

This special issue of *MIP* presents a selection of papers that examine different aspects of a large and very diverse sector with some unique characteristics. For example, while pharmaceutical sales representatives promote prescription medication to physicians, it is the latter who make the decisions regarding the most appropriate medication for specific patients. Global sales of prescription medication were estimated to be US\$936.5 billion in 2014 (Lindsley, 2015). Global promotional expenditure data is not available, but there are numerous concerns about several aspects of pharmaceutical marketing including direct costs such as promotion to physicians, direct-to-consumer promotion (ostensibly permitted only in the USA and in New Zealand, but increasingly global due to increasing use of digital media) and polarized claims regarding its impact on prescribing decisions (Ahn *et al.*, 2014; Gu *et al.*, 2011). It is evident both from the papers in this issue and from the wider academic literature that there are also numerous ethical issues evident in the sector's practices (see, e.g. Wei and Delbaere, 2015); some of these are analyzed in detail in the papers within this issue. These papers indicate that many of the ethical issues and dilemmas in the sector are not readily resolved within existing regulatory frameworks.

A second major issue common to most areas of pharmaceutical marketing is that the theoretical foundations underpinning studies in this sector are weak and in need of considerable research investment in order to strengthen them and to thus be able to predict the impact of marketing activity in all its forms on diverse population segments. While numerous models and frameworks exist, several of which are discussed in this collection of papers, few meet the basic criteria identified as essential for predictive theories, i.e. conceptual definitions of terms, domain limitations within which the theory applies, sets of relationships between variables and specific predictions (Wacker, 1998). The papers also highlight the need for more effective regulation of marketing activity in a number of areas and the challenges involved in effective harmonization of cross-border regulation. Collectively, the six papers identify a number of areas in which additional research would be of considerable value.

The first paper in this issue examines "The dark side of the pharmaceutical industry," examining ethical issues involved in the activity of sales personnel in their interactions with physicians. This paper also adds an interesting perspective, focusing on a country, Tunisia, in which pharmaceutical marketing practices are rarely studied, given that the majority of studies in this area originate from Western countries, particularly the USA. The paper identifies a number of unethical tactics that should be of concern to regulators both within Tunisia and beyond.

The second paper, "Went in for Botox and left with a rhinoplasty" investigates the ethical dimensions of those providing non-surgical cosmetic procedures in relation to encouraging additional non-essential procedures. The authors use relationship marketing principles to discuss service promotion and provision in the sector, with a specific focus on the tactics of "upgrading" patients to more invasive services than originally requested. The authors note the increasing commodification of these services, highlighting significant ethical issues and calling for tighter regulation of the sector.

The third paper “Transparency of hope: ethical issues in marketing cross border reproductive care” focuses on one specific sector: the emotive issue of the treatment options for infertility. It examines activity via the lens of transformative service research, noting the vulnerability of the target sector due to the highly emotionally charged issue involved. The global nature of the sector is highlighted, together with the problems of applying ethical principles, let alone effective cross-border regulation to promotional activity such as websites, given the identification by the authors of a number of unethical promotional strategies including misleading and inaccurate information.

The final three papers each focus on an aspect of the use of online media for pharmaceutical promotional activity. There has been substantial growth in the use of these media, reportedly due to a decline on the return on investment on pharmaceutical marketing via traditional communications channels (Alkhateeb *et al.*, 2008). The majority of pharmaceutical companies are all active on social media, across a range of platforms including Facebook, Twitter and sponsored blogs – and eight of the top ten companies are reported to have specific YouTube channels (Collier, 2014). We note that there have been calls for a decade to determine what the impact of virtual communities is on medication use and other health-related behaviors (Demiris, 2006). More research in this area is particularly needed, as pharmaceutical marketing communication activities in online environments has been found to be poorly regulated in many jurisdictions, but potentially international in reach.

In the fourth paper, “Social media in medical and health care: opportunities and challenges,” the authors review the role of social media and its potential for use by physicians as well as patients themselves. They identify a range of both positive and negative aspects of information provided by social media, noting that social media should not be treated as a homogenous platform but rather that it should be recognized that diverse technologies in the sector may operate differently, thus presenting unique challenges for effective communication. The need for medical professionals to understand how these technologies can and do work and the characteristics of effective communication strategies is stressed by the authors.

The fifth paper, “Content and compliance of pharmaceutical marketing via social media” also examines social media, but from the perspective of regulatory compliance. Exploratory research using content analysis of social media activity by ten pharmaceutical marketers and the USA regulatory framework forms the basis for analysis. The authors note that guidance for activity in social media is still under development by the regulators but that most marketers are abiding by current draft guidelines. This of course raises the issue identified earlier, i.e. the cross-border nature of digital media, meaning that existing restrictions on direct-to-consumer promotional activity in countries that do not permit this type of activity in traditional media are largely ineffective.

In the final paper of this issue “Empowering or misleading online health information challenges,” the authors provide a broader perspective, focusing on the global policy tool of encouraging patient empowerment to become actively involved in health-related decisions and note that policy actions are based on a number of assumptions that are not necessarily valid. It also stresses that achieving better population health outcomes through increased patient empowerment is not without significant challenges, including the need to assist those who have some degree of restricted literacy ability. Thus an increasing reliance on dissemination of health information via digital media may actually disadvantage a significant percentage of

the population who lack the ability to access, understand and act on information. The authors also criticize the usefulness of commonly used theoretical models.

Overall, we trust that the assembled papers represent a fruitful grounding by providing an overview over the main issues. We trust that this special issue can stimulate the urgently needed debate and research interest on this important and growing topic area.

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