

Internet Access to Direct-to-Consumer Advertising of Prescription Medicines: The Case of New Zealand

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Direct-to-consumer advertising of prescription medicines to consumers is only permitted in two developed countries; New Zealand and the US. This paper hypothesizes that banning direct-to-consumer advertising in all forms of domestic media is now ineffective as the World Wide Web is used for promotion and transcends country borders. Google was searched for advertisements relating to the top 20 government subsidized prescription-only medicines as listed in the New Zealand Pharmaceutical Schedule. The research supported the hypothesis as only a few hits were found that met our criteria for an advertisement on New Zealand websites but it was possible to access US and other websites advertising the same medicines.

Field of Research: Health Economics and policy.

1. Introduction

The objective of this study was to investigate direct-to-consumer advertising on the internet of prescription medicines available in New Zealand only on a prescription and to determine the availability of such advertising to consumers.

Although there are studies on online advertising there are few that focus specifically on direct-to-consumer advertising of prescription medicines (abbreviated to DTCAP in this paper and often referred to as DTCA). A related category of promotion, “disease-state advertising” is aimed at intensifying the awareness of treatments for specific illnesses and may motivate consumers to seek specific medicines to treat these illnesses. As the focus was on direct-to-consumer advertising disease state promotion was not investigated.

DTCAP in New Zealand is concerned with the direct promotion to consumers of medicine that is available only on a prescription from a medical clinician or other health professional such as a dentist, a midwife or a nurse prescriber (PHARMAC, 2013, p15). Within New Zealand there has been considerable debate on allowing or prohibiting of this practice. This paper hypothesizes that banning direct-to-consumer advertising in the media is now ineffective as the World Wide Web is used for promotion and transcends country borders. The study presents new data and analysis of the use of the World Wide Web for promoting prescription medicines with particular relevance to New Zealand. The paper reviews specific literature relating to DTCAP and in the methodology describes the internet searches undertaken. The findings are reviewed and discussed and conclusions drawn based on the searches conducted.

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2. Literature Review

The authors have used the literature to inform the background and methodology of the study; first in a discussion on DTCAP in general, and then as it pertains to New Zealand. Much has been written about the promotion of prescription medicines to the consumer but there have been few quantitative analyses reported in the literature.

Pharmaceutical company promotion to prescribers takes a number of forms; representative detailing, funding medical conferences, medical literature advertising in medical journals, free-of-charge samples and the internet (Schramm *et al.*, 2007; Taneja, 2008; Spurling *et al.*, 2010). Detailing has in the past been found to be more effective in driving primary demand than direct-to-consumer advertising (Marc and Sönke, 2010) but this may be changing as there is a high correlation between the number of prescriptions (but not OTC, medicines) and responsiveness to DTCA (Dieringer *et al.*, 2011). In New Zealand promotional methods of prescription medicines is provided in Table 1.

Table 1: Promotional methods used by the pharmaceutical industry in New Zealand

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- Direct to consumer advertising
 - Direct to clinician and pharmacist detailing/ advertising
 - Funding medical conferences and meetings/ travel to conferences/ conference registration
 - Public relations campaigns
 - Journal articles/ research reports
 - News reports/ stories
 - Sampling
 - Medical books
 - Gifts
 - Advertisements in professional journals
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In New Zealand a number of channels of communication are used by pharmaceutical companies to deliver DTCAP; radio, television, print media and the Internet. Consumers have access to a wide range of information sources about diseases and treatments. While it is beneficial for consumers to be fully informed before making decisions about treatment some advice provided may be detrimental to health and consumers may experience difficulty interpreting facts (Table 2).

Table 2: New Zealand sources of consumer information on diseases, treatments and medicines

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- Prescription medicine suppliers
 - Health professionals and their specialist websites
 - Specific health support groups and societies
 - Health insurers
 - Government agencies
 - Media (print, radio, television and the internet)
 - Family and friends
 - Advertising relating to specific illnesses and medicines
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New Zealand and the US are the only developed countries in the world where the law permits advertising of prescription medicines direct to the consumer (Kenkel, 2009; WHO, 2009; ProCon.org, 2012). There has been considerable debate in New Zealand and internationally on the impact and desirability or otherwise of curbing such advertising (ProCon.org, 2012). New Zealand government approval is not required for DTCAP, although a self-regulatory system administered by suppliers operates and there are guidelines, rules and codes of practice relating to promotional content (Medicines New Zealand Incorporated, 2010; New Zealand Medicines and Medical Devices Safety Authority (Medsafe), 2011; Advertising Standards Authority, 2012).

Google (Google, 2013) also have advertising approval policies for pharmaceutical drugs and monitor an extensive list of prescription medicine names. Policies differ depending upon each country's legislation, for example, in Australia Google does not permit the use of prescription medicine names. Advertisements contravening Google's policies may have their site/ domain suspended.

It was estimated that in New Zealand in 2005 over NZ\$36 million was spent on DTCAP, and on a per capita basis, pharmaceutical companies spent about NZ\$9 on DTCAP compared with US\$14 per capita in the US. DTCAP amounted to 5.5% of prescription medicine sales in New Zealand compared with 2.6% in the US (Kenkel, 2009). In 2000 the breakdown of New Zealand DTCAP expenditure by media category was; television 60.8%, magazines 33.0%, press 5.5%, and radio 3.6% (New Zealand Ministry of Health, 2000, p3). The Pharmaceutical Management Agency (PHARMAC) estimated that direct to consumer advertising on subsidized prescription medicines resulted in 21% of the growth in prescription medicine in 2002 (Pharmaceutical Management Agency (PHARMAC), 2002 p21).

Depending upon the perspective taken, there are mixed views and many valid arguments for and against DTCAP but there is little direct quantifiable evidence available on the impact of this advertising on consumer behaviour in buying and seeking prescriptions for medicines (Harker and Harker, 2007). Little is known if this is good or bad from a health perspective (Brodie, 2008). Table 3 (based upon some of the information in a paper (Kontos and Viswanath, 2011 table 1 p144)) summarizes the various positions regarding advertising direct to the consumer.

The internet in developed countries is increasingly being used as a primary source of information. In 2012, 78% of New Zealand internet users aged 15 years and over accessed the internet in the last week (Statistics New Zealand, 2013) and 78% of households had access to broadband (Commerce Commission, 2013). The internet was used by 86% of New Zealanders in 2011, 69% rated the internet as an important information source and 53% of internet users searched the Web every day (Smith, 2011). The internet was a preferred source of information on personal health" (Lemire et al., 2008). Khechine et al (Khechine et al., 2008) found that 94.2% of Canadian English-speaking patients with long-term diseases who used the internet sought information on treatment options and Sarasohn-Kahn (Sarasohn-Kahn, 2011) found the main reason people (36% of those surveyed) went online to seek health information was to see what other consumers said about medication or treatment.

In 2013 the world's most popular web search engines (eBizMBA, 2013b) were (1) Google, (2) bing, (3) Yahoo! Search (4) ask, (5) Aol Search, (6) MyWebSearch (7) blekko, (8) Lycros, (9) Dogpile, (10) WebCrawler, (11) Info, (12) Infospace, (13) Search,

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(14) Exite and (15) GoodSearch. The 15 most popular health sites (eBizMBA, 2013a) were (1) Yahoo! Health, (2) NIH (National Institutes of Health), (3) WebMD, (4) MedicineNet, (5) MayoClinic, (6) Drugs, (7) everydayHealth, (8) MedHelp, (9) HealthGrades, (10) RealAge, (11) WellSphere, (12) BetterMedicine, (13) RxList, (14) Healthline, and (15) Prevention.

Table 3: The arguments for and against direct- to-consumer advertising of prescription medicines (DTCAP)

<u>Arguments for</u>	<u>Arguments against</u>
Educates patients	Does not educate patients
Provides information that may be inaccessible to patients	Requires patients to have a high degree of literacy to evaluate information
	Unbalanced
	The resources devoted to consumer directed advertising would have been better used informing the medical profession
Assists patients to become more involved in decision-making about their illness and health care treatment	Weakens the patient-provider relationship and is disliked by some prescribers
	Increases in health care costs through possible over prescribing, increased consultations and diagnostic testing
	Hampers treatment decisions
Not all of these opinions are valid but they have been used by various interest groups to argue their cases for or against this type of advertising.	

3. Methodology

An advertisement on the World Wide Web for a medicine available only on prescription in New Zealand was defined by the researchers as having any one of the following features; information about coupons or subsidies for the medicine, a picture of the pack, or press release issued by the company concerned. The research focused on the presence of explicit company advertising; patient-directed Information about funding and/or choices, testimonials from patients, videos, or how to claim prescription charge refunds. The study excluded data/product sheets and links to official and medical specialist sites. As the following could be regarded as subtle forms of advertising they were excluded from the analysis; “questions to ask your GP”, links to support groups, and supply of memory aids to improve compliance in taking medication.

Two Google searches were conducted and the top 10 hits in each Google search were content-analyzed. Google was chosen as this was the most commonly used search engine The first search of the top 20 prescription medicines was conducted on 17 April 2013 and the second search of company websites was undertaken on 24 April 2013.

(1) The first search was of the top 20 prescription medicines ranked by New Zealand government expenditure (net of GST and rebates). These medicines represented 48% of the total government expenditure on subsidized medicines. (Pharmaceutical Management Agency (PHARMAC), 2012 p5). These top 20 medicines are mainly available through community pharmacies with the exception of the cancer therapies

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which are hospital administered. (The search was based on expenditure and not the volume of prescriptions dispensed.) The medicine (chemical name) and the condition for which it is prescribed were located in the Pharmaceutical Schedule (PHARMAC, 2013) and the specific brand or generic product/s subsidized were then searched on Google. To ensure Google focused on commercial websites the searches were prefixed by www.google.co.nz then the brand or generic product as listed in the Pharmaceutical Schedule (PHARMAC, 2013).

(2) The second search investigated the websites of pharmaceutical companies that were members of Medicines New Zealand (Medicines New Zealand, 2012 p16). This search was conducted to determine the location of the domain, information supplied (product lists, patient and prescriber pages), and the presence of or links to advertisements.

4. Results/Analysis

The search of the New Zealand top 20 subsidized prescription medicines ranked by government expenditure (Pharmaceutical Management Agency (PHARMAC), 2012) by both chemical name and brand or generic manufacturer found only four advertisements that met our criteria (Table 4). A blank space in the table indicates that no advertising material was present on the site.

The second Google search (24 April 2013) of the websites of the seventeen members of Medicines New Zealand (Medicines New Zealand, 2012) was undertaken in two stages. The search to determine the location of the domain found that eight were global, three were Australian and six were New Zealand domain sites. Of the global sites, three only provided any further information than an address or contact details for New Zealand, and such links may have been to a combined Australia and New Zealand site. None of the Australian based sites provided anything other than contact details for New Zealand. When the New Zealand and the combined Australia & New Zealand sites (one site serving both nations) were investigated all but one provided a product list (Table 5).

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Table 4: Expenditure on the top 20 government subsidised medicines (Pharmaceutical Management Agency (PHARMAC), 2012) by NZ\$ million Google search

Rank	Cost NZ\$ Million ¹	Medicine ² (chemical name)	Condition ³	Brand or generic product as listed in the New Zealand Pharmaceutical Schedule ⁴	Google search ⁵ Information found: funding and/or medicine choices targeted at the consumer ⁶
1	64.5	Atorvastatin	Raised cholesterol	Zarator	
2	44.9	Adalimumab	Autoimmune disease	Humira	
3	28.1	Trastuzumab	Breast cancer	Herceptin, Baxter	
4	22.9	Blood glucose diagnostic test strip	Diabetes	CareSens, CareSens N, Accu-Chek Performance, FreeStyle Optium	Yes for 1 product
5	18.8	Imatinib mesylate	Leukemia	Glivec	
6	18.8	Budesonide with eformoterol	Asthma	Symbicort Turbuhaler, Vannair	Yes
7	18.3	Venlafaxine	Depression	Arrow-Venlafaxine, Effexor XR	
8	17.2	Fluticasone with salmeterol	Asthma	Seretide, Seretide Accuhaler	Yes
9	15.3	Rituximab	Cancer	Mabthera, Baxter	
10	15.1	Dabigatran	Blood clotting	Pradaxa	
11	15.0	Candesartan cilexetil	Heart disease	Candestar	
12	14.8	Risperidone	Psychosis	Apo-Risperdone, Dr Reddy's Risperidone, Ridal, Risperdal, Risperdal Consta	
13	11.8	Varenicline tartrate	Smoking cessation	Champix	Yes
14	10.9	Tiotropium	COPD	Spiriva	

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		bromide			
15	10.6	Fluticasone	Asthma	Flixotide, Flixotide Accuhaler	
16	10.1	Sodium valproate	Epilepsy	Epilim (all forms)	
17	9.8	Etanercept	Auto immune disease	Enbrel	
18	9.7	Metoprolol succinate	Heart disease	Metaprolol-AFT CR	
19	9.6	Erythropoietin beta	Low blood cell count	NeoRecormon	
20	9.3	Bortezomib	Cancer	Velcade, Baxter	

1 Top 20 Medicines by ex-manufacturer cost (ex GST and rebates) (Pharmaceutical Management Agency (PHARMAC), 2012 p5)

2 Medicine: Pharmaceuticals medicines under budgetary control by PHARMAC

3 Condition: the main use/condition for which the pharmaceutical is subsidised

4 (PHARMAC, 2013)

5 Google search: New Zealand based, 17 April 2013, www.google.co.nz *product name* This confined the search to New Zealand company websites under each product listed in the table above.

6 Consumer directed Information about funding and/or choices. "Yes" indicates patient directed information that may include testimonials from patients, videos, how to claim prescription charge refunds.

The next stage was to determine the information supplied (product lists, patient and prescriber pages), and the presence of or links to advertisements. Two websites did not provide this information, but in some instances the remaining sites gave very little data and/or no links to official websites. If a member company had a product/s listed in the "Top 20" of the Pharmaceutical Schedule (PHARMAC, 2013) the product/s were searched on the company website (Table 5). It was found that only two products could be considered to have been advertised.

New Zealand and US websites may be searched from any country by logging in to Google and typing Site:NZ or Site:US. Although the searches were conducted from New Zealand, many of the websites were international. The investigations were confined to the top 10 hits but if the thousands of potential results had been scrutinized many more advertisements featuring prescription medicines may have been found.

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Table 5: Google search 24 April 2013 of the 17 websites of Medicines New Zealand pharmaceutical company members

Website domain located in:	Global (.com or.net)	Australia: (.com.au)	NZ: (.co.nz)	
# pharmaceutical company members	8	3	6	
Domain site with link to NZ or a combined Australia & NZ link	3	0		
Information	Global	NZ link	Australia	NZ
Product list on NZ or NZ link		2		6
Products, patient and/or prescriber information on the site	4	2	3	5
Advertisements	Global	NZ link	Australia	NZ
Advertisement on the website				2
Advertisement for product in "Top 20"				2

Australian researchers (Gu *et al.*, 2011) investigated 70 websites that focused on common health or medicine related topics. Their search for DTCAP advertising found 10 sites originating from New Zealand or the US. The investigation revealed some advertising embedded within disease awareness and ePharmacy web pages. They concluded that despite legislation banning DTCAP within Australia consumers were exposed to DTCAP.

Our study found few consumer directed advertisements that were or had been on TV or in the print media were replicated on the internet. Some of the top 20 medicines are well established and companies may consider such medicines do not require as much advertising support as do newer medicines or treatments. However, it was noted by the researchers that some pharmaceutical companies could be said to have introduced more subtle forms of advertising reaching consumers through web-based patient support groups (for example, www.myviva.co.nz) that have no direct relationship to the company.

Most of the information presented by companies was of a factual nature and related to package inserts and medicine data sheets outlining indications and contra indications for prescribing and use by patients. Some companies had links to other websites such as patient support groups, medical professional sites and New Zealand Medicines and Medical Devices Safety Authority (Medsafe). (Medsafe is an official government supported organization disseminating information in the public domain (Medsafe, 2012) performing a similar function to that of the FDA in the US).

Consumers have less (imperfect) information about health and health care interventions than do healthcare providers and may have difficulty interpreting information available to them. This situation is highlighted by the posts on Facebook and YouTube that discuss the medicine but were not advertisements according to the criteria we applied to the research. This state of affairs (asymmetric information) is a serious cause of market failure in health care markets (Arrow, 1963; Stiglitz, 2000). Two situations may occur. Lack of balanced unbiased information may cause either under or over consumption of prescription medicines. If the informed demand curve is below the uninformed demand curve advertising may have caused over-consumption of prescription medicines. Strict adherence to legislation and advertising codes of practice should ensure advertisements are not false or misleading and correct for asymmetric information.

5. Conclusions

More sites containing advertising would have been found had we extended the searches beyond the top 20 medicines ranked by government expenditure, included ePharmacy sites, and encompassed more than the member pharmaceutical companies of Medicines New Zealand. In addition, “disease-state advertising” (aimed at intensifying the awareness of treatments for specific illnesses) was not a part of our study objective. Because the information on the World Wide Web is constantly changing from minute to minute a limitation of this study is that if it were to be replicated in the future different data would be discovered which may alter the conclusions of the paper.

The investigation and findings support the hypothesis that banning direct-to-consumer advertising of prescription medicines in a country’s print, radio, television media and domestically domiciled websites will be ineffective if somewhere in the world such advertising is permitted and is thus available to consumers. The search results may be different if conducted at another time period or from a country other than New Zealand.

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