, 2003). The US study found that 43% of participants reported that they would ask their doctor about a specific medicine they saw advertised (Mehta and Purvis, 2003) compared with 73% in the current study that reported they would talk with their doctor about treatments or tests after viewing DAA. In the US study, only 12% reported that they would ask their doctor to prescribe a medicine that they saw advertised and these women were more likely to have personal experience with the medicine (Mehta and Purvis, 2003). In contrast, the current study found that almost half (49%) reported that they would ask their doctor for a prescription or a referral as a result of viewing DAA. The higher levels of reported behavioural intentions in the current study can be attributed to participants having viewed only two advertisements for health conditions that were targeted to their age and gender (rather than viewing a wider range of advertisements shown within the context of a magazine).

A limitation of the current study is that participants' involvement with the stimuli would be very different to how they would normally view magazine advertisements, as only single A4-size advertisements were provided. Sampling by intercept method has limitations including a level of response bias and, because sampling occurred during business hours over one week in one metropolitan area, it is likely that the findings are not representative of all Australian women in this age group. Another limitation is the potential that participants confused the advertised condition 'osteopenia' with the better known condition 'osteoporosis'. This may have led to a greater perceived severity and susceptibility to the condition, and increased agreement for personal experience with the condition and intention to take action.

Despite these limitations, the results are important and demonstrate that DAA can influence women to report an intention to request a prescription medicine or referral from their doctor. The effects were most pronounced in older, less educated women, along with those reporting personal experience with the health condition, and those viewing advertisements with limited disease information. If the pharmaceutical industry is genuinely concerned about providing education via DAA, rather than stimulating demand for prescription medicines, then Medicines Australia should provide detailed guidance regarding the amount and types of disease information to

be included. Further research is required to determine behavioural effects of DAA in different media, as well as the potential impact on doctor-patient relationships.

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**7 CHAPTER 7: THE PERCEIVED ADEQUACY OF INFORMATION IN  
PHARMACEUTICAL INDUSTRY-SPONSORED DISEASE  
AWARENESS ADVERTISING**

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## 7.1 Abstract

**Objectives:** In Australia, direct-to-consumer advertising of prescription medicines is not allowed, however pharmaceutical companies can sponsor advertisements about health conditions or disease. While there is debate about the potential negative effects of disease awareness advertising, the industry maintains that it serves an educational function, and is particularly important for new or under-diagnosed conditions. This study aimed to determine older women's perceptions of the adequacy of disease information in advertisements for two health conditions: fibromyalgia and osteopenia.

**Methods:** 119 women over 48 years were recruited via mall intercept method in a metropolitan shopping centre in NSW, Australia. They were randomly allocated magazine advertisements with either limited or detailed disease information and completed a questionnaire. The mock advertisements were based on advertisements found in popular Australian women's magazines, and complied with current industry advertising regulation for "Patient Education".

**Results:** Overall, participants held very positive attitudes towards the advertisements. However, participants receiving limited information advertisements (similar to actual advertisements in Australian magazines) were less likely to perceive adequate information was provided with respect to the cause, symptoms, prevalence, risk factors, prevention and treatment of the advertised health conditions.

**Conclusions:** An increased amount of different types of disease information, similar to that provided in the more detailed information advertisements used as stimuli, is more likely to satisfy consumers and increase the educational value of industry-sponsored disease advertisements.

**Implications:** Australian advertising regulation should be strengthened to include specific guidelines for the provision of different types of disease information in industry-sponsored disease awareness advertisements.

## 7.2 Background

### 7.2.1 Direct-to-Consumer Advertising (DTCA) of Prescription Medicine

In the United States (US) and New Zealand, manufacturers of prescription medicines can advertise their products directly to consumers, commonly known as direct-to-consumer advertising (DTCA). There has been considerable debate in both countries regarding the potential positive and negative effects of DTCA (Auton, 2007; Hoek, 2008). Proponents of DTCA argue that it provides valuable information to consumers about health conditions and treatments, that it encourages discussions with doctors and potentially expedites diagnosis and improves compliance with treatment regimens (Auton, 2007; Bonaccorso and Sturchio, 2002). Some public health and consumer advocates however argue that DTCA over-emphasises the benefits of prescription medicines and encourages consumers to become overly reliant upon them, potentially to the detriment of behaviour change or other therapies (Coney, 2002; Mintzes, 2002). It is argued that because DTCA tends to promote the benefits of treatment, and often omits other health information – such as symptom, risk-factor and prevention information – it can lead to inappropriate requests for medicines which can result in unnecessary prescribing or the loss of consultation time where the doctor has to re-educate patients (Toop and Mangin, 2006).

There is considerable evidence that DTCA promotes consumer requests for prescription medicines, and results in increased diagnoses as well as increased prescriptions (Gilbody et al., 2005). Surveys have found that consumers value DTCA for the information it provides on treatments, and they perceive it helps them in discussions with their doctors (Hoek et al., 2004; USA Today et al., 2008). However, New Zealand and US consumers are undecided as to whether DTCA helps them to make better decisions about their health (Hoek et al., 2004; USA Today et al., 2008).

Several content analyses of DTCA conducted in the US have noted the lack of disease information and subsequently the limited educational value of advertisements across a range of media (Bell et al., 2000; Curry et al., 2005; Kaphingst et al., 2004).

A US study analysed 320 DTC advertisements in 18 consumer magazines from 1989 to 1998 (Bell et al., 2000). They found that most advertisements provided the name of the condition that the drug was designed to treat, and 60% provided symptom information. However, less than 30% provided information on precursors to disease, less than 15% provided information on the prevalence, and very few provided information on supportive lifestyle/behaviour change to complement treatments (Bell et al., 2000).

### 7.2.2 Disease Awareness Advertising (DAA)

A form of DTCA by pharmaceutical companies that is currently permissible in Australia, as well as in many other western nations, is disease awareness advertising (DAA). In DAA, pharmaceutical companies are permitted to promote awareness about diseases or health conditions for which they manufacture a treatment or vaccine, provided they do not name their product directly and do not encourage consumers to seek a prescription. There are concerns about potential negative effects of DAA, similar to those associated with DTCA. Pharmaceutical company-sponsored DAA has been criticised as a form of “disease mongering”, where consumers are encouraged to identify themselves as suffering with an advertised condition in order to increase the potential market for treatments (Hughes and Minchin, 2003; Moynihan et al., 2002). DAA been criticised for potentially causing consumer fear and anxiety (Hall, 2008; Mintzes, 2006) and this may result in unnecessary visits to general practitioners. DAA often coincides with branded advertising campaigns that target doctors (Glatter, 2004; Hall and Jones, 2007a). However, the pharmaceutical industry maintains that DAA, like DTCA, serves an important educational function, that it can help consumers to recognise symptoms and that it encourages early diagnosis (Bonaccorso and Sturchio, 2002). They argue that DAA can be helpful in educating and motivating consumers, and has potential to redress under-diagnosis of health conditions such as high cholesterol and diabetes (Wielondek, 2005).

The small amount of research into DAA suggests that, like DTCA, it can increase disease-related consultations and prescriptions of the advertiser’s product (Basara, 1996; t’Jong et al., 2004). Similar to responses found for DTCA, Australian consumers believe that DAA helps to create awareness of disease and different

treatment options, and helps people to have better discussions with their doctor (Hall and Jones, 2007b). However a recent content analysis of DAA in popular Australian magazines found that the industry-sponsored DAA did not provide comprehensive disease information, and less than half of the pharmaceutical advertisements contained information on aetiology, risk-factors, symptoms or prevention (Hall et al., 2009). The authors concluded that current regulation of DAA in Australia could be strengthened with the inclusion of more specific guidelines as to the types and the amount of disease information to be included, so as to improve the educational value of DAA for consumers. A similar recommendation was made following a national policy review in 2001, that being a specific code of practice be developed to regulate the content of pharmaceutical company-sponsored DAA, such that benefits for consumers would be enhanced and risks minimised (Galbally, 2000).

### 7.2.3 Regulation of DAA in Australia

Pharmaceutical sponsored DAA is self-regulated by Medicines Australia, an industry body. DAA falls under Section 9.5 (Patient Education) of their Code of Conduct (Edition 15). The Code allows for information on health conditions and the broad range of treatments which may be prescribed by doctors providing the material:

- is current, accurate, balanced;
- does not focus on a specific product or treatment;
- includes a statement directing consumers to further information about the condition/range of treatments;
- does not encourage patients to seek a prescription for a product;
- does not cause alarm or misunderstanding; and
- does not raise the patients' hopes of successful treatment (Medicines Australia, 2006).

The current Australian regulation differs from other countries, including the US and the United Kingdom, which have guidelines specifically for DAA (Food and Drug Administration, 2004; MHRA, 2005). The Australian regulation is likely to change in 2010 as the proposed Edition 16 of the Code of Conduct includes a section on "Disease Awareness Education" (Medicines Australia, 2009). However, unlike the UK guidelines, the proposed Australian guidelines are not specific with respect to the types of disease information required in DAA.

The current study sought to determine consumer responses to hypothetical DAA based on recent examples found in Australian magazines (Hall et al., 2009). The hypothetical DAA were for two relatively unknown health conditions: fibromyalgia and osteopenia. Specifically, the study investigated older Australian women's attitudes toward the advertisements, including what they perceived to be the intent of the advertisement, and whether they felt adequate disease information was provided.

### **7.3 Method**

Print magazine DAA were devised as the stimuli and provided information regarding two health conditions: fibromyalgia and osteopenia<sup>1</sup>. Fibromyalgia is a condition where sufferers experience muscle stiffness and generalised pain as well as extreme fatigue and sleep disturbances. Osteopenia refers to a state of lower bone density which can potentially increase the risk of developing osteoporosis. These conditions were selected as they are relatively low profile in Australia, and they have not been the subject of any mass media education or pharmaceutical promotions as has occurred in the US (Berenson, 2008; Kelleher, 2005).

The advertisements contained factual disease information; however the sponsor logos (including a pharmaceutical company and a health foundation) and the contact details were hypothetical. Information levels were manipulated such that participants received either high information advertisements or low information advertisements. The high information advertisements contained more detailed information on the symptoms and aetiology of the conditions, and provided information under subheadings on how they are diagnosed, managed, and treated. The low information advertisements gave a more a general descriptions of the symptoms and brief information about seeking diagnosis or treatment. The design of the advertisements was informed by marketing-communication principles (Rossiter and Bellman, 2005; Rossiter and Percy, 1997), and the amount of information provided in the low information advertisements was similar to industry-sponsored DAA identified in a content analysis of popular Australian magazines (Hall et al., 2009).

The survey was conducted by intercept method over five days in a commercial shopping centre in a metropolitan area in NSW, Australia and was part of a broader survey into consumers reported behavioural intentions after viewing DAA, and attitudes to varying sponsors of DAA, results of which have been reported elsewhere (Hall, Jones and Iverson, 2010a, Hall Jones and Iverson, 2010b). Research assistants approached women in the target group and consenting participants were randomly assigned an advertisement using a freely available, web-based instrument (Urbaniak and Plous, 2008). After viewing the advertisement for one health condition and completing a one-page questionnaire<sup>2</sup>, participants received the advertisement for the other health condition with the same information manipulation. For example, if a participant completed a questionnaire after viewing the high information advertisement for osteopenia, they would then be given the high information advertisement for fibromyalgia. Once participants had completed the questionnaires, the research assistants explained that while the information in the advertisements was factual, the advertisements and the sponsors were hypothetical.

Responses were entered into SPSS version 15, and initially analysed using descriptive statistics. Five bi-polar adjective items were used to determine attitude to the advertisement based on established measures of attitude to and perceived credibility of advertisements (MacKenzie et al., 1986). An attitude to the advertisement scale was created from these items, however inter-item correlations were above the .85 level for three items, suggesting that they measured the same construct; thus two items were removed. A revised scale was created with the remaining three items and item-to-total and inter-item correlations were calculated to determine reliability. Inter-item correlations were between .582 and .856, and item-to-total correlations were above .850. Principal Components Analysis was performed with one component extracted with an eigenvalue greater than one. All items loaded with values greater than .82. Cronbach's alpha for the three item scale was .86.

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<sup>1</sup> Refer to Appendix E for examples

<sup>2</sup> Refer to Appendix F



Questions relating to the types of disease information were based on disease information codes used in a content analysis of DTCA in the US to determine medical condition information (Bell et al., 2000) as well as the types of disease information currently recommended for DAA in the UK (MHRA, 2005). The attitude to the advertisements scale failed to satisfy the assumptions of normality, and as such, Kruskal-Wallis and Mann-Whitney U tests were used to determine relationships with other variables (McCrum-Gardner, 2008).

#### **7.4 Results**

A total of 119 women aged between 48 and 85 years (median age of 65 years) responded to 230 advertisements. Sixty two percent of the women were born in Australia and 94% spoke English at home. Approximately 55% had achieved an education level of Year 12 or higher. Over half of the participants were retired, 17% were occupied with home duties, 11% were professionals and 6% were managers.

The majority of participants (85%) agreed that their doctor was their regular source of health information; however, many also agreed that television (45%), their pharmacist (41%), the internet (37%), magazines (36%) and newspapers (33%) were regular sources of health information.

Of the 230 responses collected, 113 were for fibromyalgia advertisements and 117 were for osteopenia advertisements. One hundred and ten responses were collected for the high information advertisements and 120 for the low information advertisements, and these were almost evenly split between the two health conditions. On a six-point scale where one was difficult and six was easy, the mean rating of understanding for all advertisements was 5.49. There were no significant differences in understanding between information level, or health condition. There was a significant difference between participant responses to the health conditions for personal experience – while only 35% of participants agreed that they or someone they knew well had suffered from fibromyalgia, 64% agreed that they or someone they knew well had experienced osteopenia ( $\chi^2$  (DF = 1, n=224) = 18.33,  $p < .001$ ).

#### 7.4.1 Perceived Intent and Attitude to the Advertisement

Participants were asked to identify what they perceived the advertisement was trying to do by selecting one of six options. Forty five percent perceived the intent of the advertisement was to provide information about a health condition, 18% to encourage them to talk to their doctor, 15% to encourage them to be more proactive about their health, 12% to provide information about a treatment, 8% to sell a product, service or treatment, and 2% to encourage them to ask for a prescription or referral. There were no significant differences in perceived intent between participants viewing different information levels, however there were significant differences between the two health conditions. Participants were more likely to perceive the advertisement for fibromyalgia was trying to provide information about a treatment (17% for fibromyalgia vs. 6% for osteopenia) and were more likely to perceive the advertisement for osteopenia was trying to sell a product, service or treatment (12% for osteopenia vs. 5% for fibromyalgia)  $\chi^2$  (DF = 5, n=208) = 13.67,  $p = .018$ .

Attitude toward the advertisement scores were high (mean score of 5.2 on a six-point scale), and there were no significant differences between participants viewing advertisements with different condition types or information levels. A Kruskal-Wallis test was conducted with attitude to the advertisement as the test variable and the perceived intent of the advertisement as the grouping variable to determine if there were any significant differences in participants' attitude scores relevant to their perceived intent. The six groups were found to significantly differ  $\chi^2$  (DF = 5, n=187) = 18.607,  $p = .002$ . Post-hoc comparisons were conducted using Mann-Whitney U tests with a Bonferroni adjustment of alpha to  $\alpha = .00083$ . Participants who perceived the intent of the advertisement was to provide information about a health condition or to encourage them to be more proactive about their health had significantly more positive attitude toward the advertisement scores than those who perceived the intent was to sell a product, service or treatment.

#### 7.4.2 Information Adequacy

Participants were asked whether they perceived that enough information was provided with regard to the aetiology, symptoms, and prevalence of the condition as well as who is most at risk, how the condition can be prevented and treated, and where to get more information.

When considering all participant responses with regard to adequacy of information, there were statistically significant differences between the two health conditions for all questions with the exception of information on what causes the condition and where you can get more information. Participants were more likely to agree that there was adequate information for the osteopenia advertisements, with the exception of symptom information (see Table 7.1).

Table 7.1: Percent agreement that enough information was provided by condition type

<b>Do you think enough information was provided with regard to:</b>	<b>Fibromyalgia (n=113)</b>	<b>Osteopenia (n=117)</b>	<b><math>\chi^2</math></b>	<b>p-value</b>
What causes the disease/condition	35%	44%	2.24	.087
What the symptoms of the disease/condition are	77%	52%	14.48	<.001
Who is most at risk of getting the disease/condition	65%	84%	10.53	.001
The prevalence of (or how many people have) the disease/condition	27%	42%	4.98	.018
How the disease/condition can be prevented	27%	41%	4.34	.026
How the disease/condition can be treated	59%	70%	3.31	.046
Where you can get more information about the disease/condition	91%	90	0.15	.437

When considering all advertisements for both health conditions a comparison of means revealed statistically significant differences in responses between the two information levels ( $p < .001$ ), with the exception of “where you can get more information about the disease/condition”. Participants receiving the high information advertisements were more likely to agree that adequate information was provided than those receiving the limited information advertisements.

When considering participants that viewed advertisements for fibromyalgia only, those receiving high information advertisements were significantly more likely to perceive that adequate information was provided regarding “what the symptoms of

the disease/condition are”, “who is most at risk of getting the disease/condition” and “how the disease/condition can be treated” than those receiving low information advertisements (see Table 7.2)

Table 7.2: Percent agreement that enough information was provided by information type: Fibromyalgia

<b>Condition Type</b>	<b>Fibromyalgia n=113</b>			
	<b>High information advertisement</b>	<b>Low information advertisement</b>	<b><math>\chi^2</math></b>	<b>p- value</b>
Do you think enough information was provided with regard to:				
What causes the disease/condition	48.1%	22%	8.507	.003
What the symptoms of the disease/condition are	83%	70.7%	2.347	.095
Who is most at risk of getting the disease/condition	76.9%	53.4%	6.602	.008
The prevalence of (or how many people have) the disease/condition	35.3%	20%	3.115	.061
How the disease/condition can be prevented	34.6%	20.7%	2.681	.077
How the disease/condition can be treated	69.8%	48.3%	5.293	.017
Where you can get more information about the disease/condition	92.6%	89.7%	.297	.418

When considering participants that viewed advertisements for osteopenia only, those receiving high information advertisements were significantly more likely to perceive that there was adequate information than those receiving low information

advertisements for all variables with the exception of “where you can get more information about the disease/condition” (see Table 7.3)

Table 7.3: Percent agreement that enough information was provided by information type: Osteopenia

<b>Condition Type</b>	<b>Osteopenia n=117</b>			
<b>Do you think enough information was provided with regard to:</b>	<b>High information advertisement</b>	<b>Low information advertisement</b>	<b><math>\chi^2</math></b>	<b>p-value</b>
What causes the disease/condition	56.6%	33.3%	6.177	.011
What the symptoms of the disease/condition are	69.8%	36.7%	12.390	<.001
Who is most at risk of getting the disease/condition	92.7%	75%	6.538	.009
The prevalence of (or how many people have) the disease/condition	69.2%	17.2%	30.459	<.001
How the disease/condition can be prevented	59.6%	23.7%	14.767	<.001
How the disease/condition can be treated	85.5%	55.9%	11.854	<.001
Where you can get more information about the disease/condition	90.7%	88.5%	.151	.469

When considering perceived adequacy of information for participants with previous personal experience with the condition (where they or someone they knew well had suffered with the condition), there were significant differences for perceived adequacy of information on aetiology and prevention. For these types of disease

information, participants with personal experience were significantly more likely to perceive that there was adequate information ( $p=.006$ ).

## 7.5 Discussion

The majority of women had very positive attitudes towards the DAA and this did not differ between those viewing the high or low information advertisements. Most women perceived that the intention of the advertisements was to provide information, encourage them to talk to their doctor or to be proactive about their health, which suggests that they did not perceive a commercial intent. Only 10% perceived a direct commercial intent (to encourage them to ask for a prescription or to sell a product or treatment), while a further 12% perceived the intent to be to provide information about a treatment. Those that perceived the intent was to sell a product, service or treatment held less positive views of the advertisement than those that perceived the intent to be informational or to encourage them to be more proactive about their health. This suggests that the small group of women that attributed a direct commercial intent were generally more sceptical about the advertisement overall.

The results demonstrate that participants receiving the high information advertisements were more satisfied that adequate information was provided for all disease information types.. This suggests that consumers would prefer more detailed information from DAA similar to that provided in the high information advertisements, and potentially even more detailed information on prevalence, aetiology and (where appropriate) prevention.

It should be noted that the limited information advertisements used as stimuli in the current study had approximately 85 words in the body text, which is similar to word-counts of the same sized, pharmaceutical company-sponsored DAA found in Australian magazines (Hall et al., 2009). The high information advertisements had word counts approximately two and a half times greater (around 225 words), and contained headings to guide consumers. Interestingly, greater amounts of information (up to 250 words of body copy) are recommended for magazine advertisements for

products where critical decisions are required, and the consumer's motivation is to avoid or solve a problem (as would normally be the case for disease information) (Rossiter and Percy, 1997).

The findings of the current study indicate that consumers would prefer more disease information in industry-sponsored DAA than is currently being provided by most advertisers. DAA could potentially be improved if the regulating body, Medicines Australia, provided more specific guidance as to what types of disease information should be included in advertisements, as well as examples of acceptable amounts of information for different media. In the UK, the Medicines and Healthcare products Regulatory Agency (MHRA) disease awareness campaign guidelines state that advertisements should be comprehensive and cover the key characteristics of the disease, including information on the aetiology, risk-factors, symptoms and preventive measures (MHRA, 2005, p.54).

When considering differences between the two health conditions, participants were more likely to agree that there was adequate information for osteopenia than for fibromyalgia, with the exception of symptom information. This was expected as osteopenia does not have identifiable symptoms, and as such symptom information was not included in either the low or high information advertisements. The greater perceived adequacy of the other types of disease information for the osteopenia advertisements could be attributed to greater familiarity with this condition (as a higher percentage identified as having suffered or knowing someone who suffered with osteopenia) or existing knowledge regarding the related condition (osteoporosis). This has implications for advertisers of rare or relatively unknown health conditions, as it appears consumers desire even more detailed information for such conditions.

There are several limitations of the current study including the sampling by intercept method which could attract a level of response bias. Because sampling occurred during business hours over one week in one metropolitan area, it is likely that the findings are not representative of all Australian women in this age group. The viewing and consideration of advertisements in the study setting would be very different to how advertisements might be viewed in a natural setting. The study was



limited to magazine advertisements which potentially have a different capacity to provide disease information than broadcast or digital media. Questions only asked about whether enough information was provided, and did not explore participants' retention or comprehension of the information in the advertisements. Other potentially important considerations in developing DAA that were not considered in the current study include the presentation of risk information, message framing and other persuasive techniques.

Older Australian women perceived there was inadequate disease information in the advertisements which reflect current magazine DAA. While the type of disease information would potentially vary depending on disease or condition being advertised and the personal experience of the consumer, it appears that more detailed disease information, similar to that provided in the high information advertisements, would satisfy consumers. Medicines Australia has the potential to improve the educational value of industry-sponsored DAA in Australia via the provision of specific guidelines regarding the types and amount of disease information to be included in advertisements.

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## **8 CHAPTER 8: CONSUMER PERCEPTIONS OF SPONSORS OF DISEASE AWARENESS ADVERTISING**

**Based on article submitted to *Health Education*, February 2010**

**Hall, D.V.**, Jones, S.C. and Iverson, D.C. (submitted), 'Consumer perceptions of sponsors of disease awareness advertising', *Health Education*

## 8.1 Abstract

**Purpose:** In many countries there is emerging concern regarding alliances between the pharmaceutical industry and health non-profit organisations (NPOs), and the increase of co-sponsored marketing activities such as disease awareness advertising. The current study explored Australian women's perceptions of disease awareness advertising with differing sponsors, to determine whether their attitudes toward the sponsor and their reported behavioural intentions differed as a function of the sponsor (or co-sponsor).

**Methodology:** Older women (aged 50+) were approached by mall-intercept method in a metropolitan area in New South Wales, Australia. Consenting participants were randomly assigned an advertisement with either a NPO sponsor, pharmaceutical company sponsor, or a combination of the two (co-sponsored). Each participant viewed advertisements for two health conditions (fibromyalgia and osteopenia) with the same sponsor manipulation, and completed a one-page questionnaire after reading each advertisement.

**Findings:** Participants had significantly more positive attitudes towards the NPO-sponsored advertisement than the pharmaceutical company-sponsored advertisement or the co-sponsored advertisement. Participants with more positive attitudes towards the sponsor were significantly more likely to report an intention to take action such as look for more information or talk to their doctor.

**Implications:** The results suggest that a NPO-sponsored advertisement promoting awareness about a disease or health condition is more effective without the co-sponsorship of a pharmaceutical company.

**Originality/Value:** This is the only identified research into attitudes towards sponsors of disease awareness advertising that considers pharmaceutical companies and health NPOs and is important given the increasing trend of disease advertising and cause-related marketing in Australia and internationally.

## 8.2 Introduction

Over the past three decades there has been an increase in corporations engaging in socially responsible marketing activities including corporate sponsorship of, and partnering with, Non Profit Organisations (NPOs) (Dibb et al., 2001; Kotler et al., 2003). This can benefit corporations through enhanced corporate identity and stakeholder relations as well as improved brand equity, and ultimately increased profit (Smith, 1994; Webb and Mohr, 1998). These alliances can also benefit NPOs through increased exposure, awareness, support and funds for their activities (Polonsky and Wood, 2001; Varadarajan and Menon, 1988). Health NPOs may consider entering a CRM alliance with a pharmaceutical company in an effort to increase public awareness regarding a disease or health conditions. However there is increasing criticism of pharmaceutical industry involvement with, and influence over health NPOs in western nations (Angell, 2006; Jacobson, 2005; Moynihan and Cassels, 2005), and cases of co-sponsored advertisements in Australia have attracted consumer scepticism (Hughes and Minchin, 2003). For NPOs embarking on disease awareness advertising (DAA), it is important to consider what effects co-sponsorship with industry may have on consumer attitudes towards the sponsors and consumer intentions to take health seeking behaviours.

### 8.2.1 Cause-Related Marketing

Cause-related marketing (CRM) is a recognised form of corporate philanthropy (Brønn and Vrioni, 2001; Mullen, 1997; Varadarajan and Menon, 1988). Similar concepts include mission marketing (Brønn and Vrioni, 2001), cause marketing alliances (Nowak and Washburn, 2000) and joint issue promotions (Wymer and Samu, 2003). Original definitions of CRM focussed on the exchange of revenue, where a corporate organisation donates a percentage of profit from the sale of product to a charity or cause (Polonsky and Wood, 2001). More recent definitions appear broader and incorporate any efforts that increase awareness and revenue for both corporate and charity partner (Lafferty et al., 2004). Berglind and Nakata (2005), for example, state that CRM is “the practice of marketing a product, service,

brand or company through a mutually beneficial relationship with a non-profit or social cause organisation” (p. 444).

Corporate organisations engage in CRM for a range of reasons, including increasing competitiveness or differentiation for their product, improving brand recognition or image, increasing or gaining access to a customer base, increasing sales, increasing publicity, enhancing corporate image, diverting attention from or countering negative publicity, and improving employee morale (Polonsky and Wood, 2001; Varadarajan and Menon, 1988). CRM can contribute to brand equity (value of the brand) and can strengthen relationships with a range of stakeholders, as well as improve message believability in marketing activities (Brønn and Vrioni, 2001).

For the NPO or charity partners, involvement with a corporate organisation often brings needed support including financial and other resources, such as personnel who may act as volunteers. Partnerships may also lend legitimacy or substantiate the cause, as well as increase opportunities for publicity (Polonsky and Wood, 2001). Further, nonprofits can benefit from partnership with well-respected corporations as their reputation may enhance the credibility of the NPO (Nowak and Washburn, 2000). While medium to longer-term associations are generally considered most beneficial for NPOs, it is important that the relationship does not create restrictive practices such as exclusivity arrangements where the NPO is restricted to only one corporate partner (Polonsky and Wood, 2001).

For consumers, CRM can provide greater choice and additional perceived value for a product. There is evidence that CRM promotions can enhance consumer perceptions regarding the cause, the corporation and the non-profit partner, particularly if there is a perceived “natural fit” between the corporate company and the cause (Lafferty et al., 2004; Simmons and Becker-Olsen, 2006). However, there is potential for controversy and negative effects from CRM activities, particularly if the corporate organisation overplays its involvement or support as this can lead to consumer scepticism (Brønn and Vrioni, 2001; Drumwright and Murphy, 2001). In a qualitative study considering United States (US) consumers’ attitudes towards CRM advertisers and their motives, Webb and Mohr (1998) found that the majority of participants felt more favourably towards NPOs and most participants identified



NPO motives in CRM as to help others. However their attitudes towards corporate organisations were less favourable, and they perceived that corporations' motive for involvement in CRM was either to help themselves or to help themselves and others (Webb and Mohr, 1998). Brønn and Vrioni (2001) state that "honesty, long-term commitment to a cause and involvement of non-profit organisation are factors that help to overcome customers' scepticism towards CRM" (p.219).

### 8.2.2 Non-Profits and Pharmaceutical Industry Marketing Relationships

In the US and other nations of the Organisation of Economic Cooperative Development, there has been increased concern on the part of consumer and public health advocates regarding pharmaceutical industry alliances with health NPOs (Angell, 2006; Jacobson, 2005; Moynihan and Cassels, 2005). In Ireland, a recent survey of 112 health activist organisations found that almost half received funding or support from the pharmaceutical industry. Qualitative research with a smaller sample of organisations, including interviews with key staff and analyses of organisational documents, demonstrated that medical research charities tended to value and be quite reliant upon industry research (O'Donovan, 2007). Jacobson (2005) was critical of a range of American health NPOs that appeared to be influenced by their relationships with (and funding received from) industry groups. He argued that "charities generally portray themselves as vigorous proponents of the public interest, helping victims, seeking cures and investigating preventive measures. But taking corporate donations puts enormous constraints on an organisation's activities and raises questions about a group's objectivity and independence" (Jacobson, 2005 pp. 351-352). It has been suggested that such alliances can cause health NPOs to shield industry in times of crisis, and can turn the focus of the NPOs towards medicinal treatments rather than behaviour change or prevention (Jacobson, 2005; Moynihan and Cassels, 2005).

Moynihan et al (2005) described that while many health NPOs work with the pharmaceutical industry to gain greater recognition for their particular cause, the pharmaceutical companies may use the relationship to create stronger links between their product and the disease itself, a phenomenon described as 'condition branding'. Parry (2003) stated that "if you can define a particular condition and its associated

symptoms in the minds of physicians and patients, you can also predicate the best treatment for that condition” (p.43). Condition branding has been considered a socially responsible action for the pharmaceutical industry that aims to generate awareness of a disease or condition in order to improve its recognition and treatment (Angelmar et al., 2007). However, others argue that condition branding is not a form of corporate social responsibility as its primary purpose is to increase brand share for products and the total number of prescriptions (Consumers International, 2006; Hall and Jones, 2008b). For pharmaceutical companies, it is considered particularly effective for brands where a company has the only treatment for that condition or a large market share (Angelmar et al., 2007). In condition branding, one form of promotion used by pharmaceutical companies is disease awareness advertising (DAA).

### 8.2.3 Disease Awareness Advertising (DAA)

In countries where direct-to-consumer advertising of prescription medicine is prohibited - such as Australia, Canada, Europe and the United Kingdom - pharmaceutical manufacturers are permitted to sponsor DAA, also known as help-seeking advertising (Hall and Jones, 2007; Mintzes, 2006). Companies usually sponsor DAA for conditions for which they manufacture a treatment or prevention product. DAA cannot include the name or brand of a prescription medicine product, but can provide information on the disease or health condition (such as prevalence or symptom information) and the suggestion to “ask your doctor”. In many instances, companies co-sponsor DAA with health NPOs, similar to CRM arrangements. A recent Australian example is an advertising campaign to promote bone density testing by Osteoporosis Australia with the pharmaceutical company Merck Sharp & Dohme who manufacture Fosamax, a product used to treat osteoporosis by increasing bone density.

Even though DAA does not directly promote a branded product, there is evidence that advertisements have increased prescriptions and sales of the advertiser’s product (Basara, 1996; t’Jong et al., 2004). Literature on the effectiveness, or consumer perceptions, of co-sponsored DAA is extremely limited. The only identified, and somewhat dated, study was conducted with 264 volunteers in the US (Hammond,

1987). This research was supported by the National Cancer Institute which is a government entity but often referred to in the research as a NPO. The Institute was conducting an advertising campaign with a well known food manufacturer (Kellogg's Company) on nutrition and cancer, and wanted to determine if perceived corporate credibility differed for advertisements sponsored by profit, NPO or a combination of profit and NPO. Participants were shown print, radio and television advertisements with a health promotion message (to increase dietary fibre) where the sponsor was manipulated. The sponsor varied between a fictional NPO (the United Cancer Foundation) and a fictional profit entity (the Wellness Marketing Association) and a combination of the two. Hammond (1987) found that the combination sponsor or the NPO sponsor alone were perceived as significantly more credible by participants than the profit sponsor alone. There was no significant difference in perceived source credibility between the NPO and combination sponsor. In a commentary on the actual advertising campaign that followed, sponsored by the National Cancer Institute and Kellogg's, Freimuth, Hammond and Stein (1988) reported improvements in consumer health knowledge and behaviour, as well as an increased market share for Kellogg's.

#### 8.2.4 Advertising Effectiveness and Source Credibility

While there are many factors that contribute to advertising effectiveness, one area research has focussed on is consumers' cognitive responses to persuasive messages (Belch and Belch, 2001). There is considerable evidence that the use of a highly credible source within an advertisement will increase persuasion (Petty and Cacioppo, 1986; Pornpitakpan, 2004). Two forms of source credibility can be influential: that of the endorser or presenter (such as a celebrity); and that of the company or organisation identified with the product (Lafferty et al., 2002; Pornpitakpan, 2004). This latter form of source credibility is commonly called corporate credibility, and includes the dimensions of expertise and trustworthiness (Goldsmith et al., 2000; Newell and Goldsmith, 2001). Expertise refers to a company's capacity or competency in producing and delivering a product, whereas trustworthiness refers to whether or not a company can be relied upon (Newell and Goldsmith, 2001).

While studies have demonstrated that endorser credibility has its strongest influence on attitude to the advertisement, corporate credibility has a stronger impact on attitude to the brand. Corporate credibility, however, has also been found to impact on attitude to the advertisement as well as purchase intention (Goldsmith et al., 2000; Lafferty et al., 2002). In the Hammond (1987) study previously described, while there was no significant relationship found between corporate credibility and message acceptance, corporate credibility did affect behaviour intention.

While the evidence from the Hammond (1987) study suggests that co-sponsorship with a for-profit organisation (such as the Wellness Marketing Association) will not significantly effect the source credibility of the NPO sponsor, there is no identified research into the effects of co-sponsorship of DAA with pharmaceutical companies. There is potential that growing scepticism regarding pharmaceutical industry influence over health NPOs may impact on consumer attitudes towards NPO sponsors in joint promotions. NPOs considering a CRM arrangement with a pharmaceutical company to promote awareness about a health condition should consider whether consumers perceive NPOs to have greater corporate credibility than pharmaceutical companies in sponsoring DAA, and whether this differs again for co-sponsored arrangements. They should also consider whether a co-sponsored disease awareness advertisement will be more or less effective than an NPO-sponsored advertisement in influencing consumer intentions towards health seeking behaviours.

### **8.3 Methodology**

The current study aimed to determine how older Australian women perceived mock print advertisements for two relevant health conditions which were sponsored by a fictional pharmaceutical company, a fictional NPO, or a combination of the two. The survey explored who participants perceived the advertiser or sponsor to be, their attitude towards the sponsor, and their reported behavioural intentions.

#### **8.3.1 Stimuli and Survey Questionnaire**

Print magazine advertisements were considered appropriate for stimuli as there are high and growing levels of magazine readership among Australian women

(Magazine Publishers of Australia, 2007). Mock advertisements were developed about two relatively unknown health conditions: fibromyalgia and osteopenia<sup>1</sup>. Fibromyalgia is a condition characterized by widespread pain and tenderness, and other symptoms including sleep disorders. Osteopenia is a state of lower bone mineral density and is often considered a precursor to developing osteoporosis and bone fractures. While there is evidence of pharmaceutical company promotions for these conditions occurring in the US in recent years (Berenson, 2008; Kelleher, 2005), there is no evidence of consumer-targeted promotions in Australia.

Sponsor logos that appeared at the bottom of each advertisement were manipulated such that three different sponsor conditions existed for each condition type: cosponsored, pharmaceutical industry-sponsored and NPO-sponsored. The sponsors were fictional, but were pre-tested, and the names of the NPO sponsors were directly related to the health condition. The NPO sponsor for the fibromyalgia advertisement was the “Fibromyalgia Foundation of Australia” and the NPO sponsor for the osteopenia advertisement was the “Osteopenia Foundation”. Note that in Australia, there are considerably fewer private foundations than in the US (Asia-Pacific Centre for Philanthropy and Social Justice, 2005) and, as such, the term “foundation” is usually associated with a public foundation or charitable organisation.

Marketing-communication principles considered appropriate for high-involvement and informational advertisements in magazines were used in the design and development of the advertisement stimuli (Rossiter and Bellman, 2005; Rossiter and Percy, 1997). The advertisements gave a brief description of each health condition and encouraged readers to contact their doctor regarding treatments or tests. The advertisements were checked for accuracy of content by health professionals, and were pre-tested with a snowball sample of 31 participants in the target group. Pre-test results demonstrated that participants found the advertisements to be believable (82%) and easy to understand (86%).

The questionnaire was based on previous questionnaires used to determine consumers’ behavioural intentions in relation to direct-to-consumer advertising and

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<sup>1</sup> Refer to Appendix I for examples of advertisements

DAA (Hall and Jones, 2008a; Hoek et al., 2004). Participants were asked who they thought the advertiser or sponsor was, and to rate their attitude toward the sponsor on bipolar adjective scales<sup>1</sup>. The scales were based on instruments described in relevant studies considering corporate credibility (Lafferty et al., 2002; Newell and Goldsmith, 2001). Additional questions captured the demographic information of participants.

### 8.3.2 Participants, Sampling and Random Assignment

Women were selected as the target group for the study as they generally have greater involvement in their own and their families' health information seeking and decision making behaviour (Commonwealth Office of the Status of Women, 2003). The survey was conducted during weekday retail hours in a commercial shopping centre within a metropolitan area in New South Wales, Australia. Research assistants approached women in the target group and consenting participants were randomly assigned an advertisement using a computer random allocation resource (Urbaniak and Plous, 2008). After completing the first advertisement questionnaire they then received the advertisement for the other condition with the same sponsor manipulation. For example, if a participant was randomly assigned the co-sponsored advertisement for fibromyalgia, they would subsequently be shown the co-sponsored advertisement for osteopenia. Following completion of the second advertisement questionnaire, participants completed the demographic questionnaire and were then provided with a gift voucher worth AU\$5 as a thank you for their participation. Participants were advised at this stage that although information in the advertisements was factual, the advertisements themselves and the sponsors were fictional.

This study was part of a broader survey into consumers reported behavioural intentions after viewing DAA, the results of which have been reported elsewhere (Hall, Jones and Iverson, 2010a, Hall Jones and Iverson, 2010b).

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<sup>1</sup> Refer to Appendix F.

### 8.3.3 Data Analysis

Data was analysed using descriptive statistics. A score was created for attitude toward the sponsor, which included responses to bipolar adjective scales for trustworthiness, expertise, reliability, honesty and believability of the advertiser or sponsor. Item-to-item correlations for trustworthiness, reliability and honesty were greater than .8 suggesting that these items were measuring the same construct. A new scale was then created (sponsor score) for responses to trustworthiness, expertise and believability; inter-item correlations ranged between .560 and .782. Item-to-total correlations were greater than .838. Principal Components Analysis was performed with one component extracted with an eigenvalue greater than one. All items loaded with values greater than .814. Cronbach's alpha for the sponsor score was .922. The scale variable failed to satisfy the assumptions of normality and as such, Mann-Whitney U tests were used to identify relationships with other variables.

## 8.4 Results

A total of 185 women aged between 48 and 85 years (median age of 64 years) participated in the study (response rate of 30%). Sixty nine percent of participants were born in Australia, and 12% were born in the United Kingdom. Ninety three percent of participants spoke English at home. Participants had a similar demographic profile to women in the local government area, but had higher educational attainment as approximately half had achieved at least 12 years of schooling, and for local women in this age group approximately 18% had completed Year 12 or equivalent..

A total of 178 advertisement questionnaires were completed for each health condition. There were 120 advertisements questionnaires completed for each of the pharmaceutical and combination sponsors, and 116 completed for the NPO sponsor. On a six-point scale (1 = difficult and 6 = easy) the mean rating of understanding for the advertisements was 5.46.

### 8.4.1 Identification of Advertiser

When asked who they thought the advertiser was, written responses were categorised into five generic categories and compared with the actual sponsor on the advertisement allocated to the participant. Overall, only 51% correctly identified the category of sponsor. The most predicted sponsor was pharmaceutical company (47%), followed by NPO (31%) followed by government/research/medical (G/R/M) (8%). Table 8.1 shows the predicted sponsor by actual sponsor allocated. Participants viewing the pharmaceutical sponsored advertisements were most likely to correctly identify that sponsor (83%), whereas only 66% of participants viewing the NPO-sponsored advertisements correctly identified that sponsor. Participants viewing the combination sponsor were more likely to predict a pharmaceutical company (49%) or NPO (21%) than to correctly identify the combination of sponsors (11%) ( $\chi^2 = 141.318$ ,  $p < .001$ ).

Table 8.1: Percentage of actual sponsor by predicted sponsor

<b>Actual sponsor</b>	<b>Predicted sponsor</b>					
	<b>Pharmaceutical</b>	<b>NPO</b>	<b>Combination</b>	<b>G/R/M</b>	<b>Unknown</b>	<b>Other</b>
Pharmaceutical	83%	6%	0%	2%	4%	5%
NPO	12%	66%	1%	12%	4%	5%
Combination	49%	21%	11%	8%	3%	8%

### 8.4.2 Attitude to the Sponsor

Mean sponsor scores for the actual sponsors allocated to participants were high (over four on a six-point scale) (see Table 8.2). Scores were similar for pharmaceutical and combination sponsors, however Mann-Whitney U tests showed that participants receiving NPO-sponsored advertisements gave significantly higher sponsor scores than those receiving either combination sponsored advertisements ( $p < .001$ ) or pharmaceutical sponsored advertisements ( $p < .001$ ). There were no significant differences between the two health conditions (fibromyalgia or osteopenia).



Table 8.2: Mean sponsor score for actual sponsor

<b>Actual sponsor</b>	<b>Mean*</b>	<b>N</b>	<b>Std. Deviation</b>
Pharmaceutical	4.422	101	1.115
NPO	4.994	106	.976
Combination	4.418	103	1.160

\*6-point scale

For predicted sponsors (where participants identified who they thought the advertiser was), Mann-Whitney U tests showed that NPO sponsors were rated significantly higher than pharmaceutical sponsors ( $p < .001$ ). Comparisons could not be made with other categories due to sample size limitations (see Table 8.3).

Table 8.3: Mean sponsor score for predicted sponsor

<b>Predicted sponsor</b>	<b>Mean*</b>	<b>N</b>	<b>Std. Deviation</b>
Pharmaceutical	4.209	137	1.155
NPO	5.125	90	.837
Combination	4.436	13	1.322
Government/research/medical	4.698	21	.983
Unknown	4.833	6	1.095
Other	4.854	16	1.124

\*6-point scale

Paired comparisons were considered appropriate for 171 of the women that completed two advertisements, to examine how their sponsor scores varied between advertisements for the two health conditions. A Wilcoxon signed-rank test was conducted with sponsor score as the dependent variable measured for the fibromyalgia advertisement and osteopenia advertisement viewed by each woman. A significant difference was found between the fibromyalgia advertisement (median =

4.67) and the osteopenia advertisement (median = 5.0) indicating that regardless of sponsor type, the sponsor of the osteopenia advertisement was rated more positively ( $z = -2.031$ ,  $p = .042$ ).

#### 8.4.3 Reported Behavioural Intentions

A one-way ANOVA test of actual sponsor against behavioural intentions found no significant differences in behavioural intentions between the groups viewing different sponsors. This was also the case for the predicted sponsor. However, Mann-Whitney U tests showed significant differences for each of the behavioural variables when considering the sponsor scores (or attitude towards the sponsor). Participants agreeing with each of the behavioural variables had significantly higher mean ranks for sponsor scores with the exception of “do nothing” where participants that agreed had a lower mean rank (see Table 8.4).

Table 8.4: Agreement with behavioural intention by sponsor score

Behavioural intention	Sponsor score		Z	p
“As a result of seeing this advertisement would you...”	Mean Rank			
	Agree	Disagree		
Look for information as directed by the advertisement	172.95	110.10	-5.936	<.000
Look for information from other sources	167.43	130.61	-3.641	<.000
Talk to your doctor about the condition	167.63	108.70	-4.947	<.000
Ask your doctor about treatments or tests	167.69	109.98	-5.083	<.000
Ask your doctor for a prescription or a referral	170.79	126.51	-4.488	<.000
Do nothing	101.10	153.12	-4.501	<.000

## 8.5 Discussion

The results show that only half of the participants were able to correctly identify the sponsor of the DAA despite clear corporate branding at the bottom of each advertisement. Almost half of the participants perceived the advertiser to be a pharmaceutical company regardless of the corporate logo displayed on their advertisement. Participants that were allocated co-sponsored advertisements were least likely to correctly identify the sponsors, and were more likely to identify a pharmaceutical company sponsor. This has implications for NPOs that are considering co-sponsoring DAA, as the involvement of the pharmaceutical company may be perceived as dominant, regardless of the equality of corporate branding on the actual advertisement. If the company is perceived as dominant, this may also have negative repercussions for the reputation of the NPO (Brønn and Vrioni, 2001; Drumwright and Murphy, 2001). In a recent US study of attitudes and behavioural intentions following exposure to CRM advertisements and co-sponsored public service announcements, Samu and Wymer (2009) concluded that while perceived fit of the cause and brand are important, perceived sponsor dominance is also important. In their study, participants had more positive attitudes towards the NPO and corporate sponsor, as well as stronger behavioural intentions, when the NPO was dominant in the advertisement and there was a high level of perceived fit (Samu and Wymer, 2009). Co-sponsored DAA may benefit from increased dominance of the NPO partner in corporate branding as well as a presence in the lead text and headline of advertisements.

Considering attitude toward the sponsor (sponsor scores) in the current study, the only significant difference for the sponsors predicted by participants was between the NPO and the pharmaceutical sponsor. This provides support for the notion that NPO (and government) sources are generally perceived by consumers to be more credible than commercial sources (Hayley, 1996). However, for the actual sponsors allocated to participants, the NPO-sponsored advertisements received significantly higher scores than those viewing the pharmaceutical sponsor or the combination sponsor. This differs to the Hammond (1987) study where both the NPO and combination sponsor were rated more highly, and suggests that consumers feel less favourably towards the involvement of pharmaceutical companies in DAA (as the corporate

sponsor in the Hammond study was a more generic “marketing association”). Further research is required as to whether consumers perceive a positive fit between pharmaceutical companies and health NPOs in the sponsorship in DAA. Future studies should also measure whether co-sponsorship of DAA by NPOs and pharmaceutical companies has an effect the perceived credibility or reputation of the individual organisations.

In the current study, there is potential that participants felt less positive attitudes towards pharmaceutical companies because there was no acknowledgement of the benefit to the companies. In DAA, pharmaceutical companies do not disclose their commercial intent to sell prescription medicine products, and often position advertisements as “community service announcements” (Medicines Australia, 2006). Recent research indicates that consumers can become sceptical of corporate societal marketing if the consumer perceives that the advertiser is deceiving them as to the commercial or other benefits accrued by the corporation in undertaking the marketing activity (Forehand and Grier, 2003).

While the advertisement sponsor did not show any significant influence on reported behavioural intentions, participants agreeing they would take action as a result of viewing the advertisements were significantly more likely to hold favourable attitudes towards the sponsor. This result was expected as it has been demonstrated that corporate credibility can influence purchase intention (Goldsmith et al., 2000; Lafferty et al., 2002), and it was also found in the Hammond (1987) study that corporate credibility had an effect on reported behaviour intention.

There are some limitations in the current study including that recruitment by intercept method can result in a level of response bias. Sampling occurred during retail hours over one week in a metropolitan shopping centre and may not be representative of all Australian women in this age group. Participants’ viewing of advertisements in the study environment would be different to how they would normally view magazine advertisements and responses may have been affected by social desirability bias, as women were completing surveys after being approached by research assistants within a shopping mall. Finally, the survey questionnaire did not ask participants about whether they perceived a level of fit between the sponsors

and the cause, which is an important consideration when determining consumer attitudes towards CRM activities.

While further research is required with larger sample sizes, and a wider range of advertisements, the current study found that NPO sponsors alone attracted higher sponsor scores, and that higher sponsor scores were found for participants with an intention to take action after viewing the advertisement. These results suggest that NPO-sponsored DAA is more effective without the co-sponsorship of a pharmaceutical company. The growing concern about pharmaceutical involvement with health NPOs may also detract from potential partnerships with industry in promoting awareness about disease. However, if NPOs choose to enter a co-sponsored arrangement in DAA, they may benefit from increasing their corporate branding, and ensuring that their involvement is perceived to be dominant over that of their pharmaceutical industry partners.

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## **9 CHAPTER 9: CONCLUSION**

### **9.1 Introduction**

The objectives of the National Medicines Policy in 1999 called for accurate information and education about medicines to be made available for consumers, including responsible advertising that enhances public health. The results reported in the previous chapters provide insight into current pharmaceutical company-sponsored advertising to Australian consumers, including the provision of information about medicines and health conditions. The results are summarised and compared under three headings and implications for regulation are discussed. First, the differing types of advertisements sponsored by pharmaceutical companies, including Disease Awareness Advertising (DAA), Direct-to-Consumer Advertising (DTCA), and unbranded product advertisements are considered. Second, results relating to the content of advertisements are summarised, including persuasive and informational content. Third, the effect of advertisements on consumers' reported behavioural intentions is discussed. The results suggest that while consumers have positive perceptions of DAA provided by pharmaceutical companies, some advertisements do not contain adequate disease information, are misleading, and may encourage consumers to request a prescription from their doctors. This concluding chapter also describes how this research informed the Medicines Australia (MA) Code of Conduct Review in 2009 and discusses implications of the research for advertisers, health professionals and consumers. It also provides recommendations for future research to further understanding, and improve the regulation, of pharmaceutical industry advertising in Australia.

### **9.2 Types of Advertisements**

Advertising for prescription medicines predominantly targets health professionals in Australia, however pharmaceutical companies also target the general public with different types of advertising including DAA. An initial aim of this research was to determine the extent and nature of advertisements targeting the general public in the

Australian mass media. Chapter 2 described cases of pharmaceutical company-sponsored unbranded product advertising for prescription medicines that have occurred in both print and broadcast media in Australia (Barry, 2000; Hughes and Minchin, 2003). Unbranded product advertisements can stimulate demand for a product, while not naming the product directly (ANZTPA, 2005). There is criticism of unbranded product advertising in Australia, as these advertisements are considered to circumvent the laws that prevent DTCA (Mackenzie et al., 2007; Vitry, 2004), and the National Review conducted in 2000 (Galbally, 2000) concluded that unbranded product advertising for prescription medicines could have similar negative consequences as DTCA for public health.

Independent coders in the content analysis (Chapter 5) considered a sample of 30 advertisements that appeared in popular Australian magazines over a twelve month period. They classified one third of the advertisements as unbranded product advertisements, using the ANZTPA definition (ANZTPA, 2005). This definition states that unbranded product advertisements “promotes the use and supply of a product by inviting the consumer to seek information about symptoms or conditions and/or their treatment or management while not referring overtly to any particular branded product,” (ANZTPA, 2005 p. 9). While unbranded product advertising for prescription medicine evidently exists in Australia, there is no specific clause to prevent or regulate this type of advertising in the current Medicine Australia (MA) Code of Conduct, Edition 16 (Medicines Australia, 2009). The term ‘unbranded’ is misleading, as while the name of the product is not included, the content analysis demonstrated that many other elements of branding are present in these advertisements. Further research is required into the presence of unbranded product advertising in Australia across a range of mediums, including the internet, and should consider the potential effects of this advertising on quality use of medicines (QUM).

The content analysis (Chapter 5) also found that the majority of advertisements identified during the monitoring period were for over-the-counter (OTC) products. DAA accounted for approximately 8% of therapeutic advertisements and was found to be sponsored by pharmaceutical companies, government entities, non-profit organisations (NPOs) as well as a combination of advertisers.

### 9.2.1 Consumers' Perceptions of Different Types of Advertisements

An important objective of the research was to determine Australian consumer responses to DAA including their perceptions of DAA generally, and their perceptions of DAA compared with their perceptions of DTCA. Results described in Chapters 3, 4, 6, 7 and 8 suggest that most consumers have favourable perceptions of DAA, but feel less favourably towards DTCA and unbranded product advertisements. The mail survey (Chapter 4) elicited Australian consumer responses to actual New Zealand DTCA, and a matched Australian disease awareness advertisement and an unbranded product advertisement. Participants were more likely to find the disease awareness advertisement to be valuable than the unbranded product advertisement or the DTCA. In the intercept survey (Chapter 7), older Australian women were shown hypothetical DAA for two health conditions, and the majority of participants held positive attitudes towards the advertisements.

In Chapter 3, Australian participants were asked about their general perceptions of DAA, and this was compared with New Zealanders' general perceptions of DTCA. The majority of participants in both countries agreed that these advertisements make people aware of different diseases or health conditions, and different treatment options. Similar proportions also agreed that these advertisements helped them in their discussions with doctors. Australian participants were ambivalent as to whether DAA helped them to make better health decisions. New Zealanders held some negative perceptions of DTCA including a perceived lack of balanced information in advertisements, and the potential for advertisements to create an increased reliance on medicines, or influence consumers to make inappropriate requests to their doctors for medicines that may not suit them.

### 9.2.2 Consumers' Perceptions of the Intent of Advertisements

The research aimed to explore consumer attitudes toward the sponsors of DAA, including their perceptions of the intent of the advertisement and advertiser. In the mail survey (Chapter 4) participants (including male and female over the age of 18) were shown one of four different types of pharmaceutical company-sponsored advertisements and asked what they thought the advertisement was trying to do. Participants were more likely to perceive the intent of the disease awareness

advertisement as being to provide information about a medical condition, whereas for the unbranded product advertisement and the DTCA, they were more likely to perceive the intent as being to sell a product or treatment. These results were expected, as the participants that received the more product-focussed advertisements recognised the commercial intent to sell a therapeutic product.

In Chapter 3, Australian participants were asked about their general perceptions of advertisements for health conditions that require prescription medicines, 72% agreed that advertisements alert people to disease in order to sell more medicine or medical products, whereas 62% perceived advertisements were designed to increase positive health behaviours.

In the intercept survey (Chapter 7), older Australian women were shown DAA for two health conditions and were asked to identify what they perceived the advertisement was trying to do by selecting one of six options. The most commonly selected purpose was to provide information about a health condition (45%), followed by to encourage them to talk to their doctor (18%), to encourage them to be more proactive about their health (15%), and to provide information about a treatment (12%). Only 10% perceived a direct commercial intent (to sell a product, service or treatment, or to encourage them to ask for a prescription or referral).

The results regarding perceived intent of the advertisement from the two studies described in Chapters 3 and 7 appear to be conflicting. This may be attributed to methodological differences, as for Chapter 3, the original question referred to advertisements for diseases or conditions that require prescription medicines, and this may have suggested the commercial motive to participants. Further, participants rated their agreement on a five-point scale (from strongly agree to strongly agree) and were given the opportunity to respond to each and every statement. In Chapter 7, however, participants were shown DAA as stimuli and were asked to select only one of six options to identify what they perceived the advertisement was trying to do. The differing results regarding perceived intent in these two studies may also be attributed to sample differences, as the mail survey included male and female adult participants, whereas the intercept survey included older (48+yrs) female participants. This suggests that older women may be less sceptical regarding the

intent of DAA. Further, the intercept survey (Chapter 8) found no significant differences in women's perceptions of the intent of DAA between advertisements with commercial and non-commercial sponsors. This suggests that participants did not identify the sponsor or did not consider sponsor motives when responding about the intent of the advertisement.

Further research is required to determine consumers' perceptions of the intent of DAA, including consumers that are potentially more vulnerable such as older consumers or those with lower literacy. From the current research, it appears that when exposed to actual or hypothetical pharmaceutical company-sponsored DAA (as described in Chapters 4 and 7) consumers do not recognise the commercial intent of the advertisers. This is concerning as if consumers do not readily recognise the commercial intent of industry-sponsored DAA then they may be less objective in evaluating the information provided. This issue has been raised previously in Australia, as well as in Canada and Europe, as an important matter for consumer protection (Mackenzie et al., 2007; Mintzes, 1998, 2006).

### **9.3 Content of Advertisements**

For the past two decades, there has been increasing criticism of pharmaceutical industry advertising of prescription medicines, particularly in countries that allow for DTCA including the United States (US) and New Zealand (Coney, 2002; Mintzes, 2002; Woloshin et al., 2001). Much of the criticism is around the provision of very persuasive yet potentially misleading information in advertisements, and the potential negative effect this may have for public health. This research aimed to explore the persuasive content of pharmaceutical company-sponsored advertising targeting Australian consumers. It also aimed to determine the informational content of advertisements, including the amount and types of disease information provided. Consumer perceptions of advertising content for these two areas are described, and implications for regulation discussed.

### 9.3.1 Persuasive Content

The research aimed to determine the use of branding and other persuasive techniques in pharmaceutical company-sponsored advertisements in the Australian mass media, and specifically in Australian magazines. Chapter 2 describes the range of brand building activities that can be employed by pharmaceutical companies including the emerging practice of condition branding. This Chapter also provides cases of pharmaceutical companies that use pseudo brands (where the identity of a product is conveyed without actually naming it) to promote prescription medicines directly to consumers. The content analysis (Chapter 5) found that most pharmaceutical company-sponsored DAA utilised techniques such as campaign names, logos or symbols. In the mail survey (reported in Chapter 2), where participants received one of four different types of advertisements, they were asked to identify who they thought the advertiser was. From the results, it appears that participants perceived the text in the most prominent logo or symbol in the advertisement to be the advertiser. Further research is required to determine how consumers perceive branding techniques such as campaign names, spokes-characters, logos and symbols used in pharmaceutical advertising, and whether they associate them with a prescription medicine product. Research should also determine whether these techniques are simultaneously being used in advertising to doctors, as is described for some of the cases in Chapter 2, and whether they increase consumer intentions to seek a prescription for a specific product.

In the content analysis (Chapter 5) the most prominent emotional appeal found in the advertising imagery was positive (happiness/healthiness/wellbeing). The analysis also found examples of pharmaceutical company-sponsored advertisements where the advertising visuals conveyed an implicit message of inflated prevalence of a health condition, and this differed to the explicit message of the text which conveyed the actual prevalence. Future content analyses of pharmaceutical advertising in a range of mediums should include more detailed analyses of the advertising visuals and emotional appeals and, ideally consumer responses to such appeals should be tested.



As described in Chapter 8, the credibility of an advertisement sponsor can affect the persuasiveness of an advertisement. An aim of the research project was to determine Australian consumer responses to advertisements, including their attitudes towards the sponsors of DAA. Only half of the older Australian women in the intercept survey (Chapter 8) were able to correctly identify the sponsor despite clear corporate branding on the bottom of each advertisement. Women receiving advertisements with the NPO sponsor held significantly more favourable views towards the advertiser than those viewing advertisements with a pharmaceutical company sponsor or a combination of the two. For the predicted sponsor however, significantly more positive scores were only found for the NPO advertiser when compared with the pharmaceutical company sponsor. Further research could explore consumers' capacity to identify different sponsors of DAA, and the effect of co-sponsored arrangements on perceived credibility of individual sponsors.

### 9.3.2 Informational Content

The research aimed to determine the provision of disease information in DAA in Australian magazines. In the content analysis of DAA (Chapter 5) the most common form of disease information found in all advertisements was treatment information, followed by information on the cause of the condition and symptom information. For pharmaceutical company-sponsored advertisements, treatment and prevalence information were most commonly identified. This has implications for both consumers and general practitioners. If advertisements focus on prevalence and treatment of a condition and do not educate consumers regarding the aetiology, symptoms, risk factors or prevention, then consumers may worry unnecessarily that they are susceptible, and make inappropriate requests to their general practitioner for medicines. Following exposure to the DAA in the intercept study (Chapter 6) participants perceived much greater susceptibility to the advertised health conditions than the actual prevalence rates for those health conditions.

In the content analysis (Chapter 5), of the advertisements included that were found to be in breach of the Medicines Australia Code of Conduct, one was due to "the lack of balance of information and that the information was intended to encourage a patient to ask their doctor to prescribe a product" (complaint #810) (Medicines Australia,

2006), and another because the information on treatments was not balanced (complaint #866) (Medicines Australia, 2007). As previously mentioned, two other pharmaceutical company-sponsored advertisements for genital herpes portrayed inflated prevalence of the condition via the advertising imagery. These results provide support for the notion that pharmaceutical company-sponsored DAA often provides unbalanced information (Mintzes, 2006; Moynihan and Cassels, 2005).

The research aimed to determine consumer perceptions regarding the adequacy of disease information in range of pharmaceutical company-sponsored advertisements. In the mail survey (Chapter 4) participants found it easier to make sense of the Alzheimer's advertisements which were more text dominant, and felt the weight loss advertisements which were more visually dominant provided insufficient information regarding the condition itself and treatments available. The results from the intercept study (Chapter 7) are similar to those for the direct mail survey (Chapter 4). Participants that received the more detailed information advertisements were more likely to be satisfied that adequate information was provided for all disease information types than those receiving limited disease information advertisements. For participants receiving the limited information advertisements, 64% agreed there was adequate information on who was most at risk of getting the disease/condition, just over half perceived adequate symptom or treatment information, and less than a third perceived adequate prevalence, aetiology or prevention information.

The pharmaceutical industry has the opportunity to provide more comprehensive disease information in DAA to better satisfy and educate consumers regarding health conditions. The most recent Medicines Australia Code of Conduct guidelines state that "disease education activities should cover the key characteristics of the disease" (Medicines Australia, 2009), however this could be more prescriptive, such as the guidelines used by the Medicines and Healthcare products Regulatory Agency (MHRA) in the United Kingdom which stipulate that DAA should include information on the aetiology, risk-factors, symptoms and preventive measures (MHRA, 2005 p.54).

The research did not examine actual understanding of advertisements but the results from Chapter 3 provide an indication of perceived understanding of different types of

advertising. Almost half of the New Zealand participants thought that most people felt confused by the information in DTCA which may be attributed to the requisite product information. For Australian participants considering advertisements about diseases/health conditions, one quarter felt that advertisements were difficult to understand.

#### **9.4 Reported behavioural intentions**

An important aim of the research project was to determine Australian consumer behavioural intentions as a result of viewing pharmaceutical company-sponsored advertisements. In the mail survey (Chapter 4) the behavioural intentions of participants varied depending on which health condition was advertised. Participants were asked if they would take specific actions after reading the advertisement envisaging that the condition was relevant to them personally, or to a family member. Participants viewing the Alzheimer's advertisements were significantly more likely to report an intention to talk with their doctor about the condition and about the treatment, and to seek a prescription, than those viewing the weight-loss advertisements. A similar response was found for the intercept survey (Chapter 6) with participants more likely to report an intention to talk to their doctor, and ask their doctor about treatments and tests after viewing the advertisement for osteopenia, than those viewing the advertisement for fibromyalgia. These results demonstrate that consumer's involvement with the advertised health condition will affect their reported behavioural intentions. Future studies should consider pre-testing consumer perceptions and behavioural intentions for different health conditions to ensure they do not differ significantly prior to conducting research with advertising stimuli.

The majority of participants in the mail survey (Chapter 4) expressed an intention to talk about the condition with their doctor and talk about the treatment with their doctor, however less than 40% reported an intention to seek a prescription. Similarly in the intercept survey (Chapter 6), the majority of participants agreed they would talk to their doctor about the condition and about treatments. However, 49% of participants in the intercept survey agreed they would ask their doctor for a

prescription or referral after exposure to the hypothetical DAA. Potentially the higher rate of agreement to request a prescription in the intercept survey is related to greater relevance of the health conditions to participants in that study, as the advertised health conditions were selected for their relevance to older women. The higher rate of agreement for the intercept survey may also be attributed to sample differences, as there is potential that older women are more likely to report an intention to request a prescription or referral than the general population after viewing DAA. Further, responses from the intercept survey may have been affected by social desirability bias, as women were completing surveys after being approached by research assistants within a shopping mall.

The high level of reported intention to request a prescription following exposure to the DAA in the intercept survey has potentially negative implications, as the advertisements for this study were for diagnostically controversial conditions, where there is inconclusive evidence for pharmacological treatment. This is also concerning from a public health perspective, as it demonstrates that such advertisements encourage consumer demand for new pharmacological treatments which may not be as effective or as safe as existing medications, or other non-pharmacological therapies. Of particular concern is the result reported in Chapter 6, that women viewing low information advertisements were more likely to report an intention to ask their doctor for a prescription or referral than those viewing high information advertisements. This has implications for regulation, as it appears that DAA can stimulate demand for prescription medicine products, particularly if limited disease information is provided. As previously suggested, Medicines Australia should provide more guidance to pharmaceutical advertisers as to what types of disease information (such as symptom, cause, prevalence and risk factor information) should be included in DAA and what level of detail should be provided.

## **9.5 Implications**

This research has raised a number of important issues which are relevant to regulators of pharmaceutical product advertising in Australia including Medicines Australia and the Therapeutic Goods Administration, as well as the Australian New

Zealand Therapeutic Products Authority if it is reinstated. The results have implications for health professions, and may also be of interest to organisations such as the National Prescribing Service and the Australian Medical Association. Some of results have implications for consumers which may also be of interest to consumer advocacy groups. Finally, there are implications for advertisers of disease including pharmaceutical companies, NPOs and government entities, and recommendations to improve advertisements to better educate consumers and benefit public health.

#### 9.5.1 Implications for Regulation

An aim of this research project was to generate new information to inform future regulation of pharmaceutical company-sponsored advertising in Australia. Within this concluding chapter, several issues with implications for regulation of advertising have been discussed, including the presence of unbranded product advertisements, use of branding techniques to convey a product identity and the lack of disease information in advertisements, and, of particular significance, the potential for DAA with limited disease information to stimulate demand for a prescription product. These results informed a submission by the Centre for Health Initiatives at the University of Wollongong to the Medicines Australia Code of Conduct Review in 2009. The Review Committee took some points raised in the submission into account and a new section 'Disease Education Activities in Any Media' (Section 12.7) has appeared in Edition 16 of the Code, effective 1 January 2010 (Medicines Australia, 2009). However, the results of the intercept study indicate that even more detailed guidelines regarding the amount and types of disease information to be included in DAA are required. Guidelines regarding the accuracy of disease information would also be beneficial, such as those suggested by Health on the Net Foundation for accreditation of web-based health information (Health on the Net Foundation 2010). Their Code principles recommend including the author and their qualifications, as well citing sources of published information. The new Medicines Australia Code of Conduct does not recognise the presence of, or specifically prohibit, unbranded product advertising (or the use of pseudo-branding) in Australia despite evidence reported in Chapters 2 and 5 that this exists.

MA has also failed to address concerns regarding consumer vulnerability to DAA as consumers do not readily recognise its commercial intent and may confuse it with government or NPO-sponsored advertising. Medicines Australia continue to refer to pharmaceutical company-sponsored DAA as a “community service” in the new Code of Conduct (Medicines Australia, 2009). The lack of disclosure of the commercial motive of pharmaceutical company-sponsored DAA (to sell prescription medicine products) is potentially unethical, particularly when considering more vulnerable groups such as older and less educated consumers. The World Health Organisation Ethical Criteria for Medicinal Drug Promotion (1988) specifically states that promotional material should not be designed so as to disguise its real nature, and advertisements targeting the general public should not take advantage of consumers’ concern for their health. Further research is required into potential options to redress the lack of disclosure of commercial intent in DAA, and it is hoped this may inform future revisions to the Medicines Australia Code of Conduct.

In the systematic monitoring and selection of advertisements for the content analysis (Chapter 5), nine unique pharmaceutical company-sponsored advertisements were identified. It is concerning that three of these were found in breach of the Medicines Australia Code of Conduct Edition 15. Potentially two advertisements for genital herpes with misleading images would also be considered in breach had complaints been submitted. This suggests a considerable proportion of industry-sponsored DAA appearing in popular Australian magazines is not compliant, and that self-regulation requires review. Edition 16 of the Medicines Australia Code of Conduct has only recently come into effect, and the success of its revised guidelines and more substantial sanctions is yet to be determined. Ongoing research is required to assess current practices of pharmaceutical advertisers and to determine the effectiveness of Australia’s industry-regulation of advertising. The lack of consumer complaints to Medicines Australia regarding advertisements also requires investigation, including whether consumers are aware of Code of Conduct and the Medicines Australia complaints process. Ideally, independent monitoring of advertisements in mainstream and digital media will occur, including monitoring the extent and nature of unbranded product advertisements. While further research is required, including analyses of advertisements in other media, other regulatory options should also be

considered such as government regulation, or co-regulation by industry and government.

### 9.5.2 Implications for Health Professionals

The research results have implications for health professionals as it was found that pharmaceutical company-sponsored DAA in Australian magazines focuses on treatment and prevalence information, and includes advice to speak with a doctor. It is apparent that the commercial motive of pharmaceutical company-sponsored DAA is to encourage conversations about health conditions between patients and doctors, to increase the potential that the company's product will be prescribed. The results of this research suggest that consumers may perceive inflated severity of, and susceptibility to, advertised health conditions. Further, advertisements with limited disease information are likely to encourage patients to ask their doctor for a treatment or referral. Health professionals should be aware of the potential influence that DAA has on consumers, which may in turn exert an influence on their decision to prescribe a therapeutic product. Because advertisements commonly omit important disease information including risk factors and preventive measures, doctors may be required to provide this information to their patients. Finally, health professionals should be aware that pharmaceutical company-sponsored advertisements targeting consumers often concurrently target doctors, but with a branded promotion, and that this has the potential to influence their prescribing behaviours.

### 9.5.3 Implications for Consumers

Consumers have generally positive perceptions regarding DAA and their sponsors, but are less aware of the commercial motive of pharmaceutical company-sponsored advertisements. While implications for regulation have already been discussed, there is also potential that consumers generally (and particularly more vulnerable groups) would benefit from media literacy regarding DAA, to help them to correctly identify the sponsors of advertisements and consider the sponsor motives. Such media literacy may help consumers to identify persuasive techniques used in advertisements and understand their potential effects. It could also help them to identify accurate and credible sources of health information to guide their help seeking behaviours. The

results indicate that consumers perceived inadequate disease information in DAA and would benefit from the provision of more comprehensive disease information.

#### 9.5.4 Implication for Advertisers

Many of the recommendations made for improvements to regulation of pharmaceutical advertising in Australia could be independently adopted by pharmaceutical advertisers – such as ensuring that comprehensive, balanced and accurate disease information is provided to consumers, including information on aetiology, prevalence, symptoms, risk-factors, treatment and prevention (where relevant to the health condition advertised). As well as these recommendations and local regulations, pharmaceutical companies should abide by the World Health Organisation Ethical Criteria for Medicinal Drug Promotion (1988) previously described. Results from the intercept survey (Chapter 8) suggest that other advertisers of health conditions, including the government or NPOs, should consider clearly differentiating their advertisements from those of pharmaceutical companies in order to increase positive perceptions of the advertiser and advertisement, and increase the likelihood of influencing behavioural intentions.

### 9.6 Future Research

A number of areas for future research have already been identified in this concluding chapter, including content analyses of DAA in other media, studies into the effectiveness of different persuasive techniques in pharmaceutical company-sponsored advertising, and further research into consumer perceptions and behavioural intentions following exposure to a range of DAA for varying health conditions in varying media. An area of growing interest is disease awareness websites, as Australian consumers are increasingly turning to the Internet as their preferred source of health information. The presence of pharmaceutical company-sponsored disease awareness websites appears to be increasing in Australia, and a recent study of Australian general practitioners found that close to half had recommended such websites to their patients after receiving incentives or enticements from pharmaceutical companies (Wayne and James, 2009).



Broader research should also be considered regarding the increasing medicalisation of western nations and consumer demand for pharmacological treatments, and the longer term implications for public health. Research should explore the influence of a range of agents for this change, including the pharmaceutical industry, and the effects on public health. To provide accurate information about medicines and their use, as set out in the National Medicines Policy, it would be important to assess the effectiveness of a variety of providers of information to determine what most benefits consumers from a public health perspective. Potentially, the provision of information about health conditions and treatments, including non-pharmacological treatments, from an independent or neutral service may be most beneficial.

## **9.7 Conclusion**

This research has extended knowledge regarding the types and content of pharmaceutical company-sponsored advertisements that directly target consumers in Australia and has provided evidence that unbranded product advertising for prescriptions medicines does occur. Results from the direct and intercept surveys indicate that consumers hold positive attitudes towards DAA and their sponsors, but often feel that advertisements provide insufficient disease information. The results suggest that when exposed to an actual disease awareness advertisement, consumers do not readily recognise its commercial intent, but are often motivated by it to speak with their doctor regarding the health condition and discuss potential treatments. DAA that contains limited disease information is more likely to encourage consumers to make requests for prescription medicines. This is potentially also the case for DAA that provides unbalanced information or uses misleading imagery. Such advertising may have negative consequences for consumers (such as heightened anxiety), and their doctors (such as dealing with inappropriate requests for medicines and spending consultation time re-educating patients). Further research is required into pharmaceutical company-sponsored advertising in Australia, including research into unbranded product advertisements and disease awareness websites. It is important that regulation of pharmaceutical company-sponsored DAA is strengthened to include guidelines regarding the amount and types of disease

information to be provided, and to prohibit or provide specific guidelines for unbranded product advertisements.

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## Appendix A. Questionnaire for direct mail survey reported in Chapters 3 and 4

1. When you first looked at the advertisement, what did you think stood out the most? (please tick one box only)

Pictures ☐  
 Title ☐  
 Advertiser logo ☐  
 Other logo ☐  
 Product information ☐  
 Sources for more information ☐  
 Other (please write) ☐

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2. Do you feel the advertisement is (Please rate on the following scale):

☐                      ☐                      ☐                      ☐                      ☐  
 Extremely Valuable      Valuable              Neutral              Not very valuable      Not valuable at all

Please provide a reason for your response:

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3. What do you think this advertisement is trying to do?  
(please tick *one* box only)

Provide information about a medical condition ☐  
 Provide information about a treatment ☐  
 Sell a product or treatment ☐  
 Encourage me to talk to my doctor ☐  
 Encourage me to ask for a prescription ☐  
 Other (please write) ☐

4. How easy was it to make sense of the information written under the picture in the advertisement? (please tick *one* box only)

Very easy ☐  
 Quite easy ☐  
 Neither easy nor difficult ☐  
 Quite difficult ☐  
 Very difficult ☐

5. After reading the advertisement, do you feel adequate information was provided regarding (please tick either *Yes* or *No* for each)

The medical condition itself	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The treatments available	<input type="checkbox"/> Yes	<input type="checkbox"/> No
The benefits of treatments	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Risks associated with treatments	<input type="checkbox"/> Yes	<input type="checkbox"/> No
How/where to obtain the treatment	<input type="checkbox"/> Yes	<input type="checkbox"/> No
How/where to get further information	<input type="checkbox"/> Yes	<input type="checkbox"/> No

6. Imagine this condition was relevant to you personally, as a result of reading the advertisement would you... (please tick either *Yes* or *No* for each)

Talk about the condition with your doctor	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Talk about the treatment with your doctor	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Seek a prescription from your doctor	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Other (please write)	<hr/>	

7. Imagine this condition was relevant to someone close to you, as a result of reading the advertisement would you ... (please tick either *Yes* or *No* for each)

Discuss the condition with them	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Talk about the potential treatment with them	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Encourage them to discuss the condition with their doctor	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Encourage them to discuss the treatment with their doctor	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Encourage them to seek a prescription from their doctor	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Other (please write)	<hr/>	

8. Who do you think the advertiser is?

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9. How reliable you think this advertiser is in providing information regarding this condition or disease? (please tick *one* box only)

Very reliable	<input type="checkbox"/>
Quite reliable	<input type="checkbox"/>
Not very reliable	<input type="checkbox"/>
Not at all reliable	<input type="checkbox"/>
Not sure	<input type="checkbox"/>

10. Have you recently seen or heard any other advertising about diseases or conditions that require prescription medicines (medicines prescribed only by a doctor)?

Yes ☐  
 No ☐ Please go to question 13  
 Not sure ☐

11. Where did you see or hear advertisements about diseases/conditions that require prescription medicines? (please tick as many boxes as you need to)

On television ☐  
 On the radio ☐  
 In a magazine ☐  
 In a newspaper ☐  
 On the Internet ☐  
 On a billboard ☐  
 In a letter or leaflet that came in the mail ☐  
 Other (please write) ☐

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12. Which of the following diseases or conditions do you recall seeing/hearing an advertisement for? Please tick as many boxes as you need to.

Osteoporosis	<input type="checkbox"/>	Alzheimer's	<input type="checkbox"/>	Heart disease	<input type="checkbox"/>
Erectile dysfunction	<input type="checkbox"/>	Weight loss	<input type="checkbox"/>	Arthritis	<input type="checkbox"/>
Genital herpes	<input type="checkbox"/>	Diabetes	<input type="checkbox"/>	Asthma	<input type="checkbox"/>
Meningococcal C	<input type="checkbox"/>	Chlamydia	<input type="checkbox"/>	Cholesterol	<input type="checkbox"/>
Vaccination/Immunisation	<input type="checkbox"/>	Other (please write)	<input type="checkbox"/>		

---

13. Please read the statements below and then tick a box beside each statement to show how much you agree or disagree with that statement (please tick *ONE* box for each statement).

	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Advertisements <u>help make</u> <u>people aware of</u> diseases/conditions and different treatment options	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advertisements about diseases/ conditions <u>help</u> <u>people make better decisions</u> about their health	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advertisements about diseases/ conditions <u>help</u> <u>people have better discussions</u> <u>with their doctor</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advertisements about diseases/ conditions <u>confuse</u> <u>people about what disease they</u> <u>may be at risk of developing</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advertisements about diseases/ conditions <u>are often</u> <u>difficult to understand</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advertisements alert people to disease <u>in order to make the</u> <u>disease itself more important</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advertisements alert people to disease <u>in order to sell more</u> <u>medicine or medical products</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advertisements alert people to disease <u>in order to increase</u> <u>positive health behaviours</u> <u>such as diet or exercise</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Advertisements alert people to disease <u>in order to increase</u> <u>visits to doctors or other health</u> <u>professionals</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. How knowledgeable would you say you are about health and medicines?  
(please tick *one* box only)

Very knowledgeable	<input type="checkbox"/>
Quite knowledgeable	<input type="checkbox"/>
Not very knowledgeable	<input type="checkbox"/>
Not at all knowledgeable	<input type="checkbox"/>

15. How would you rate your own health over the last twelve months?  
(please tick *one* box only)

Excellent	<input type="checkbox"/>
Very good	<input type="checkbox"/>
Good	<input type="checkbox"/>
Fair	<input type="checkbox"/>
Poor	<input type="checkbox"/>

16. Have you or a family member experienced any of the following conditions:

	You		Family Member	
Overweight	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Alzheimer's	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Heart disease	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Asthma	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Arthritis	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

17. In what year were you born? 19 \_\_\_\_\_

18. What is your country of birth? (please write)

\_\_\_\_\_

19. Which of these categories best describes your highest formal qualification?

Still attending school	<input type="checkbox"/>
Year 11 or less (did not complete HSC or equivalent)	<input type="checkbox"/>
Completed High School Certificate (Year 12 or equivalent)	<input type="checkbox"/>
Trade Certificate	<input type="checkbox"/>
Other Certificate	<input type="checkbox"/>
Associate or Undergraduate Diploma	<input type="checkbox"/>
Bachelor's Degree or higher	<input type="checkbox"/>
Other (please write)	



20. What is your gender?
- Female ☐
- Male ☐
21. What is your postcode?    \_ \_ \_ \_
22. Are you an Aboriginal or Torres Strait Islander?
- Yes ☐
- No ☐

## **Appendix B. Participant information sheet for direct mail survey reported in Chapters 3 and 4**

University of Wollongong



### **Research Study into Peoples' Responses to Advertisements about Disease.**

**Chief Investigators:** A/Prof Sandra Jones and Danika Hall  
University of Wollongong

#### **RESEARCH STUDY INFORMATION**

The University of Wollongong is conducting research into peoples' attitudes towards magazine advertisements for diseases or health conditions and the impact of such advertisements on consumer behaviour.

We request that a person in your household over the age of 18 completes the questionnaire. If that person sends the completed questionnaire in the enclosed reply paid envelope along with the separate consent form, they will go into the draw to win one of six \$100.00 'Coles Myer' vouchers.

Please note that consent forms and surveys will be separated on receipt at the University of Wollongong so that questionnaire responses remain confidential.

Participation in this research study is entirely voluntary and you are free to choose to participate or not participate. However, due to the confidential nature of the questionnaire once it has been completed and returned you will not be able to withdraw as the data cannot be identified.

If you have any questions regarding the study itself before or after you have completed the questionnaire or would like a copy of the results once the information has been completed you can contact Associate Professor Sandra Jones on 4221 4209.

If you have any concerns or complaints regarding how the research is or has been conducted you can contact the Ethics Officer, Human Research Ethics Committee, University of Wollongong 4221 4457.

## Appendix C: Advertisement stimuli for mail survey reported in Chapter 4

On this page, there is an advertisement about weight loss.

We know that this may not be relevant to you personally, but we would like you to read the advertisement as though it was relevant to you. Once you have read the advertisement, please answer questions on the following pages.



When I met my new man  
i **DECIDED** to stop being fat

**You can too.** Only you can make the decision to lose weight but your doctor and Reductil can help you achieve weight loss long-term. Reductil helps you to feel fuller, sooner – so you feel like eating less. When that's combined with sensible exercise and diet, Reductil is proven to help maintain long-term weight loss\*. Ask your doctor if Reductil is right for you, or for an information brochure:

**call 0800 REDUCTIL now.**

[www.reductil.co.nz](http://www.reductil.co.nz)

\*Reference: James WPT et al. Lancet. 2000;356:2119-2125. Important information about REDUCTIL: Reductil (sibutramine) is an unfunded Prescription Medicine for the treatment of significant obesity & obesity with risk factors. You will have to pay for this medicine. Normal doctor's visit fees and pharmacy charges apply. Reductil capsules contain sibutramine 10mg and 15mg. Use with a reduced calorie diet and exercise programme. Ask your Doctor if Reductil is right for you. Reductil is not suitable for use with psychiatric illness, heart disease or where blood pressure is inadequately controlled. Possible side effects are: raised blood pressure and increased heart rate. Use strictly as directed and if you have side effects see your doctor. Not recommended for people with obesity due to other causes, liver or kidney disease, prostate disease, people over 65 or children under 18. Other side effects include: loss of appetite, constipation, dry mouth, insomnia. These side effects are generally mild and reversible. Marketed by Abbott Laboratories (NZ) Ltd, PO Box 35-128, Lower Hutt. For more information visit [www.medsafe.govt.nz](http://www.medsafe.govt.nz) or [www.reductil.co.nz](http://www.reductil.co.nz). TAPS PP2249

INSIGHT0892H-NI

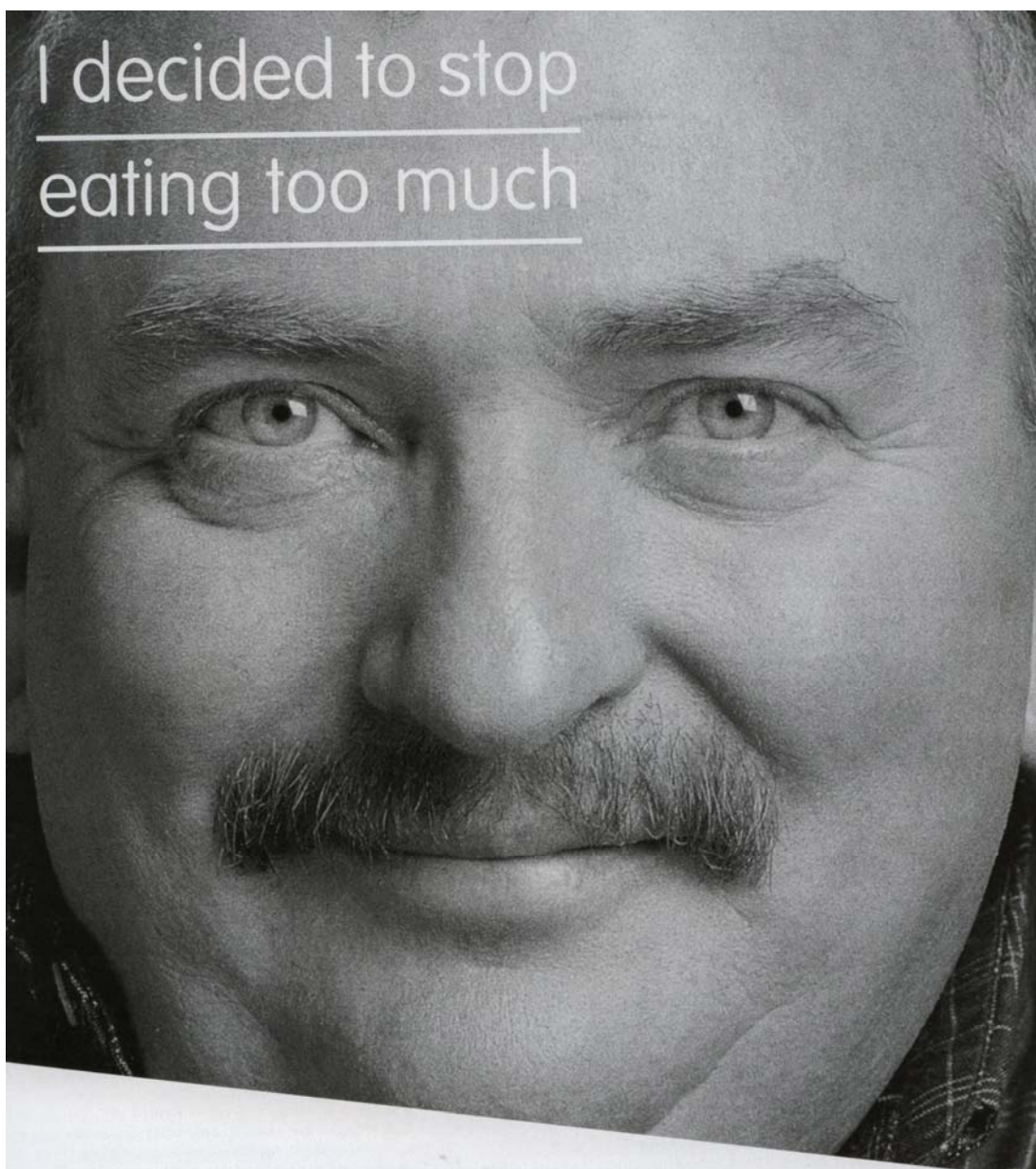
\* The free fitness pedometer offer is available only when you have been prescribed REDUCTIL by your doctor and enrol to become a new member of the Weigh of Life! Support Programme. This offer is valid while stocks last.

Call 0800 REDUCTIL today and receive a voucher for a **FREE fitness pedometer** when you start on REDUCTIL.\*

Once Daily sibutramine  
**Reductil**  
Weight loss starts from within.

On this page, there is an advertisement about weight loss.

We know that this may not be relevant to you personally, but we would like you to read the advertisement as though it was relevant to you. Once you have read the advertisement, please answer questions on the following pages.



I decided to stop  
eating too much

You can too. If losing weight is an issue that's always on your mind, it's time for a change. There are treatment options available. Talk to your doctor and take a positive step today. Only you can make the decision because **weight loss starts from within.**

To learn more go to [www.idecide.com.au](http://www.idecide.com.au) or call 1800 069 043


**i decide**<sup>™</sup>  
SUPPORTING YOUR WEIGHT LOSS

Abbott Australasia Pty Ltd. ABN 95 000 180 389. Sir Joseph Banks Corporate Park, 32-34 Lord Street, Botany NSW 2019. TM Trademark. The Health Agency RED056:11/04



On this page, there is an advertisement about Alzheimer's Disease. We know that this may not be relevant to you personally, but we would like you to read the advertisement as though it was relevant to you. Once you have read the advertisement, please answer questions on the following pages.

**Do you, any of your family members or loved ones, have Alzheimer's Disease?**



**Alzheimer's disease is the most common form of dementia.<sup>1</sup>**

Alzheimer's Disease is a disorder of the brain, which results in problems with memory and thinking abilities, as well as personality changes.

Your doctor will be able to discuss Alzheimer's Disease in more detail with you.

**Exelon is a treatment for mild to moderately severe Alzheimer's Disease.**

**Ask your doctor if Exelon is right for you or your loved one.**

**EXELON<sup>®</sup>**  
(rivastigmine)

**For a free Exelon patient brochure call 0800 838 909.**

Ref: 1. [www.alz.org](http://www.alz.org)

**NOVARTIS**

Exelon<sup>®</sup> is a prescription medicine available as capsules containing rivastigmine 1.5mg, 3mg, 4.5mg, 6mg for the treatment of mild to moderately severe Alzheimer's Disease. Exelon is an unfunded medicine - you will need to pay for this medicine. A normal doctor's fee applies. Do not use in severe liver disease. Cautions are heart rhythm disturbances, seizures, urinary disorders, asthma and chronic obstructive lung disease. Side effects can include nausea, vomiting, diarrhoea, heartburn, stomach pains and loss of appetite, headache, and dizziness. Refer to consumer medicine information at the website [www.medsafe.govt.nz](http://www.medsafe.govt.nz) for full details. Use strictly as directed. If symptoms continue or you need further information or you have side effects see your doctor. Exelon is the registered trademark of Novartis AG. Novartis New Zealand Ltd, Auckland.

EXL 0905-134-0906 WW, TAPS NA9624

On this page, there is an advertisement about Alzheimer's Disease. We know that this may not be relevant to you personally, but we would like you to read the advertisement as though it was relevant to you. Once you have read the advertisement, please answer questions on the following pages.



## *How could I ever forget you?*

As we grow older, we all forget things from time to time. But if memory loss is interfering with the daily life of you or someone you care for, see your doctor, because symptoms of Alzheimer's disease may be treated. Here is a checklist you might like to discuss:

- ☐ Problems remembering recent conversations
- ☐ Repeating the same question over and over, frequently forgetting appointments or losing things
- ☐ Difficulty performing familiar tasks such as dressing or cooking
- ☐ Problems remembering simple words or using the wrong words instead
- ☐ Getting lost in familiar places or not knowing the day or the year
- ☐ Having difficulty managing financial affairs, such as balancing a chequebook
- ☐ Rapid changes in mood for no apparent reason
- ☐ Marked changes in personality, increased suspiciousness
- ☐ A decrease in usual interests, initiatives, or no motivation for daily activities

### **Early detection of Alzheimer's disease is crucial in its overall management**

If you recognise any of these signs or symptoms, check with your doctor. Early detection of Alzheimer's disease means that you can plan with a positive outlook for the future.



[www.pfizer.com.au](http://www.pfizer.com.au)

Pfizer Australia Pty Limited, ABN 50 008 422 348. 38-42 Wharf Road, West Ryde NSW 2114. 01/04 PFI0295/CJB

## Appendix D: Coding sheet for content analysis reported in Chapter 5

1. Ad number			2. Coder initials		
3. Advertiser					
4. Advertiser type	Government or government agency	Non Government Organisation	Pharmaceutical company	Combination of advertisers	Other ( <i>please state</i> )
5. What do you think this ad is trying to do?					
6. Ad type (see guide)	Disease awareness	Unbranded product	Generic advertisement	Other ( <i>please state</i> )	
7. Disease/condition	<i>(please state)</i>				
8. Disease information (see guide – select one of the four options for each)	None	Mention	Mention & discussion	Focus of the ad	Comments
a. Cause/Aetiology					
b. Symptoms					
c. Risk factor(s)					
d. Prevalence					
e. Treatment					

f. Prevention					
g. Supportive behaviours					
h. Other <i>(please state)</i>					

<b>9. Further information (select which apply)</b>	Website	Telephone	Talk to doctor	Talk to pharmacist	Other <i>(please state)</i>
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<b>10. Target audience:</b> Who do you think the advertisement is talking to? Note that this may be different to the person at risk of (or experiencing) the disease/condition.	a. What gender group <b>(select one only)</b>	Male	Female	Both male and female	
	b. What age group <b>(select one only)</b>	Children/Teens	Young adults	Adults	Older people

<b>11. Advertising visuals.</b>						
	a. Does the visual imagery contain an emotional appeal <b>(see guide)</b>	Y / N				
	b. If applicable, what is the dominant type of emotional appeal in the main image of the advertisement <b>(select one only)</b>	Happiness, healthiness, wellbeing		Success, social approval	Humour	Sex
		Fear, revulsion, potential loss		Guilt, regret	Frustration	Other emotion <i>(please state)</i>
	c. What does the main image of the advertisement contain <b>(see guide –select one only)</b>	Two or more people	Single person	Part of person/ people	Other <i>(please state)</i>	



d. If one or more person used, what type of person ( <b>select one only</b> )	Expert	Person at risk of disease/condition	Person experiencing disease/condition	Other (please state)	
e. Image setting for main image of the advertisement (if applicable)	Lifestyle	Clinical	Other (please state)		
f. Image type for main image of the advertisement ( <b>select one only</b> )	Photo	Icon/symbol	Diagram	Cartoon	Other (please state)
g. Size of the main image of the advertisement	¼ page or less	¼ page to ½ page	½ page to ¾ page	More than ¾ page	
11. Advertising visuals continued...	h. Explicit message of imagery (what actually appears in the main image in the advertisement)				
	i. Implicit message of imagery (what meaning is implied by the main image of the advertisement)				
j. Corporate brand/logo	Present	Size (relative to size of page)			
	Y / N	Small (<5%)	Medium (5-15%)	Large (15%+)	
k. Campaign name/brand/symbol/logo	Present	Size (relative to size of page)			
	Y / N	Small (<5%)	Medium (5-15%)	Large (15%+)	
	if YES, please state the name and/or describe the brand/symbol/logo				

## 12. Advertising text

a. Title/headline of the advertisement	Present	(If YES, please state title/headline)			
	Y / N				
b. Does the main title/headline contain an emotional appeal ( <b>see guide</b> )	Y / N				
c. What is the dominant type of emotional appeal in the main title/ headline ( <b>select one only</b> )	Happiness, healthiness, wellbeing	Success, social approval	Humour	Sex	
	Fear, revulsion, potential loss	Guilt, regret	Frustration	Other emotion (please state)	
d. Does the body text of the advertisement contain a rational appeal ( <b>see guide</b> )	Y / N				
e. Is there a call to action/ tagline to be remembered (see guide)	Y / N	(if YES, please state)			

## 13. Which of the following “motives” are demonstrated in the advertisement (see definitions below)

13a. Primary (choose one)	13b. Secondary (Answer yes or no to all. Answer no if you have already selected as your primary motive):		
problem removal	problem removal	Yes	No
problem avoidance	problem avoidance	Yes	No
incomplete satisfaction	incomplete satisfaction	Yes	No
mixed approach-avoidance	mixed approach-avoidance	Yes	No
normal depletion	normal depletion	Yes	No
sensory gratification	sensory gratification	Yes	No

intellectual stimulation or mastery	intellectual stimulation or mastery	Yes	No
social approval	social approval	Yes	No

<b>Motivation</b>	<b>Definition</b>	<b>Example(s) of products</b>
<i>Problem removal</i>	<i>eliminate/reduce a current problem</i>	<i>OTC analgesics</i>
<i>Problem avoidance</i>	<i>avoid a potential future problem</i>	<i>health insurance</i>
<i>Incomplete satisfaction</i>	<i>current product doesn't fully meet needs, so looking for something better</i>	<i>"more thirst-quenching" soft drink, "stronger" painkiller</i>
<i>Mixed approach-avoidance</i>	<i>product has negatives as well as positives, so seeking to gain positives while reducing/avoiding negatives</i>	<i>low-calorie soft drinks, low-fat cookies</i>
<i>Normal depletion</i>	<i>have/could run out of product</i>	<i>stocking up on batteries</i>
<i>Sensory gratification</i>	<i>something that makes you feel good</i>	<i>candy, alcohol, luxury cars</i>
<i>Intellectual stimulation or mastery</i>	<i>attain a sense of accomplishment</i>	<i>university course, sky-diving</i>
<i>Social approval</i>	<i>make people like you/approve of you more</i>	<i>fashion (especially for young people), some food products (especially children and mothers)</i>

Estimate time taken to complete coding this advertisement (mins)

**Appendix E: Examples of stimuli used in intercept survey reported in Chapters 6, 7 and 8**



Overcoming chronic pain.

Do you have persistent muscle pain, aches and stiffness?  
Do you have areas on your body that are painful to touch?  
Are you constantly tired, yet feel like you never get a restful night's sleep?

It may be that you suffer from **fibromyalgia**, a chronic pain disorder that is increasingly being diagnosed in adult women.

Talk to your doctor about your symptoms and ask about new and effective treatments available for fibromyalgia that can help you better manage your pain and get a good night's sleep.

For more information go to [www.fibromyalgia.com.au](http://www.fibromyalgia.com.au)  
or call 1800 008 009.

**Pharma 1 First**  
Pharma First Pty. Ltd. ABN 95 000 127 877. Warehouse 22/36 Botany Road, Port Botany NSW 2019.

**FFA** Fibromyalgia Foundation of Australia

Fibromyalgia: co-sponsored; low information.



## Forget about future fractures.

Are you over 60 or post-menopausal with a family history of osteoporosis?

It may be that you have **osteopenia** or early bone loss which can increase your risk of developing osteoporosis and future bone fractures.

To see if you have osteopenia you need to take a bone density test, available at many pharmacies. If your bone density test score is low then you should talk with your doctor.

Your doctor can advise about new and effective medicines to treat osteopenia that help prevent the onset of osteoporosis.

For more information visit [www.osteopenia.com.au](http://www.osteopenia.com.au)  
or call 1800 001 002.


**ZUERST Pharmaceuticals.**

Zuerst Pharmaceuticals Pty. Ltd. ABN 95 000 180 999. Unit 32 Times Square Industrial Park, Point Cook VIC 3030.



Osteopenia: co-sponsored; low information.





## Understanding Fibromyalgia...

Do you have persistent muscle pain, aches and stiffness? Are you constantly tired, yet feel like you never get a restful night's sleep?  
Do you have areas on your body which are painful to touch?

It may be that you suffer from **fibromyalgia**, a chronic pain disorder that is increasingly being diagnosed among adult women, although it can also occur in men and children.

**What is Fibromyalgia?**  
Fibromyalgia is a disorder of the central nervous system and sufferers experience intensified pain due to abnormal sensory processing. The symptoms of fibromyalgia include generalised pain, muscle stiffness, fatigue and sleep problems. Symptoms can range from mild to severe and may last for many years, or come and go at different times.

**Diagnosis and Management**  
Fibromyalgia can be difficult to diagnose, but usually your doctor will look for a number of signs such as long-term and widespread pain as well as tender points on the body. To manage fibromyalgia, sufferers usually need to make changes to their employment and lifestyles to ensure they remain active, but also get adequate rest. Fibromyalgia can be a seriously debilitating condition that can also impact on sufferers' families and employers.

**Treatment**  
Currently there is no cure for people suffering with fibromyalgia. People with fibromyalgia should talk to their doctor about new and effective medicines available that can help them to better manage their pain and improve their sleep.

For more information visit [www.fibromyalgia.com.au](http://www.fibromyalgia.com.au)  
or call 1800 008 009.

**Pharma First**  
Pharma First Pty. Ltd. ABN 95 000 127 877. Warehouse 22/36 Botany Road, Port Botany NSW 2019.

**FFA** Fibromyalgia Foundation of Australia

Fibromyalgia: co-sponsored; high information.



## Understanding Osteopenia...

Osteopenia is a state of early bone loss which can increase your risk of developing osteoporosis and future bone fractures.

It is of particular concern if you are over 60 years of age or post-menopausal with a family history of osteoporosis.

### What is Osteopenia?

Osteopenia is a condition that describes lower bone mass and is a state which may precede osteoporosis. There are no obvious symptoms for osteopenia. Women over 60 years of age, and post-menopausal women with a family history of osteoporosis are at greater risk.

### What is Osteoporosis?

Osteoporosis is a disease in which the density and quality of bone are reduced, leading to bone weakness and increased risk of fracture, particularly of the spine, wrist and hip.

Two million Australians are affected by osteoporosis, and every 8 minutes someone is admitted to hospital with a fracture.

### Diagnosis and Management of Osteopenia

Women at risk of osteopenia can arrange for a bone-density test through their doctor or other health provider to determine their bone density score. If they have osteopenia then there are a range of ways to manage the condition including increasing calcium intake and increasing strength-building exercise.

### Treatment

Women with osteopenia can talk to their doctor about new and effective medicines which restore minerals to bones and help prevent the onset of osteoporosis.

For more information go to [www.osteopenia.com.au](http://www.osteopenia.com.au)  
or call 1800 001 002.

**ZUERST Pharmaceuticals.**

Zuerst Pharmaceuticals Pty. Ltd. ABN 95 000 180 999. Unit 32 Times Square Industrial Park, Point Cook VIC 3030.

**OPF**  
OSTEOPENIA  
FOUNDATION

Osteopenia: co-sponsored; high information.

## AD CODE

**For the following questions please circle Yes or No.**

8. Considering the advertisement, do you think that enough information was provided with regard to:

What <u>causes</u> the disease/condition	Yes / No
What the <u>symptoms</u> of the disease/condition are	Yes / No
Who is most <u>at risk</u> of getting the disease/condition	Yes / No
The <u>prevalence</u> of (or how many people have) the disease/condition	Yes / No
How the disease/condition can be <u>prevented</u>	Yes / No
How the disease/condition can be <u>treated</u>	Yes / No
Where you can get <u>more information</u> about the disease/condition	Yes / No

9. As a result of seeing this advertisement would you:

Look for further information as directed by the advertisement	Yes / No
Look for further information from other sources	Yes / No
Talk to your doctor about the condition	Yes / No
Ask your doctor about treatments or tests	Yes / No
Ask your doctor for a prescription or referral	Yes / No
Do nothing	Yes / No
Take other action (please write)	

**10. Have you personally, or someone you know well, ever suffered from the disease/condition advertised?**

Yes / No

11. Please state who you think the advertiser or the sponsor of the advertisement is?

[illegible]

**12. Please indicate on the following scales your attitude regarding the advertiser or sponsor?**

A	Not trustworthy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Trustworthy
B	Not an expert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Expert
C	Not reliable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reliable
D	Not honest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Honest
E	Not believable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Believable

A	Not trustworthy							Trustworthy
B	Not an expert							Expert
C	Not reliable							Reliable
D	Not honest							Honest
E	Not believable							Believable

A	Not trustworthy							Trustworthy
B	Not an expert							Expert
C	Not reliable							Reliable
D	Not honest							Honest
E	Not believable							Believable

A	Not trustworthy							Trustworthy
B	Not an expert							Expert
C	Not reliable							Reliable
D	Not honest							Honest
E	Not believable							Believable

Provide information about a <u>treatment</u>	<input type="checkbox"/>
Provide information about a <u>health condition</u>	<input type="checkbox"/>
<u>Sell</u> a product, service or treatment	<input type="checkbox"/>
Encourage me to <u>talk to my doctor</u>	<input type="checkbox"/>
Encourage me to <u>ask for a prescription or a referral</u> from my doctor	<input type="checkbox"/>
Encourage me to <u>be more proactive</u> about my health	<input type="checkbox"/>



1. In general, how knowledgeable would you say you are about health issues?

Not at all knowledgeable ☐ ☐ ☐ ☐ ☐ ☐ ☐ Very knowledgeable

2. Where do you most often get information regarding health conditions and disease?

(please tick all which apply)

Television	<input type="checkbox"/>
Radio	<input type="checkbox"/>
Magazines	<input type="checkbox"/>
Newspapers	<input type="checkbox"/>
Internet	<input type="checkbox"/>
Doctor	<input type="checkbox"/>
Pharmacist	<input type="checkbox"/>
Other health provider	<input type="checkbox"/>
Other (please state)	
<hr/>	
<hr/>	

3. How would you rate your own health over the last twelve months?

Poor ☐ ☐ ☐ ☐ ☐ ☐ ☐ Excellent

4. In what year were you born:

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------

5. In what country were you born?

---

6. What language do you speak at home?

---

7. Are you an Aboriginal or Torres Strait Islander?

Yes / No

8. What is your postcode?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
----------------------	----------------------	----------------------	----------------------	----------------------	----------------------

9. What is the highest level of education that you have attained? (please tick one only)

Some primary school	<input type="checkbox"/>
Finished primary school	<input type="checkbox"/>
Some secondary school	<input type="checkbox"/>
Some technical or commercial	<input type="checkbox"/>
Passed 4th form (Year 10)	<input type="checkbox"/>
Completed 5th form (Year 11)	<input type="checkbox"/>
Finished or now studying HSC (Year 12)	<input type="checkbox"/>
Finished technical or Commercial college	<input type="checkbox"/>
Tertiary diploma (not university)	<input type="checkbox"/>
Now at university	<input type="checkbox"/>
University degree or higher	<input type="checkbox"/>

10. What is your current occupational status? (please tick one only)

Unemployed	<input type="checkbox"/>
Retired	<input type="checkbox"/>
Home duties	<input type="checkbox"/>
Student	<input type="checkbox"/>
Labourer	<input type="checkbox"/>
Production/transport	<input type="checkbox"/>
Sales/services	<input type="checkbox"/>
Clerical worker	<input type="checkbox"/>
Tradesperson	<input type="checkbox"/>
Professional	<input type="checkbox"/>
Manager	<input type="checkbox"/>
Other (please state)	
<hr/>	
<hr/>	

PLEASE NOTIFY THE RESEARCHER THAT YOU HAVE COMPLETED THIS SECTION.

**Appendix G: Participant information sheet for intercept survey reported in  
Chapters 6, 7 and 8**



**Participant Information Sheet**  
**Australian Women's Perceptions of Health Advertisements**

**Purpose of Research**

This project is researching adult women's attitudes towards advertisements for two health conditions: Fibromyalgia and Osteopenia. It aims to determine what type of advertisement they find most valuable, what information they find most useful and how they perceive the advertisements might affect their behaviour.

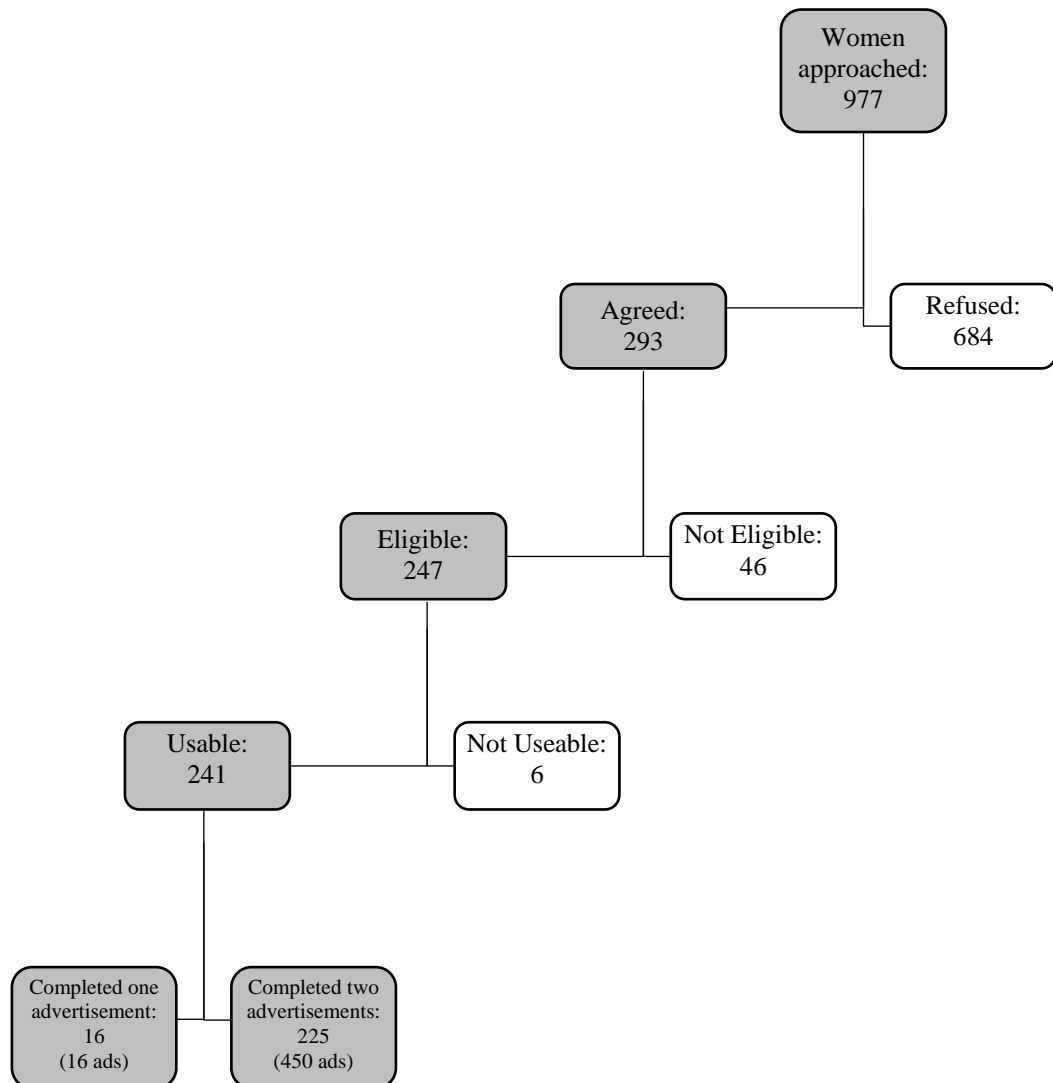
**Participant Involvement**

Once you have read this sheet, the researcher will separately show you two advertisements and ask you to answer a one-page questionnaire on each. Participation in this study should take approximately ten minutes of your time. Your involvement in this study is voluntary and you are free to discontinue at any stage. Your responses will not be identifiable, and as such, once you have submitted completed questionnaires they cannot be withdrawn.


**Researchers:**

This study is part of a PhD undertaken by Ms Danika Hall of the Centre for Health Initiatives (Tel: 4221 5811) and supervised by the Director of that Centre, Professor Sandra Jones (Tel: 4221 4209). The study has been reviewed by the University of Wollongong Human Ethics Committee, and if you have any concerns regarding the way this research is conducted you can contact the Ethics Officer (Tel: 4221 4457).

**Appendix H: Number of women completing questionnaires,  
reported in Chapter 6**



## APPENDIX I: Samples of stimuli used in intercept study reported in Chapter 8



**Forget about future fractures.**

Are you over 60 or post-menopausal with a family history of osteoporosis?

It may be that you have **osteopenia** or early bone loss which can increase your risk of developing osteoporosis and future bone fractures.

To see if you have osteopenia you need to take a bone density test, available at many pharmacies. If your bone density test score is low then you should talk with your doctor.

Your doctor can advise about new and effective medicines to treat osteopenia that help prevent the onset of osteoporosis.

For more information visit [www.osteopenia.com.au](http://www.osteopenia.com.au)  
or call 1800 001 002.

**ZUERST Pharmaceuticals.**

Zuerst Pharmaceuticals Pty. Ltd. ABN 95 000 180 999. Unit 32 Times Square Industrial Park, Point Cook VIC 3030.

Osteopenia: pharma-sponsored



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