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The Pharmaceutical Industry Moves Online

Introduction

The prescription pharmaceutical industry is unique. Patents and favorable laws confer power to pharmaceutical companies in the form of limited competition and highly regulated access.

Consumers may obtain these products only with the permission of a physician and are subsidized heavily through a system of insurance. As a consequence, the pharmaceutical industry is exceedingly profitable, and its member companies would like to see it stay that way. Based on data from the Senate Office of Public Records, the pharmaceutical industry was again the top lobbying group in Washington in 2019. Specifically, the industry's \$299 billion in spending was nearly double that of the next largest industry group (Open Secrets, 2020). The pharmaceutical industry also works hard to influence prescribers; according to a study by Landa et al., the pharmaceutical industry spends just under a third of its total marketing expenditures on Key Opinion Leaders (KOLs) -- i.e., physician influencers (Landa, 2013).

Americans frequently use the internet to access health information (Fox, 2011; Finney Rutten, 2019). Often, people search for information about a particular disease, treatment, procedure, or health care provider. However, Americans are increasingly using the internet to communicate with one another about health topics (Fox, 2013). Activities include using online forums to discuss personal experiences, providing support and forming communities, engaging in activism, and persuading others to use particular products and services.

The United States is one of two countries in the world that allows pharmaceutical companies to advertise directly to consumers (New Zealand is the other). Modern pharmaceutical Direct to Consumer Advertising (DTCA) began in the late 20th century and has largely been restricted to print, radio and television until recently. The pharmaceutical industry also markets to learned intermediaries (physicians, nurses, key opinion leaders), since pharmaceuticals are highly regulated and typically require a prescription for use.

In recent years, the pharmaceutical industry has moved much of its advertising online and has begun to engage with consumers and opinion leaders using social media (Darmawan, 2020). This has created opportunities and challenges for the industry, particularly concerning disclosure, fair-balance and trust. Coincidentally, the pharmaceutical industry has reinvented itself over the past couple of decades, focusing on higher unmet need diseases that support higher priced medications and more complex treatment algorithms. Thus, many of the industry's new products are extremely well suited to be mediated in active patient communities online.

Literature on the subject of health care mediation and pharmaceutical persuasion models suggests that consumers today are much more likely to create identities involving their health status, monetize their ability to mediate health topics, and rely on online sources of health information compared with offline sources. Increasingly, these sources are peers and influencers rather than pharmaceutical companies or even doctors. Pharmaceutical companies have a vested interest in the status quo; they exert significant influence over access to information about their therapies and the way in which doctors and patients behave. However, they see significant opportunity in an online environment that is much more loosely regulated and vulnerable to sophisticated models of persuasion.

In the context of pharmaceutical advertising and promotion, many studies of companies' and audiences' evolving use of media focus on persuasion and power frameworks, active audience/meaning making, uses and gratifications, and ethics and trust. Given the rising importance of online sources of health information, the multiple avenues through which the pharmaceutical industry is able to exert its influence, and an online regulatory framework that is accommodative and slow to adapt, it is difficult to argue against political economy interpretations of media even when confronted with online patient communities providing their own characterization of a clinical experience. Hence, the United States is likely to remain a country that prioritizes access over pharmaceutical costs, with online mediation reinforcing, rather than upending the status quo.

I. Pharma Persuasion and the Power Apparatus

Pharmaceutical industry regulation prioritizes patient safety and scientific integrity, but also creates barriers the industry has used to perpetuate its power and influence. The industry performs this exercise through communication strategies that influence patients, physicians, the media and, ultimately, the general public. In a Marxist sense, the pharmaceutical industry is one of the most unassailable; owing to patents, regulations and the capital intensity of the business, it is exceedingly difficult for consumers to usurp the methods of production. Where agency emerges, the pharmaceutical industry responds by partnering or appropriating power. Examples include partnering with patient advocacy groups and associated "patient experts", funding patient-assistance organizations, funding continuing medical education programs for physicians and conferring signifiers of authority to physicians (Edgar, 2013; Moynihan, 2002). The U.S. government is complicit in these activities in that it relies on industry for funding (e.g., through user fees), and depends on the will of industry participants in its efforts to regulate access to the

industry's products. With limited feedback from the government, pharmaceutical companies ultimately determine when they will seek approval, what information should be generated in clinical trials, what information should be included in a product's label, and what populations, de facto, will have access to their medicines. In the case of a pharmaceutical product, which is often very inexpensive to produce, the *information* concerning its effectiveness is equal in importance to the product itself.

The DTCA Timeline

The pharmaceutical industry's recent history can be divided loosely into three eras: pre-DTCA, pre-large scale social media and the present. Prior to rules that clarified and enabled DTCA in the United States, pharmaceutical companies relied on source-dominant methods of communication to influence learned intermediaries (doctors), who would then prescribe medications on behalf of their patients. Channeling Katz and Lazarsfeld's two-step flow theory, companies would market their products and clinical information to KOLs, often flying these individuals to medical conferences to present findings to other physicians. Once DTCA became tractable, pharmaceutical companies could engage in more sophisticated models of persuasion, although the dominant strategy remained one in which elites controlled the flow of information and respected the established social order. For example, the accepted model when introducing a new medicine has been to refrain from launching a DTCA campaign until physician specialists (first) and primary care practitioners (second) have had 6-12 months to become familiar with the new medication and gain some initial prescribing experience. Only then do companies reach out to consumers directly.

The arrival of large-scale social media and their subsequent emergence as a dominant platform for advertising, marketing and establishing agency has created a new era in pharmaceutical

DTCA. Prior this point, it was very intimidating and difficult for persons with a particular disease to find and exchange information with others with the disease or those who had tried available treatments. Their most reliable source of information was their doctor. However, their doctor most likely did not have a lived experience and was likely receiving his or her information primarily from the pharmaceutical companies. The internet and social media have changed this. It is quite common now to see someone with diabetes unbox a new continuous glucose monitor or insulin pump on YouTube. One can easily find patients discussing routines, symptoms, side effects and disease management in online forums. This new level of patient agency has transformed the way in which information flows and the degree to which patients engage in self-management. Increasingly, patients are turning to peers and online sources of information, while engaging more interactively with their physicians (Enyinda, 2018; Darmawan, 2020; Lutkenhaus, 2019). These new avenues have also expanded the way in which patients see themselves and the communities within which they engage.

For their part, pharmaceutical companies have begun to use the internet and social media to engage directly with patients while also maintaining their influencer model. According to the IMS Institute for Health Informatics, nearly half of pharmaceutical companies use social media actively to reach patients online (Wireless News, 2014). However, pharmaceutical companies have approached social media gradually -- first establishing an online version of their traditional model before engaging more deeply and interactively with patients (Costa, 2017). In doing so, they have found the online world to be both more complex and less regulated. For example, companies initially approached KOLs to act as digital online influencers (DOIs; others use the term “social media influencers” [SMIs], but these are equivalent). They found that few KOLs had an online presence and that the most pervasive and effective DOIs were not necessarily

medical professionals. These “influential members of a health community [individuals turn to] for advice”, included researchers, caregivers and “e-patients” (Pharma Exec, 2017). By interacting with a broader set of health influencers, pharmaceutical companies uncovered an opportunity to model health behaviors and initiate conversations on health topics in a way that perpetuated their agenda-setting and framing activities (Lutkenhaus, 2019).

Web Influence and the Status Quo Defense

When it comes to health care, cultures have quite different views of the system’s workings, knowledge bases and social norms. Thus, influencer marketing can be particularly successful, given that these persons are “fluent” with their audience’s frame (Lutkenhaus, 2019). In addition, the use of influencers via social media speeds up the information diffusion process and “functions as the interface to navigate an abundance of content, implicitly directing audiences’ media gazes” (Lutkenhaus, 2019). To demonstrate this, Lutkenhaus et al., used Twitter to map social networks and agency on the topic of vaccination. The authors found that a subset of communities originated the majority of themes, frames and narratives on the topic, and that information flowed in limited and disjointed fashion from peripheral audiences to more diverse centralized communities populated with politicians and communications professionals. On the basis of these data, Lutkenhaus argued that the disseminator needs to be at the center of a health community in order to be persuasive, and that the message must be tailored to the audience (Lutkenhaus, 2019).

While pharmaceutical companies are embracing The Web 2.0 more readily, there are sources of apprehension that tie to the inherently conservative culture of the industry and the threat an active audience represents to the status quo. Generally, pharmaceutical companies fear the inability to control the narrative and the potential for the “quality” of information to worsen. For

example, Dr. Bishal Gyawali is a global authority on cancer treatment and access but does not have traditional credentials as a KOL; he has derived much of his influence online. For pharmaceutical companies, persons such as Dr. Gyawali hold the potential to disrupt the traditional order, in which power and hegemony accrues to the industrial-academic complex. Literally, industry owns the clinical data used to make prescribing decisions, but they cannot generate the data without the participation of leading institutions (e.g., Memorial Sloan Kettering and M.D. Anderson when it comes to cancer). Thus, a complicated power framework exists in which centers of excellence build brand to attract the kinds of patients needed for clinical trials, then deliver the experiences of these patients to the pharmaceutical companies to speed innovative medicines to market. Participating in these trials locks physicians and institutions into an incestuous relationship that solidifies the hegemonic power structure the pharmaceutical industry largely controls; while clinical trial investigators publish (and receive credit for) the results of studies, they do so under the influence of the pharmaceutical companies who write the check. These pharmaceutical companies choose the journal where the results will be published and the medical meeting at which the results will be presented. They influence many of the conclusions and often employ ghost writers to assist with the narrative that is created. These results inform DTCA, which the pharmaceutical company's own staff develops for sign off by the FDA. The fact that social media has created an opportunity for negotiated or oppositional decoding to take place represents a threat; in fact, Pharmaceutical companies have been known to retaliate against centers adopting an oppositional frame by excluding them from the lucrative practice of participating in clinical trials. According to Dr. Gyawali, "Ten years ago, only a few selected people working at topmost organizations — the so-called 'big names' — would control

the direction of healthcare...however, with social media, independent, thoughtful voices got a platform to be heard.” (Dobrow, 2018).

In response to the threat non-elite voices represent, pharmaceutical companies have become more invasive with their social media strategies -- participating in dialogs, building online communities, monitoring consumer reactions, and initiating word of mouth (WOM) campaigns (Limaye, 2018; Shankar, 2014). In some ways, these new mediation activities actually create positive effects for both the pharmaceutical company and the patient. For example, pharmaceutical companies can learn directly from the patient how their products perform and use this information to design new dosing schedules, formulations (e.g., longer acting versions) and presentations (e.g., easy-to-use autoinjectors). More broadly, pharmaceutical companies are more likely to be able to identify patients with rare diseases and connect them with treatments and disease management resources. However, these activities also create ethical concerns and potential dysfunctions. For example, pharmaceutical companies have begun to listen in on patient forums and patient-provider communications in order to gather intelligence for marketing purposes (Enyinda, 2018; Lenzer, 2011). They have also expanded their online reach as it relates to both KOL and non-KOL prescribers. “With a majority of physicians now using social media, this technology provides new opportunities for marketing and market research, including monitoring of online conversations among physicians, cataloguing of physicians’ online profiles, and identification of “key opinion leaders” within social networks.” (Manz, NEJM, 2014).

Establishing a more sophisticated online apparatus, including data, relationships and both product- and company-affiliated social media accounts, offers the pharmaceutical industry the ability to re-assert control. For example, when Roseanne Barr blamed Ambien for racist comments she tweeted, the drugmaker Sanofi was quick and comedically pointed in its response:

“People of all races, religions, and nationalities work at Sanofi every day to improve the lives of people around the world. While all pharmaceutical treatments have side effects, racism is not a known side effect of any Sanofi medication.” (Dobrow, 2018)

II. Community, Audience Agency and Uses and Gratifications

Studies of how audiences (consumers, physicians, other audiences) use the internet and social media to access and process health information address several topics, including 1) the methods by which audiences share information, both within and across groups, 2) the way in which they assign significance to individuals and information within a health or illness assemblage, and 3) the ways in which audiences create and utilize identity. There is a significant amount of attention paid to specific roles in the online community (e.g., patients, physicians, non-medical opinion leaders) and to the behaviors of online communities themselves.

Community

One of the more commendable outgrowths of health information moving online is the formation of online health communities. Health communities can form around a variety of topics, but often center on a particular disease or condition. Commonly, these communities form through the assistance of platforms dedicated to health-oriented social networking. Although various cultures and communities view health information differently, health tends to be a very personal topic. Depending on the nature of one’s health or illness, dealing with health issues can also induce anxiety and a sense of isolation. Online health communities offer individuals the opportunity to share experiences, acquire information, and provide and receive support according to their own preferences (Lupton, 2014). This is especially important on health topics that are rare or involve complex care management approaches. Online health communities can also

serve as a catalyst for activism and are increasingly a source of agenda-setting and framing activities. While peers generate the majority of information that is exchanged in these communities, pharmaceutical companies are increasingly contributing, while simultaneously monitoring and shaping these communities' opinions and behaviors.

One example of the benefits of an online health community can be found in the area of epilepsy – a complex and stigmatizing illness. Wicks et al. studied online health data sharing among persons with epilepsy and found that the online health community PatientsLikeMe helped patients find others with the same symptoms, learn about seizures, learn about symptoms and treatments, and manage their condition by documenting seizure activity. Importantly, the authors found that the benefits of participating in the online community correlated strongly with the number of close relationships participants developed. Prior to participating, 30% of respondents indicated they did not know another person with Epilepsy with whom they could speak (Wicks, 2012). An interesting anecdote from the study relates to the agency one patient was able to develop through use of the site: “We did identify a single case where a patient–provider relationship broke down, in part, because a patient increased his or her health literacy. The female patient wrote in the forum that her physician ‘complains ... that I had (all of a) sudden showed up for (appointments) knowing the proper medical terms for things—that I ‘was using terms like pre-ictal’ and the like.... [The physician] could no longer deal with me because, get this: I ‘had gotten with a bunch of people on the Internet’ and that they were now ‘advising’ my treatment/care!’” (Wicks, 2012).

Separately, McCosker et al., point out that mental health is also an area well suited to online peer-to-peer communication and support. In a combined content analysis and interview series, the authors found that moderated forums served as a locus for community champions to emerge,

activate members and construct positive frames for the mental health community they helped lead. The authors stressed that dedicated health forums differ from communities formed on dominant social media platforms, where the organizational structure is less well suited to the creation of a durable, constructive emotional connection (McCosker, 2018).

While the benefits of online health care communities are many, these entities also serve as a hub for the commodification of digital health data and health community culture. In the pursuit of a sustainable revenue model, some platforms such as PatientsLikeMe and Inspire have begun to connect these communities with deep-pocketed clients for the purpose of gathering intelligence, recruiting for clinical trials and promoting their solutions. Inspire Promote, one of Inspire's "Client Solutions", allows companies "to engage with the patient populations at the core of each community; using highly targeted, condition-specific marketing tools to provide members with the content most relevant to them." (Inspire.com, 2020). To facilitate the business model, many platforms encourage patients not only to exchange information with one another, but to upload a profile and track their own health information online. These affective labors are what are valorized and monetized by the platform sponsors (Lupton, 2014).

Active Audience and Agency

Several studies have explored how consumers construct an online health identity by processing health information, including that derived from pharmaceutical DTCA. These range from studies of agency to studies of self-embodiment and presentation. Arney et al., for example, studied print DTCA and described four categories of consumers, ranging from "evaders" -- those who completely ignore DTCA -- to informed shoppers, voyeurs and "lay physicians" -- those who not only consume DTCA information, but use it to diagnose themselves and others (Arney, 2013). An important contribution of this study is to reveal that audiences vary in their responses

to DTCA, and that the provision of information grants consumers varying degrees of agency. Similarly, Fox and Ward conducted a critical analysis and review of online discussion groups to contrast health and illness discourse in the formation of identities. The authors identified and evaluated three health identities, including the “expert patient”, that self-manages and actively accumulates medical knowledge, the “technology consumer” and the “anti-consumer” who subverts medical advice and technology to realize their health identity (Fox, 2016). These studies of agency reinforce the notion that the ready availability of online health information, particularly that which is crowdsourced, create a virtuous cycle in which consumers increasingly take control of their own health and illness, therein subjugating their physician to the role of consigliere.

Another way consumers have taken control of their health and illness is by using social media to cultivate and project a health identity. Increasingly, consumers are choosing to “own” their conditions online, either for the psychological relief this elicits, to create connections, or to help others; additionally, some develop a health identity to earn money. Most often, these consumers present a positive version of the edited self online – e.g., engaging in and documenting an active outdoor lifestyle, despite a skin condition or a dependency on health technology (Skiles, 2020; Vox, 2019). Several independent sites publish lists of key influencers on a particular health or illness topic, including Symplur, Healthline and Influence.co, so it is easy for audiences to find and interact with these individuals.

Online and on social media, health consumers have much more latitude when it comes to making claims than do regulated entities like pharmaceutical companies. Unlike regulated entities, individuals can push the envelope into the realm of promotion without documentation or fair balance (Pennic, 2019; Paine, 2020). It is important to remember, therefore, that frames

consumers construct that agree with intended norms carry with them financial opportunity; Healthline, for example, just created an offline event in collaboration with the self-care influencer, Nitika Chopra, called Chronicon (Healthline, 2019). It is also important to remember that negotiated and oppositional frames rely on information in large part provided by the pharmaceutical industry. Thus, online health personalities are limited in their agency to critiques of the dominant social construct. For example, pharmaceutical companies, for many years, published only the results of selected studies of anti-depressants – typically those that yielded positive results (Turner, 2008). To the degree that these studies are all that is available for mediation, critics must instead rely on lived experiences, anecdotes, and examinations of transparency.

The development of a more active audience does provide benefits extending beyond fellow patients and loved ones. Patient influencers and forum participants help caregivers and the pharmaceutical industry address a blind spot in the form of the patient’s direct experience. Clinical trial data only summarize the benefits and side effects of a particular treatment administered to a specific population in a highly regulated setting. By accessing influencers and e-patients, pharmaceutical companies can gain real-world feedback across a broader population and use this in future research and development (American Health Line, 2018).

Finally, online activism and community engagement has demonstrated its potential as a catalyst for macro-level advocacy and change. In 2015, for example, a coalition of 26 organizations came together through social media to launch a multi-platform “post-feminist” campaign in support of Addyi, a treatment for low sexual desire in women. Labeled the “Even The Score” campaign, it did receive a measure of criticism for disease mongering and asserting white privilege, but clearly demonstrated how consumers directly impact drug production and access in

today's new media environment. It also highlighted the intersection of patient knowledge and affective labor, as many of those involved in the campaign were also participants in the clinical trials (Flore, 2017). Activism around health issues is not new. However, given the increasing degree to which pharmaceutical companies are interacting with patients online, coupled to the level of connectivity and exchange patients are achieving around a given disease area, it is reasonable to expect this particular form of advocacy to accelerate.

Consumer WOM on Social Media

For many years, consumers relied on word of mouth (WOM) to acquire their health information. Health, especially treatment and prevention, is a specialized and often scientific topic. Before the advent of the Web – both 1.0 and 2.0 -- people could not open a magazine or newspaper, for example, and expect to find the kind of health information they needed to self-manage.

Similarly, they could not access an issue of the *New England Journal of Medicine* and expect to be able to decipher the articles within. Instead, consumers relied on friends and family for expertise or for a recommendation of a health care professional with the appropriate training.

According to several sources, the vast majority of Americans now access and process health care information online, searching for self-management information, sharing opinions about drugs and their effects, providing and eliciting social and emotional support and obtaining provider information. (Enyinda, 2018). WebMD, one of the first sites offering specialized health care information, is only 22 years old. Yet 130 million unique visitors use the site each month (SimilarWeb, 2020). PWC, a consulting firm, conducted a 2012 consumer survey and found that over 80% of adults aged 18-24 would be likely to share health information on social media and nearly 90% of these individuals would trust health information obtained through social media.

While older individuals were less likely to provide or trust information on social media, roughly

half still would (PWC, 2012). By platform and function, “Antheunis et al. (2013) in their study reported that patients mainly used Twitter (59.9 per cent), particularly for increasing knowledge and exchanging advice, and Facebook (52.3 per cent) for social support and exchanging health advice, whereas professionals mainly relied on LinkedIn (70.7 per cent) and Twitter (51.2 percent), for communication with their colleagues and marketing activities” (Enyinda, 2018).

WOM on social media is much more accessible and scalable than WOM in an offline setting. WOM, especially between peer groups, is also much more effective than company-controlled methods of communication, especially when it comes to trust and the durability of effect. For example, in the PWC survey, respondents’ willingness to share information with or trust information from pharma companies ranked dead last. (PWC, 2012). Wego Health, a for profit company promoting access to patient influencers, conducted a 2019 survey in which the company found that 88% of patient influencers had shared a medication experience on social media, but only 29% of those influencers followed the pharma brand on social media for a therapy they took (Wego Health, 2019). Recognizing this, companies have tried to initiate WOM surreptitiously, by posting anonymously online, paying influencers to post, or creating cross-media interest at the time of launch (Shankar, 2014).

Doctor Commoditization and the Status Quo

WOM also propagates from physician to physician, primarily through dedicated networks such as Sermo, Doximity and Epocrates. Online, physicians are most often engaging to learn about or manage medications (Shankar, 2014; Limaye, 2018). As with patient-driven communities, doctor communities form hierarchical structures, with opinion leaders and influencers.

According to 2013 study by Landa et al., information is most effectively transmitted by doctors who are “socially integrated” — those who work in group practices, attend many professional

meetings, socialize with other doctors, and have admitting privileges in many hospitals (Landa, 2013). Thus, when approaching the new media environment, pharmaceutical companies are not only addressing how patients achieve agency and find meaning through commoditization of health content, but how prescribers do as well. Along the axis of elite physicians and the institutions they populate and govern, there is considerable evidence that the academic-industrial complex is alive and well. Intriguingly, these elites argue for the same reforms as many pro-consumer, anti-establishment voices – transparency around promoted content, improved data integrity, information “control” through peer review, etc. (Lavorgna, 2017) -- but do so through a lens of returning hegemonic influence to clinical professionals over industry and the lay public. In many ways, their arguments echo those of early propaganda theorists, Harold Lasswell and Walter Lippmann.

Patient Recruitment

When new forms of media are brought to bear, they are often used in ways that are not anticipated. Online health platforms appear to be no exception. Pharmaceutical companies are actively using both health forums and social media platforms as a recruitment tool for their clinical trials, with Limaye et al. reporting that 11% of clinical trials are now leveraging SM for recruitment (Limaye, 2018); Topolev-Vranic reports that social media may be most effective in recruiting for hard-to-reach populations, which dovetails with industry’s intensifying efforts to identify high-priced medicines for rare but highly debilitating diseases (Topolev-Vranic, 2016). Limaye also highlights a 2012 pilot study by the Mayo Clinic, which demonstrated that social media could be used to recruit a demographically diverse population more quickly and less expensively than traditional methods. Finally, Morgan and Sayers document separate, successful

efforts to recruit patients using Google advertising and boost collaborator recruitment and engagement using Twitter (Morgan, 2013; Sayers, 2018).

III. Ethics and Trust

Reputation and the Shift to Unbranded

Pharmaceutical companies have a poor reputation amongst Americans, which disproportionately affects consumers' trust in the industry's information and, consequently, the industry's approach to online promotion and DTCA. Studies suggest that consumers trust independent third-party information more than traditional advertising (Nielsen, 2015) and their peers and influencers more than drug companies when it comes to online health information (Shankar, 2014; Lutkenhaus, 2019; Enyinda, 2018). According to a Gallup survey, the pharmaceutical industry ranks second to last in terms of public opinion among 25 business sectors -- right above the federal government (Gallup, 2020). Thus, the pharmaceutical industry appears to be operating at a particular disadvantage when it comes to direct entreaties, either through traditional channels or online.

Studies have shown that trust in pharmaceutical information decreases if the communicator discloses an affiliation with a drug company. DeAndrea, et al., specifically found that pharmaceutical company affiliation disclosure and perceived control over online comments reduced consumers' trust in drug product information, trust in third party commentary on a drug product site, tendency to recommend the product to friends and family and likelihood of sharing the drug message throughout their social network (DeAndrea, 2016). DeAndrea also found that sensitivities around these disclosure variables did not work in the pharmaceutical company's favor. For example, if comments were removed from the site, study participants assumed it was

by the pharmaceutical company and trusted the drug information even less. Thus, pharmaceutical companies actually have an incentive be less transparent or to employ online media they do not explicitly control.

Companies have responded to this challenge in ways that have drawn criticism. For one, they have increasingly shifted from branded to unbranded DTCA. With traditional branded DTCA, the pharmaceutical company will highlight a particular medicine and its benefits for a particular patient group. In order to provide balance, which is required by law, the company will list the potential side effects associated with using the medication. In an unbranded ad, the company will typically highlight a particular disease or condition and suggest that their audience ask their doctor about treatment options. Pharmaceutical companies often use unbranded ads when they are either introducing a new medication or are the dominant player in a particular area. Although the ad does not speak to a particular drug, the audience often encounters the drug anyway, either because they eventually land on a company-controlled site or because the pharmaceutical company has primed their doctor.

Most studies of DTCA have found that branded DTCA does increase patients' information-seeking behavior and propensity to request a particular product from their doctor (Darmawan, 2020; Vakratsas, 2014). However, studies have also suggested that the effectiveness of traditional branded DTCA is waning with time. Over a ten-year period ending in 2012, for example, Wood et al., found that consumers 1) viewed DTCA as less helpful and informative and 2) were less inclined to discuss products by brand name, arguably due to being better informed (Wood, 2014). Recent studies have also suggested that unbranded DTCA can be more effective than branded DTCA when it comes to information seeking, particularly involving patients' friends, family and physicians (Darmawan, 2020). Thus, unbranded approaches are

particularly well suited to the Web 2.0. Tyrawski et al. conducted a content analysis of pharmaceutical company social media sites and found that companies most often posted information consistent with unbranded DTCA, but responded to user-generated posts rarely. Users (consumers) most frequently commented on pharmaceutical company posts and provided personal testimonials. Content from both parties centered on company news which, given the nature of pharmaceutical companies, often related to drug-specific news. Ultimately, through search, the users were found to encounter product-specific claims. (Tyrawski, 2015).

Unsurprisingly, pharmaceutical companies are increasingly choosing unbranded techniques when advertising online, particularly with social media (Tyrawski, 2015; Huhmann 2016). While this shift, in part, likely relates to affiliation disclosure, it also likely relates to regulation. Online, DTCA regulation is less stringent, more complex and harder to enforce. According to FDA guidance, pharmaceutical companies are only responsible for content created or owned by the companies themselves (CDER, 2020). Hence, pharmaceutical companies can kill two birds with one stone by engaging in unbranded promotion – avoiding the stigma of affiliation disclosure and stretching the bounds of performance claims.

Paid Influence

What is of particular interest in this regard is the industry's increasing use of online influencers. Pharmaceutical companies still employ doctors online, such as the U.K. physician who charges about \$500 per post to make recommendations on weight loss, cholesterol and blood pressure (Thomas, 2019), but also new breeds of influencers, such as “e-patients” and “e-Health Mavens”. E-patients are individuals who have a lived experience with a particular condition and a presence on social media. Employed e-patients talk about their experiences, then either recommend the audience consult with their physician (a traditional information flow and behavior) or, in other

cases, visit the company's website. In this latter case, despite the "unbranded" effort, the patient lands in a realm of controlled media with information limited to the company's particular product (Darmawan, 2020). Health e-Mavens are generally individuals without a particular lived experience and who are not doctors, but who profess expertise in a particular area of health care and actively participate in information exchanges (Sun, 2016). Marketing firms have industrialized the provision of online influencers and will match pharmaceutical companies with influencers that fit their products' profiles and corporate culture (Thomas, 2019). Wego Health, for example, offers the services of influencers reaching an average of 15,000 followers per month; these services include producing content, attending events and recruiting patients for industry-funded clinical trials (Fugh-Berman and Butler, 2020). One final wrinkle is that doctors and pharmaceutical companies are required to disclose the financial ties they have to one another. For patient influencers and e-Health Mavens, this is generally not the case. They *are* obligated to disclose they are receiving value for their posts, but often minimize this online. This is because both the FTC and FDA are, in part, responsible for regulating these activities, and each is falling short (Vox, 2019). According to an editorial by Butler and Fugh-Berman of the Georgetown University Medical Center, industry funding of these influencers develops a dominant narrative and drowns out dissenting voices in a fashion akin to Elisabeth Noelle-Neumann's "spiral of silence" (Fugh-Berman and Butler, 2020).

It is important to point out that, even when pharmaceutical companies do not directly employ influencers, the content available for decoding (e.g., clinical trial data, FDA approved claims) is most often provided by the pharmaceutical companies. For example, on the site *Take Control of Your Diabetes*, pharmacists James park and Candis Morello write "The World's First Oral GLP-1 RA, Rybelsus, Just Made Gaining Control of Diabetes Even Easier! Are you concerned about

using needles but need to control your diabetes and lose weight? Not to worry! In addition to its once-weekly injectable formulation (Ozempic, injectable semaglutide), semaglutide now also comes in an oral tablet... Rybelsus (oral semaglutide tablets) is the world's first and only oral Glucagon like peptide-1 receptor agonist (GLP-1 RA) medication.” (Morello, 2019). This post is then supplemented by eight online comments, one of which refers the inquirer to the drug sponsor and another that refers the inquirer to their doctor.

Normative and Critical Analyses

Critics of pharmaceutical companies' use of social media point to deception and exaggeration as two key dysfunctional aspects. Companies sign up their own employees to add credibility to a company-controlled site, eavesdrop on patients' and physicians' communications, redirect patients from unbranded to sponsored sites, and fail to disclose financial considerations (Lenzer, 2011). With the rise of e-patients and e-Health Mavens, the formation of online health communities and the inherent two-way communication taking place online, it is much more difficult for regulators to police the industry's activities. Regulators must not only familiarize themselves with the way in which promotions take place (e.g., by “liking” and “sharing”), but the relationships that exist and the degree to which pharmaceutical companies “control” websites and content. Kim et al., in a content analysis of FDA warning letters, found only two relating to social media in a ten-year span ending in 2014 (Carpentier, 2016). Pharmaceutical companies, through the use of online influencers and by engaging directly with patients in online communities, are also trying to frame the nature of disease and an appropriate pharmacological response. At its extreme, these efforts can be considered “disease mongering” -- engaging in activities that broaden the boundaries of treatable illness such as classifying ordinary problems as disease, portraying mild symptoms as precursors of disease, and framing risks as disease (Arney,

2014; Kitsis, 2011). Historically, the pharmaceutical industry employed legacy media and consumer advocacy groups as the stage for these activities (Moynihan, 2002). However, social media makes it easier to exert influence financially and hide the activities that are taking place. From a psychological point of view, disease mongering prioritizes asymptomatic conditions or those with non-specific symptomatology. The exercise transfers agency to the consumer but simultaneously transforms the consumer into a “subject” in the manner Louis Althusser describes as interpellation. The consumer questions his or her identity and seeks a way to reconcile this feeling with the solution the pharma company provides. This tactic fits very well into the institutionalized algorithm the pharma company cultivates; as highlighted by Dumit, “the very act of asking your doctor if a drug is right for you influences whether or not she or he will give it to you.” (Dumit, 2020).

While pharmaceutical companies are actively engaged in creating a patient-driven “commodification of culture”, marketing companies are helping the pharma industry perform a similar exercise when it comes to physicians. Just as patients have formed online communities – facilitated by platform companies – so have doctors; just as Facebook began by connecting people and fostering community, so have physician Social Networking Sites (SNS’s); just as Facebook’s business model pivoted to selling audiences to corporations, so did these physician SNS’s. Sermo now “generates revenue by selling access to its online physician community to a range of clients that include global pharmaceutical companies” (Landa, 2013). Sermo’s model permits physicians to remain anonymous, but companies are permitted to ask questions, including those about brands and messaging. Pharmaceutical companies are also permitted to monitor the information exchanged, which gives them clues as to how to position its products and counter any oppositional framing of its encoding efforts. Although some physicians retain

their anonymity, pharmaceutical companies are able to identify thought leaders through the interactions that take place and subsequently recruit these physicians for promotional efforts. This can be a remarkably effective strategy, since these KOLs are not required to disclose potential conflicts of interest on the site (Landa, 2013).

Sah and Fugh-Berman covered social psychology and physician influence in a 2013 review article. In it, they stressed that physicians fell prey to rationalization biases, including self-serving biases and entitlement rationalization in the face of industry inducements. In one striking example also authored by Sah, those doctors who were asked explicitly to detail the sacrifices they had made in pursuit of medicine were over twice as likely (48% to 22%) to express a willingness to accept gifts from industry (Sah, 2013).

After having responded quite slowly to the effects of new media on its DTCA model, the pharmaceutical industry has adjusted its Web 2.0 efforts and identified and acted upon new ways in which it can expand its addressable markets. Consumers are now both customers and willing laborers in advocacy efforts, patient-level demand creation and industry-led narratives. Physicians, as gatekeepers for prescriptions and clinical trial enrollment, appear willing to continue to play their assigned roles as handmaids to the industry-academic complex. Finally, absent policy changes driven through legislation or executive order, the complexity and fluidity of the online environment appears poised to vex regulators to the benefit of industry. Companies will most likely continue to exert hegemony through paid influencers, selective disclosure and partnership with both academia and patient activists. At the same time, companies will most likely continue to be rewarded handsomely for these efforts.

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