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A Perspective on Pharmaceutical Marketing Practices: Message Development, Media Selection, Medication Adherence and Health Literacy

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Abstract - Health literacy includes not only literacy and numeracy, but areas related to an individual's ability to critically review and process health information in such a way that leads to improved health behavior and outcomes. The level of health literacy attained by a particular target audience is an important consideration for marketers of pharmaceutical products as it impacts both the message and the media selected for product promotion. Additionally, the degree to which health literacy levels impact medication adherence should be a consideration for those that market pharmaceutical products.

Keywords - Pharmaceutical, Health literacy, Marketing messages, Media, adherence

Relevance to Marketing Educators, Researchers and Practitioners - This article is relevant to marketing educators, researchers and practitioners as it highlights the opportunity for marketers within the pharmaceutical industry to incorporate health literacy level as a consideration in the development of marketing messages and media selection in order to improve both communication effectiveness and medication adherence.

Introduction

A previous version of this paper was presented/published in the Proceedings of the 2015 Atlantic Marketing Association Conference. According to the National Action Plan to Improve Health Literacy issued in 2010 by the U.S. Department of Health and Human Services, health literacy is a multi-faceted concept and has importance

for multiple sectors. Stakeholders typically involved in the health literacy discussion include government, public health officials, practitioners and those concerned with health promotion (U.S. Department of Health and Human Services, 2010). In addition to these stakeholders, there is the opportunity for the pharmaceutical industry to be an active participant in the health literacy discussion.

Given the variation in health literacy levels among the U.S. population and the impact of low levels of health literacy on the pharmaceutical industry in the areas of marketing communications and medication adherence, the industry should recognize health literacy as an important criterion in the development and delivery of marketing messages as well as adherence strategies. Each of these areas has an economic impact for the pharmaceutical industry as well as the health care industry as a whole. This paper highlights important considerations for the pharmaceutical industry related to health literacy definitions, variations in health literacy levels among particular populations, and marketing practices in the areas of messaging, media selection and medication adherence.

Literature Review

Definitions of Health Literacy

Health literacy extends beyond reading, understanding the written word and numeracy skills. It also incorporates knowledge of various health related topics (Ngoh, 2009). Definitions of health literacy are inclusive of skills related to social and cognitive skills (Bodie and Dutta, 2008). Kutner, et al. (2006) define health literacy as: the degree to which individuals have the capacity to obtain, process, and understand basic health information and the services needed to make appropriate health decisions. This definition is based on an individual's ability to effectively operate in the following three domains that comprise health literacy: clinical, prevention and navigation.

The clinical domain includes an individual's ability to complete tasks such as "filling out a patient information form for an office visit, understanding dosing instructions for medication, and following a health care provider's recommendation for a diagnostic test" (Kutner, et al., 2006, p.3). The prevention domain includes an individual's ability to complete tasks related to "following guidelines for age-appropriate preventative health services, identifying signs and symptoms of health problems that should be addressed with a health professional, and understanding how eating and exercise habits decrease risks for developing serious illness" (Kutner, et al., 2006, p.3). The navigation domain includes tasks related to "understanding what a health insurance plan will and will not pay for, determining eligibility for public insurance or assistance programs and being able to give informed consent for a health care service" (Kutner, et al., 2006, p.3).

Inoue, Takahashi and Kai (2013) describe health literacy in terms of three dimensions – functional, communicative and critical. The functional dimension of health literacy includes an individual's ability to read and write basic health information (Inoue, Takahashi and Kai, 2013). The communicative dimension of health literacy represents a skill that allows the individual to obtain and derive meaning from and subsequently apply information from various forms of communication to changing circumstances (Inoue, Takahashi and Kai, 2013). The third dimension of health literacy labeled as critical health literacy, relates to an individual's ability to analyze information and to apply it in order to gain some degree of control (Inoue, Takahashi and Kai, 2013). According to Inoue, Takahashi and Kai both the communicative and the critical dimension are considered to be advanced skills.

Kickbusch (2008) acknowledges health literacy as a concept that finds its roots in the general literacy field and describes it as an individual's "capacity to make sound health decisions in the context of everyday life" (Kickbusch, 2008, p.102). Additionally, health literacy is referred to as a life skill that is an essential building block for health. Its impact is further described in terms of its relationship to life expectancy, improved disease management and interaction with health care providers (Kickbusch, 2008).

Disparities in Health Literacy

According to the 2010 National Action Plan to Improve Health Literacy developed by the U.S. Department of Health and Human Services, 90% of adults find routinely available health information difficult to understand. At the same time, individuals are tasked with making more complex health decisions. Concerns regarding the growth in chronic diseases and the increasing cost of healthcare have also contributed the complexity of health related decisions. While there are no definitive statements regarding the cost of limited health literacy, according the 2010 National Action Plan to Improve Health Literacy estimates are sizable and range from \$106 billion to \$236 billion (U.S. Department of Health and Human Services, 2010). The 2010 National Action Plan to Improve Health Literacy developed by the U.S. Department of Health and Human Services also indicates "some groups are more likely than others to have limited health literacy" (p.8). Health literacy is not only influenced by communication and listening skills, demographic factors such as age, socioeconomic status, and cultural background also have an impact. Populations that are most likely to experience limited health literacy include: adults over the age of 65 years and various racial and ethnic groups (Kutner, et al., 2006).

Health Literacy by Race and Age

Kutner, et al. (2006) based on results from the Health Literacy of America's Adults: Results From the 2003 National Assessment of Adult Literacy survey, administered to over 19,000 adults in the United States, provide insight into the different levels of health literacy that exist. In this survey, respondent health literacy levels were

categorized as “below basic”, “basic”, “intermediate” or “proficient”. While over half (53%) of respondents were categorized as “intermediate” in their health literacy level, differences by race/ethnicity and age were apparent.

With respect to race/ethnicity Kutner, Greenberg and Paulsen (2006) report that Whites and Asian/Pacific Islanders have the highest percentage of individuals with a health literacy level described as “proficient” at 14% and 18% respectively. Hispanics, Blacks and American Indian/Alaska Natives report the highest levels percentage of individuals possessing a health literacy level that is reported to be “basic” or “below basic”, with 66%, 58%, and 48% respectively. For Whites this percentage is 28%. Additionally, for Hispanics, Blacks and American Indian/Alaska Natives only 4%, 2%, 7% of these ethnic groups respectively are reported to have a “proficient” level of health literacy (Kutner, et al., 2006).

Health literacy levels are reported to be lower for those over the age of 65. Fifty-nine percent of this group is reported to have health literacy at the “basic” or “below basic” level. This is nearly twice the level reported for other age groups where the percentage ranges from 28% for 25 – 39 year olds to 34% for 50 – 64 year olds (Kutner, et al., 2006). Those aged 25 – 39 reported the highest percentage of individuals with a “proficient” level of health literacy at 16%. For individuals 65 and over, the percentage of those with a “proficient level of health literacy was 3%. This was reported to be the lowest of any age group (Kutner, et al., 2006).

Sources Used for Health Information by Health Literacy Level

It has been demonstrated that using targeted approaches to communication can improve self-management and related health outcomes among patients with limited health literacy (U.S. Department of Health and Human Services 2010). Therefore, it is important to note the various media sources used to gather health information based on health literacy level. Kutner, et al. (2006) in *The Health Literacy of America’s Adults: Results from the 2003 National Assessment of Adult Literacy* survey provide insight into this area as well. When comparing the sources of health information for those with “basic” levels of health literacy and those with an “intermediate” level of health literacy (the largest two categories when race/ethnicity or age is considered), the largest difference exists with the utilization of the internet as a source for health information. For those with a “basic” level of health literacy the internet is used 30% for “some” or “a lot” of health information versus 48% for those with a “proficient” level. For individuals with a “below basic” level of health literacy, the percentage for those that use the internet to acquire health information falls to 14%. Additionally, a comparison of those that possess a “basic” level of health literacy versus those that possess a “proficient” level illustrates that 71% versus 60% source “a lot” or “some” of their information from non-print media, such as television and radio (Kutner, et al., 2006).

Impact of Health Literacy Levels

“Research has continually shown that low health literacy rates are associated with a range of negative outcomes” (Bodie and Dutta, 2008). These include not only poorer physician-patient communication and unhealthy behaviors, but also reduced adherence to treatment and an increase in healthcare costs (Bodie and Dutta, 2008). Health literacy is found to be negatively associated with the management of chronic disease, and with misunderstandings of prescription medication instructions (U.S. Department of Health and Human Services, 2010). Low levels of health literacy are associated with individuals being less informed about their health, visiting physicians at later stages of disease and a lack of understanding of treatment regimens; all of which can adversely impact adherence and recovery (Kickbusch, 2008). “Several studies have demonstrated that using targeted approaches to communication can improve self-management and related health outcomes among patients with limited health literacy” (U.S. Department of Health and Human Services, National Action Plan to Improve Health Literacy, 2010, p.11).

A positive relationship with outcomes was established upon review of the three dimensions of health literacy described by Inoue et al. Specifically, for the functional, communicative and critical dimensions of health literacy, a positive relationship was established with outcomes. An example is provided within diabetes care. For these dimensions, as health literacy increased so did an individual’s understanding of their diabetes care, and there was a positive association with both the communication and critical dimensions and self-efficacy for diabetes management (Inoue, Takahashi and Kai, 2013).

Marketing Implications

Health literacy is an important consideration for marketing and communication practices and has relevance for the pharmaceutical industry relative to medication adherence.

The Message

Unique considerations should be noted when creating marketing messages to engage audiences with low levels of health literacy. Many studies indicate that health materials are often written at levels that exceed the average reading level of the general public (Rudd, 2015). The average adult individual in the US reads at an 8th grade level while the average website with health education information content is written at the 12th grade level (Ngoh, 2009). Health related websites may present an even greater challenge as they contain content information that includes complex and scientific terms (Egbert and Nanna, 2009).

For some professionals in the field of advertising, developing ads for low health literacy audiences is considered a challenge that can potentially adversely affect the quality and creativity of their work (Mackert, 2011). This suggests the need for additional training for those tasked with developing marketing messages to target

audiences with varying degrees of health literacy. “A deeper understanding of less health literate consumers should help professionals create more engaging and effective messages – messages that could educate consumers that most need the information” (Mackert, 2011, p.532).

The Media

Generally, individuals proactively seek health information from a variety of sources. “They seek this information from a variety of sources including the internet, TV and radio broadcasts, newspapers, their friends and family, doctors, patient associations, governmental institutions, pharmaceutical companies, health care providers, insurers and self-help literature” (Kickbusch, 2008, p.101). The variation in choice of media by health literacy level, presents both a marketing challenge and opportunity as increased access and demands for information leads to an increasingly complex environment in which health questions are asked and decisions are made.

The choice of media used by individuals to source health information based on their level of health literacy is important to consider as marketing communication plans are developed. Individuals with low levels of health literacy often rely on oral communication rather than written (Ngoh, 2009). However, “pharmaceutical companies are putting enormous resources on internet marketing” (Mukherjee and Limbu, 2013, p.235).

While understanding the media used by a given target audience is important for effective marketing, ensuring consistent communication and delivery of information across multiple channels for multiple audiences can present a challenge. However the positive outcomes associated with the development and implementation of such targeted programs is well documented. “Several studies have demonstrated that using targeted approaches to communication can improve self-management and related health outcomes among patients with health literacy” (U.S. Department of Health and Human Services, National Action Plan to Improve Health Literacy, 2010, p.11). Such interventions have resulted in improved adherence (U.S. Department of Health and Human Services, 2010). Additionally, leveraging the particular medium likely to be used by a target audience when delivering information such as a product’s purpose, benefits and requirements is beneficial. If patients understand these factors, they are more likely to be adherent (Solomon, 2002).

Adherence

“The health literacy of patients has received much attention as a risk factor for poor adherence to treatment and adverse outcomes” (Inoue Takahashi and Kai, 2013, p.2). “Medical related problems, some of which are caused by nonadherence, costs U.S. society an estimated \$177 billion annually in total and indirect health care costs. Medication nonadherence is also costly for pharmacies and the

pharmaceutical industry” (Ngho, 2009, p.46). The result of patients misunderstanding medication instructions can result in patients discontinuing medications before intended effects are produced (Ngho, 2009). For example “many individuals who are less health literate might not understand the difference between an acute or a chronic condition” (Mackert, 2011, p.528). Recognition that some consumers may struggle with such distinctions has implications for both the development of ads, as well as adherence programs (Mackert, 2011).

There are a number of factors that impact medication adherence. They include: the personal connection an individual has with a pharmacist; product costs, side effects, the belief in the importance of following medication instructions and the patients’ general level of health knowledge (Langer Research Associates, 2013). These last two predictors are each aligned with the prevention domain of health literacy as described by Bodie and Dutta (2008); and the communicative and critical dimensions of health literacy as described by Inoue, Takahashi and Kai (2013).

The Challenge for Marketers

In a qualitative research study, Mackert (2011) observed varying levels of knowledge regarding health literacy among pharmaceutical advertising professionals. Some participants indicated no knowledge of health literacy having never heard the term and others demonstrated a framework for understanding health literacy based on grade level or the use of simple words with few syllables as indicators of health literacy. Some participants did understand that it is important to include concepts such as scientific literacy, and chronic and acute conditions as part of the health literacy definition (Mackert, 2011). However, some did not recognize the impact health literacy levels has on an individual’s understanding of the differences associated with chronic and acute conditions, particularly as it relates to adherence. Training for those responsible for the development of messages for low health literacy audiences is an opportunity both in terms of increasing the marketing professional’s own understanding of health literacy, but also in considering “the best ways to design messages for audiences with lower health literacy” (Mackert, 2011, p.529).

Challenges regarding health literacy are likely to persist for marketers, particular as the health sciences evolve (Bone, France and Aiken, 2009). “More niche products, and thus more niche advertising, could present greater challenges to educate consumers about less well-known conditions” (Mackert 2011, p.531).

Conclusion

The health literacy level of a given target audience has implications for pharmaceutical marketers relative to both message development and media selection. In addition, health literacy has implications for medication adherence, which has relevance to both revenue and patient outcomes. Findings from this

paper identify some of the potential opportunities for marketers. They include recognizing the impact of health literacy levels within target audience populations on the development of targeted messages (and also takes into account key demographic factors such as race/ethnicity and age), and giving consideration to the media used for gathering health information. Doing so, may result in revisions to current practices related to message development and media selection that may result in more effective product communication and increased medication adherence.

Lastly, recognizing the range of definitions for health literacy, as well as the knowledge levels, among those that develop advertising and market pharmaceutical products presents a training opportunity exists for the pharmaceutical industry. A consistent and broader understanding of health literacy on the part of marketers, could result in more effective marketing efforts aimed at the specific dimensions of health literacy that extend beyond literacy and numeracy; and are inclusive of an individual's ability to derive meaning from and to apply health information to their own circumstances for improved behavior and outcomes. Additionally, further consideration and incorporation of health literacy levels into marketing efforts may also represent an opportunity relative to market segmentation strategies.

Future Research

Future research that is focused on understanding how marketing professionals within the pharmaceutical industry define health literacy and subsequently address the varying health literacy levels of target audiences in their marketing communication strategies presents an opportunity. Given the impact of health literacy levels on marketing communication practices (message development and media selection) and medication adherence, and consequently revenues and outcomes; this area represents an important one for the pharmaceutical industry to explore. Adding to the body of knowledge with additional research related to marketing practices and health literacy would be of interest to both marketing researchers as well as marketing practitioners.

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