MEDICALIZATION AND MARKETING

Dr. Ross Brennan [Contact author]

Reader in Marketing. Middlesex University, The Burroughs, Hendon, NW4 4BT, United Kingdom

Email: r.brennan@mdx.ac.uk Fax: 0044 20 8411 6011

Professor Lynne Eagle

Professor of Marketing, University of the West of England, Coldharbour Lane, Bristol, BS16 1QY, United Kingdom

Email: lynne.eagle@uwe.ac.uk

Mr. David Rice

Senior Research Officer, Auckland University of Technology, Auckland 1142, New Zealand

Email: david.rice@aut.ac.nz

Dr. Ross Brennan: Reader in Marketing at the Middlesex University Business School, London. He holds a PhD from the University of Manchester and his research interests centre on business-to-business strategy, social marketing, and marketing pedagogy.

Professor Lynne Eagle: Professor of Marketing and Co-Director of the Bristol Social Marketing Centre at the Bristol Business School, University of the West of England. She holds a PhD from the University of Auckland and her research interests centre on social marketing / health promotion effects and effectiveness.

David Rice: Senior Research Officer in the Health and Rehabilitation Research Centre at AUT University in Auckland, New Zealand. His research interests are in neurophysiology and biomechanics with a focus on muscle dysfunction associated with joint injury, surgery and arthritis.

Medicalization and Marketing

Abstract

Medicalization is the process by which aspects of the human condition, formerly considered non-medical, are brought within the medical realm. Medical sociologists have asserted that medicalization is a prevalent contemporary socio-cultural phenomenon that is actively promoted by pharmaceutical company marketing strategies, and that has widespread negative societal effects. The phenomenon of medicalization has not been investigated from a business, marketing management or macromarketing perspective. One of the principal implications of the medicalization thesis is that pharmaceutical marketing frequently acts to reduce human welfare. The central purposes of this article are to explain what evidence and argumentation has been deployed in medical sociology to implicate marketing practices in medicalization, and to argue for the relevance of medicalization to the field of macromarketing. It is concluded that medicalization is an intellectually robust concept that could prove to be useful when conducting macromarketing investigations into ethical and quality of life aspects of the healthcare industries, and quality of death and dying issues.

Keywords

Medicalization; Marketing; Medical Sociology; Medical Imperialism; Biomedical Model

Classification

Literature review

INTRODUCTION

Laczniak and Murphy (2006; 2008) have argued that all marketing exchanges have direct effects on the transacting parties, and second and third order effects both on other individuals and on society at large. They refer to a "residual shaping force" of marketing exchanges on society. The first of their basic perspectives for improving marketing ethics is that "ethical marketing puts people first" and they propose, as a normative principle of ethical marketing, that marketers must strive to understand the full societal impact of their marketing operations, and to avoid or mitigate any damage to society that follows from their actions. In advocating an approach to marketing ethics based on distributive justice (DJ), Laczniak and Murphy (2008:9) pose a central question for ethically concerned marketers: "the perennial and overarching question of DJ: Is this a fair and just marketing practice?" In this article we are concerned with interactions between pharmaceutical marketing practices and society at large. Our concern is not with the many micromarketing issues associated with drug marketing, but with the second and third order effects of pharmaceutical marketing, that is, with the "residual shaping force" of pharmaceutical marketing on society. In particular, we are concerned with the allegation that pharmaceutical marketing is in part responsible for the re-classification into the medical domain of phenomena that were formerly considered non-medical ("medicalization"), and that this process has adverse effects. This will contribute to a better understanding of the full societal impact of pharmaceutical marketing. Our contention is not that medicalization is an entirely negative social phenomenon (it has positive aspects), nor that medicalization is directly caused by pharmaceutical marketing. Rather, the core of the argument is that medicalization is a social process with which pharmaceutical marketing interacts, and that negative outcomes for society can and do result from this interaction. An understanding of these interactions is of interest both to macromarketing scholars, and to

ethically concerned marketers working in the medical field, particularly those concerned to implement quality-of-life marketing principles (Lee & Sirgy 2004).

There is considerable concern in both the academic and consumer media about the broad social effects of marketing by pharmaceutical companies. It has been suggested that medication marketing encourages the medicalization of formerly non-medical phenomena: "a pill for every ill - and increasingly an ill for every pill" (Mintzes 2002:909) and discourages the consideration of non-drug options such as dietary and lifestyle changes to achieve desired health outcomes (Gray 2000). The phenomenon of medicalization can be broadly understood as the process by which aspects of the human condition, formerly considered non-medical, are brought within the medical realm; characteristic examples are obesity and erectile dysfunction. Medicalization has received considerable attention in the literature of the sociology of medicine, bringing in its wake pointed criticisms directed at pharmaceutical company marketing strategies which, allegedly, are explicitly designed to bring about medicalization (Healy 2004). However, medicalization has not previously been addressed in the marketing or management literature, a lacuna that we aim to correct with this paper.

There are several aspects of medicalization that make it suitable for a macromarketing approach. Hunt (1981) argued that macromarketing is concerned with the impact and consequences of marketing systems on society, and the impact and consequences of society on marketing systems. The subject of this article could reasonably be paraphrased as 'the impact and consequences of the pharmaceutical marketing system for the social process of medicalization, and the impact of medicalization on pharmaceutical marketing'. Layton (2007; 2008) extended the systems view of macromarketing, arguing that the study of systems is central to macromarketing, that the output of a marketing system is an assortment of goods offered in response to customer demand, that this assortment affects the standard of

living, and that "the system also generated a wide range of externalities that ultimately might challenge its very existence" (Layton, 2007:239). It is not the argument of this article that the overall process of medicalization is such an externality; rather, we contend that interactions between certain aspects of pharmaceutical marketing and a number of wider social, political and demographic trends can be implicated in the broad social process of medicalization. Certainly, we do not argue simplistically that pharmaceutical marketing 'causes' medicalization, since medicalization is a complex social phenomenon for which no single cause can be adduced. Our purpose is to explore the assertion, which emerges clearly from the literature on medical sociology, that medicalization is an important contemporary social phenomenon that has adverse consequences, and that the pharmaceutical marketing system has contributed, and continues to contribute, to the medicalization process. In short, we are concerned with the interaction between the social phenomenon of medicalization and the pharmaceutical marketing system, and in particular with the argument that pharmaceutical marketing has contributed to certain negative effects of medicalization on society.

Layton and Grossbank (2006:201) identified "moral and ethical issues in assessment of societal risks of marketing" as one of twelve "challenges in macromarketing research". As we shall see, the allegation that pharmaceutical marketers are complicit in medicalization by actively promoting the re-classification of non-diseases as diseases in order to sell more drugs, positions them as important actors in a process that has widespread moral and ethical implications. If the assertions of some medical sociologists are true, then the medicalization process has serious adverse consequences for society at large (for example, by promoting the allocation of healthcare budgets based on fashion rather than clinical need), and pharmaceutical companies must shoulder a large share of the blame. If true, this clearly indicates that aspects, at least, of the pharmaceutical marketing system tend to reduce rather than

increase human welfare; one of the purposes of macromarketing research is to establish how marketing systems can be constructed in the best interests of society (Bartels & Jenkins 1977).

In addition, the themes addressed in this article are unashamedly transdisciplinary, cutting across marketing, medical sociology, medical science and clinical practice. Peterson (2006:245) argued that the future of macromarketing would be as a "transdiscipline focused on societal development". We trust that the reader, even when perhaps struggling a little with some of the strange terminology that we have necessarily borrowed from the fields of medicine and sociology, will see the relevance of the work to the betterment of society.

The purpose of this paper, then, is to review the literature on medicalization in order to contribute to the current debate on drug marketing and promotion, with a view to setting a macromarketing research agenda in this field. This subject matter raises high feelings. On the one hand it is argued that drug companies effectively create new medical conditions through public relations and other promotional activities simply in order to sell more and new drugs (Moynihan, Heath, & Henry 2002). On the other hand, the contention is that human suffering is far beyond the capacity of medical science to ameliorate, that medical and pharmacological advances that reduce suffering are to be welcomed, and that the actions of drug companies are no more self-interested than those of medical professionals and governments (Bonaccorso 2002). The contribution of this article is to place this contemporary debate in the context of the substantial sociological and medical literature that already exists on medicalization. The overall purpose and structure of this article can best be understood with reference to a conceptual model linking pharmaceutical marketing strategies to the drivers of medicalization, and in turn to the consequences of medicalization. Figure 1 both illustrates this conceptual model and provides a general framework for the discussion that follows. Much of this article

is concerned with explaining in detail the logic, argumentation and data that support the model shown in Figure 1, so at this point we will only provide a brief overview of the underlying argument. The central assumption behind Figure 1 is that the sociological process of medicalization exists and has important societal implications, for example in the growth of iatrogenic illness (illnesses caused by medical treatments) and the allocation of healthcare budgets. It is not implied that all of these effects are negative, and some of them are clearly welcomed by some members of society (for example, sufferers from chronic fatigue have generally welcomed the acknowledgement by the medical profession that they suffer from a disease). Nevertheless, the sociological literature on medicalization portrays it as a process with a broadly negative overall impact on society. The suggested drivers of medicalization are categorized under three headings: broad trends in society (demographic, social and political), pharmaceutical industry factors, and mass media medical reporting. Numerous interactions between these drivers are explored in the following text; the particular concern of this article is with interactions between the pharmaceutical industry factors and the other drivers in the reinforcement of medicalization.

(Insert Figure 1 about here)

We begin by exploring the meaning of medicalization before moving on to discuss the underlying causes of medicalization that have been suggested by previous researchers. Subsequently we move on to investigate the alleged links between medicalization and marketing, first by looking at mass media portrayals of health and medicine, and then by examining pharmaceutical marketing strategies. In the latter sections of the paper we consider the effects of medicalization, draw some preliminary conclusions for the field of marketing generally and macromarketing specifically, and develop a research agenda designed to focus the attention of marketing researchers on this important social and managerial issue.

WHAT IS MEDICALIZATION?

Medicalization can be broadly defined as the redefining or reconceptualizing of non-medical behaviors, experiences or problems as medical in nature (Becker & Nachtigall 1992; Conrad 1992; Nye 2003; Zola 1975) It describes the expanding boundaries of the medical model in which all symptoms are considered to be caused by a pathogen which can be treated by medication (Daines 1997) and, often, the utilisation of medical management to address human problems that were once seen as social or individual issues, such as anxiety, depression, and the menopause (Montagne 1992).

In addition, areas that have already been medicalized can be subject to expansion, increasing the prevalence of disease and so producing further medicalization (Conrad & Potter 2000). Conrad (1992) described medicalization as characterized by three major sub-processes: the use of medical language or terminology to describe a problem, adopting a medical framework to understand a problem, and the use of a medical intervention to "treat" a problem. Medicalization, by definition, broadens the 'pathogenic' (causes and development of diseases) sphere, moving previously non-medical problems into the medical realm (Lowenberg & Davis 1994). The proliferation of, and expansion within, disease categories that has resulted from this process has led to an increasingly narrow definition of 'normal' or 'healthy' so that the majority of people are seen as diseased or at risk of disease in some way (Scheper-Hughes and Lock 1987, cited in Becker and Nachtigall 1992).

According to Conrad (1992) while the term medicalization simply means 'to make medical', in early case studies of the phenomenon medicalization was often conceptualized from a social constructionist perspective, implying that there can be no objective definition of 'illness' and 'health' since both are socially constructed. Furthermore, in early sociological studies of medicalization the

phenomenon was seen as a mechanism of social control by which the medical profession could increase its power and influence (Illich 1975). Consequently the term has often been used in a negative sense to describe what was seen as unnecessary instances of medical intervention or "over-medicalization" to the detriment of some groups within society (Conrad 1992). While this critical perspective of medicalization is still the dominant view, more recent definitions have become more neutral and descriptive (Conrad 1992; Nye 2003). As Nye put it "medicalization is no longer understood as a nefarious collaboration of experts and state authority imposed from above, but a process whereby medical and health precepts have been embodied in individuals who assume this responsibility for themselves" (Nye 2003:117).

Examples of individual or social problems that have become medicalized are plentiful. Verweij (1999) proposed three key areas: social deviance, normal life experiences and lifestyle choices. First, some activities that were once seen as immoral or socially deviant have been redefined as a disease or symptoms of illness. These include alcoholism, homosexuality, attention deficit hyperactivity disorder, drug addiction, compulsive gambling and child abuse (Verweij 1999). Second, some normal life experiences have become increasingly medicalized. For example, pregnancy, birth, aging, menopause, unhappiness, baldness, and aspects of sexuality have all become redefined as medical issues, subject to medical intervention and control (Conrad 1992; Verweij 1999). Third, Verweij (1999) argued, the rise of preventative medicine has led to greater medicalization of lifestyle. Mass screening programs and the implication of lifestyle factors such as rest, diet and exercise in the aetiology (cause) of many diseases has led to a widening of medical surveillance and control to include many behavioral choices affecting the way in which an individual lives his/her life (Filc 2004; Lowenberg & Davis 1994). The emphasis on risk prevention expands the occasions for intervention (Nye 2003). Medical jurisdiction is expanding to encompass more people, many of whom may have previously been seen as healthy or having problems lying outside the medical realm.

Conrad and Schneider (1980) and Moynihan et al (2002) have argued that medicalization is a complex process, occurring on a number of different levels and to different degrees. They identified at least three distinct levels: the conceptual (when a biomedical framework or medical terminology is used to define a problem that was once considered non-medical), the institutional (when organizations prefer a medical intervention to a non-medical approach when treating a problem), and the interactional (when a physician diagnoses a patient's problem as medical in nature or treats a multi-factor, socially linked problem with a medical intervention).

DEMOGRAPHIC, SOCIAL & POLITICAL DRIVERS OF MEDICALIZATION

Medical Imperialism & Patient Activism

Medical imperialism was one of the first explanations proposed for medicalization. Many early authors argued that the expansion of the medical sphere facilitates a shift in cultural and social power towards the medical profession (Illich 1975; Zola 1972). Essentially, the medical imperialism thesis contends that medicalization is a process initiated and perpetuated by the biomedical profession as a means to acquire power (Bell 1987; Friedson 1970; Illich 1975; Strong 1979). Similarly, feminist authors have alleged that a patriarchal medical system has systematically gained control over women's lives through the progressive medicalization of problems exclusively, or predominantly, affecting women, such as childbirth and menopause (Bauer 1998; Meyer 2001; Williams & Calnan 1996).

The medical imperialism thesis has been criticized on the basis that it accords too much influence to medical professionals in what is a complex, multi-causal socio-cultural phenomenon. In

addition, the medical imperialism argument implies a passive acceptance of medical dominance on the part of the lay populace (Quill & Brody 1996), whereas Williams and Calnan (1996) suggested that the lay population has in fact developed a "critical distance" from the medical profession. The lay perception of medicine is not merely passive and accepting but actively ambivalent. While the influence of modern medicine is as dominant as ever, there is simultaneously a growing skepticism over the limits of medicine, with the information age perhaps undermining medical authority and encouraging individuals to take more responsibility for their own health (Nye 2003; Williams & Calnan 1996).

The general population may, themselves, play a central role in the medicalization process through patient activism (Brown, 1995). Hundreds of organized patient interest groups now exist, representing or speaking for the sufferers of various diseases or health problems (Herxheimer 2003). These groups can promote the medicalization of certain problems, creating and institutionalizing diseases such as Post-Traumatic Stress Syndrome (Conrad & Leiter 2004). Lay involvement in the process of medicalization occurs particularly, but not always, when the problem that is being medicalized involves conflict between lay experience and medical or other societal authorities (Brown 1995). Problems which have a contentious status as a disease, such as Chronic Fatigue Syndrome (Ax, Gregg, & Jones 2002) and Multiple Chemical Sensitivity (Graveling, Pilkington, George, Butler, & Tannahill 1999), are prime examples of this. It has also been argued that the creation of well-organized patient interest groups is a quite explicit part of pharmaceutical company marketing strategy, with the drug companies facilitating the creation of such groups in order to lobby governments and health authorities to increase drug budgets (Healy, 2004).

Technological/ Scientific Advances under the Biomedical Model

One of the major drivers of medicalization may be the dominant reductionist model of biomedicine. Filc (2004) described biomedicine as a paradigm which explains disease as resulting from pathological processes within the individual, with reference to explanatory models as close to the molecular level as possible. Hence, each disease or illness can be explained in terms of faulty physiological or biochemical processes, and psychological and social factors are specifically excluded. Therefore treating disease can often be viewed as treating the fundamental imbalance in biochemistry - leading to the increased use of pharmaceuticals and the "pill for every ill" philosophy criticized by Mintzes (2002).

In parallel with the dominant biomedical model, the concept of the "risk" society has been developed (Beck 1992; Nye 2003; Williams & Calnan 1996). Williams and Calnan (1996) argued that the concept of risk has become a fundamental parameter of life, affecting every individual across virtually all aspects of society. Within healthcare the focus on risk is primarily articulated as the presence of "risk factors" underlying individual disease processes (Filc 2004). Put simply, the modern state has adapted the risk calculus of insurance companies and applied it to recreation, diet, behaviors and occupations, attempting to link these variables to the probability of becoming "diseased" (Nye 2003). Within the area of health care, risk and biomedicine are perhaps inextricably linked. Given that risks are essentially predictions of future events and thus intangible, biomedical knowledge becomes a crucial resource through which the perception of risk can be filtered (Williams & Calnan 1996).

New medical knowledge is integral to the process of refining the aetiology and treatment of disease, and is therefore a central component in the process of medicalization (Conrad & Leiter 2004). Clark et al (2003) have argued that one of the keys to the expanding medical knowledge has been the

advance of technology. Technological advances, many of them brought to market by pharmaceutical companies, have led to improvements in therapeutic capacity. An increased capacity to diagnose and to treat disease, it is argued, has led to an increase in the perceived incidence of disease and thus to medicalization (Hofmann 2001).

The majority of biomedical research, in many Western countries, is sponsored by pharmaceutical companies (Collier 2002). Understandably, research sponsored by the pharmaceutical industry is overwhelmingly drug-related. Collier and Iheanacho (2002) suggested that this may contribute to the medicalization process by directing more research resources towards pharmaceutical solutions rather than social or behavioral solutions to medical problems. Furthermore, as these authors point out, pharmaceutical and biomedical research dominates the therapeutic field in terms of research output. Hence the weight of evidence presented in favor of drug-based solutions predominates. This means that aspects of diseases and methods of treatment that are not amenable to pharmaceutical treatments may remain chronically under-researched. For example, in the context of a systematic review of the treatments for atopic eczema Hoare, Po and Williams (2000:117) concluded that: "It is clear that most RCTs have been about issues that are important to the Pharmaceutical Industry … This is understandable, but … there is a major discrepancy between what answers these studies provide and what physicians and their patients often ask." (RCT: randomized control trial.)

Cultural Phenomena

Becker and Nachtigall (1992) suggested that deeply rooted cultural phenomena may play a part in the medicalization process. When a social status or behavior does not fit into what is seen as a societal or culturally acceptable norm it becomes problematic. These authors suggested that Western society has generally learnt to deal with ambiguous, deviant behavior or status by giving it a medical label,

redefining it as a disease amenable to medical intervention. Other societies or cultures may explain mysterious illness or behavior through complex religious or belief systems. However, Western society, it is argued, has become increasingly secularized, replacing religious values with a strong cultural ethic of rationality and reason when explaining events or behaviors (Bauer 1998; Conrad 1992; Williams & Calnan 1996; Zola 1972). Consequently there may be an increasing cultural reliance on science and biomedicine in particular, to fulfill this explanatory role (Zola 1975).

Cultural perceptions of medications and pathological states may also influence the process of medicalization. Barksy and Borus (1995) have argued that people's general tolerance of mild symptoms and self-limiting, relatively benign, medical problems has declined. At the same time, taking medication in response to symptom states has become habitual (Montagne 1992). Montagne (1992) suggested that medications are widely viewed as both pure and potent and they are usually the most accessible and immediate solution to physical distress. The effects of pharmaceuticals are also generally tangible to the individual taking them, reinforcing the perception of efficacy (Montagne 1992). Cultural attitudes toward pharmaceuticals and the treatment of physical distress may play an important role in the medicalization of society as they act to lower the threshold for seeking medical attention or self-medicating (Montagne 1992; Barsky and Borus 1995). The lay reliance on medication is partly evident in the expectations of patients when consulting their doctor. Investigations in countries as diverse as Germany, the USA and New Zealand indicate that approximately half of patients expect a medication to be prescribed at each consultation with their doctor (Eagle & Chamberlain 2002; Wilkes, Bell, & Kravitz 2000). Indeed, it could be argued that medicalization is a reflection in the medical domain of a broader cultural trend towards instant gratification regardless of damaging consequences, a trend that has been proposed by such authors as Schlosser (2001) and Ritzer (1995).

Shift in Ideology towards Preventative Medicine

Medicalization may be increasingly encouraged by the growing trend towards preventative health care, which has lead to an emphasis on treating risks and precursors to disease. As a result, many people who were once viewed as healthy are now being screened and then receiving prophylactic treatment (for example, for raised blood pressure or high cholesterol). This can greatly increase the number of people receiving medical interventions. For example, in 2001 the National Heart, Lung and Blood Institute issued new guidelines for treating high cholesterol in the USA. The new criteria nearly tripled the number of adults recommended for hyperlipidemia treatment with prescription medicine (statins), increasing the number from 13 to 36 million adults (Berndt 2001). Similarly, in 1997 the American Diabetes Association recommended a broader definition of diabetes. They proposed a decrease in the diagnostic fasting blood glucose level from 140 to 126 and, in doing so, expanded this disease category to include many more people (Berndt 2001).

Aging Population

The population of the Western world is aging (European Commission, 2000), a phenomenon which is likely to augment the process of medicalization. Within OECD countries the over 65 age group accounts for an estimated 40-50% of healthcare spending and their per capita health care costs are three to five times higher than those under 65 (Oxley 2001). Both the use of medication, generally, and the use of multiple medications are significantly higher among the over 65 age group than younger age groups (General Accounting Office 2002; NIHCM 2002; Vuckovic & Nichter 1997). An aging population results in an increase in time dependant, chronic degenerative diseases. For example, it is reported that the prevalence of arthritis within the USA increased from an estimated 38 million in 1990 to 43 million in 1998 (General Accounting Office 2002). An increase in demand for medical intervention is to be expected in order to manage risk factors and symptom states of these chronic,

"incurable", diseases. Furthermore, it is suggested that cultural tolerance for imperfection and the physical signs of aging has declined, provoking consumer demand for intervention and a progressive trend towards medical intervention and the medicalization of aging itself (Ebrahim 2002). All of these factors suggest that the phenomenon of an aging population has augmented the medicalization process and is likely to continue to be so.

MASS MEDIA PORTRAYAL OF HEALTH AND MEDICINE

The mass media are the most important source of health-related information for many people. Media portrayals contribute to the creation and reproduction of knowledge about illness and disease. They provide depictions of many aspects of health care, such as being ill, behaviors engendering health, definitions, causes and treatments of disease, how health providers should behave and the nature and impact of health care policies (Seale 2003). Kroll-Smith (2003) goes as far as to suggest that the media represent an alternative form of authority on medical knowledge, shaping the public perception of health and illness. As such, it is likely that the media play a crucial role across all levels of the medicalization process.

There are many criticisms of the media portrayal of health and medicine and the way in which this facilitates and promotes the medicalization process. It is argued that biomedical reporting is essentially characterized by three major themes: personalization, alarm and expert opinion (Bauer 1998). Personalization and alarm serve to provoke an emotional response in an attempt to entertain, attract attention and provoke empathy (Bauer 1998; Seale 2003). Emotional appeal is often constructed through dramatized and sensationalized contrasts, such as creating fear about a condition or disease and then presenting the "miracle cure" (Seale 2003). Expert opinion is used in an attempt to instill a sense of

validity or legitimacy to the claims made within the piece (Bauer 1998). Critics have argued that these aspects may lead to unbalanced coverage of medical issues, fear mongering, overly promotional reporting and the false validation of therapeutic claims (Cassels et al. 2003; Harrabin 2003; Katz et al. 2004; Moynihan et al. 2000; Moynihan & Sweet 2000; Sweet 2002; Vuckovic & Nichter 1997).

Popular media reports are often sensationalized in order to gain a profit from increased readership and viewing (Vuckovic & Nichter 1997). Sweet (2002) argued that medicalization suits the media imperative of attracting audiences. Disease categories which are considered ambiguous or contentious amongst the medical profession are often highly publicized in the mass media because of their novelty interest to the lay population (Kroll-Smith 2003). Examples include Gulf War Syndrome, Multiple Chemical Sensitivity and Chronic Fatigue Syndrome. In addition, new treatments, or research promising to provide new treatment, generally rate highly on the scale of newsworthiness due, again, to their novelty and emotional appeal. In sensationalizing health issues the mass media serve to exploit the fears and collective anxieties of the public by providing simplistic and exaggerated claims (Vuckovic & Nichter 1997). A major theme of media reporting on health is the supposed multiple dangers of modern life, reinforcing the messages inherent to a "risk" society, often implying the need for preventative medical or health interventions (Seale 2003).

Coverage of health issues may be unbalanced, highlighting relatively minor health risks while largely ignoring more important (but less novel) public health issues. For example in the UK Harabbin et al (2003) looked at media reporting of the risks associated with smoking and with 'mad cow disease' (variant-CJD), finding that there were three media stories per death (that is, 0.33 deaths per story) for variant-CJD, but 8571 deaths per media story for smoking related risks. In addition, it has been argued

that media portrayal of medicine tends to be too optimistic about the chances of successful intervention, and to pay too little attention to the risks of intervention (Moynihan & Sweet 2000; Sweet 2002).

Media pieces often validate the claims they make through expert opinion or the citation of scientific research. However, critics have suggested that the experts or studies cited often have an inherent conflict of interest, such as financial ties to the pharmaceutical industry, which are rarely disclosed in the article (Moynihan et al. 2000; Sweet 2002). This may further distort the balanced portrayal of information, serving to legitimise often contentious claims over the necessity of medical intervention and promote medicalization. At this point in the article, therefore, we turn to a consideration of pharmaceutical marketing strategies and their possible interactions with the drivers of medicalization.

PHARMACEUTICAL MARKETING STRATEGIES

A fascinating case study of the launch of drugs for erectile dysfunction in South Korea by Ham, Jun and Lee (2008) illustrated the interaction between medicalization, pharmaceutical marketing strategies, and macromarketing. Erectile dysfunction is a prime example of the medicalization process; in South Korea as in many other countries drugs to deal with the symptoms of this disorder, which was once regarded as a natural part of the aging process, are highly valued by many middle-aged men. However, these drugs are available only on prescription (emphasizing the *medical* aspects of the phenomenon), and direct-to-consumer advertising of prescription medicines is prohibited in South Korea. Ham et al (2008) describe a wide range of practices used by several drug companies to communicate their key marketing messages both to prescribers and to consumers. Several of the methods described are ethically dubious at best (for example, sending a CD containing indecent images to physicians, and

subverting the advertising ban by placing advertisements containing key messages in newspapers but avoiding any mention of the product itself). The impression from this case study is that the marketing strategies were designed to circumvent the purpose of Korean legislation, while staying just within the letter of the law. In this section we investigate further the characteristic marketing strategies employed by drug companies, and how these are related to the phenomenon of medicalization.

Physician Targeted Marketing

Industry sources suggest the majority of marketing expenditure by pharmaceutical companies is directed at physicians. From 1997 to 2001 spending on direct-to-consumer advertising accounted for between 10 and 14% of total promotional spending within the U.S.A., with almost all of the remaining money spent on physician targeted marketing (General Accounting Office 2002). It is estimated that pharmaceutical companies spend between $8,000 and $13,000 per year on each physician in the U.S.A. (Wazana 2000). In Australia estimates are around A$21,000 (US$15,700) per physician (Breen 2004). This money is spent on a variety of marketing measures, including visits from personal sales representatives (detailing), giving free sample medications to physicians (sampling), gifts, free lunches, paying for travel expenses and the sponsorship of educational events. Reist and Van de Creek (2004) have asserted that some of this money is used to track the prescription patterns of individual physicians, in order to ascertain the effectiveness of marketing strategies on prescribing behavior. Ward et al (2008) showed that physicians were influenced in their prescribing decisions by drug promotional activity and the creation of well-known brand names.

Detailing

It is estimated that, within the U.S.A. alone, the pharmaceutical industry spends over $US5 billion per year in total on detailing (General Accounting Office 2002; Wazana 2000). Studies from

several countries suggest that between 80 and 95% of all physicians attend meetings with pharmaceutical sales representatives regularly. The accuracy and balance of information presented to physicians have been questioned. An American study found that 10% of sales representative statements to physicians concerning drug information were factually incorrect (Ziegler 1995). In Finland, the U.S.A., Australia and France sales representatives have been found to emphasize product benefits and play down risks (Morgan, Mintzes, & Barer 2003). There is evidence to suggest that detailing may affect physician prescribing behavior. Results from a meta-analysis suggest that interactions with pharmaceutical representatives may affect physician behavior in a number of ways: prescribing cost, non-rational prescribing, drug preference and prescription of new drugs (Wazana 2000). Similarly, within the United Kingdom, frequent contact of physicians with pharmaceutical representatives has been found to be associated with higher overall prescribing costs, a greater willingness to prescribe new drugs, non-rational prescribing and receptiveness to drug advertisements and promotional material from pharmaceutical companies (Watkins 2003). Gonul et al (2001) found a positive and significant relationship between detailing and the prescription probability of a given drug across a variety of therapeutic categories. However, some pharmaceutical industry insiders perceive a recent deterioration in the relationship between physicians and pharmaceutical company representatives, citing an increase in the number of representatives, high turnover of representatives, and lack of experience of some representatives (Parker 2007; Pesse 2007).

Sampling

The practice of handing out free, sample, medication to physicians accounts for a large proportion of overall marketing expenditure. For example within the US, sampling accounted for $10.1 billion of a total $19.1 billion in marketing expenditure in 2001. This practice may be important for low income patients, who may not otherwise be able to afford medications (Reist 2004). There is some

evidence to suggest that sampling may influence physicians to prescribe medications they would not otherwise prescribe (Chew 2000). Gonul et al (2001) found a positive and significant relationship between sampling and the prescription probability of a given drug across a variety of therapeutic categories. Expenditure on sampling, as with other physician marketing measures, has continued to grow. Increased levels of sampling may lead to increased drug utilization. For example, within the USA, it is estimated that physicians dispensed a total of $7.9 billion worth of free samples to patients in 2000, up from $7.2 billion in 1999 and $4.9 billion in 1996 (NIHCM 2002). Accepting samples has been consistently associated with increased awareness, preference and rapid prescription of a new drug (Wazana 2000).

Gifts

Gift giving is another widespread drug promotion strategy aimed largely at medical students and physicians. This includes relatively minor gifts such as pens and coffee cups as well as more substantial offerings including numerous free lunches, medical text books and free travel and accommodation to attend conferences and symposiums. Gifts such as meals, sponsored travel and accommodation have all been independently associated with an increase in formulary requests for a drug and the likelihood of prescribing the sponsor's drug (Komesaroff 2002; Wazana 2000).

Educational Events

Drug companies support many continuing medical education events (CME), medical conferences and meetings of professional organizations (Angell 2004). Physicians are invited to attend lectures on specific, often new, drugs or treatments and their use. These events are termed educational. However, some critics question the balance of information presented at such events, suggesting that pharmaceutical companies see CMEs as little more than a golden marketing opportunity (Healy 2004).

Industry funding of CME has been increasing steadily over the last decade. Pharmaceutical companies often help to organize and advertize CME events, may prepare some presentations and curriculum materials, compile lists of possible speakers and even indirectly pay them (Relman 2001). Changes in physician prescribing, in favor of the sponsor's drug, have been documented (Morgan et al. 2003; Wazana 2000). However, there is some evidence of a backlash against CME events that cannot be clearly justified as legitimate physician professional development activities (Miller 2008). Pfizer has restricted the scope of the CME events that it will sponsor (Arnold 2008). In America, the Accreditation Council for CME now requires CME providers "to adhere to standards for independence that now keep industry supporters from having any input on the content of CME programs or selection of speakers", and industry support for CME events appears to be in decline (Miller 2008).

Medical research and drug promotion

The estimated costs of developing a new drug in the USA range between $500 and $800 million. The use of private, non-academic, contract research organizations (CRO's) is becoming increasingly prevalent to gain regulatory approval for a drug (Collier 2002; Davidoff et al. 2001; Henry 2002). The proportion of pharmaceutical research conducted by these private companies is reported to have risen from 20% in 1991 to 60% in 1998 (Henry 2002). A study reviewing the prevalence of financial conflicts of interest in academic research found that a quarter of university researchers receive funding from the pharmaceutical industry (Bekelman, Li, & Gross 2003). Increasingly, there have been reports of biased publishing, delayed publishing or even a refusal to publish results if they prove unfavorable to the commercial interests of the pharmaceutical company sponsoring the research (Blumenthal, Campbell, Anderson, Causino, & Louis 1997; Campbell et al. 2002; Davidoff et al. 2001; Healy 2004; Healy & Cattell 2003; Lexchin, Bero, Djulbegovic & Clark 2003; Melander 2003). Some isolated incidents have even been reported of pharmaceutical companies threatening legal action to stop independent

researchers publishing negative results about a given drug (Collier 2002). Lexchin et al (2003) found that industry funded research had as good, if not better, methodological quality than non-industry funded research. However, research funded by pharmaceutical companies was less likely to be published and significantly more likely to have a favorable outcome for the product produced by the sponsoring company.

The majority of pharmaceutical companies are reported to out-source the authorship of academic papers to medical writing or communications agencies (Healy 2004). So called "ghost-writers" are often employed by these agencies as unacknowledged writing or editorial assistants to the academic authors of a paper, who may have little or no access to primary trial data (Healy & Cattell 2003). While the prevalence of ghost-writing remains unknown, Healy and Cattell (2003) estimate that as many as 75% of papers documenting randomized controlled trials of therapeutic agents may now be ghost written. The publication's authors may have little or no input into trial design, no access to raw data, and limited participation in the writing of data interpretation (Davidoff et al. 2001). This issue rose to prominence in the *Journal of the American Medical Association* in 2008, where ghost writing, "misrepresentation of research data" and "manipulation of clinical research articles and clinical reviews" were alleged in the case of Merck's Rofecoxib product (DeAngelis & Fontanarosa 2008; Ross et al 2008; Psaty & Kronmal 2008). It has more generally been alleged that the choice of journal in which to publish results and perhaps even of the authors whose names will appear on the paper can become a conscious part of the drug marketing strategy.

It has been suggested that it is the treatability of a problem that largely determines its disease status, or includes it within in the realm of medicine (Hofmann 2001). For instance it is argued that the development of Ritalin and estrogen replacement therapy were important to the widespread

medicalization of ADHD and menopause respectively (Conrad & Leiter 2004). Provided that a significant therapeutic effect can be determined, the problem can be re-conceptualized as a disease and treated under the biomedical model. In this way, exaggerating or misrepresenting the perceived therapeutic efficacy of a drug (through a number of well-planned, complex marketing strategies) serves to confirm the disease status of the problem it is designed to treat. This is likely to contribute to the process of medicalization across all levels.

Sponsorship

Pharmaceutical companies have increasing financial ties to physician and patient groups acting to raise awareness about certain disease categories. Corporate sponsored groups such as these engage in public awareness campaigns for conditions which are viewed as both under diagnosed and under treated. Moynihan (2005) argued that pharmaceutical companies often hire multiple public relations and marketing firms for a single campaign, attempting to shape global perception of a disease and how best to treat it. These alliances purportedly target health professionals, the media and the general public, creating concern about the impact and prevalence of a disease before emphasizing the latest treatment breakthrough (Koerner 2002; Moynihan 2005; Moynihan et al. 2002).

EFFECTS OF MEDICALIZATION

Over recent decades, a series of negative, simplistic connotations have been formed around the term medicalization (Broom 1996). However, medicalization is a complex, equivocal process and probably has both positive and negative effects on both society in general and on public health. These outcomes are also likely to vary across different areas of medicalization, subgroups of the population and even between individuals.

The Individualization of Problems

One of the most commonly cited negative consequences of medicalization is that it acts to individualize a problem. It is argued that this process de-contextualizes what could otherwise be seen as collective social and cultural issues by focusing on the "diseased" individual rather than their surrounding social and cultural environment. When this occurs, contributing factors such as socioeconomic inequalities, occupational stress and cultural and family environments are often obscured, when they may in fact be a major source of the problem (Broom 1996; Conrad 1992; Hart & Wellings 2002; Lee 2004; Meyer 2001; Zola 1975). Once a problem has become defined as medical in nature, social or other non-medical solutions may be seen as less acceptable and desirable. The consequences of the problem (the symptoms or abnormal physiological processes) may become the focus of intervention while the underlying causes are largely overlooked. This is especially detrimental if the medical intervention is only partly effective or ineffective in solving the problem.

Labeling Issues

Broom and Woodward (1996) suggest that a profound sense of frustration and alienation may occur when a person is unwell and their experience is not deemed to be a medical condition. Traditionally, poorly understood conditions have been attributed to psychological causes, stigmatizing those experiencing them as weak-minded or even mad. Diagnosis of a problem as medical in nature, subject to medical intervention, may reduce uncertainty and frustration for both the patient and doctor (Montagne 1992). Amongst 50 sufferers of Chronic Fatigue Syndrome (CFS) a medical diagnosis was nominated by over 90% as the single most helpful event throughout the course of their illness (Broom 1996). In the case of chronic, poorly understood (in biomedical terms) illnesses, such as CFS, medicalization may serve to legitimize an individual's suffering as well as providing hope of a

resolution to their problem. Medicalization may also de-stigmatize certain conditions, by increasing awareness of the condition and encouraging sufferers to seek advice or assistance for their problem (Gilbert, Walley, & New 2000). However, there may also be a negative side to labeling. It has been argued that medicalization results in unnecessary and harmful labeling of individuals as diseased or abnormal, leading to their marginalization within society; in the extreme case labeling an individual as diseased can lead to the denial of employment, insurance or a mortgage (Smith 2002).

More generally, a medicalized, health-obsessed culture may breed fear and uncertainty, undermining an individual's confidence in their health (Heath 2005; Verweij 1999). Sen (2002) provided some striking evidence for this in a study comparing the self-reported morbidity (illness levels) between two Indian states (Bihar and Kerala) and the USA. Bihar is the poorest state in India while the state of Kerala has the highest levels of literacy and life expectancy in the country. Life expectancy in the USA is, unsurprisingly, greater than both Indian states. However, self-reported morbidity is inversely related to life expectancy in these populations. Bihar, with very limited education and health care resources and wide spread disease has by far the lowest self reported morbidity, followed by Kerala and the United States, where self reported morbidity is extremely high.

Patient-Doctor Interactions and the Right to Autonomy

Various authorities have argued that medicalization inherently implies that treatment decisions must be made and implemented by a qualified health professional, encouraging domination by experts (Conrad 1992; Illich 1975; Lowenberg & Davis 1994; Montagne 1992). The 'traditional' paternalistic model of primary care emphasizes a doctor's authority but limits a patient's freedom to participate in treatment decisions. Medicalization is said to reinforce a paternalistic doctor-patient relationship, thereby serving to undermine the autonomy of the patient in dealing with their problem. However,

Verweij (1999) argued that this may be an oversimplification since, in parallel with the process of medicalization, there has been a growing movement away from the paternalistic model of primary care and a shift in power towards the consumer. In addition, he argues that there are many examples of medical intervention eliminating or precluding the disabling consequences of disease, thus facilitating patient autonomy.

Iatrogenic illness, Screening & False Positives

An iatrogenic illness is one that arises from a medical examination or treatment. Another commonly cited effect of medicalization is that it promotes medical assessment (such as screening procedures) and treatment (such as drugs) over other forms of intervention, so increasing the risk of iatrogenic illness (Mintzes 2002). Mass screening procedures pose a risk to those being screened, often in the form of false positive tests (when an individual incorrectly receives a positive diagnosis). A false positive test may cause significant distress and lead to further (unnecessary) invasive diagnostic procedures or even surgery (Elmore et al. 1998; Verweij 1999). Screening for breast cancer provides a pertinent example of this. Elmore et al (1998) performed a retrospective cohort study of 2400 women over 10 years. They found that over this period, 31.7% of women received at least one false positive diagnosis as a result of a mammogram or clinical breast examination. These false positive tests led to 870 outpatient appointments, 539 further diagnostic mammograms, 186 ultrasound examinations, 188 biopsies and one hospitalization. It is argued that medicalization, by increasing the number of people subject to diagnostic screening, increases the iatrogenic costs arising from false positive tests.

Medicalization promotes drug use and the doctrine of “a pill for every ill” (Mintzes 2002:909). In the USA, some 250 000 adverse drug reactions (ADRs) are reported to the Federal Drug Agency (FDA) (Mike, 2003). The number of deaths attributable to ADRs in the USA is thought to have risen by

a factor of 2.57 from 1983 to 1993 (Phillips, Christenfeld, & Glynn 1998). Other estimates suggest that there may be more than 100 000 deaths in the USA each year due to side effects of legally prescribed and correctly administered drugs, making ADRs one of the top 10 (and possibly top 5) causes of death in America (Lazarou, Pomeranz, & Corey, 1998). In addition, estimates propose that between 32 500 and 98 000 Americans die each year due to preventable medical errors (Kohn, 1999; Zhan & Miller 2003). Combining these figures suggests that up to 10% of all deaths in the USA may be attributable to medical intervention (Mike 2003).

Healthcare Budgets

It has been asserted that medicalization increases the use of medical services and treatments, increasing health care spending and, where health spending is largely publicly funded, putting pressure on government health funding and on state healthcare organizations (Moynihan & Smith 2002). Given the reluctance of democratic governments to increase taxation, this may lead to pressure on funding elsewhere in governmental budgets, including other social sectors such as education.

Furthermore, the medicalization of conditions such as erectile dysfunction, obesity and anxiety disorders may encourage the use of unnecessary "lifestyle" medications, so that scarce resources are spent on less serious conditions at the expense of more serious diseases (Ashworth, Clement, & Wright 2002; Freemantle & Hill 2002; Gilbert et al. 2000; Gray 2000; J. Lexchin 2001; Witkowski 2007). Lifestyle drugs have been defined as those used for problems which lie at the boundary between a health need and a lifestyle wish (Gilbert et al. 2000). However, the term is contentious.

Even for problems that are widely considered to be medically serious, medicalization can lead to unnecessary intervention, particularly for those with mild disease severity. One example is the use of

statin drugs in the primary prevention of cardiovascular disease (CVD). In a major randomized control trial it was found that statins were associated with reduced mortality in men with raised cholesterol (Shepherd et al. 1995). However, Freemantle and Mason (1998) argued that if 10,000 people were treated, 9,755 of them would receive no clinical benefit and might suffer from undesirable side-effects associated with statins. As a result a great deal of money would be wasted and some suffering would be caused in order to save a relatively few lives. A charge that has been made against drug companies is that they emphasize the health benefits of preventative treatments, while ignoring the wasted expenditure and suffering caused by treating with potent drugs many people who would never have become ill.

CONCLUSION AND MARKETING RESEARCH AGENDA

The contention that there is a continuing process of medicalization in Western societies is supported by evidence. Instances of de-medicalization, though not uncommon, are nowhere near as prevalent as instances of medicalization. The evidence that marketing, in both a broad and a narrow sense, is involved in the medicalization process is compelling. This is hardly surprising. Marketing is a pervasive activity and marketers make extensive use of the mass media to communicate with target groups. It is hardly revelatory to find that marketers in many different guises have an implicit involvement in medicalization: even food marketers who feel that they are properly and responsibly promoting the health benefits of fruit and vegetable consumption may be accused of medicalizing the diet. The far more serious charge is that marketers, most notably but not exclusively those marketing drugs for pharmaceutical companies, explicitly manipulate societal understanding of disease in order to increase their companies' profits. This allegation can be juxtaposed with drug company missions statements, such as: "We have a challenging and inspiring mission: to improve the quality of human life

by enabling people to do more, feel better and live longer" (GSK, 2006) to give the impression of hypocrisy.

Given the aspirations of GSK and other drug companies to contribute to human well-being, one might expect that they would be fertile ground for the implementation of Lee and Sirgy's (2004) 'quality-of-life marketing'. However, our exploration of the evidence has suggested that they tend towards a 'shareholder value' approach to marketing rather than a quality-of-life or 'stakeholder' approach to marketing. Our earlier discussion of the launch of drugs for erectile dysfunction in South Korea, reported by Ham, Jun & Lee (2008), is perhaps a particularly egregious example, where marketing strategies were allegedly explicitly designed to circumvent local regulations on drug advertising. However, many of the practices discussed in our section on pharmaceutical marketing strategies, appear to be designed to 'sell more product' rather than to promote long-term consumer well-being. In addition, we would point to a key issue for quality-of-life marketing in the pharmaceutical sector, namely, the appropriate selection of target customers. A key allegation made by proponents of medicalization is that pharmaceutical company marketing communications and new product development strategies are designed to create legitimate markets for the products that *can be made* by having conditions that *can be treated* defined as medical conditions. We would argue that the implementation of quality-of-life marketing in the pharmaceutical industry cannot start from such a product-oriented perspective (creating a market for the product which it is convenient to make), but must start from an understanding of the relative contribution that different new products could make to the reduction of human misery.

Research Agenda

While marketing professionals, and in particular drug company marketing departments, stand accused of playing a very active part in the medicalization process, marketing scholars have generally

ignored the phenomenon. There are three principal perspectives that scholarly marketing research in this field could take namely the management, consumer, and macromarketing perspectives; the latter perspective is sub-divided into two further categories, first, marketing ethics and quality-of-life marketing, and, second, interaction between marketing and broader social systems. The key research questions from these perspectives are illustrated in Table 1.

(Insert Table 1 about here)

From a management perspective marketing research should endeavor to establish the extent to which marketing practitioners can be implicated in the medicalization process. Prior research in the field by sociologists and medical researchers has very largely focused on the perceptions of medical professionals while neglecting the views of marketing practitioners and the 'consumers' of medical products and services. We know very well from this literature that some medical professionals and medical researchers believe it to be the case that pharmaceutical companies go too far in pursuing strategies designed to position their products as essential prescription medicines. For example, they offer free samples and gifts to doctors, sponsor conferences in attractive locations, and arrange for papers to be ghost-written on behalf of medical researchers (Healy 2004; Healy & Cattell 2003). The literature on the subject portrays a rather Machiavellian and rather optimistic view about the effectiveness of marketing strategy – the drug companies are portrayed as clever manipulators of a number of precision marketing tools that are carefully combined to bring about the desired outcomes. In practice, we know from the strategy literature, and in particular from the work of Mintzberg (1978; 1987; 1994), that the most carefully laid plans seldom work out as intended and that the outcomes of marketing strategy are far less predictable than strategists would like them to be. An examination of the marketing strategy

formulation process in pharmaceutical companies would complement existing perspectives which are dominated by medical professionals.

In prior research the 'consumer' perspective has been relatively neglected. We know little about what, for other products and services, would be termed the consumer behavior aspects of this market. Key areas for research here should include the sources of information that consumers use to obtain information about medical conditions and treatments, the relative credibility attached to different information sources, and segmentation issues associated with information sources and credibility (notably, access to information by vulnerable groups, such as those with cognitive impairment). Research into information sources and their credibility would be a logical precursor to a study of attitude formation towards medical conditions and treatments, which in turn is a logical precursor to research into the factors influencing behaviors in this area. From a macromarketing perspective medicalization affects the consumer's quality of life (QOL), and, perhaps even more significantly, the consumer's quality of dying and death (QODD) (Lee & Sirgy 2004; Layton & Grossbart 2006). The interaction between pharmaceutical marketing, medicalization, QOL and QODD represents a complex and important area for research. While the medical sociology literature has tended to emphasize the propensity of medicalization to reduce QOL (by, for example, iatrogenesis and distorting healthcare spending priorities), there are clearly instances where medicalization improves QOL (some examples of illness 'labeling' are strongly positive for patients). In addition, while the medicalization of death and dying is documented in the sociology literature, very little has been said about the net effect on QODD as perceived by patients, their friends and family, or their medical professionals.

The research questions concerning marketing ethics and quality-of-life marketing that arise from the complex issues surrounding pharmaceutical marketing and medicalization sit squarely within the

macromarketing research agenda identified by Layton and Grossbart (2006) as "moral and ethical issues in assessment of societal risks of marketing". Clearly, although this is seldom stated explicitly, much of the prior literature asserting a link between medicalization and drug marketing strategies also implies that pharmaceutical companies are purely self-interested, and are pursuing their corporate goals with little or no thought to the wider social consequences. This is contrary to the stated ethical and corporate social responsibility (CSR) policies of those companies. In addition, there is a clear implication in the medicalization literature that certain aspects of pharmaceutical marketing have a negative effect on overall human welfare. There is scope for both positive and normative research here. The positive - is there evidence that the drug companies are acting contrary to their stated CSR policies? And the normative - when much of what constitutes 'disease' in modern societies is socially constructed, what should be the role of the drug companies in defining and responding to new illnesses? The accusation so far has been that drug companies are far too inclined to use their resources to ensure that what is defined as disease is that from which they can derive the greatest profit. However, the logic of social constructionism is that there is no one right answer, no single objective 'truth'. In former times it may have been the case that disease was perceived to be an objective phenomenon and the proper role of the drug companies was to manufacture effective treatments for objective diseases, but things are more complicated today. This makes it very problematic to give ethical guidance on pharmaceutical marketing strategy, representing an interesting challenge for marketing ethicists.

Finally, we raise the further macromarketing research questions concerning the interaction between marketing and broader social systems, building on Layton's (2007) proposition that systemic thinking is central to macromarketing thought. In this article we have concentrated on the interactions between pharmaceutical marketing, mass media medical reporting, and a number of broader drivers of medicalization identified in the medical sociology literature. However, we have ignored the likely

interaction between marketing processes and other institutions, notably governmental and non-profit organizations that are involved in the healthcare system. Specifically, the way in which marketing processes may interact with such institutions to promote medicalization is an important and neglected area for investigation. For example, we have referred to the way in which patient activist groups can be supported by pharmaceutical companies; joint lobbying for public funding of a particular treatment is often a goal of such patient activism, and immediately introduces one or more governmental institutions into the analysis. While it is outside the scope of this article to address these issues, we suggest that they are worthy areas for further investigation.

REFERENCES

Angell, M. (2004). Excess in the pharmaceutical industry. *Canadian Medical Association Journal*, 171(12), 1451-1453.

Arnold, M. (2008). Pfizer discontinues support of CME. *Medical Marketing & Media*, August, 22.

Ashworth, M., Clement, S., & Wright, M. (2002). Demand, appropriateness and prescribing of 'lifestyle drugs': a consultation survey in general practice. *Family Practitioner*, 19(3), 236-241.

Ax, S., Gregg, V. H., & Jones, D. (2002). Caring for a Relative with Chronic Fatigue Syndrome: Difficulties, Cognition and Acceptance over Time. *The Journal of the Royal Society for the Promotion of Health*, 122(1), 35 - 42.

Barsky, A. J., & Borus, J. F. (1995). Somatization and medicalization in the era of managed care. *Journal of the American Medical Association*, 274(24), 1931-1934.

Bartels, R. & Jenkins, R.L. (1977). Macromarketing: What is it? What should it be? How should it be managed and taught? *Journal of Marketing*, 41 (October), 17-20.

Bauer, M. (1998). The medicalizationof science news- from the "rocket-scalpel" to the "gene-meteorite" complex. *Social Science Information*, 37(4), 731-751.

Beck, U. (1992). *Risk Society: Toward a New Modernity* (M. Ritter, Trans.). London: Sage.

Becker, G. N., & Nachtigall, R. D. (1992). Eager for medicalisation: the social production of infertility as a disease. *Sociology of Health and Illness*, 14(4), 456-471.

Bekelman, J. E., Li, Y., & Gross, C. P. (2003). Scope and Impact of Financial Conflicts of Interest in Biomedical Research: A Systematic Review. *Journal of the American Medical Association*, 289(4), 454-465.

Bell, S. E. (1987). Changing ideas: the medicalization of menopause. *Social Science & Medicine*, 24, 535-542.

Berndt, E. R. (2001). The U.S. pharmaceutical industry: Why major growth in times of cost containment? *Health Affairs*, 20(2), 100-114.

Blumenthal, D., Campbell, E. G., Anderson, M. S., Causino, N., & Louis, K. S. (1997). Withholding research results in academic life science. Evidence from a national survey of faculty. *Journal of the American Medical Association*, 277(15), 1224-1228.

Bonaccorso, S. N. S., J. L. (2002). Direct to consumer advertising is medicalising normal human experience. *British Medical Journal*, 324, 910-911.

Breen, K. J. (2004). The medical profession and the pharmaceutical industry: when will we open our eyes? *Medical Journal of Australia*, 180(8), 409-410.

Broom, D. H. W., R.V. (1996). Medicalisation reconsidered: toward a collaborative approach to care. *Sociology of Health and Illness*, 18(3), 357-378.

Brown, P. (1995). Naming and framing: the social construction of diagnosis and illness. *Journal of Health & Social Behavior*, Spec No, 34-52.

Campbell, E. G., Clarridge, B. R., Gokhale, M., Birenbaum, L., Hilgartner, S., Holtzman, N. A., et al. (2002). Data withholding in academic genetics: evidence from a national survey. *Journal of the American Medical Association*, 287(4), 473-480.

Cassels, A., Hughes, M. A., Cole, C., Mintzes, B., Lexchin, J., & McCormack, J. P. (2003). Drugs in the news: an analysis of Canadian newspaper coverage of new prescription drugs. *Canadian Medical Association Journal*, 168(9), 1133-1137.

Chandra, A. H., G. A. (1999). Pharmaceutical Advertisments: How They Deceive Patients. *Journal of Business Ethics*, 18, 359-366.

Chang, V. W. C., N. A. (2002). Medical modelling of obesity: a transition form action to experience in a 20th century American medical textbook. *Sociology of Health and Illness*, 24(2), 151-177.

Chew, L. D., O'Young, T.S., Hazlet, T.K., Bradley, K.A., Maynard, C. & Lessler, D.S. (2000). A physician survey of the effect of drug sample availability on physicians behavior. *Journal of General Internal Medicine*, 15, 478-483.

Clarke, A. E., Shim, J. K., Mamo, L., Fosket, J. R. & Fishman, J. R. (2003). Biomedicalization: Technoscientific transformations of health, illness, and US biomedicine. *American Sociological Review*, 68(2), 161-194.

Collier, J. I., I. (2002). The pharmaceutical industry as an informer. *The Lancet*, 360, 1405-1409.

Conrad, P. (1992). Medicalization and Social Control. *Annual Review of Sociology*, 18, 209-232.

----------, & Leiter, V. (2004). Medicalization, markets and consumers. *Journal of Health & Social Behavior*, 45 Suppl, 158-176.

----------, & Potter, D. (2000). From hyperactive children to ADHD adults: Observations on the expansion of medical categories. *Social Problems*, 47(4), 559-582.

----------, & Schneider, J. W. (1980). Looking at levels of medicalization: a comment on Strong's critique of the thesis of medical imperialism. *Social Science & Medicine*, 14A(1), 75-79.

Daines, R. (1997). Commentary: The Medical Model is Unhelpful. *British Medical Journal*, 314, 815.

Davidoff, F., DeAngelis, C. D., Drazen, J. M., Nicholls, M. G., Hoey, J., Hojgaard, L., (2001). Sponsorship, authorship, and accountability. *New England Journal of Medicine*, 345(11), 825-826; discussion 826-827.

DeAngelis, C.D. & Fontanarosa, P.B. (2008). Impugning the Integrity of Medical Science: The Adverse Effects of Industry Influence. *Journal of the American Medical Association*, 299 (15), 1833-1835.

Eagle, L. C., & Chamberlain, K. C. (2002). Direct to the Consumer Promotion of Prescription Drugs. A Review of the Literature and the New Zealand Experience. *International Journal of Medical Marketing*, 2(4), 293 - 310.

Ebrahim, S. (2002). The medicalisation of old age. *British Medical Journal*, 324(7342), 861-863.

Elmore, J. G., Barton, M. B., Moceri, V. M., Polk, S., Arena, P. J., & Fletcher, S. W. (1998). Ten-year risk of false positive screening mammograms and clinical breast examinations. *New England Journal of Medicine*, 338(16), 1089-1096.

European Commission. (2000). *European Social Statistics: Demography*. Luxembourg: Office for Official Publications of the European Communities.

Filc, D. (2004). The medical text: between biomedicine and hegemony. *Social Science & Medicine*, 59(6), 1275-1285.

Freemantle, N., & Hill, S. (2002). Medicalisation, limits to medicine, or never enough money to go around? *British Medical Journal*, 324(7342), 864-865.

Friedson, E. (1970). *Profession of Medicine*. New York: Dodd Mead.

General Accounting Office. (2002). Prescription Drugs: FDA Oversight of Direct-to-Consumer Advertising Has Limitations. Retrieved 12/02/05, from www.gao.gov

Gilbert, D., Walley, T., & New, B. (2000). Lifestyle medicines. *British Medical Journal*, 321(7272), 1341-1344.

Gonul, F. F., Carter, F., Petrova, E. & Srinivasan, K. (2001). Promotion of prescription drugs and its impact on physicians' choice behavior. *Journal of Marketing*, 65, 79-90.

Graveling, R. A., Pilkington, A., George, J. P., Butler, M. P., & Tannahill, S. N. (1999). A Review of Multiple Chemical Sensitivity. *Occupational and Environmental Medicine*, 56(2), 73 - 85.

Gray, R. (2000). Lifestyle drugs as brands. *Campaign*, March 3, S12.

GSK. (2006). GSK: Our Company. Retrieved 26th September 2007, from http://www.gsk.com/about/company.htm

Harrabin, R., Coote, A. & Allen, J. (2003). Health in the news: Risk, reporting and media influence. Retrieved 28/03/05, from www.kingsfund.org.uk/publications

Ham, C.D., Jun, J.W. & Lee, H-S. (2008). How to reach consumers in a market where DTC is not allowed. *Journal of Medical Marketing*, 8(2), 159-168.

Hart, G., & Wellings, K. (2002). Sexual behavior and its medicalisation: in sickness and in health. *British Medical Journal*, 324(7342), 896-900.

Healy, D. (2004). Shaping the intimate: influences on the experience of everyday nerves. *Social Studies of Science*, 34(2), 219-245.

----------, & Cattell, D. (2003). Interface between authorship, industry and science in the domain of therapeutics. *British Journal of Psychiatry*, 183, 22-27.

Heath, I. (2005). Who needs health care--the well or the sick? *British Medical Journal*, 330(7497), 954-956.

Henry, D. L., J. (2002). The pharmaceutical industry as a medicines provider. *The Lancet*, 360, 1590-1595.

Herxheimer, A. (2003). Relationships between the pharmaceutical industry and patients' organizations. *British Medical Journal*, 326(7400), 1208-1210.

Hoare, C., Williams, H., & Po, A. L. W. (2000). Systematic review of treatments for atopic eczema. *Health Technology Assessment*, 4(37), 1-191.

Hofmann, B. (2001). The technological invention of disease. *Medical Humanities*, 27(1), 10-19.

Hunt, S.D. (1981). Macromarketing as a multidimensional concept. *Journal of Macromarketing*, 1(1), 7-8.

Illich, I. (1975). *Medical Nemesis: The Expropriation of Health*. London: Calder & Boyars.

Katz, M. L., Sheridan, S., Pignone, M., Lewis, C., Battle, J., Gollop, C., et al. (2004). Prostate and colon cancer screening messages in popular magazines. *Journal of General Internal Medicine*, 19(8), 843-848.

Koerner, B. I. (2002). Disorders made to order: pharmaceutical companies have come up with a new strategy to market their drugs: First go out and find a new mental illness, then push the pills to cure it. *Mother Jones*, 27(4), 58-65.

Kohn, L. T., Corrigan, J.M. & Donaldson, M.S. (eds). (1999). *To err is human: Building a safer health system*. Washington D.C.: Institute of Medicine.

Komesaroff, P. A. K., I. H. (2002). Ethical issues concerning the relationships between medical practitioners and the pharmaceutical industry. *Medical Journal of Australia*, 176, 118-121.

Kroll-Smith, S. (2003). Popular media and 'excessive daytime sleepiness': a study of rhetorical authority in medical sociology. *Sociology of Health & Illness*, 25(6), 625-643.

Laczniak, G. R. & Murphy, P. E. (2006). Normative Perspectives for Ethically and Socially Responsible Marketing. *Journal of Macromarketing*, 26(2), 154-177.

---------- & ---------- (2008). Distributive Justice: Pressing Questions, Emerging Directions, and the Promise of Rawlsian Analysis. *Journal of Macromarketing*, 28(1) 5-11.

Layton, R.A. (2007). Marketing Systems—A Core Macromarketing Concept. *Journal of Macromarketing*, 27(3), 227-242.

---------- (2008). The Search for a Dominant Logic: A Macromarketing Perspective. *Journal of Macromarketing*, 28(3), 215-227.

---------- & Grossbart, S. (2006). Macromarketing: Past, Present, and Possible Future. *Journal of Macromarketing*, 26(2), 193-213.

Lazarou, J., Pomeranz, B. H., & Corey, P. N. (1998). Incidence of adverse drug reactions in hospitalized patients: a meta-analysis of prospective studies. *Journal of the American Medical Association*, 279(15), 1200-1205.

Lee, D-J. & Sirgy, M.J. (2004). Quality-of-Life Marketing: Proposed Antecedents and Consequences. *Journal of Macromarketing*, 24(1), 44-58.

Lee, S. M. (2004). The medicalization of compulsive buying. *Social Science & Medicine*, 58, 1709-1718.

Lexchin, J. (2001). Lifestyle drugs: issues for debate. *Canadian Medical Association Journal*, 164(10), 1449-1451.

----------, Bero, L.A., Djulbegovic, B. & Clark, O. (2003). Pharmaceutical industry sponsorship and research outcome and quality: a systematic review. *British Medical Journal*, 326, 1167-1170.

Lowenberg, J. S., & Davis, F. (1994). Beyond medicalisation-demedicalisation: the case of holistic health. *Sociology of Health and Illness*, 16(5), 579-599.

Melander, H., Ahlqvist-Rastad, J., Meijer, G. & Beerman, B. (2003). Evidence b(i)ased medicine- selective reporting from studies sponsored by pharmaceutical industry: review of studies in new drug applications. *British Medical Journal*, 326, 1171-1173.

Meyer, V. F. (2001). The medicalization of menopause: critique and consequences. *International Journal of Health Services*, 31(4), 769-792.

Mike, V. (2003). Evidence and the future of medicine. *Evaluation and the Health Professions*, 26(2), 127-152.

Miller, L. (2008). The end of CME as we know it. *Medical Marketing & Media*, August, 38-47.

Mintzberg, H. (1978). Patterns in strategy formation. *Management Science*, 24(9), 934-948.

---------- (1987). Crafting strategy. *Harvard Business Review*, 65(4), 66-75.

---------- (1994). *The Rise and Fall of Strategic Planning*. New York: Prentice Hall.

Mintzes, B. (2002). For and against: Direct to consumer advertising is medicalising normal human experience: For. *British Medical Journal*, 324(7342), 908-909.

Montagne, M. (1992). The promotion of medications for personal and social problems. *Journal of Drug Issues*, 22(2), 389-406.

Morgan, S., Mintzes, B., & Barer, M. (2003). The economics of direct-to-consumer advertising of prescription-only drugs: prescribed to improve consumer welfare? *Journal of Health Services Research & Policy*, 8(4), 237-244.

Moynihan, R. (2005). The marketing of a disease: female sexual dysfunction. *British Medical Journal*, 330(7484), 192-194.

----------, Bero, L., Ross-Degnan, D., Henry, D., Lee, K., Watkins, J., et al. (2000). Coverage by the news media of the benefits and risks of medications. *New England Journal of Medicine*, 342(22), 1645-1650.

----------, Heath, I., & Henry, D. (2002). Selling sickness: the pharmaceutical industry and disease mongering. *British Medical Journal*, 324(7342), 886-891.

----------, & Smith, R. (2002). Too much medicine? *British Medical Journal*, 324(7342), 859-860.

----------, & Sweet, M. (2000). Medicine, the media and monetary interests: the need for transparency and professionalism. *Medical Journal of Australia*, 173(11-12), 631-634.

NIHCM. (2002). Prescription drug expenditures in 2001: Another year of escalating costs.

Nye, R. A. (2003). The evolution of the concept of medicalization in the late twentieth century. *Journal of the History of the Behavioral Sciences*, 39(2), 115-129.

Oxley, H. J., S. (2001). Healthcare expenditure: a future in question. Retrieved 03/06/2005, from www.oecdobserver.org

Parker, J. (2007). The reputation, image and influence of the pharmaceutical industry: Regaining credibility. *Journal of Medical Marketing*, 7(4), 309-313.

Peterson, M. (2006). Focusing the Future of Macromarketing. *Journal of Macromarketing*, 26(2), 245-249.

Pesse, M. (2007). Addressing the trust issue: From share of voice to share of care. *Journal of Medical Marketing*, 7(4), 303-307.

Phillips, D. P., Christenfeld, N., & Glynn, L. M. (1998). Increase in US medication-error deaths between 1983 and 1993. *Lancet*, 351(9103), 643-644.

Psaty, B.M. & Kronmal, R.A. (2008). Reporting Mortality Findings in Trials of Rofecoxib for Alzheimer Disease or Cognitive Impairment: A Case Study Based on Documents from Rofecoxib Litigation. *Journal of the American Medical Association*, 299(15), 1813-1817.

Quill, T. E., & Brody, H. (1996). Physician Recommendations and Patient Autonomy: Finding a Balance Between Physician Power and Patient Choice. *Annals of Internal Medicine*, 125(9), 763-769.

Rahtz, D. R. & Szykman, L. R. (2008). Can Health Care Organizations Better Contribute to Quality of Life by Focusing on Preventive Health Knowledge? *Journal of Macromarketing*, 28(2), 122-129.

Reist, D. V., L. (2004). The Pharmaceutical Industry's Use of Gifts and Educational Events to Influence Prescription Practices: Ethical Dilemmas and Implications for Psychologists. *Professional Psychology: Research and Practice*, 35(4), 329-335.

Relman, A. S. (2001). Separating continuing medical education from pharmaceutical marketing. *Journal of the American Medical Association*, 285(15), 2009-2012.

Ritzer, G. (1992). *The McDonaldization of Society*. Thousand Oaks, CA: Pine Forge.

Ross, J.S., Hill, K.P., Egilman, D.S. & Krumholz, H.M. (2008). Guest Authorship and Ghostwriting in Publications Related to Rofecoxib: A Case Study of Industry Documents from Rofecoxib Litigation. *Journal of the American Medical Association*, 299(15), 1800-1812.

Seale, C. (2003). Health and media: an overview. *Sociology of Health & Illness*, 25(6), 513-531.

Sen, A. (2002). Health: perception versus observation. *British Medical Journal*, 324(7342), 860-861.

Schlosser, E. (2002). *Fast Food Nation: What the All-American Meal is Doing to the World*. London: Penguin.

Shepherd, J., Cobbe, S. M., Ford, I., Isles, C. G., Lorimer, A. R., MacFarlane, P. W., et al. (1995). Prevention of coronary heart disease with pravastatin in men with hypercholesterolemia. West of Scotland Coronary Prevention Study Group. *New England Journal of Medicine*, 333(20), 1301-1307.

Smith, R. (2002). In search of "non-disease". *British Medical Journal*, 324(7342), 883-885.

Strong, P. M. (1979). Sociological imperialism and the profession of medicine. A critical examination of the thesis of medical imperialism. *Social Science & Medicine*, 13A(2), 199-215.

Sweet, M. (2002). How medicine sells the media. *British Medical Journal*, 324(7342), 924.

Verweij, M. (1999). Medicalization as a moral problem for preventative medicine. *Bioethics*, 13(2), 89-113.

Vuckovic, N., & Nichter, M. (1997). Changing patterns of pharmaceutical practice in the United States. *Social Science & Medicine*, 44(9), 1285-1302.

Ward, S., Pecotich, A., O'Cass, A., & Julian, C. (2008). A Rose by Any Other Name? The Influence of Brand Name Versus Chemical Differences in the Prescription of Antidepressants. *Journal of Macromarketing*, 28(3), 258-274.

Watkins, C., Moore, L., Harvey, I., Carthy, P., Robinson, E. & Brawn, R. (2003). Characteristics of general practitioners who frequently see drug industry representatives: national cross sectional survey. *British Medical Journal*, 326, 1178-1179.

Wazana, A. (2000). Physicians and the pharmaceutical industry: is a gift ever just a gift? *Journal of the American Medical Association*, 283(3), 373-380.

Wilkes, M. S., Bell, R. A., & Kravitz, R. L. (2000). Direct-to-Consumer Prescription Drug Advertising: Trends, Impact, and Implications. *Health Affairs*, 19(2), 110-128.

Williams, S. J., & Calnan, M. (1996). The 'limits' of medicalization?: modern medicine and the lay populace in 'late' modernity. *Social Science & Medicine*, 42(12), 1609-1620.

Witkowski, T.H. (2007). Food Marketing and Obesity in Developing Countries: Analysis, Ethics, and Public Policy. *Journal of Macromarketing*, 27(2), 126-137.

Zhan, C., & Miller, M. R. (2003). Excess length of stay, charges, and mortality attributable to medical injuries during hospitalization. *Journal of the American Medical Association*, 290(14), 1868-1874.

Ziegler, M. G., Lew, P. & Singer, B.C. (1995). The accuracy of drug information from pharmaceutical industry sales representatives. *Journal of the American Medical Association*, 273, 1296-1298.

Zola, I. K. (1972). Medicine as an institution of social control. *Sociology Review*, 20(4), 487-504.

---------- (1975). In the name of health and illness: on some socio-political consequences of medical influence. *Social Science & Medicine*, 9(2), 83-87.

Table 1: A Research Agenda for Marketing Themes Arising from Medicalization

MANAGEMENT PERSPECTIVE

- Do pharmaceutical company marketing strategies promote medicalization?
- If they do, is this an intended or an unintended outcome of the strategy?
- Whether intended or not, what are the key mechanisms by which pharmaceutical marketing promotes medicalization?

CONSUMER PERSPECTIVE

- What sources of medical & healthcare information do consumers use?
- How much credibility do consumers attach to different sources of medical & healthcare information?
- Do vulnerable groups (such as those with deteriorating cognitive function) have ready access to objective, trustworthy medical & healthcare information?
- What are the positive and negative effects of medicalization for the individual's quality of life?
- What are the positive and negative effects of medicalization for the individual's quality of death and dying?

MACROMARKETING PERSPECTIVE

Marketing ethics & quality-of-life marketing

- What are the consequences of medicalization for human welfare?
- Does the (presumed) promotion of medicalization by pharmaceutical companies contradict their ethical and CSR policies?
- What role should pharmaceutical companies play in defining what constitutes illness and disease?
- How can quality-of-life marketing be defined, operationalized and implemented in the pharmaceutical sector?

Interaction between marketing and broader social systems

- How do other institutions, such as governmental and non-profit institutions, interact with pharmaceutical marketing and mass media medical reporting to influence social attitudes towards health and well-being?
- Do interactions between other institutions (particularly publicly funded healthcare systems) and pharmaceutical marketing promote the process of medicalization?

Figure 1: Interaction Between Pharmaceutical Marketing and the Medicalization Process