

# Could Less be More? An Analysis of Direct to Consumer Advertising of Prescription Medicines

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Prescription medicines are now frequently promoted on television, a change that has prompted strong debate over the merits of direct to consumer advertising of restricted drugs (DTCA). The debate has centred on three issues: the effect advertising has on doctor-patient relationships; the alleged pressure campaigns place on pharmaceutical budgets, and the quality of information consumers receive. This paper describes a pilot study that examined the third issue. Attempts to provide full details about a drug's properties appear to limit consumers' ability to understand and recall more fundamental information about that drug. We suggest changes to the regulations governing DTCA that may assist the conveyance of balanced information to consumers.

Keywords: direct to consumer advertising; self-regulation

## Introduction

Advertising of prescription medicines has traditionally been directed at doctors or other health professionals. Until comparatively recently, pharmaceutical companies made little attempt to communicate directly with end-users of prescription drugs. However, a variety of different factors have led US manufacturers to expand their communications so they address not only health professionals, but also the wider public. Some commentators have suggested that this expansion of audiences occurred as pharmaceutical companies responded to consumers' demand for more information. Others have argued that individuals' growing desire to play a more active role in managing their health care also prompted DTCA (see Basara 1996; Desselle & Aparasu 2000). Changes in the pharmaceutical market itself have also effectively forced drug manufacturers to generate demand for their brands from end-users. Levitt noted that state health-care schemes involve contracts with a limited number of suppliers; those without contracts face either the prospect of retrenching their operations or stimulating private demand for their products (see also Sheffet & Kopp 1990).

Irrespective of the factors that have prompted direct-to-consumer-advertising of prescription medicines (DTCA), an increasing number of drug manufacturers now promote their brands using mass media. These advertisements have stimulated widespread debate among health professionals, regulatory bodies, government agencies, and advertisers, many of whom view DTCA as a retrograde step. However, the debate about the merits or otherwise of DTCA has not been informed by robust empirical evidence. Instead, many of the arguments advanced have been more emotive than rational, and have done little to assist the reasoned analysis of a complex ethical situation. This paper begins by briefly reviewing the evolution of DTCA before analysing some of the arguments advanced by groups from both sides of this debate. The paper then evaluates the New Zealand regulatory structures that govern DTCA and the extent to which these deal with the problems raised by critics of this advertising. A research agenda designed to provide an empirical framework for a more rigorous evaluation of the claimed benefits and alleged drawbacks of DTCA is then outlined. Finally, one specific issue, the effectiveness of DTCA at communicating information, is examined in greater detail

and the results of a pilot study designed to assess consumers' understanding of DTCA are presented. Finally, suggestions for future research and policy development are discussed.

### **Evolution of Direct to Consumer Advertising of Prescription Medicines**

DTCA first appeared in the United States, where it had never officially been prohibited, in the early 1980s. Kopp and Bang (2000) suggested its appearance surprised regulators and that jurisdiction over early DTCA advertisements was so unclear that the Federal Drug Administration (FDA) issued a moratorium on further advertising until regulation of prescription medicine advertising was clarified. In 1985, this moratorium was lifted and by the mid-1990s, the regulatory regime had relaxed to allow specific brand advertising, under strict conditions. For example, the FDA instructed that if an advertisement mentioned a specific drug by name, it must contain a full disclosure of that drug's side effects (Alperstein & Peyrot 1993). In addition, advertising could not promote false or misleading claims and relevant information about the drug's properties had to be presented fairly.

Debate over the potential consequences of DTCA continued. However, following a further review in August 1999, the FDA concluded that:

*“Despite years of print DTC advertising, no rigorous evidence has been presented to demonstrate that DTC advertising has had any of the hypothesized ill effects”* (cited in Ministry of Health Report 2000).

As a result, the FDA noted that the benefits of maintaining a free flow of information outweighed the posited but unproven disadvantages of DTCA.<sup>1</sup>

Nevertheless, although the FDA allowed DTCA to continue, it maintained tight control over the details these advertisements should contain. While logical in the context of print advertising, where it is possible to include considerable detail, this requirement constrained television advertising, which clearly differs from print media in its limited duration. The FDA responded to this difference by allowing advertisers to use a “brief summary” of drug package inserts that detailed the product information. However, the FDA also stressed the need for “fair balance”, by which they meant that advertisements had to clearly communicate both risk and benefit information. In addition, advertisers using broadcast media had to make “adequate provision” for supplying additional information, using sources such as 0800 numbers, websites or brochures, or by specifically referring consumers to concurrent print advertising. As Kopp and Bang (2000) noted, this accommodation by the FDA recognised that:

*“while consumers value information presented in print media, they do not like it when a lot of information is presented to them on television, probably because they are not given a sufficient opportunity to process potentially important information for them”* (p52).

Levitt (1995) suggested that three types of direct to consumer drug advertisements have evolved within this US regulatory framework. First, he noted the use of very general promotions that advise consumers to contact a doctor if they are experiencing symptoms

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<sup>1</sup> Surveys of consumers have also consistently revealed strong support for DTCA (Peyrot, Alperstein, van Doren & Poli 1998; Doucette & Schommer 1998).

similar to those outlined in the advertisement. These “disease” focused promotions do not mention a specific brand name, but are used where only one drug is available to treat the condition associated with the symptoms outlined. In other words, encouraging consumers who display the symptoms outlined to contact their doctors effectively promotes the drug, since it is the only one that could be prescribed for the condition.

The second form of advertisement does mention the drug’s brand name, but does not discuss the condition treated by that drug. Because of this omission, the advertising does not need to contain the brief summary of indications, contra-indications and side effects that the FDA otherwise requires. This type of advertisement reminds consumers about the product, which is typically promoted in more detail in other media. Because the purpose of the advertisement is simply to maintain salience of the brand name, this type of advertising is frequently used on television to complement a concurrent print campaign.

Finally, manufacturers use brand specific advertisements that mention both the drug name and the condition for which it is indicated. These advertisements must therefore meet the FDA’s “brief summary” and “fair balance” criteria. That is, the advertising includes details of the brand’s indication(s) but must balance this benefit information with details of its contra-indications, risk factors and side effects.

It is the latter category of advertisements that have attracted strong critical scrutiny. Critics of DTCA have questioned the extent to which fair balance is achieved and consumers’ ability to comprehend the information provided, even if this is appropriately balanced. The following section examines these criticisms, and the rejoinders to them, in more detail.

### **Debate Over Direct to Consumer Advertising of Prescription Medicines**

Opponents of DTCA advance three key reasons why advertising of prescription medicines serves neither consumers’ nor governments’ interest. First, they argue that these advertisements create intolerable pressure on an already inadequate drugs budget, and ultimately lead to higher rates of prescribing in an already “over-medicalised” population. Some also suggest that consumers lack the medical knowledge to evaluate claims made in drug advertisements. Finally, opponents of DTCA argue that the advertisements themselves do not convey information in a fair or balanced manner. The remainder of this section explores each argument more fully.

Opponents of DTCA have argued that these promotions stimulate demand for the promoted drugs and that this demand eventually leads to pressure to subsidise those drugs (Sheffet & Kopp 1997; Burak & Damico 1999). From regulators’ or health managers’ perspective, this pressure threatens their ability to contain a drug budget that has come under increasing pressure from a variety of sources. The New Zealand Ministry of Health discussion paper noted this fiscal pressure and commented that increasing numbers of unsubsidised medicines could reduce patient confidence in the overall health system (MOH 2000 p15). However, no empirical evidence was presented to support this view. Logically, since part-charges have applied to several medicines for a number of years, the model for applying charges to medicines has existed for some time; even if some recently promoted drugs have comparatively high costs.

Where the promoted medicines are “lifestyle drugs”, designed to enhance overall quality of life rather than treat a dangerous or life-threatening condition, it may be helpful to publicise

funding priorities, so neither consumers nor drug companies have unrealistic expectations about any future subsidies these drugs may attract. Where the medicines offer a superior means of treating serious conditions, the question of funding becomes increasingly political. It is beyond the scope of this paper to debate the funding of the pharmaceutical budget. Overall, however, it is clear that the development of new drugs will itself create pressure on drug funding agencies. DTCA may catalyse this process, but it does not introduce pressures that would not be highly likely to occur anyway.

The criticism that DTCA may lead to prescriptions for conditions whose treatment is debatable, or that could be treated through less interventionist means, such as dietary changes or an increase in the amount of exercise undertaken, may have more substance. The New Zealand Medical Association (NZMA) has criticised the use of advertising to create markets where no clinical justification exists. Thus what Peyrot and Aparasu (2000) describe as “a pill for every ill” mentality (p. 104) could divert patients’ attention from aspects of their lifestyle that they could control. However, if patients are advised of alternative treatments and make an informed decision regarding a prescription that they are willing to purchase, the criticisms lose their force. Some may hold the view that “green” prescriptions are preferable to medicines, but this view should not override patients’ right to elect a drug-based treatment after due consideration of other options.

The remaining arguments relate to consumers’ ability to understand information pertaining to treatments, and the form advertisements providing this information take. Unlike other product categories, where consumers know and use a number of competing brands, most consumers have little direct medical knowledge and often have no experience of the promoted drug. In particular, although they may understand the conditions for which the drug is indicated, they may know little about its side effects or the way in which it could react with other medication they take. Critics of DTCA thus argue that in this context a little knowledge is dangerous, since consumers may request a drug that is incompatible with other conditions they have (see Roth 1996, for an analysis of this issue).

Promotions that prompt some consumers to request a drug when it is not fully appropriate may generate problems that doctors must then resolve. Opponents of DTCA have argued that advertising of prescription medicines can lead to tensions in doctor-patient relationships if doctors decline to prescribe drugs that their patients request (see Burak & Damico 1999; Reast & Carson 2000). In some cases, patients refused a drug by their usual doctor may “doctor shop” until they find a practitioner willing to prescribe the drug, or they may obtain the drug via an Internet prescription (Sheffet & Kopp 1990). In both the latter examples, the prescriber is unlikely to have detailed information about patients’ existing conditions, thus the safety of the prescription may be compromised.

However, proponents of DTCA claim that information provided in advertising empowers consumers, prompting them to seek more information about their health status and resulting in higher levels of compliance with treatment regimes. Moreover, they suggest that information provided through prescription medicine advertising encourages individuals to seek advice about health conditions they recognise, but have not been clinically diagnosed or treated (Burak & Damico 1999). That is, the presence of DTCA has increased the salience of health issues in general and has led consumers to become more aware of their health status and accept greater responsibility for this. However, although some findings suggest that DTCA can prompt high demand for a drug, the evidence of increases in consumers’ general health awareness is more anecdotal. While it is logical that the increased prominence of

health-related material will prompt greater awareness of the issues foregrounded, further work is required to assess the relationship between consumers' knowledge of their own health and DTCA.

Not surprisingly, advocates of DTCA have little patience with concerns that doctors come under considerable pressure to prescribe promoted drugs from patients. Instead, they view DTCA as part of a wider social change in which the parties interested in medications have expanded to include not only doctors and patients, but also insurance companies, health advocates, care organisations and caregivers (Basara 1996). Several researchers have noted the changing role of patients, who are no longer passive recipients of advice and treatment, but active participants in their own health management (Desselle & Aparasu 2000). Levitt (1995) concluded:

*“the fact that lay consumers may lack the requisite knowledge to decide whether to prescribe a drug does not mean they are incapable of accurately understanding prescription drug advertising per se”* (p5).

In summary, although detractors from DTCA have argued that it will escalate the funding required to support growing demand for drugs, they have advanced little empirical evidence to support their claim. Similarly, arguments that DTCA will disrupt and impair the relationship doctors have with their patients also have little empirical support. Indeed, proponents of DTCA conclude that doctors' role as guardian and dispenser of privileged information has changed, irrespective of the presence of DTCA. Whether doctors feel comfortable with the role of gatekeeper or not, thus becomes irrelevant to proponents as they engage in the wider debate over the dissemination of information to interested parties.

Overall, it is hard to dispute the general principle that consumers are entitled to access information that may help them better manage conditions they have, or to argue that companies do not have a right to promote products that could lead to these improvements (Levitt 1995). However, the extent to which consumers understand prescription medicine advertising depends not only on their own prior knowledge, but also on the actual details provided and the format in which these are presented. The following section examines the regulations that govern DTCA content and discusses the research conducted into consumers' understanding of this information.

### **Regulatory Frameworks**

As noted, the US FDA regulations require advertisers to present balanced, factual and comprehensive information about a drug, requirements that should promote the full and frank disclosure of that drug's characteristics. Yet although the FDA has set this objective, opponents of DTCA argue that the information actually provided is neither fair nor factual, and that patients cannot make informed or rational decisions when the information presented to them is emotive and unbalanced. As Morris, Brinberg, Klimberg, Millstein and Rivera (1986a) noted,

*“... since advertising represents such a highly promotional medium, patients could be persuaded about the benefits of a particular drug without a concomitant appreciation of the product's risks.”* (p630).



To explore the extent to which the FDA's objectives are realised, researchers have examined consumers' understanding of information conveyed in DTCA and, more specifically, how the format of the information affects their understanding. Morris *et al* (1986a and 1986b) created different advertisement versions to explore how variations in the amount of risk information provided, the specificity of this information, and the emphasis placed on it, affected respondents' comprehension. Morris *et al* (1986a and 1986b) explored both print and television advertising and concluded that respondents' evaluation of the different advertisement versions became more negative as the number of risk statements and the specificity of these statements increased. They also noted differences between television and magazine versions of the advertisements, and concluded that television advertising conveyed risk information, such as details of precautions or side effects, less effectively than magazines.

In a subsequent study, Morris, Mazis and Brinberg (1989) expanded their earlier work to examine how variations in the risks disclosed in DTCA affected consumers' awareness and knowledge of those risks. More specifically, they examined the amount of risk information provided, the content of the risk message and whether it advocated general advice (such as "see your doctor") or outlined more detailed risks, and the format of the message. In addition to testing the effect these variables had on respondents' awareness and knowledge, Morris *et al* (1989) also examined the effects of varying levels of risk information on respondents' perceptions of the drug's benefits. They found that respondents shown specific risk information had greater knowledge than those given more general details, and that the specific risk group had inferred the more general risks from the material they viewed. Morris *et al* (1989) also noted that dispersing the risk messages throughout the advertisement increased respondents' knowledge of both general and specific risks, as did the use of dual modality (the use of both visual and audio devices to communicate risk information).

However, Morris and his colleagues also found that increases in the amount of risk information provided led to a reduction in awareness and knowledge of the benefit messages. For US advertisers, this finding presents an interesting dilemma as they need to comply with the FDA's requirements, but clearly do not want to do so in a manner that undermines the promotional objectives of their advertising. The question of what constitutes a "fair balance" has not been answered in detail and advertisers have considerable latitude over how they interpret this (Roth 1996). For example, although Ostrove (2000) outlined some very specific provisions, the extent to which these feature in an advertisement, or the emphasis placed on them, can vary greatly. Pinto, Pinto and Barber (1998) suggested that advertisers had responded to this problem in two ways:

*"In order to comply with FDA rules, two types of advertisements have resulted: those that are general and vague (e.g., television advertising does not allow the advertisers to mention both the drug's name and its purpose) leading to varied and often mistaken interpretations, and those that are painstakingly technical (typically found in print advertising), often serving to confuse the layperson" (pp94-95).*

Audits conducted by the FDA revealed several areas of non-compliance; these principally related to balance and risk disclosure, and to a lack of substantiation provided to support safety and superiority claims. Yet, according to the findings of Morris *et al*'s (1989) research, increasing the level of detail provided may not necessarily improve recall and will simultaneously detract from the benefits promoted. Although Morris *et al* (1989) reported

some important findings about the presentation of risk information, their results require replication and extension, particularly as the number of countries permitting, or considering permitting, DTCA has increased. The remainder of this section discusses the regulatory environment prevailing in New Zealand, which is currently the only other country to allow DTCA, before summarising a research agenda and outlining a pilot project that explored one aspect of this agenda.

### **New Zealand Environment**

As brand advertising became more entrenched and accepted in the US, drug companies appear to have turned their attention to other markets in which they could mount similar operations. Because New Zealand had never specifically prohibited DTCA, it offered similar opportunities, although its regulatory framework clearly differed. In New Zealand, DTCA is governed by the Medicines Act 1981 and the Medicines Regulations 1984, which restrict the types and nature of claims that can be made. This legislation also requires provision of specific information, including the drug's indication and authorised use, its active ingredients and the quantities in which these are present, any precautions deemed necessary, its contraindications and potential side effects. Advertising must also clearly indicate whether the drug is a prescription medicine (where a doctor's visit is required to obtain a prescription) or pharmacy-only medicine (also known as "over-the-counter", or available for purchase without a prescription).

In addition to legislation, DTCA in New Zealand is also governed by a self-regulatory code, the Code for Therapeutic Advertising, designed and overseen by the Advertising Standards Authority. This Code reinforces aspects of more general consumer legislation, such as the Fair Trading Act, and also imposes additional wording requirements. These latter provisions include inserting the following statements:

*"use strictly as directed" and "if symptoms continue or you have side effects, see your doctor/pharmacist/health professional".*

Where the drug is a prescription medicine, the advertising must also acknowledge this and, if necessary, outline any part charges that might apply by using the following statements:

*"prescription medicine, consult your doctor" and "a charge applies, consult your doctor or pharmacist".*

The Code for Therapeutic Advertising sets out criteria that form the basis of a formal review process undertaken by an independent body, the Therapeutic Advertising Pre-Vetting System (TAPS). Although initially established as an informal advisory service, TAPS has evolved into a mandatory pre-vetting system and, from November 2000, all advertisers responsible for advertising that made therapeutic claims were required to obtain TAPS approval before the advertising could be printed or broadcast. Failure to obtain TAPS certification will result in the media's refusal to accept the advertising, thus the system promotes rigorous compliance with the Code's provisions.

Overall, the New Zealand legislation is very similar to the FDA's requirements for information that DTC advertising must contain, although the "fair balance" requirements are implicit rather than explicit in the NZ regulations. In addition, the TAPS body has no US counterpart, although the FDA may assume a similar role, given the lack of compliance in

some areas (Abrams 2000; Ostrove 1999b). Yet despite the existence of the predecessor to TAPS (an informal advisory service), a recent Ministry of Health audit reported high levels of non-compliance with the legislation. The drug manufacturers' industry group, the Researched Medicines Industry (RMI) disputed the findings, arguing that many of the alleged breaches corresponded to technical matters rather than substantive problems. However, critics of DTCA argued that the findings represented evidence of abuse of the current system and constituted a rationale for its review and overhaul. The government responded to this and other concerns by initiating a review of DTCA, the results of which have just been released.<sup>2</sup> However, although the Ministry of Health's discussion paper identified a number of different options, ranging from maintenance of the status quo to the abolition of DTCA, there is little empirical evidence on which it can base its evaluation. The remainder of this section uses the US studies outlined above as a basis for developing a research programme that would provide more robust insights into the claims and counter-claims that have thus far dominated this debate.

### **A Research Agenda**

Many of the arguments surrounding DTCA do not survive closer critical scrutiny, however, the question of what information should be provided to consumers, and in what format, requires more detailed attention. It is clear from US studies that excessive detail serves only to confuse consumers and inhibits rather than develops their understanding of the promoted brand. However, it is equally clear from FDA pronouncements that they are unwilling to relax further a regulatory structure considered by some to be excessively liberal. The New Zealand Ministry of Health has adopted a similar stance and, having established the parameters within which DTCA can operate, expects the industry to shape its practice accordingly rather than request revision of the parameters. Given this unwillingness to relax the information requirements, researchers need to turn their attention to explaining how the designated information could be more effectively and efficiently communicated to consumers.

Morris *et al* (1989) offered insights into this latter question, but their work could be extended in several ways. First, the variables examined could be extended to include measures of comprehension. Second, the test advertisements were predominately informative and employed comparatively few creative techniques. By contrast, DTCA in New Zealand often uses highly emotive imagery and places less reliance on detailed factual information. The bulk of the information required by the health legislation is contained in end-screens that typically feature for around five seconds. Given the level of detail provided in this time frame, and the font size in which it appears, consumers' ability to read and comprehend this information requires more detailed analysis. Similarly, the use of dual modality, reported by Morris *et al* (1989) as enhancing comprehension, also requires more detailed research. Their strategy of spreading information throughout the advertisement, rather than containing it within one or two screens at the conclusion of the advertisement, also merits further research. However, this latter approach is unlikely to be popular with creatives, who will see it as limiting their artistic latitude. Morris *et al* (1989) concluded that television and print advertising had different effects, thus researchers could also examine how media schedules could be integrated to facilitate consumers' comprehension of drug information.

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<sup>2</sup> The Ministry of Health has recommended the continuation of DTCA under a self-regulatory framework, but with tighter guidelines.



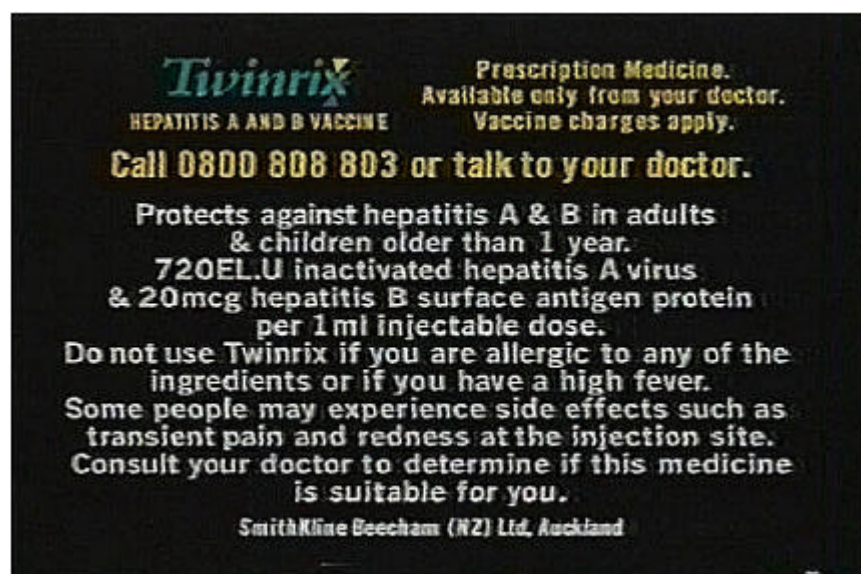
Given that DTCA will remain a feature of New Zealand's advertising landscape, it is timely to explore how this advertising can meet its social and regulatory obligations while still fulfilling its marketing objective, to contribute to sales. The research agenda outlined above focuses on the most substantive criticism levelled at DTCA, its alleged failure to provide the amount and type of information that would enable consumers to make an informed decision whether to seek further details about the brand. The remainder of this paper outlines a pilot study conducted in 2000 that was designed to replicate aspects of Morris *et al*'s 1986a, 1986b and 1989 studies. More specifically, this pilot study compared two versions of a television commercial for a prescription medicine and examined whether a reduction in the amount of information provided increased respondents' knowledge of the product's characteristics.

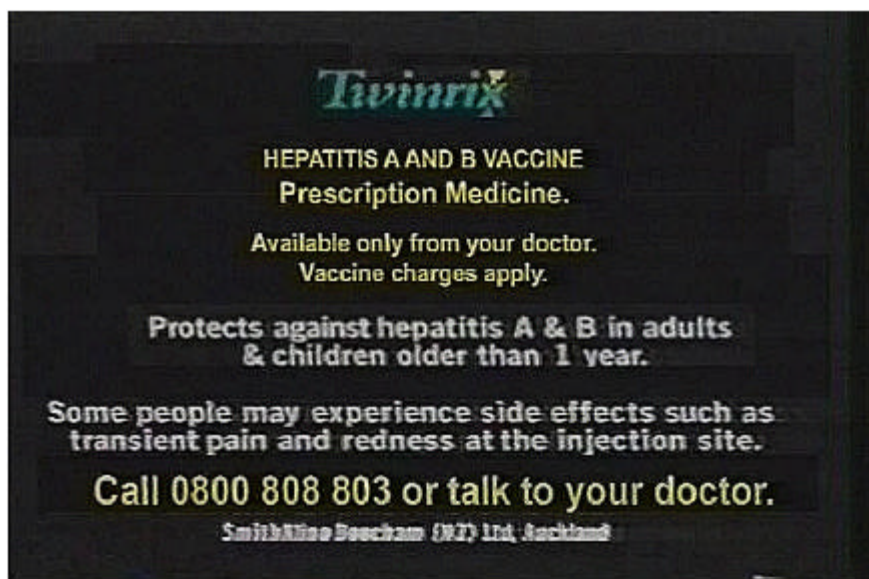
## Method

A television commercial for Twinrix, a prescription vaccine that affords protection against the Hepatitis A and B viruses was the vehicle for this research. Twinrix advertising had not screened for some months prior to the experiment, thus recency effects were thought unlikely to confound the experiment. Two versions of the advertisement were developed; one was identical to the version previously screened, while the other was edited to reduce and re-format the amount of information presented in the advertisement's end-screen. Figure 1 below shows the two end-scenes employed.

Version A contained all the information required to meet the requirements of the Medicines Act and the Medicines Regulations; Version B contained only details deemed critical by experts who had participated in surveys conducted to assess the TAPS system and its predecessor (Hoek 1999; 2000). Respondents in these surveys considered that details about the drug's name, its indications, availability, key adverse effects or risk factors, and where access to further information could be obtained, would be sufficient for consumers to evaluate the relevance of the promoted drug and make an informed choice about seeking further information. Table 1 below shows how the two versions differed in the information they contained.

**Figure 1: Information Screen Format and Content**





**Table 1. Advertisement Versions**

<b>Version A: Unedited Information<sup>1</sup></b>	<b>Version B: Edited Information</b>
Name and physical form	Name
Ingredients	Authorised uses
Quantity of active ingredient	Key adverse effects
Authorised uses	Classification
Precautions	Name and address of advertiser
Contra-indications	
Adverse effects	
Classification	
Name and address of advertiser	

1. These details are specified in a Ministry of Health checklist as necessary to meet the requirements of the Medicines Act 1981 and the Medicines Regulations 1984.

Each advertisement version was embedded as the third advertisement in a commercial pod featuring five other 30-second advertisements; these pods were then inserted into editorial material that comprised recently released music videos. The total length of each video clip was eight minutes and the only point of difference was whether the original or edited version of the Twinrix advertisement was used.

The video clip was shown to convenience samples of under-graduate university students; in total, 108 students saw the video containing the original advertisement while 107 saw the edited version of the advertisement. Because the purpose of the study was not to estimate a population parameter, but to test whether the groups' responses varied according to the advertisement they saw, the use of a convenience sample was not considered to be a major limitation. The student sample also corresponded closely to the target group for this drug, and the other advertisements shown were chosen because of their relevance to this age group.

Since the purpose of the study was to examine students' knowledge of the advertising, their attention was diverted from this task by advising them that the purpose of the research was to explore their views on music videos. Students viewed the video and were then given a short questionnaire that explored the content of the music videos and the other advertisements, before asking a series of detailed questions about their knowledge of the Twinrix advertisement they had seen. These questions were all multiple-choice questions and offered respondents either four or five options from which to choose.

After completing the questionnaire, students were fully debriefed about the project and were given the option to retain their questionnaire if they felt uncomfortable about the research topic (however, no one took advantage of this opportunity). Students were also provided with an information sheet that explained the purpose of the research in full and offered access to the research results.

## **Results and Discussion**

This section begins by exploring respondents' reactions to the non-test material before moving to analyse their responses to the different advertisement versions and their ability to answer questions about Twinrix.

### **Recall of Control Advertisements**

Since the only difference between the two videos was the content of the Twinrix advertisement, respondents were expected to have reasonably consistent recall of the music videos and the other advertisements in the commercial pod. However, the two groups differed in their ability to answer questions about this material and, for four of the seven questions, the difference between treatment groups in the proportion of correct responses was over ten percent. Analysis of the sub-samples' composition revealed both had similar age and gender distributions, thus demographic differences did not explain the variations observed. It is possible that differences in prior exposure, either to the music videos or the advertisements, or differences in consumption behaviour, may have caused the variations noted, but such differences are usually randomly distributed across treatments. Attempts to weight the samples to match the proportions of correctly classified responses were unsuccessful, thus the following analyses use unweighted data; the fact that the sub-samples may have differed in their ability to recall what they had seen remained a potential problem in the analysis that followed.

### **Awareness and Knowledge of Twinrix Characteristics**

Respondents who viewed the edited version of the Twinrix advertisement had higher levels of recall of all the attributes examined (except the availability of the drug). This is shown in Table 2. However, because these respondents also had similar higher recall of details of the non-test advertisements, we cannot conclude that the higher recall of Twinrix information was solely attributable to the way in which the Twinrix advertisement this group saw was constructed.

For particular attributes of Twinrix, respondents' knowledge varied considerably. At least 80% of those in both groups knew that Twinrix was a vaccine that afforded protection against Hepatitis A and B, and between half and three quarters correctly recalled further details about the drug's side effects and availability. However, knowledge of other details, such as the free

phone number, active ingredient, manufacturer and suitability of purpose was much lower among both groups.

The most critical information communicated in the test advertisement related to the product's indication, suitability, side effects, availability, and the company's free phone number, as these details enable respondents to ascertain the drug's relevance to them and its compatibility with existing conditions they may have. Given that much of the advertisement discussed Hepatitis A and B, knowledge of Twinrix's indication was predictably very high. By contrast, the other key details tended to feature only in the information end-screen and most were not reinforced aurally; as a result, recall of these details was much lower, generally between 25% and 50%. For two relatively unimportant attributes, the product's active ingredient and the company's name, the level of correct recall was actually less than would have occurred by chance.

**Table 2. Knowledge of Twinrix Characteristics**

Attribute Examined	Twinrix Version		
	Edited Information %	Unedited Information %	Difference %
Diseases protection afforded against	94	88	6
Form of drug	93	78	5
Method of Hepatitis B transfer	79	69	10
Type of infection	60	57	3
Side effects	57	57	0
Availability of drug	56	57	(1)
Unsuitable for...	53	52	1
Method of Hepatitis A transfer	44	32	12
Suitable for...	44	24	20
Free phone	42	27	15
Active ingredient	14	14	0
Manufacturer	13	9	4

Although these results were obtained after only one exposure to the test advertisement, and so represent conservative estimates of respondents' likely knowledge after an evening's viewing, during which they may have been exposed to the advertisement on a number of occasions, the comparatively low recall of some details is of concern. In particular, the low recall of the free phone number suggests that this would be an ineffective source of further information for most viewers.

Drug companies could address some of the commercial issues identified in the Twinrix test by integrating information through their advertisements, rather than confining it to the end screen. They could also make greater use of dual modality, so information is communicated in at least two ways. Both these suggestions arise directly from Morris *et al's* (1989) research, which concluded that respondents were better able to recall details presented using these techniques. In addition, drug companies could use mnemonics rather than numbers for

their free phone number; intuitively, 0800TWINRIX appears more memorably than 0800 808 803, the actual number used in the Twinrix advertisement.

Overall, even taking into account the superior recall ability of the group shown the edited advertisement, the results of this study suggest that the reduction in the amount of information presented did not affect respondents' recall of the drug's indications or form. Differences on other items indicate that the reduced level of information and clearer formatting may even have enhanced respondents' ability to comprehend and recall some details, although further work is required to clarify this. Similarly, the fact that neither group performed better than chance when asked to recall the active ingredient or manufacturer suggests either that this information is not salient to respondents or that it is not conveyed in a manner that helps them to comprehend and retain it.

Given that television is a transitory medium, these findings provide tentative support for the removal of more peripheral information (such as details of the active ingredient and even the manufacturers' name) from broadcast DTC advertisements. Instead, they suggest that advertisements screened on television should focus more on the information consumers need to make informed judgments about the promoted brands. However, this suggestion does not imply that these less salient details ought not to be included in other promotional material. Rather, it seems logical to explore how the different benefits of television and print media can be combined to promote more effective dissemination of a drug's properties. For example, key details could be presented in television commercials and elaborated on in print media. Both television commercials and print advertisements could also feature an easily recalled 0800 number and a website address, although given current levels of Internet penetration Internet access, the latter should augment rather than replace other media.

The above discussion examined respondents' overall recall of information contained in the Twinrix advertisements; the remainder of this section explores in more detail the type of information recalled. Morris *et al* (1989) noted that respondents recalled benefit information more than risk information, a finding that queried how effectively advertisers achieved the "fair balance" required by the FDA. Table 2 also suggests that more respondents recalled the benefit information than were able to recollect the risk details; around 90% correctly recalled that Twinrix offers protection against Hepatitis A and B, while only around half recalled caveats on the use of Twinrix. As noted, these difference almost certainly arise from the heavier emphasis placed upon the product's indication and, if "fair balance" becomes a concept incorporated into the NZ regulatory framework, risk features will require more attention. Again, a stronger balance could be achieved if campaigns were integrated across media, a concept that the TAPS Advisor is already advocating (Andrews 2000). Even within advertisements, greater use of dual modality could also draw consumers' attention to risk factors and so ensure they make more informed judgments about a drug's likely suitability for their condition.

Clearly the scale and nature of this study limits the conclusions that can be drawn. The sample composition, for example, means that further work is required before even these results can be generalized. In addition, replication studies could vary both the information and the format used to present this, and could examine the effects of integrated campaigns, particularly those involving television and print media.



## Conclusions

Historically, DTCA seems always to have stimulated vigorous debate and attracted trenchant criticism. Ostrove (1999a), quoting from a document issued by the Royal College of Physicians in the 1500s, suggested that the sentiments expressed five centuries ago prevailed until very recently:

*“Let no physician teach the people about medicines or even tell them the names of medicines, particularly the more potent ones, for the people may be harmed by their improper use.”*

However, arguments about the role of doctors or the adequacy of the drugs’ budget are not logical reasons for prohibiting or even restricting DTCA. From a marketing perspective, only one of the various criticisms levelled at DTCA merits detailed research: the adequacy of information transfer to consumers.

Although the legislation governing DTCA sets out unambiguously the information advertisements must contain, the results from this study suggest that television commercials containing fewer details about prescription medicines convey at least as much information as those that contain more detail. Ironically, promotion of more responsible DTCA may require revision (and reduction) of the information conveyed in broadcast advertisements so that the characteristics of the media are more thoughtfully acknowledged in the regulations. Greater emphasis on the integration of media campaigns could also see the different strengths of the various media used to disseminate information in a more accessible manner. There is growing evidence that TAPS, the self-regulatory system, has already adopted this approach, although advertisements that do not contain all the details specified in the legislation technically breach these statutes. This creates the ironic situation of advertisements attempting to convey information in a more socially responsible manner risking prosecution for failure to comply with the relevant legislation.

The results from this study also suggest that benefit information is communicated more effectively than risk information. Although there is no requirement to achieve a “fair balance” of information in New Zealand DTCA, it seems logical that a socially responsible approach to DTCA would attempt to do so. To achieve this, the content of television commercials would need to change so that information was better integrated with the creative material and not simply relegated to an end-screen. Creatives seem unlikely to accept such a proposal willingly, since it would compromise the artistic freedom they currently enjoy. However, the continuation of DTCA depends not on its effectiveness as a creative showcase, but on its ability to meet standards of social responsibility that, appropriately, are set at a high level.

In summary, the findings of this research indicate that a reduction in the level of detail currently provided in DTC television advertisements could improve consumers’ recall of those details. However, recall of some information was low, irrespective of how this was communicated, suggesting that changes to the creative content and format of advertisements may be necessary to ensure consumers are adequately informed about promoted drugs. Further research into how the currently competing goals of accuracy and comprehension can be aligned is required to ensure advertisements that have the potential to increase consumers’ understanding of their health in fact achieve this.

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