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“On the doctor’s orders”: A pilot study of the effects of website marketing for medical specialist providers under gatekeeping arrangements

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ABSTRACT

Websites from medical specialist providers are becoming increasingly marketing oriented, but there exists a paucity of empirical research on the effects. This experimental study explored effects of exposure to real websites from medical specialist providers among Dutch adults under physician gatekeeper arrangements. Exposure led to a stronger intention to seek treatment from the specialist provider and motivation to rely on the providers’ claims. Weaker to absent effects were found for intention to question the physician gatekeeper’s referral and this was chiefly motivated by the belief that “the doctor knows best.” Implications for specialist provider marketing under gatekeeping arrangements are discussed.

KEYWORDS

Direct-to-consumer; medical marketing; physician gatekeeping; physician–patient relationship; website marketing

Access to medical specialist care is controlled by a physician gatekeeper in many health care systems around the world. Patients within such gatekeeping systems usually cannot see a medical specialist unless it is “on the doctor’s orders” (i.e., through a referral from the physician gatekeeper; Forrest, 2013). Marketing for medical specialist providers within gatekeeping systems is traditionally aimed at maintaining good relationships with physician gatekeepers in an attempt to secure referrals. Increasingly, however, specialist providers’ marketing also directly targets patient audiences. Up to this date very little is known about the effects of patient-targeted marketing for medical specialist providers under physician gatekeeper arrangements. Does it reach intended effects, and how do patients understand the role of the physician gatekeeper?

Direct-to-consumer marketing

Marketing that encourages patients to call upon a physician gatekeeper to provide them a specific medical product or service is known as direct-to-consumer

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(DTC) marketing. There exist strong norms against DTC marketing (Hite & Fraser, 1988). In the United States alone, for instance, more than 60 bills have been introduced against DTC marketing campaigns (Herzenstein, Misra, & Posavac, 2004). Typical concerns against DTC marketing include soliciting patients' interest in products or services that the physician gatekeeper considers unnecessary or inappropriate, the undermining of trust in the physician gatekeeper, and loss of the "dignity" of the medical profession generally, and these concerns have not necessarily waned over time (Schenker, Arnold, & London, 2014). Partly due to these strong concerns there exists a rich literature on DTC marketing, though particularly focusing on DTC marketing for prescription drugs (e.g., Auton, 2004; Donohue, Cevasco, & Rosenthal, 2007). This heavy focus on DTC marketing for specifically prescription drugs can be traced to changes in regulations during the 1990s, which made the United States one of the only two Western nations in the world besides New Zealand where DTC advertising for prescription drugs is allowed. There is also a growing literature on DTC marketing for cosmetic surgery (Montemurro, Porcnik, Hedén, & Otte, 2015; Tait, 2007), with the empirical research focusing in particular on the potential effects of exposure on body image (Sperry, Thompson, Sarwer, & Cash, 2009) and intention to undergo cosmetic surgery (Nabi, 2009).

Thus far, there is scant empirical evidence on the effects of DTC marketing for medical specialist providers other than cosmetic surgery, such as gastroenterologists, cardiologists, or gynecologists. DTC marketing for these medical specialty providers however is growing exponentially, and is nowadays often regarded as critical for the survival of medical specialist providers amidst growing competition (Fischer, 2014; Revere & Robinson, 2009). With the advent of the Internet, medical specialist providers are also importantly employing their websites to market their services to patient audiences. Based on an analysis of 40 health care providers' websites from different countries, Minifie, Dietert, and Middlebrook (2005) found that nearly all providers' websites had become increasingly marketing-oriented over time. This trend is raising significant concerns about biased information provision to potentially vulnerable patient audiences (Abusief, Hornstein, & Jain, 2007; Jin et al., 2011; Lau et al., 2008), underlining the growing need for inquiry into effects of DTC website marketing for medical specialist providers on patient audiences.

Effects of DTC website marketing for medical specialist providers

The current study looked into the effect of exposure to DTC website marketing for specialist providers in "mainstream" (i.e., noncosmetic) medical specialties. Due to their marketing-oriented nature, we may expect that exposure to DTC websites for medical specialist providers will have a

positive impact on people's intention to seek treatment from the DTC provider:

HI: People exposed to DTC website marketing for a medical specialist providers will have a stronger intention to seek treatment from this provider than those not exposed.

In addition, we explored how exposure to DTC website marketing for medical specialist providers would shape people's motivations for seeking treatment from a provider:

RQ1: How does exposure to DTC website marketing for medical specialist providers impact motivations for seeking treatment from a medical specialist provider?

Unlike other forms of marketing, DTC marketing cannot reach its intended effects unless patients turn to a physician gatekeeper to obtain the product or service. That is why DTC marketing for medical specialist providers must not only solicit an initial interest in seeking treatment with the DTC provider, but also solicit specific beliefs about the relationship with the physician gatekeeper. These beliefs concern at least two areas, namely: (a) whether it would be in one's own interest to request a referral to a specific specialist provider, or one should better leave the provider's choice to the gatekeeper physician, and (b) whether it would be legitimate to request a referral to a specific specialist provider within the terms of one's relationship with the physician gatekeeper (Arney & Lewin, 2013; Lussier & Richard, 2010).

The available empirical evidence to date suggests that requesting referral to a specific medical specialist provider could challenge people's existing beliefs about the patient–physician relationship. First, medical specialist care is a typical so-called “credence service” (Nelson, 1970; i.e., a type of service that is notoriously difficult to assess unless through third party experts or at very high individual costs; Huang, Lurie, & Mitra, 2009). Although almost all patients value information about different treatment options, many patients thus prefer to leave eventual decision-making to a physician (Benbassat, Pilpel, & Tidhar, 1998; Thompson, Pitts, & Schwankovsky, 1993), particularly when the stakes are high (Fotaki et al., 2008). Second, content analyses of DTC marketing campaigns show that patient–physician relationships are often portrayed as deliberative with a clear role for patient initiative in these campaigns (Arney & Lewin, 2013; Welch Cline & Young, 2004). This, however, is in rather stark contrast with most people's real experiences in the consultation room: A multitude of studies based on recordings of medical consultations from a range of countries show that the extent to which physicians involve patients in decision making actually is low (Couët et al., 2013). Patients thus would need to actively interrupt existing conventions

in the consultation room before DTC website marketing for medical specialist providers reaches intended effects (Lussier & Richard, 2010). All in all, although DTC website marketing for medical specialist providers may initially prompt an interest in seeking treatment from the DTC provider, it is also likely that there are hurdles involved in the transfer of the initial interest to actually questioning a physician gatekeeper about a referral. That is why it was expected that:

H2: Exposure to DTC website marketing for medical specialist providers will have a stronger positive effect on intention to seek treatment from the provider, than on questioning a referral made by the physician gatekeeper.

We were also interested in people's reasons for complying with the physician gatekeeper's referral, and particularly how exposure to DTC website marketing for medical specialist providers would impact these:

RQ2: How does exposure to DTC website marketing for a medical specialist providers impact reasons for complying with a medical specialist provider's referral?

Context of the present study

The present study about the effects of exposure to DTC website marketing for medical specialist providers was conducted in the Netherlands. In the Netherlands and many other Western-European countries such as Denmark, Norway, Sweden, and the United Kingdom, family physicians usually serve as gatekeepers to specialist medical care. The family physician also traditionally chooses the medical specialist provider, usually without much involvement from patients themselves (Earwicker & Whynes, 1998; Victoor et al., 2013; Vrangbæk, Østergren, Birk, & Winblad, 2007).

Since the late 1990s, health care reforms have been gradually introduced in the Netherlands and most other Western-European countries that aim to facilitate increased competition between health care providers (Helderman, Schut, van der Grinten, & van de Ven, 2005; Martinsen & Vrangbæk, 2008). Among others patients' rights to choose their own health care provider were installed, and private medical specialist providers were given entry to the market. In less than a decade, the number of private medical specialist providers then rose sharply in the Netherlands by 600% (Dutch Healthcare Authority, 2012). Meanwhile, physician gatekeeper arrangements were kept in place. This situation of a longstanding physician gatekeeping arrangement where the physician gatekeeper conventionally chooses the specialist provider, in tandem with patients' rights for medical provider choice and an exponentially growing private specialist provider market, poses an ideal but realistic situation for studying the effects of exposure to DTC website marketing for medical specialist providers under physician gatekeeper arrangements.

Method

Participants

The participants were 83 people from the Netherlands above 18 years old who had given advance informed consent for participating in a study about health care. They were the members, family, and friends of a singing choir from a Dutch town who participated in the study in exchange for a small contribution per participant towards the choir's activities.

Except for a slight overrepresentation of female participants (61.4%), the sample approached a representative sample of the Dutch adult population in terms of age, educational level, average number of family physician visits per year, and longevity of the relationship with the family physician (Ministry of Health, Welfare and Sport, 2015; Statistics Netherlands (Centraal Bureau voor de Statistiek), 2015): Sample age ranged from 21 to 76 years old ($M_{age} = 47.0$ years, $SD = 13.8$), and most participants had completed lower (34.9%) or intermediate level (39.8%) vocational education. The majority of the participants (83.1%) had been with the same family physician for at least 8 years, and had a rather positive attitude toward their family physician with a mean score of 2.09 ($SD = .94$) on a 5-point scale ranging from 1 (*very positive*) to 5 (*very negative*). Previous familiarity with private medical specialist providers was very limited among the sample with a mean of 6.5 ($SD = .54$) on a 7-point scale ranging from 1 (*very familiar*) to 7 (*not at all familiar*).

Study design

The study was conducted fully online, and involved a 2 (Exposure: specialist provider website vs. other medical and health websites) \times 6 (Disease condition: 6 different diseases) \times 2 (Perceived vulnerability to the disease: high vs. lower) between-subjects experimental design. The dependent variables included: (a) intention to seek treatment from the specialist provider, (b) provider choice motivation, (c) intention to question the physician gatekeeper's referral, and (d) compliance motivation.

Independent variables

Disease condition

Upon opening the online questionnaire, participants were asked to imagine they were experiencing certain physical complaints from a presented list. These symptoms were based on professional medical sources and were always those that most typically belong to a particular disease. Participants were then told the name of the disease and received brief epidemiological information about the disease. To ensure that the study results would not be tied to any particular disease, six different diseases were used. These are all relatively

common in Western Europe, often cause complaints but are typically nonacute or life threatening. Medical treatment is available for these diseases from private specialist providers as well as general hospitals across the Netherlands. Participants were randomly allocated to imagine having one of the following six diseases: groin rupture (inguinal hernia), varicose leg vein, knee meniscus tear, Dupuytren's disease (also "Celtic hand," bent fingers), stomach ulcer (peptic ulcer), or vitiligo (loss of skin pigment).

Exposure to specialist provider website marketing

After the request for imagining the specified complaints and proposal of the disease to be imagined, participants were asked to consider treatment and were asked to look at the treatment options on a website. Participants in the experimental condition then were given a link to the real website of an extant Dutch private medical specialist provider that offers treatment of the disease. For each imagined disease the participants were shown one of the six websites that offer treatment for this particular disease by private medical specialists. Because travel distance can be a vital factor in medical provider choice and to keep this factor constant (Fotaki et al., 2008; Vrangbæk et al., 2007), all six medical specialist providers had treatment locations in the participants' living district. All specialist providers further had national quality certification (Private Clinics Netherlands, n.d.).

The participants in the control group initially went through the same procedure as participants in the experimental condition, except that they were led to real websites from existing independent national medical or health societies connected to the disease. This choice was made to ensure that participants in the control condition would also be exposed to a website discussing the disease and its treatment, but one that does not endorse any particular specialist provider.¹ The websites from these societies aim to provide the public evidence-based information about a disease or disease group and its treatment options.² There were websites from six different health societies, corresponding to the six experimental disease conditions. We manipulated no element of the websites, and participants were free to browse the websites' full content.

Perceived vulnerability to the disease

The effects of marketing for medical specialist care may not be the same for those who feel vulnerable to a disease than for those who experience the disease more as a distant scenario case. Therefore, perceived vulnerability to the disease was treated as a quasi-experimental factor in the study design. This was measured by an item asking participants to which degree they considered themselves susceptible to the disease in their experimental disease condition, with answer options ranging from 1 (*certainly yes*) to 7 (*certainly not*). Average perceived vulnerability across the six diseases was below the

scale mean ($X = 2.93$, $SD = 1.90$), indicating that the participants generally felt fairly susceptible to the six different diseases. One-way ANOVA with perceived vulnerability to the disease as the dependent factor and disease condition (six disease conditions) as the independent factor, further showed that participants did not feel more vulnerable to the disease in the one disease condition than the other, $F(5,77) = .31$, *ns*. Across the disease conditions, 39 participants in total (47.0%) obtained a score of 1 (37.3%) or 2 (9.6%) on the perceived vulnerability scale. These participants were treated as the group with higher perceived vulnerability to the disease. The remaining 44 participants (53%) constituted the group with lower perceived vulnerability to the disease.

Dependent variables

Intention to seek treatment from the specialist provider

Participants were asked how likely they would choose the private specialist provider for treatment in case they would obtain the disease and needed treatment. A Likert-type answer scale was used ranging from 1 (*definitely yes*) to 7 (*definitely not*).

Provider choice motivation

To shed more light on motivations for choosing a specialist provider, participants were next asked to indicate their motivation to choose the private specialist provider or a specialist at a nearby general hospital. The answer could be given in an open answer format. The answers fitted five categories of motivations, namely: familiarity (e.g., “it feels safer to go to a place I know”), expected service level (e.g., “to avoid long waiting times”), expected expertise (e.g., “physicians here seem specialized in treating the disease”), finances (e.g., “I couldn’t afford that kind of thing”), and nonpretentiousness (e.g., “what is good enough for everybody else is good enough for me”). The remaining answers were classified as idiosyncratic (e.g., “health care belongs to the people”).

Intention to question physician gatekeeper’s referral

Participants were next asked to consider making an appointment with their family physician for treatment of the disease. In line with common consultation room practices (Couët et al., 2013), the family physician would initiate a referral. Also in line with existing practices in Western European countries (Victoor et al., 2013; Vrangbæk et al., 2007), referral would be to a specialist at a nearby general hospital. Participants were asked to indicate their most likely reaction, with a choice between: (a) visiting the specialist at the general hospital without asking the family physician any questions about the private specialist provider, or (b) asking the family physician questions about referral to the private specialist provider.

Compliance motivation

Those participants who indicated they would not ask the family physician questions about referral to a specialist at the nearby general hospital, were next asked to select their most important reason for complying with the referral. Two answer options reflected beliefs about the patient–physician relationship, namely: “I think my family physician knows best,” and “I think it would not be appropriate to question the physician’s referral.” Other answer options reflected motivations other than the patient–physician relationship: “I believe that I will get higher quality treatment from the general hospital specialist,” “I’m afraid my health insurance does not cover treatment from private specialist providers,” “I did not know there exist private specialist providers for this disease,” or “Other,” whereby participants could indicate their own motivation.

Biographical items

Questions at the end of the questionnaire included gender, age, level of education, perceived vulnerability to the disease, longevity of the relationship with the family physician, attitude towards one’s family physician, and previous familiarity with private specialist providers.

Procedure

Upon opening the online questionnaire all participants were asked to imagine certain physical complaints that would not diminish with time. They were given the name of the disease and brief epidemiological information about the disease. Participants were subsequently asked to consider treatment of the symptoms and were asked to look at treatment options by clicking on a website link that was integrated in the questionnaire. To ensure that participants knew that the websites were real, it was made explicitly clear to participants that they were going to see an existing website that was not manipulated by us and that they could browse through as much as they liked during or after the study.

Upon a participant’s mouse click the website automatically opened in a new page on the screen. For the experimental group this concerned the website of a private medical specialist provider offering treatment for the disease, and for the control group this was the website of a medical and health society providing information about the disease and its treatment. The dependent variables were then measured, beginning with intention to seek treatment from the private specialist provider, provider choice motivation, intention to question physician gatekeeper’s referral, compliance motivation, anticipated reaction from the family physician, and finally the biographical items. In a closing section, the study aims were revealed and it was once more confirmed to participants that the websites browsed during the study were real.

Results

Intention to seek treatment from the specialist provider

To test the effect of exposure to the private specialist providers' websites on intention to seek treatment from the private specialist provider, univariate ANOVA was conducted with exposure to the websites (private specialist providers vs. medical and health societies), disease condition (six different diseases) and perceived vulnerability to the disease (high vs. lower) as the independent variables. Intention to seek treatment from the private specialist provider was the dependent measure in this analysis. The analysis yielded a significant main effect of Exposure on intention to seek treatment from the private specialist provider, $F(1, 59) = 5.94, p < .05, \eta^2 = .09$. In accordance with Hypothesis 1, participants had a higher intention to seek treatment from the private specialist provider after exposure to the private providers' websites ($X = 2.98, SD = 1.42$) than after exposure to the medical and health societies' websites ($X = 3.97, SD = 1.83$). The only other significant effect was a main effect of perceived vulnerability to the disease, $F(1, 59) = 4.09, p < .05, \eta^2 = .07$: Participants feeling highly vulnerable to the disease had a higher intention to seek treatment from the private specialist providers ($X = 2.97, SD = 1.80$) than those feeling less vulnerable ($X = 3.86, SD = 1.49$).

Provider choice motivations

Research Question 1 asked how exposure to the medical specialist providers' websites impacted motivations for choosing a medical specialist provider. Table 1 shows the percentages of participants who mentioned a particular motivation after exposure to the private specialist providers' websites versus the medical and health societies' websites. It can be seen that exposure to the private specialist providers' websites particularly made motivations regarding the providers' perceived expertise and services more salient than exposure to the medical and health societies' websites. Avoiding pretentiousness and idiosyncratic motivations on the other hand became less salient motivations after exposure to private specialist providers' websites.

Table 1. Percentage of participants mentioning a motivation for choosing a medical specialist provider, as a function of exposure to private specialist provider websites.

Motivation for choosing provider	Exposure to private providers' websites	Control group
Service	24	18
Expertise	27	12
Finances	12	12
Familiarity	26	29
Nonpretentiousness	0	9
Other idiosyncratic	12	21

Note. Six participants did not give an answer. The remaining respondents are $n = 43$ experimental and $n = 34$ control group. Percentages do not add up to 100% because participants could give more than one motivation.

Intention to comply with the gatekeeper's referral

Hypothesis 2 targeted the effect of exposure to the private medical specialist providers' websites on intention to comply with the physician gatekeeper's referral to a specialist at a nearby general hospital. After imagining that the family physician referred to a specialist at a nearby hospital, 36.4% of the participants exposed to the private specialist providers' websites said they would comply with the physician's referral without asking questions. The corresponding percentage in the control group exposed to the medical and health societies' websites was 53.8%. Univariate ANOVA was conducted with exposure to the websites, disease condition, and perceived vulnerability to the disease as the independent variables, and intention to question the physician gatekeeper's referral (1 = comply, 2 = questioning) as the dependent variable. Exposure to the private specialist providers' websites appeared to activate a stronger intention to question the physician gatekeeper's referral to general hospital specialist ($X = 1.63$, $SD = .49$) compared to the group exposed to the medical and health societies' websites ($X = 1.46$, $SD = .50$). However, this effect did not reach significance, $F(1, 59) = 2.27$, $p = .14$, $\eta^2 = .04$. In line with Hypothesis 2, therefore, exposure to private specialist providers' websites providers had a stronger positive effect on intention to seek treatment from the private specialist provider than on intention to question the physician gatekeeper's referral to a specialist at a nearby general hospital. No other significant effects emerged.

Compliance motivation

In total 44.6% ($n = 37$) of the respondents said they would comply with the physician gatekeeper's referral to a specialist at a nearby general hospital without asking any question. To answer Research Question 2, we analyzed the reasons participants gave for complying with the gatekeeper's referral as a function of their exposure to the websites. Table 2 shows that a large majority of the participants exposed to the private specialist providers' websites chose 'the doctor knows best' as the most important reason, and

Table 2. Percentage of participants who gave reasons for complying with physician gatekeeper's referral to general hospital, as a function of exposure to private specialist provider websites.

Reason for compliance	Exposure to private providers' websites	Control group
Doctor knows best	81.3	38.1
Inappropriate to question	0	0
Higher quality hospital treatment	6.3	28.6
Not covered by health insurance	6.3	4.8
Not aware of alternatives	0	28.6
Other	6.3	0

clearly more than participants exposed to the medical and health societies' websites. Other motivations, including belief in higher quality treatment from a specialist at a general hospital, became less salient after exposure to private specialist providers' websites. No participant indicated they would comply due to the belief that it is inappropriate to question the physician's referral.

Discussion

The average medical specialist provider's website nowadays contains significant marketing elements that aim to advance people's interest in the provider, and this has raised considerable concerns over effects on potentially vulnerable audiences (Abusief et al., 2007; Jin et al., 2011; Lau et al., 2008). To our knowledge, the present study is one of the first to empirically address the effects of exposure to website marketing by "mainstream" medical specialist providers such as orthopedic surgeons or gastroenterologists. The study showed that a fairly representative sample of the Dutch adult population indeed increased their initial interest in seeking treatment from the provider after exposure to the real websites from different Dutch medical specialist providers, and more so than those exposed to existing websites from independent medical and health societies. Due to the exposure, people further became more motivated to choose a specialist provider based on the providers' claimed medical expertise and service levels, while beliefs that choice for a specialist provider is pretentious or other personal beliefs became less salient. These findings are in accordance with earlier studies showing that DTC marketing for branded prescription drugs can positively impact people's interest in the product (Bell, Kravitz, & Wilkes, 1999; Borry, Cornel, & Howard, 2010). The present study extends these findings to DTC marketing for medical services, and specifically medical specialist care of rather common diseases, such as groin rupture, varicose leg vein, or knee meniscus tear.

Despite increased initial interest in seeking treatment from a specialist provider, we found that exposure to the medical specialist providers' websites did not truly strengthen intention to actually question the physician gatekeeper about referral to a general hospital provider. Those exposed to the specialists' websites indicated that their primary motivation to not question the physician gatekeeper's referral was the belief that the doctor knows best, and more so than participants exposed to the websites from independent medical and health societies. Rather than reinforcing the intention to question the physician gatekeeper's referral decision, exposure to the specialists' websites thus eventually reinforced reliance on the physician gatekeeper's judgment.

One of the explanations for people's reliance on the physician gatekeeper's initiative probably is the "credence value" of medical care. As mentioned in the introductory chapter, typical credence services such as medical care or legal aid are often associated with high uncertainty and perceived risk leading to an

increased reliance on third-party expertise (Huang et al., 2009; Mitra, Reiss, & Capella, 1999). In a similar vein, Imes, Bylund, Sabee, Routsong, and Sanford (2008) found that one of the main reasons why people often refrain from discussing medical information found on the Internet with their health care providers, is uncertainty about the credibility of the Internet sources. In the absence of certainty in the important domain of one's health, online sources thus on the one hand raise people's interest but at the same time an increased tendency to err on the side of safety and rely on doctor's orders.

The long-standing tradition of physician gatekeeping in many health care systems in Western Europe and beyond likely is an important factor in shaping people's beliefs about their own versus the experts' initiative in medical care. Gatekeeping signals to people that certain medical products and services can be unsafe, unless controlled by a licensed physician gatekeeper. Our findings suggest that viewing gatekeeping as an essential warranty is firmly instilled in people under long-standing physician gatekeeping arrangements, such as in Dutch society. Despite rising concerns, effects of website marketing for medical specialist providers in these societies may therefore be essentially limited.

Notes

1. This is not to claim that these medical and health societies never have ties with commercial parties. Some of the societies do mention income from commercial parties in their annual reports. The websites however never endorsed any specific specialist providers.
2. Exposure to the website of a general hospital in the control condition was not considered an option, because these websites frequently also contain provider marketing elements.

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