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Direct to consumer advertising versus disease awareness advertising: Consumer perspectives from down under

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Abstract
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Direct to consumer advertising versus disease awareness advertising: Consumer perspectives from down under

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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. New Zealand respondents associated many negative outcomes with DTCA including unbalanced information, inappropriate requests to doctors and consumer confusion.

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 organizations (including the government and non-profit organizations) 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 Organization 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 (Toop et al., 2003; Moynihan and Bay, 2007), 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 (Bonaccorso and Sturchio, 2002; Auton, 2004, 2007). 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. In some instances, such as when a new treatment becomes available, pharmaceutical companies attempt to partner with disease support groups to undertake advertising and public relations activities. However, this can have negative implications if the

risk profile of the treatment is not fully known, and because the advertising is portrayed as a community service its commercial intent is obscured (Mackenzie et al., 2007). For example in 2000, the Arthritis Foundation encouraged arthritis sufferers to ask their doctors about an exciting new treatment via a community service announcement on the only Australian non-commercial television channel. This promotion occurred following a donation of $250 000 to the Arthritis Foundation by the makers of Celebrex (Searle and Pfizer) (Barry, 2000), but prior to the risks associated with cox-2 inhibitors being exposed.

In other instances, pharmaceutical companies have been criticized for providing unbalanced information or exaggerating the prevalence or severity of a condition which may cause consumer anxiety and unnecessary visits to their doctor (Mintzes, 2006; Hall and Jones, 2007; Hall, 2008). For example, one of a series of advertisements in Canada (produced by the manufacturers of a cholesterol-lowering medication) depicted a young, healthy man about to walk around the corner into the charge of a rhinoceros. The tagline for the advertisements was 'Living with high cholesterol, you never know what's around the corner'. The text describes the risk of death from heart attack, and while cholesterol is discussed, other risk factors (such as smoking, obesity and blood pressure) are omitted (Mintzes, 2006). The use of fear appeals in pro-social advertising has been criticized as they have been found to induce maladaptive responses such as chronic anxiety for those most at risk, or complacency for those not directly targeted (Hastings et al., 2004).

There is concern that DAA circumvents the ban on DTCA because, while it does not include the name of a prescription medicine product, it often contains other branding techniques such as the use of logos or spokes-characters to communicate the identity of a product (such as the Pfizer tiger character used to promote Viagra). Further, DAA targeting consumers often coincides with branded promotions targeting medical professionals (Glatter, 2004; Hall and Jones, 2007).

In 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 (Wielondek, 2005; Angelmar et al., 2007). 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 DAAand DTCA, and may help to inform regulatory decisions about pharmaceutical promotions facing many developed nations.

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 1997–2005 period (US GAO, 2006). However, more recent data have indicated a slight drop in U.S. 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, 2006a) 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; Hoek et al., 2004; Frosch et al., 2007). Wijesinghe and Norris (2008) reported that the frequency of medicine advertisements during 4 PM to 8 PM on New Zealand television in 2001 and 2006 had increased from 0.72 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.

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 taxpayer 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. 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, 2006a) received polarized submissions. In the 2006 Review, submissions by advertising and pharmaceutical industries favoured retaining DTCA under a liberal self-regulatory system. However, the majority of submitters supported a complete ban on DTCA because they felt there was inconclusive evidence that DTCA provides a public health benefit, and that purported benefits were outweighed by potential harms (Ministry of Health, 2006b). The majority of submitters were concerned that DTCA led to consumer confusion, and many expressed the need to provide balanced and independent health information. Submitters also supported removal of for-profit disease-state

advertising as many felt there was little difference between this and DTCA, and that disease advertising allowed companies to promote products in a less transparent way (Ministry of Health, 2006b).

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). 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, 2009). 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.

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 (Mehta and Purvis, 2003; Deshpande et al., 2004; Hoek et al., 2004). 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 1695 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 et al. (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.

Current Study

Till 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, 2009). 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.

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. 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 pretest was administered randomly to 400 of these addresses. The pretest 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.

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).

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 pretest, 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 from which the sample was drawn and is similar to the national age–gender profile, while the NZ data matched the national age–gender profile. The following section reports on Australian and New Zealand consumers' perceptions of DAA and DTCA, respectively.

Australian perceptions of DAA

Australian participants were asked whether they agreed or disagreed with nine general statements about DAA (see Table 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 DAA. Just over half (52%) felt that DAA helps them to make better decisions about their health.

Table 1 Australian responses to statements regarding DAA

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

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.

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 11 general statements (see Table 2) on a four point agree–disagree scale. Agree and strongly agree responses were aggregated. Most respondents (84%) agreed that DTCA overemphasizes 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.

Sixty per cent 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%).

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.

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.

Table 2 New Zealand responses to statements regarding DTCA

Statements	% Agreement (inc. strongly Agree + agree) (n=998)
Prescription medicine advertisements over-emphasize the benefits and do not 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	77

options that could treat their health problems	
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

Health decisions and health behaviour

Australians exposed to DAA were ambivalent about whether these 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, 2009). 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.

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. (2006) 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 per cent 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.

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. In 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 (Kaphingst and DeJong, 2004; Jones and Mullan, 2006). 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 et al., 2001; Woloshin and Schwartz, 2006). 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).

Limitations

A significant limitation of the Australian survey is the low response rate, which may result in a level of non-response bias. Another limitation previously mentioned is that Australian respondents may have considered government or non-government sponsored DAA or even OTC advertising when responding to the questions regarding DAA, and thus responses specific to pharmaceutical company sponsored DAA for prescription medicines may differ. 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.

Conclusion and Future Research

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.

An area of growing interest is healthcare websites, with a Nielsen online custom survey in 2008 finding more than 80% of internet users seek healthcare information online and report high levels of trust in the written content of websites (The Nielsen Company, 2010). The presence of pharmaceutical company-sponsored disease awareness websites appears to be increasing, 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 (Usher and Skinner, 2009). There is concern regarding health information on the internet as searches for common symptoms can result in consumers experiencing considerable anxiety and unnecessarily engaging health professionals (White and Horvitz, 2009). 'Cyberchondria' is defined as 'the unfounded escalation of concerns about common symptomatology, based on the review of search results and literature on the Web' (White and Horvitz, 2009: p. 23:2). Further research should consider whether

pharmaceutical company websites increase cyberchondria and medicalization, as well as consumer demand for pharmacological treatments.

For DAA and DTCA, benchmark studies are needed into consumer responses to these different forms of advertising to determine how they influence consumers' behaviour and public health outcomes. From this, longitudinal studies could more accurately measure the influence of advertising and differing advertising regulation to better inform future health policy. 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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