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Patient Participation: A Social Network Perspective

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Patient participation is a vital component to the health care service industry. Patient participation is conceptualized as the active role a person takes in the management of his or her health care. An active patient is described as engaging in relevant conversation with the provider, asking questions regarding treatment, and collaboratively working with the provider to establish goals and a health care regimen. The patients’ active role in the service encounter has been empirically demonstrated to be linked with adherence to treatment. Since patients are embedded in a network that includes, but is not limited to, the provider, the support network, the insurance company and the employer, the social network perspective offers a useful paradigm for examining the content of these relationships. This conceptual paper examines the effects these relationships have on a patient’s level of participation.

Introduction

Access to health care services and health care spending are increasingly hot topics in the recent political debates. The candidates discuss whether it is a person’s right or privilege to have access to health care; however, public officials and managers have long recognized that access alone is not the problem. “Access alone does not determine the use of health care services” (Roth 1994, p. 115). As is the case with many services, patients must be involved with the actual service, yet the evidence suggests that patients are not involved. Reports have shown that noncompliance with cardiovascular disease treatment can be blamed for more than 125,000 deaths per year in the United States (Tanouye 1992). Additionally, over 100,000 people die annually in the U.S. from failure to take their prescriptions as directed by their doctors and pharmacists (Berger, Krueger, and Felkey 2004). The patient’s active role in the health service encounter has been empirically demonstrated to be one of the main contributors to successful adherence to treatment (Garrity 1981; Golin, DiMatteo, and Gelberg 1996). This research will conceptually examine the content of the patient’s relationships in the health care network and its subsequent effects on patient participation.

Social Network Perspective

When examining the relational content among different actors or organizations, the social network perspective is a useful paradigm to couch the discussion. Several underlying concepts make social networks a distinct research area (Borgatti and Foster 2003; Brass et al. 2004). First, the underlying, driving force in social networks is the focus on the relationships, not the attributes of the actor. Furthermore, the social network perspective recognizes that actors (people/organizations) are embedded in a network; this network may constrain the actor or allow for opportunity. This social network perspective allows a researcher to examine the structure and pattern of relations surrounding the actors and how this structure affects certain organizational functions or individual behaviors. Since patients are embedded in a network that includes, but is not limited to, the provider, the support network, the insurance company and the employer, the social network perspective provides a unique opportunity to examine the content of these relationships. Figure 1 provides a hypothetical example of key actors in a patient’s social network.

Most customers in health care settings are extremely reluctant. It is a “rare service that people need but do not necessarily want” (Berry and Bendapudi 2007, p. 111). Most people do not want to spend the afternoon in a doctors’ office, and most would cringe at the idea of spending weeks recovering after a recommended surgery. Unfortunately, healthcare is a necessary endeavor that requires the active participation of customers in the service delivery. Patients must be able to openly communicate any illness or unusual symptoms, and patients must understand and follow directions given by doctors. This patient participation is vital to the success of the health service encounter and the central focus of this research. By understanding how a social network perspective can increase patient participation, patients may be less “reluctant” to attend medical centers because they understand the benefits of engaging their network to improve their participation and hopefully their service quality. Furthermore, understanding the effects of networks on a patient’s participation will also help those patients that are not reluctant to visit doctors. This paper seeks to answer the
research question: How does a patient’s social network influence his/her level of participation in the health care service encounter?

Figure 1: Patient’s Hypothetical Network

Customer Participation

In the context of the production of goods and services, customer participation has been defined as “the degree to which the customer is involved in producing and delivering the service” (Bendapudi and Leone 2003, p.14; Dabholkar 1990, p. 484). Customers can participate at various contact points of the service process (Bowen 1986). For example, a medical patient in need of knee surgery will first discuss various options with the medical provider. Another contact would occur after the actual surgery during his/her rehabilitation. Last, the patient may need to contact the medical provider for follow-up visits and evaluations.

Health care services offer a unique case of customer involvement. In order for a customer to gain the benefits of the service, the customer must be completely involved in the process, and unlike many other services, health care is typically seen as a “dreaded service” (Berry and Bendapudi 2007, p. 114).

In some instances, the patient must participate in the health care service for weeks and months at a time. In this paper, patient participation will be conceptualized as the active role a person takes in his or her health care services. A passive, low patient participator might be described as a patient who asks no questions, feels little control over the situation, and accepts information disseminated by the doctor without question (Roter and McNeilis 2003). On the other hand, an active patient would be described as engaging in relevant conversation with the provider, asking questions regarding treatment, and collaboratively working with the provider to establish goals and a health care regimen (Garrity 1981).

Patient-Provider Dyadic Relationship

Patient-provider interaction is essential to the health care service delivery process (Thompson 2003). In multiple empirical studies, patient-provider
communication has been identified as the key factor in determining patient adherence to treatment (e.g. Garrity 1981; Kjellgren, Ahlner, and Saljo 1995). Since a patient’s level of participation will stem from the patient-provider interaction, this dyadic relationship is the core relationship in the patient’s network. In general, the patient-provider relationship can be seen from a structure perspective, in that it is a relatively stable relationship that includes patterned, repeated interactions (Brass 1984).

The patient-provider relationship has been characterized into four different relational styles (Roter and McNeilis 2003), depending on the level of power or control that the actor (patient and/or provider) demonstrates. In the first relational style, mutuality, both the patient and provider have relatively high levels of control or power. Since the power relationship is relatively balanced, the goals and agenda for the patient’s health are negotiated by both parties. The second style, paternalism, describes the majority of patient-provider interactions. In this style, the patient takes on a more passive role while the provider, who has the most knowledge about information and services, dominates the interaction. The next relational style, consumerism, is the inverse of paternalism and is relatively uncommon. In this relationship, the patient exerts high levels of control, while the provider has low levels of control (Roter and McNeilis 2003). Last, the default style, occurs when physician and patient control are both low. A default situation is characterized by “unclear or contested common goals, unclear or neglected patient values, and an uncertain role for the physician” (Roter and McNeilis 2003, p. 123). Figure 2 summarizes these relational styles.

Figure 2. Types of Physician-Patient Relationships (Roter and McNeilis 2003)

<table>
<thead>
<tr>
<th>Physician Control</th>
<th>Patient Control</th>
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<tbody>
<tr>
<td>Low</td>
<td>Default</td>
</tr>
<tr>
<td>High</td>
<td>Paternalism</td>
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<tr>
<td></td>
<td>Consumerism</td>
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<td></td>
<td>Mutuality</td>
</tr>
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</table>

Tie Strength

Tie strength is one of the most frequently cited network concepts in the literature. According to Granovetter (1973), tie strength is the combination of time, emotional intensity, intimacy (mutual confiding), and reciprocal services of the relationship. Based on this concept, the literature has further distinguished between strong ties and weak ties. Strong ties are associated with trust, ease of communication, established norms and support (e.g. Krackhardt 1992). Weak ties are non-redundant, cost effective and valuable for diffusion of information (e.g. Granovetter 1973). According to this social network research on strengths of tie, a strong tie between the patient and provider, would involve increased frequency of office visits. A strong tie is also characterized by a relationship where the control or power is relatively balanced or reciprocated between both parties. In the typology of patient-provider relationships presented previously, the mutuality relationship would be characterized as a strong tie since the level of power and control is relatively balanced, while the default relationship would be characterized as a weak tie. In the paternalism and consumerism relationship, there is a lack of balance of mutual confiding (Roter and McNeilis 2003); therefore, the paternalism and consumerism tie will have stronger ties relative to the default relationship, but weaker ties relative to the mutuality relationship. Since this mutuality relationship is characterized as having active patient participation (Roter and McNeilis 2003) and this balance of control and power signifies a stronger tie, the social network perspective would lead to the following proposition:

P1: Proposition 1. The strength of tie between the patient and provider will be positively associated with a patient’s level of participation

Reciprocity and Symmetry

Symmetry in a dyad refers to the flow of relationship in the dyad. In a symmetric or reciprocal relationship, information would flow from A to B, and from B to A. Communication and friendship networks are examples of symmetric relationships. Asymmetric relationships can occur when one actor in the dyad holds a status position; this person of status then has the opportunity to exercise power over the other actor (Brass, Butterfield, and Skaggs 1998). Since the physician is the source of specialized medical knowledge, there will always be a certain level of asymmetry in the patient-provider relationship. However, to the extent that the patient and physician engage in interpersonal communication and ask questions of each other in order to set goals for the patient’s health, this relationship would be characterized as more symmetric. The mutuality relationship is characterized by joint decision-making and goal-setting, therefore it would be classified as more symmetric, while the paternalism style (Roter and McNeilis 2003)
would be asymmetric. Therefore, the social network research on tie symmetry would suggest that when the provider exercises increased levels of control over the patient, an asymmetric tie would exist and the provider would have an increased opportunity to exercise power over the patient. By failing to participate and take control in the patient-provider interaction, the patient is allowing the provider to dominate the flow of information. Therefore, this paper proposes:

P2: An asymmetric patient-provider relationship is associated with low patient participation while a more symmetric patient-provider relationship is associated with higher participation.

Multiplexity

A multiplex relationship occurs when two actors have more than one type of relationship with each other (Brass 1995). For example, when a patient’s physician is also their neighbor, they would have a multiplex relationship. In a multiplex relationship, the patient of interest typically has more interactions, indicating increased time and potentially stronger ties; however, other researchers disagree that multiplexity is associated with strong ties, stating that just because actors have a close relationship at work does not always suggest close relationships outside of work (Brass et al. 1998). When a patient and provider have a relationship outside of the medical office, the patient may feel more comfortable bringing up health concerns with the physician. Therefore, in the context of the patient-provider relationship, a multiplex relationship would likely improve the flow of communication between patient and provider and potentially balance the power between the two actors. This balanced level of control in the relationship would also increase tie strength and symmetry in the relationship. For example, person A is concerned about a mole on his/her back. If person A’s doctor is also a friend, they would be more likely to simply ask the friend/doctor for his/her opinion. On the other hand, if person A’s relationship with his/her doctor is uniplex, they might delay in making the appointment to have the mole examined, indicating lower patient participation. Therefore, the social network research on multiplexity would suggest that when a patient and provider have increased contact points outside the medical office that patients would be more likely to exercise increased levels of control in the relationship. Therefore, this paper proposes:

P3: Multiplexity in the patient-provider relationship leads to increased patient participation in the health care encounter.

THE STRUCTURE

The previous discussion has demonstrated that tie strength, reciprocity, and multiplexity all influence the patient-provider relationships that in turn influence a patient’s level of participation. However, a key benefit to the social network perspective is the ability to look beyond the dyad to the entire network (e.g. Borgatti and Foster 2003; Brass et al. 2004). The network surrounding a patient can have a significant impact on a patient’s level of participation. The following sections will provide a theoretical foundation and propositions for how the network surrounding the patient has an effect on his/her level of participation, specifically the influence of a patient’s social support network, insurance plan and employer will be discussed.

Social Support Network

Social support is embedded into basic theories of communication. Engaging in social interactions with other people centers around a human’s innate need for interaction with others; this is a fundamental basis for communication (Goldsmith, McDermott, and Alexander 2000). The social support network can be viewed through the lens of Coleman’s social capital. Coleman’s social capital is based on the level of trust, reciprocity, sanctions, norms and monitoring in one’s network (Coleman 1988). In times of a health care concern, a patient would need a support network that is high in this social capital. For Coleman, social capital is measured by density. Density refers to the proportion of dyadic ties in a network in relation to the maximum possible number of dyadic relationships. As this number increases, the network is said have higher density. In the context of the patient’s social network, a highly dense network would provide increased comfort, safety and assistance in times of extreme health concern (Albrecht and Goldsmith 2003; Coleman 1988).

The theory of social resources proposes that one’s social resources can exert an effect on an instrumental action (Lin 1999). In health care, if the patient’s social support network includes a medical professional, the patient could use this tie for access to medical knowledge or assistance. Furthermore, if the patient’s network is comprised of an increasing number of medical professionals (social resources), then the patient would have more working knowledge of health care, and therefore would be more informed to participate in the interaction. On the other hand, if the patient’s social support network is extremely dense with no medical professionals embedded in the network, then the dense network would not allow for access to novel information and would constrain the patient. In this case, a larger, sparse network would allow for more diverse information to assist the patient in gaining new information and knowledge (Burt 1992). Therefore, this paper proposes:

P4a: Density in a patient’s social support network that includes medical
When medical professionals are not embedded in the patient’s social support network, then a larger, diverse network will be positively related to a patient’s level of participation.

**Insurance Company**

Resource-dependency theory (Emerson 1962) provides the theoretical foundation when investigating the insurance company’s effect on patient participation. The resource dependence model states that the power of A over B is equal to the extent to which B is dependent on A. In the triad of the patient, provider, and insurance company, the patient and provider are dependent on the insurance company to provide financial resources; therefore, this paper proposes: the regiment determined by the patient and provider, the patient’s participation will decrease.

**Patient’s Employer**

While a patient’s health insurance plan is a key relationship that influences the patient’s level of participation, another key tie is the relationship of the patient with his/her employer. The strength of this relationship can have an influence on the patient’s level of participation. This relationship, similar to the insurance company, is a relationship between a person and an organization. While the patient may have many ties to people within the organization, it is the organization’s culture that can influence a patient’s participation.

With health care costs increasing rapidly, organizations should be motivated to encourage a health and wellness culture in their organization. Healthier employees result in fewer sick days and reduced health insurance costs. The employer can affect patient participation by encouraging or discouraging time off for doctors’ visits. If the patient is discouraged from offering paid time off for regular doctors’ visits would increase a patient’s level of participation. Furthermore, employers can encourage health promotion programs to increase their employees’ active role in the management of their health.

A recent study in the New England Journal of Medicine found that obesity is actually an “epidemic” that spreads in social circles. The study tracked more than 12,000 people over 32 years and found that a person’s social network had a powerful effect on a person’s chances of gaining weight/becoming obese (Christakis and Fowler 2007). One positive aspect to this study is that if social environments can promote the spread of a disease (obesity), then they can also influence the spread of the solution. Therefore, employers can begin to influence their employees by offering reward-based incentives for exercise, balanced nutrition, and well-person annual examinations (Hunnicutt 2007). Unfortunately, many organization-wide health programs fail before ever catching on with employees. From a social network perspective, an organization could map their employees’ social networks and find central actors to influence the participation in health promotion programs. Krackhardt’s (1992) case study of a unionization attempt demonstrates how different key actors have the ability to influence the group’s decision. His study found that employees central in the advice network had minimal influence on fellow employees; however,
actors central in the friendship network were better served to influence opinions. Organizations can pick central actors with strong friendship ties spread throughout the organization to help influence fellow employee’s opinions on health prevention behaviors. When people invest time, sweat, and energy in their health, there will be an increased incentive to be involved in future patient-provider interactions since they do not want this energy wasted. Therefore, this paper proposes:

P6: When employers use their employees’ social networks to encourage employees to manage their health through a) paid time off for doctors’ visits; or b) incentives for participation in health promotion programs, the employees’ level of participation will increase.

**DISCUSSION AND IMPLICATIONS**

The structure of a patient’s relationship with other actors and organizations can have a significant impact on the patient’s level of participation in the health service encounter. Furthermore, the other actors in the patient’s network also will benefit from a patient’s increased level of participation. The physician will benefit through the patient’s increased adherence to the health care regimen. The insurance companies reduce long-term health care costs through a patient’s increased participation in disease prevention programs. Finally, healthier employees save the employer health care costs and lost productivity costs (due to sickness and illness). This research has implications for each actor in the patient’s health care social network.

Physicians can use the social network perspective to improve their relationship with the patient. Strong and symmetric relationships with the patient are associated with increased patient participation. Physicians can build this relationship by increasing time spent with the patient and showing care and concern (emotional intensity) during the interaction. Additionally, physicians can build reciprocity through increased flow of non-medical information to the patient as opposed to only technical, medical information flow.

Health insurance companies also have a role in the patient’s participation level. It is in everyone’s best interest for the patient to take control of his or her health. Patients that get annual cancer screenings, exercise, and eat properly will ultimately cost the insurance company less money (Goetzel et al. 1998). Insurance companies can influence their relationship with the patient by financially supporting health promotion programs and other health prevention behavior. Furthermore, the insurance company could attempt to build a stronger tie with the patient by increasing the amount of emotion and concern that flows from the insurance company to the patient.

Employers also can have a significant indirect impact on a patient’s participation level. First, they can have an impact through the health insurance plan they negotiate. Employers can also encourage and reward disease detection and disease prevention behaviors. By rewarding their employees for annual check-ups, exercise, smoking cessation, etc., the employer is indirectly making the patient more responsible for their health, which should result in a more active patient in the physician-patient interaction. Finally, employers can increase patient participation by offering paid time off for health care services.

Patients have the ultimate role to play in increasing their own level of participation in the management of their health care. While the previous pages have discussed the content of the patient’s relations with other actors, all of the preceding influencing factors are attenuated when patients take charge of their own health and engage their provider in a collaborative approach. That being said, not all patients take on that role, and the purpose of this paper is to examine the structural factors influence on the patients’ level of participation. Things that the patient can do to affect the structural factors mentioned previously include: developing strong, symmetric ties with their provider, choosing doctors similar to themselves, and making informed decisions when it comes to their health care plan.

Patient participation is a crucial element in the health care service encounter. Active participation has been shown to increase adherence to treatment. However, as Berry and Bendapudi (2007) said, “customers are reluctant.” This paper is a first attempt to distinguish what structural factors could potentially affect the patient’s participation in order to improve overall health care. Whether it’s the relationship with the physician, the social support network, the insurance company, or the employer, it is evident that the structure needs to change in order to encourage active participation and accountability for one’s own health.

**References**


Consumer Preferences for Attributes of Alzheimer’s Disease Predictive Genetic Tests

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Summary Abstract

With the advent and increased prevalence of predictive genetic tests (PGTs), individuals now have the option to investigate their future risk of developing certain diseases, including Alzheimer’s disease (AD). Even though genetic testing for AD is only recommended in certain cases\(^1\), the use of PGTs is almost certain to increase as technology and genetic marker identification continues to advance. Thus, aligning the clinical practice of using predictive genetic testing for Alzheimer’s disease with consumer values and preferences is important in determining under what circumstances consumers would want to take a PGT for Alzheimer’s. However, little is known about consumer preferences for genetic Alzheimer’s disease (AD) testing. Therefore, this study was conducted to elicit societal preferences and perceived values placed on predictive AD genetic tests by combining rating-based conjoint and open-ended contingent valuation in order to answer what attributes consumers value most when deciding to take a predictive genetic test for a disease with no cure.

In order to assess public preferences for a predictive genetic test for Alzheimer’s disease (AD), a rating conjoint analysis was conducted using an anonymous online survey distributed by Qualtrics\(^\circledast\) to a general population panel. The study design included three attributes:

- Accuracy (40%, 80%, and 100%)
- Treatment Availability (Cure is available / Drug for symptom relief but no cure)
- Anonymity (Anonymous / Not anonymous).

A total of 12 scenarios were used to elicit consumers’ preference by adopting an 11-point scale. The respondents also stated their highest willingness-to-pay (WTP) for each scenario through open-ended questions. A total of 295 responses were collected.

The most important attribute for the aggregate model was Accuracy, contributing 64.73% to the preference rating. Treatment Availability and Anonymity contributed 20.72% and 14.59%, respectively, to the preference rating. The median WTP for the highest-rating scenario (Accuracy 100%, a cure is available, test result is anonymous) was $100 (mean = $276). The median WTP for the lowest-rating scenario (with 40% accuracy, no cure but drugs for symptom relief, not anonymous) was zero (mean = $36). Four groups with differing attribute importance patterns were identified using cluster analysis.

The results of this study highlight the attributes consumer find important when making the decision to obtain an AD genetic test. On average, respondents placed more importance on predictive accuracy (average importance: 64.73%) than either treatment availability or result anonymity. The aggregate and cluster results both showed predictive accuracy was the most important factor for the majority of study respondents when making the decision to obtain an AD genetic test. Even without a cure for AD, respondents still placed a high preference on a predictive test with a 100% predictive value and were still willing to pay for it (median WTP was $50). These results suggest consumers find value in having a reasonable estimate regarding their future chance of developing AD, even without an available treatment. Value may arise from having an opportunity to make informed future plans or from a reduction in uncertainty.

Further, when accuracy levels fell between 80% and 100%, most were willing to make a trade-off between “treatment availability” and “accuracy.” Those who placed a low value on 80% accuracy level (Perfect Test Loyalists) only accounted for a small portion in the overall sample (6%). Moreover, the scenarios with 40% accuracy always received the lowest preference ratings and WTP, indicating that while important to consumers, the test’s accuracy may not need to be 100%, but higher accuracy is more highly valued. Since few tests are perfect, the 80% accuracy level may be a good target for AD genetic test development and also consistent with physicians’ recommendations as the minimal predictive value of an AD genetic test. This is important because...

\(^1\) Goldman et. al. 2011
development and/or production costs for a 100% accurate test may be prohibitive.

Although anonymity remained the least important of the three attributes in average, Comprehensive Thinkers still placed 38.3% importance on anonymity. This group had the highest percentage of respondents who had ever heard of the Genetic Information Nondiscrimination Act of 2008. The awareness of this genetic related policy may lead to more attention to the anonymity issue in this group. Anonymity may become a more important issue when the public is fully aware of the lack of potential usage of predictive genetic tests to discriminate against health insurance or employment. Policy makers, healthcare organizations and healthcare providers should be prepared for consumers to express concerns associated with the issue of anonymity/privacy.

Overall, these results should be of interests to policy makers, genetic test developers and health care providers.

References available upon request
An Assessment of Patient Proactivity Today and a Look at How Its Relationship with Satisfaction Has Changed over the Past 20 Years

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Tammy McCullough, Eastern Michigan University

A national sample of 1,031 United States residents aged 21 or older provided information regarding actions that fall within the realm of patient proactivity, that is to say efforts that are overtly designed to maintain or regain one’s health. An assessment of today’s consumers revealed that they tend to engage in behaviors that would be deemed proactive. Furthermore, there is a statistically significant relationship between some elements of patient proactivity and one’s satisfaction with the health care delivery system. However, the correlation coefficients are small, thus the relationships provide little managerial insight. And despite the fact that much has changed in the health care delivery system over the past 20 years, the observed relationship between proactive behaviors and satisfaction with the system is virtually unchanged.

Introduction

There have been monumental changes in the health care delivery system of the United States over the past 20 years. These changes have occurred in three distinct areas: health care delivery; coverage for health care expenses; and increased mechanisms for consumers to gather information germane to their health and that of their loved ones. Among the changes within the purview of health care delivery are more accurate diagnoses and improved treatments. These changes have emanated from new technology, significant medical research, and the availability of more pharmaceutical products that address a litany of illnesses and other maladies. As for coverage for health care expenses, there are now more options that are accepted alternatives to the traditional third party payer insurance as exemplified by companies such as Aetna and Blue Cross/Blue Shield. Among this set of alternatives are Health Maintenance Organizations (HMOs), Preferred Provider Organizations (PPOs), and Point of Service (POS) plans. While HMOs preceed 1991, they are much more widely recognized as alternatives by both consumers and employers in the American marketplace today. In addition to the aforementioned changes, many employers have implemented wellness programs designed to help keep their employees healthy. And of course, there is the omnibus health care reform act passed by Congress and signed into law by President Obama in 2010. While much of that law is still under constitutionality scrutiny, parts of the law have begun to be enacted. Finally, there is much more information available to curious consumers. While the venerable Physicians’ Desk Reference (PDR) has been around for many years, it has more recently begun to target consumers in that the publication is now available in less expensive paperback and electronic formats. But beyond the PDR, there has been a significant expansion in the number of sources available to those so inclined to seek information pertinent to questions they have regarding illnesses and their treatment. For example, Websites of health care providers such as Johns Hopkins, Mayo Clinic, and Harvard often provide such insight. Blogs often provide a forum by which those seeking information about specific diseases and their treatment can communicate or just commiserate. While some may question whether these blogs are a positive or a negative component of the health care system, they are relied upon extensively by many of those seeking to augment their knowledge. When it comes to the dissemination of information regarding prescription drugs, there is certainly more direct-to-consumer (DTC) advertising for pharmaceutical products, and it can be presumed that both the consumer and the manufacturer view these efforts to communicate as sources of pertinent information regarding one’s health. In a similar vein, there has been an upsurge in consumer-
oriented advertising for over-the-counter drugs. Taking all of this into consideration, there are certainly more resources for today’s patients, caregivers, and concerned consumers than they had just a few years ago. In essence, we have witnessed a veritable explosion in the amount of information available. Hopefully we have concurrently benefitted from information that is of higher quality than it was just a few years ago.

The aforementioned evolution of the health care delivery system means that consumers certainly have more opportunities today to engage in proactive behaviors that are undertaken in an effort to ensure good health when healthy and to improve one’s health when issues arise. But this raises two questions. Do consumers engage in proactive behavior in an effort to have a positive influence on their health? How does a patient’s proactivity influence their level of satisfaction with the health care delivery system? These are the questions addressed in the current study.

Literature

While there is information on satisfaction, there is a dearth of information regarding patient proactivity. Several bibliographic databases, including three specific to health care, were searched. The following overview provides details as to what was being said about these two issues some 20 years ago and what is being said today.

An array of factors related to patient satisfaction have been identified and studied, especially in the timeframe following the emergence of for-profit hospitals and an evolving paradigm that some argue places too much emphasis on the business side of health care. In this regard, it seems to be a commonly accepted belief that patient satisfaction should be measured and improved, if possible, in order for a medical provider to succeed and flourish. One of the biggest factors related to patient satisfaction with health care delivery appears to be treatment outcome. If a patient experiences a positive health outcome from a medical treatment or procedure, then the patient tends to feel satisfied with the health care delivery system. The inverse is equally true; when a patient experiences a poor outcome from a medical treatment or procedure, then the patient tends to be dissatisfied with the health care delivery system (Douglas, Mowen, and Hamm, 2000). However, this is not the only factor that leads to a satisfactory or dissatisfactory assessment of the health care received.

During the past 20 years we have seen some major changes in the U.S. Health Care system. One change identified is the introduction and acceptance of more varied provider systems (Home Health Providers, High-Tech/Online-Based Providers, Point of Service Provider Plans, etc.). The Group Health Medical Home Model proposed, and introduced, by a Seattle-based medical provider was developed as a tool that would improve patient experience, improve health care quality, and improve the level of satisfaction associated with the provider. An analysis of the results of this experimental medical delivery system found that the patients rated their overall experience and satisfaction with the system higher than did patients who were seen in the more traditional HMO-style model of health care delivery (Reid, Coleman, et al., 2010). Additionally, patients experienced fewer hospitalizations, emergency visits, and medical complications thereby leading to cost-savings for the medical provider. One of the benefits of this Medical Home model seemed to be a more “involved” patient who actively communicated with health care providers and sought additional information from external sources (such as internet sites and blogs). Thus, the assumption is that a more involved patient tends to be a more satisfied patient.

There are many names for this involved patient; they include: empowered, connected, proactive, active, educated, and more. Regardless of the chosen synonym for “involved,” researchers agree that these patients tend to be more satisfied. In addressing patient proactivity and engagement, five elements that exist in an “empowered” patient have been identified. These elements include: 1) engaged, 2) informed, 3) collaborative, 4) committed, and 5) tolerant of uncertainty (Johnson, 2011). The author proposes that when these five elements are present, the patient will take more responsibility for his or her own health and will thus feel empowered. This empowerment, in turn, leads to greater satisfaction with the health care system.

The proliferation of information sources has led to more informed patients. Although there are some drawbacks associated with this information overload, there are also numerous positives. In a 2009 study, it was stated that many physicians dread the internet-informed patient (Schrager and Gaard, 2009). Many physicians believe that, although the patients are exposed to a multitude of information resources, they may misinterpret or misunderstand much of the information provided. Thus, even though these patients have a lot of
information, perhaps they should not be considered *educated per se*. However, many other researchers have found that informed patients tend to feel greater satisfaction with the health care system. In the 1991 study on this topic, information access was identified as a key factor in patient satisfaction (Fullerton and Davidson). However, the information sources that patients used in the early 1990s were more often personal references or recommendations and medical terminology-laden reference books (PDR). Today, 20 years later, more patients are seeking external information regarding illnesses, treatments, drugs, and more through websites such as WebMD, MedicineNet, eMedicine, and provider-based websites such as MayoClinic.com, inteliHealth (Harvard), and johnhopkinshealthalerts.com (Talen, Muller-Held, et.al, 2011; Bowman, 2006; and Johnson and Ramaprasad, 2000). So, patients continue to be information-seeking, but the sources of this health-care information have certainly evolved since the early 1990s.

Researchers suggest that active communication with patients leads to more proactivity, and more positive attitudes by patients (Talen, Muller-Held, et.al, 2011). In fact, the physicians at “Hello Health” feel so strongly about the benefits of internet communications with their patients that they regularly “blog” and “tweet” with their patients (Hawn, 2009). This pioneering medical practice has found that the internet-savvy U.S. population appreciates the quick feedback, the convenience of the internet communications, and the low patient-cost of their delivery system (Hawn, 2009). As early as 2000, an increased use of the internet for health care information was identified. A survey of over 1,000 individuals, found that more than 37% of the respondents indicated that they check the Web for health care and prescription drug information, and more than 90% of the respondents indicated that they were familiar with direct-to-consumer (DTC) advertising for prescription drugs. Clearly, the informed patient is a growing trend (Johnson, and Ramaprasad, 2000). Another, shift in health care delivery is an idea termed *connected health* whereby the patients play an active role in monitoring their own health and then communicating these results back to their health care providers. This system is designed to lower costs, improve health care results, and enhance patient satisfaction (Lopez, 2007). According to an analysis of the results of a patient- and family-centered model of health care delivery developed and implemented by Cleveland Clinic, a more positive patient experience, including better and more frequent communication with the health care provider, more involvement in health care decisions, and more information access has been found to increase patient satisfaction, reduce hospital stays, and decrease health complications (Meyers, 2009).

With a larger number of individuals paying a larger portion of their health care expenses, each of the aforementioned innovative medical delivery systems has a good chance to succeed. Insurance premiums have doubled since 2000 and many middle-class families are spending over 20% of the annual income on health care expenditures (Center for Financing, Access and Cost Trends, 2002-2006). Patients feel that since they are shouldering a greater amount of the financial responsibility for their health care, they should be more involved in health-related decision-making (Bartlett, 1997). As in the 1991 study on patient proactivity and satisfaction, “locus of control” is still considered to be a relevant factor in patient satisfaction (Fullerton and Davidson). Patients have a strong desire to actively participate and feel a sense of control over their healthcare decisions. This sense of control is expected to lead to a stronger sense of satisfaction with the health care provided. For example, in the area of breast-cancer treatment, researchers found that shared decision-making regarding treatment protocols and treatment facilities led to more positive psychosocial outcomes and greater satisfaction (Radinga, Ginter, et.al. 2011). With the multitude of user-friendly health-related information sources, patients feel better equipped to participate or even lead the decision-making process regarding their personal health care treatments and wellness programs (Rooney, 2009).

So, although there are many factors linked to satisfaction, including but not limited to, access to care, physician and provider choice, availability of resources, and treatment outcome, patient proactivity is a factor that many providers feel is closely related to one’s level of satisfaction with the health care delivery system, and it is a factor that is within their sphere of influence. Thus, the literature seems to imply that by encouraging patient proactivity, instituting wellness programs, and providing greater information access to patients, then the desirable outcome of greater satisfaction with the health care provider may well be a result.
Research Objectives

The objectives of this research are fourfold. Foremost is that of determining American residents’ perceptions and actual behavior as it relates to patient proactivity. Second is the objective of determining the relationship between patient proactivity and overall satisfaction with the health care delivery system of the United States. As such, the research will allow for the testing of the sole research hypothesis for this study:

\[ H_0: \text{There is no relationship between one's level of proactivity and one's overall level of satisfaction with the health care delivery system in the United States.} \]

\[ H_1: \text{There is a positive relationship between one's level of proactivity and one's overall level of satisfaction with the health care delivery system in the United States.} \]

Objective three will look at the individual components comprising the patient proactivity scale so as to determine which behaviors have the greatest impact on satisfaction. Finally, the results from 2011 will be compared to an earlier study by Fullerton and Davidson (1991) so as to determine what changes have transpired over the past 20 years. Thus, the four objectives associated with this study provide both a cross-sectional and a longitudinal perspective of patient proactivity.

Methodology

This part of a larger study focuses on the original set of questions used in the earlier study by Fullerton and Davidson (1991). In that study, the authors assessed patient proactivity with a scale consisting of an array of items reflecting specific behaviors and attitudes. It also included a global statement regarding one’s overall level of satisfaction with the health care delivery system. Each of these items was measured using a six-point Likert-type rating scale that was anchored by strongly agree and strongly disagree. Each item in the earlier study was duplicated in the current study. It should be noted that an additional number of items were also included in the current survey.

Data collection was achieved by using eRewards, an independent research contractor that uses an Internet protocol to contact members of its consumer panel. A series of emails was sent to panel members who were consistent with the target market. Those opting to respond were directed to the survey via a link that was embedded within the email. Controls were implemented to assure that the sample was representative of the aggregate American adult population and that it only included respondents who were at least 21 years of age. Furthermore, since the invitations to participate were sent in batches, the composition of the sample was monitored throughout the data collection process. When it became evident that female respondents and of those with graduate degrees were over-represented, subsequent invitations were adjusted. This tweak to the data collection process helped assure that the final sample was reasonably representative of the American population on several key demographics. Other demographics were monitored throughout the data collection process, but no additional modification was needed. A series of additional safeguards were used to protect the integrity of the data. A minimum time was established so that the surveys of respondents who did not take enough time to fully consider and respond to each question were discarded. The veracity of the response process was also considered with any respondent who straight-lined the responses (e.g. all sixes) likewise excluded. A total of 1,031 completed surveys comprise the final database. As a result of these safeguards, it was determined that the sample is representative of the American adult population, that the data are accurate, and that the results are generalizable to the target population.

The initial step in the data analysis process focused on the cross-sectional aspect of the sample. Since Likert-scales are presumed by most to produce intervally-scaled data, the best measure of central tendency to use to capture the character of the sample was the mean for each of the eight items employed in the assessment germane to the initial research objective. Furthermore, by using frequency distributions, the sample was further classified into a dichotomy represented by either agreeing or disagreeing that they engage in a specific proactive behavior (or with the efficacy of the various actions under scrutiny). To measure the relationship between satisfaction with the health care delivery system and patient proactivity, two methods were employed. Bivariate correlation identified those actions represented by the set of seven independent variables that were significantly correlated with overall satisfaction. To look at the aggregate set’s contribution to satisfaction, multiple regression was employed. The corresponding values of R and R² provided the bases for assessing that relationship as delineated in the second research objective. An alpha of .05 was used as the critical value for the rejection of...
the null hypothesis. Multiple regression was also used when addressing objective three. By using stepwise regression, the relative importance of each of the independent variables on satisfaction could be determined. The longitudinal assessment delineated in objective four presented a bit of a methodological dilemma. Since the data from the 1991 study were not available to the authors, a simple comparison of the 1991 and 2011 results was used. Thus, the observed differences provide anecdotal evidence regarding the changes that have occurred.

Results

With any sample, there is always a concern regarding its representativeness of the target population. This is especially true for Internet-based samples. So the process began with an assessment of the sample’s demographic composition. While no sample is a perfect microcosm of its target population, the generalizability of the results must be questioned if sample statistics deviate far from the population parameters for known demographics. This sample produced a reasonably representative sample of American residents over the age of 20. On the basis of gender, 52.9 percent of the respondents were female, a number close to the 2010 population parameter of 50.8 percent (U.S. Census Bureau, 2010). In addition to gender, the sample closely approximated the population on the bases of age, education, and income.

The next issue of interest is the set of actions undertaken and the attitudes regarding behaviors that could be characterized as patient proactivity. Table 1 provides an overview by delineating the mean and the percentage of respondents who agreed (at any one of the three levels of agreement) with the item under scrutiny. To interpret Table 1, it should be recalled that a six-point Likert-type scale was employed with six representing “strongly agree”.

Table 1: Attitudes Regarding Specific Behaviors Reflecting Patient Proactivity

<table>
<thead>
<tr>
<th>Proactive Issue (abridged)</th>
<th>Mean</th>
<th>% Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I’m responsible for my own health</td>
<td>5.52</td>
<td>98.1</td>
</tr>
<tr>
<td>Important to recognize early symptoms and warnings</td>
<td>5.30</td>
<td>98.1</td>
</tr>
<tr>
<td>Important to have regular primary care physician</td>
<td>5.28</td>
<td>96.6</td>
</tr>
<tr>
<td>Important to know how to prevent diseases/illnesses</td>
<td>5.25</td>
<td>98.0</td>
</tr>
<tr>
<td>I have physical exam on a relatively regular basis</td>
<td>4.47</td>
<td>75.7</td>
</tr>
<tr>
<td>I read articles on health issues that help maintain health</td>
<td>4.21</td>
<td>75.8</td>
</tr>
<tr>
<td>I only see doctor when I’m really sick (-)</td>
<td>3.17</td>
<td>42.9</td>
</tr>
</tbody>
</table>

Table 2: Correlation of Each Specific Behavior Reflecting Patient Proactivity to Satisfaction

<table>
<thead>
<tr>
<th>Proactive Issue (abridged)</th>
<th>r</th>
<th>sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I’m responsible for my own health</td>
<td>.008</td>
<td>.793</td>
</tr>
<tr>
<td>Important to recognize early symptoms and warnings</td>
<td>.066</td>
<td>.034</td>
</tr>
<tr>
<td>Important to have regular primary care physician</td>
<td>.108</td>
<td>.001</td>
</tr>
<tr>
<td>Important to know how to prevent diseases/illnesses</td>
<td>.036</td>
<td>.242</td>
</tr>
<tr>
<td>I have physical exam on a relatively regular basis</td>
<td>.168</td>
<td>.000</td>
</tr>
<tr>
<td>I read articles on health issues that help maintain health</td>
<td>.021</td>
<td>.500</td>
</tr>
<tr>
<td>I only see doctor when I’m really sick (-)</td>
<td>-.093</td>
<td>.003</td>
</tr>
</tbody>
</table>

The next research objective was to determine the nature and strength of the relationship between each of the proactivity-based constructs and the respondents’ level of satisfaction with the American health care delivery system. To accomplish this, a simple bivariate (Pearson) correlation analysis was deemed appropriate. Table 2 summarizes the results of this component of the analysis.
As was the case in the original study by Fullerton and Davidson (1991), the overall relationship of the variables delineated in Table 2 with satisfaction of the health care delivery system was measured using multiple regression. The objective of this component of the study was simply that of determining whether one’s level of satisfaction could be predicted based on knowledge of their attitudes regarding the seven independent variables. Given the small values for the correlation coefficients, a relatively weak model was anticipated. The results of the stepwise multiple regression analysis confirmed this expectation. When stepwise entry was specified, only one variable was entered into the regression equation that represented an attempt to predict one’s level of satisfaction with the health care delivery system. As would be inferred from Table 2 (because of its highest level of correlation with the dependent variable), that variable was the statement that the respondent has a physical exam on a relatively regular basis. The relationship with that independent variable was significant at a level of .000. But despite this fact, the Multiple Coefficient of Determination was a paltry 0.028. Thus, this model only explains 2.8 percent of the variation in the level of satisfaction with the health care delivery system. As can be seen from these results, especially the $R^2$ of 0.028, the model leaves much to be desired. Still, the significant relationships documented in both the regression and correlation analyses allow for the rejection of the null hypothesis that no relationship between patient proactivity and satisfaction with the health care delivery system exists.

The final objective was that of determining some of the changes that have taken place since 1991. Specifically, the focus is on the replication of the multiple regression component of the previous study by Fullerton and Davidson (1991). Based on the same set of variables, are we now better able to explain variation in the level of satisfaction? In their study, four of the seven independent variables were entered into the regression equation. As is the case in the current study, the statement regarding a regular physical was the most highly correlated item, thus it was the first variable entered. However, the issues regarding the seeking of information, only visiting a doctor when actually sick, and bearing responsibility for one’s own health were all entered into the equation. All were significant at a level of .023 or better. Yet the final value for $R^2$ was only .054. When compared to the current study, the 2011 $R^2$ of .028 indicates that we are less able to predict satisfaction with the original set of predictor variables than we were with that same set of variables 20 years ago.

Perhaps more disconcerting is the fact that three of the issues that were significant in their role as predictors are no longer providing additional meaningful information.

### Discussion

The sample is a reasonable representation of the target population. Thus there are no significant concerns regarding the ability to extend these results to reflect the nature of that population.

When focusing on attitudes regarding behaviors that did not specifically address the respondent’s own actions, there was strong support for actions germane to patient proactivity. For example, 96.6 percent of the respondents expressed some level of agreement with the statement that it is important to have a primary care physician. However, when asked if they engaged in specific behaviors themselves, their affirmation was not so strong. While 75.7 percent of the respondents did indicate that they tended to have a regular physical exam, somewhat paradoxically only a little over half indicated that they see doctors for routine visits.

Despite the large sample size of 1,031 respondents, only four of the seven independent variables exhibited a statistically significant correlation with the dependent variable, satisfaction with the health care delivery system. Though there are statistically significant correlations, the reality is that the correlations are small and offer minimal managerial significance in the quest to better understand satisfaction – or dissatisfaction – with our health care delivery system. Still, the correlations are in the correct direction; the only negative relationship is with the statement that “I only see a doctor when I am actually sick.” The implication is that those who see a doctor on a more routine basis – when they are not sick – are more satisfied with the system. Thus, when a significant correlation is in evidence, it supports the premise that there is a relationship between proactive behavior and satisfaction with the health care delivery system.

The resultant model derived from multiple regression also produced statistically significant results. However, when our focus shifts to practical or managerial significance, the model offers little aid in the effort to better understand what factors tend to produce a higher level of satisfaction. Yet it does provide one valuable insight, namely that an increased propensity to have a regular physical exam is associated with a higher level of satisfaction. It could be that these people are more satisfied
because their health care coverage allows them to have a regular physical with little or no out-of-pocket cost.

The disconcerting aspect of this research is the lower predictive capability of the resultant regression model that is used to predict the consumer’s level of satisfaction. Variables that were significant in 1991 essentially play no meaningful role today. Since the value for R² was low in the early study, it was hoped that we would see an improvement in the predictive validity of the model derived from the current study. But that was not the case.

Conclusions and Final Comments

Fullerton and Davidson (1991) posited that if we could increase the consumers’ belief in the benefits and the propensity to engage in more proactive behaviors, then we could increase the public’s level of satisfaction with the American health care delivery system. But there are barriers to this objective. The system has been under intense scrutiny in recent months. The deficiencies of the “old” system as we have known it and of the “new” system as prescribed by the health care reform law have polarized the opinions of the American population. This politicalization of health care may mean that opinions articulated in surveys do not reflect reality.

The health care environment has changed considerably over the past 20 years. In this regard, there are a multitude of actions that reflect patient proactivity today that were not options in 1991. As such, the current study has many more items germane to patient proactivity than did the original study. Perhaps the model can be improved by incorporating them into the analysis. It is anticipated that this broader assessment of patient proactivity will result in the identification of more actions that are deemed to be beneficial to one’s health and that the resulting enhanced predictor variable set will lead to a better model in the effort to determine the antecedents of satisfaction with the American health care delivery system.

References


Hawn, Carleen (2009), “Take Two Aspirin and Tweet Me In The Morning: How Twitter, Facebook, and Other Social Media are Reshaping Health Care,” Health Affairs, 28 (2), 361-68.


A Study of Knowledge, Attitudes, Practices and Health Information-Seeking Related to Malaria-Dengue Prevention in India

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Schubert S B Foo, Nanyang Technological University
Gentatsu Lim, Nanyang Technological University

Malaria and Dengue (M&D) affect more than 1.5 million people in India annually. Our study informs M&D prevention efforts by understanding knowledge, attitudes and practices related to preventive behaviors and health information-seeking patterns among a cross-section of Mumbai’s middle-of-pyramid population. Our survey reveals low knowledge of M&D vectors and substantial discrepancies between perceived effectiveness and actual performance of preventive behaviors. We found that television and mobile phones offer opportunities for enhancing awareness and influencing beliefs and intentions. Implications for theory-based communication interventions using mobile social media are discussed.

Introduction

Malaria and dengue (M&D) are mosquito-borne infectious diseases that affect nearly 36% of the tropical and sub-tropical population globally. India accounts for nearly 70% of all cases in Southeast Asia, with 2/3rds of its population living in Malaria zones (Jain and Chugh 2011). Indian health authorities have promoted awareness and preventive behavior through a combination of traditional mass media campaigns and health workshops. However, these programs are neither informed by an understanding of knowledge, attitudes and practices related to preventive strategies, nor of health information seeking behaviors among targeted audiences. Furthermore, efforts to evaluate the effectiveness of these campaigns are rare. Spiraling malaria figures even in urban residential zones with high media concentration like Mumbai (Times of India 2011) demonstrate the limited impact of existing health communication efforts and suggest the inadequate power of traditional media alone. In this scenario, the unprecedented penetration of mobile phones across India might offer cost-effective and sustainable solutions. India is amongst the fastest growing mobile phone markets with a 210-fold increase in subscriptions from 2000 to 2010 and a 62% penetration rate (Trading Economics 2011).

Study Aims

1. Examine knowledge of M&D, and attitudes to M&D prevention among Mumbai’s residents
2. Identify the main sources of health information
3. Examine mobile phone use in comparison to use of other traditional media.

Methods

We conducted two phases of cross-sectional surveys among Mumbai’s middle-of-pyramid (or MOP) segment. This paper presents findings from preliminary analysis of Phase I. Our 46-item survey questionnaire comprised the following sections: Demographics, Media Use & Sources, General Health and M&D. The M&D section comprised questions on knowledge, attitudes towards M&D preventive strategies and behavioral intention that were adapted from Protection Motivation Theory (PMT) (Lwin and Saw 2007) and the Theory of Planned Behavior (Ajzen 1991). Cachement areas were based on M&D prevalence figures obtained from the city municipality. Face-to-face surveys lasted approximately 45-60 minutes each.

Findings

We collected data from 242 respondents comprising an equal number of males and females. The mean age of our sample was 36 years (SD=13.10). Nearly 53% of the respondents attended secondary school and 34% received primary education. The mean monthly income was INR 11,006 (SD=8702.03) indicating that the respondents belonged to the target MOP category.

Our analysis of M&D knowledge (Table 1) revealed that respondents were generally more knowledgeable about Malaria than Dengue. They were especially lacking in knowledge of vectors spreading M&D and incorrectly reported that they could not be affected with M&D if they did not experience any symptoms.
Table 1: Knowledge of Malaria and Dengue among Mumbai’s residents (N = 242)

<table>
<thead>
<tr>
<th>Description</th>
<th>Correct (%)</th>
<th>Incorrect (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Malaria</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can get malaria by touching an infected person's blood</td>
<td>71.49</td>
<td>27.69</td>
</tr>
<tr>
<td>I can get malaria when infected mosquitoes bite me</td>
<td>95.45</td>
<td>3.72</td>
</tr>
<tr>
<td>The female Anopheles mosquito spreads malaria</td>
<td>10.74</td>
<td>88.43</td>
</tr>
<tr>
<td>I can have malaria even if I don't have the symptoms</td>
<td>34.71</td>
<td>62.81</td>
</tr>
<tr>
<td><strong>Dengue</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can get dengue by touching an infected person's blood</td>
<td>44.63</td>
<td>54.13</td>
</tr>
<tr>
<td>I can get dengue when infected mosquitoes bite me</td>
<td>66.94</td>
<td>32.64</td>
</tr>
<tr>
<td>The female Aedes mosquito spreads dengue</td>
<td>3.72</td>
<td>95.04</td>
</tr>
<tr>
<td>I can have dengue even if I don't have the symptoms</td>
<td>17.36</td>
<td>80.99</td>
</tr>
</tbody>
</table>

Analysis on attitudes (Table 2) towards preventive strategies revealed significant discrepancies between perceived effectiveness of preventive strategies and actual performance in all but two of the preventive methods listed.

Table 2: Attitudes towards preventive strategies related to Malaria and Dengue (N=242)

<table>
<thead>
<tr>
<th>Description</th>
<th>Perceived Effectiveness</th>
<th>Actual Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mosquito nets*</td>
<td>3.55 (.76)</td>
<td>1.60 (1.09)</td>
</tr>
<tr>
<td>Drain stagnant water*</td>
<td>3.83 (.71)</td>
<td>2.77 (1.32)</td>
</tr>
<tr>
<td>Spray insecticides*</td>
<td>3.26 (.93)</td>
<td>1.92 (1.20)</td>
</tr>
<tr>
<td>Burn trash*</td>
<td>2.91 (1.09)</td>
<td>1.81 (1.15)</td>
</tr>
<tr>
<td>Grow plants*</td>
<td>2.41 (.98)</td>
<td>2.03 (1.47)</td>
</tr>
<tr>
<td>Mosquito repellents</td>
<td>4.05 (.80)</td>
<td>3.93 (1.31)</td>
</tr>
<tr>
<td>Repellent ointments*</td>
<td>2.99 (.91)</td>
<td>1.81 (1.20)</td>
</tr>
<tr>
<td>Fumigation</td>
<td>2.86 (.90)</td>
<td>2.75 (1.64)</td>
</tr>
</tbody>
</table>

* Significant at p<0.001 level

In terms of health information seeking (Table 3), we found a strong reliance on television. However, when seeking medical advice, doctors were ranked highest. In terms of generic media use (Table 4), we found that nearly 65% of respondents owned and used a mobile phone.

**Discussion**

Our study revealed substantial gaps in M&D knowledge, and significant differences between perceived effectiveness and actual performance of preventive behaviors. These findings validate emerging arguments highlighting the poor reach and efficacy of existing health communication efforts and the need for creative and effective interventions. Findings related to preferences for TV, physicians and mobile phones point to future opportunities in this regard. Integrating the affordances of traditional and new media might expand the potential of the latter from solely diagnosis and tracking to creating awareness, promoting screening and encouraging civic engagement leading to an effective, integrated communication approach for M&D prevention in India.

Table 3: Sources of information about Malaria/Dengue outbreaks (N=242)

<table>
<thead>
<tr>
<th>Channel</th>
<th>Likely to hear</th>
<th>Likely to seek medical advise</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>3.69 (1.36)</td>
<td>2.81 (1.49)</td>
</tr>
<tr>
<td>Friends</td>
<td>3.67 (0.99)</td>
<td>2.62 (1.32)</td>
</tr>
<tr>
<td>Family</td>
<td>3.58 (1.10)</td>
<td>2.87 (1.37)</td>
</tr>
</tbody>
</table>
Table 4: Media use among Mumbai’s middle-of-pyramid population (N=242)

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>89.26</td>
</tr>
<tr>
<td>Mobile phone</td>
<td>64.88</td>
</tr>
<tr>
<td>Newspapers</td>
<td>55.37</td>
</tr>
<tr>
<td>Radio</td>
<td>17.36</td>
</tr>
<tr>
<td>Magazines</td>
<td>9.92</td>
</tr>
</tbody>
</table>

Efficient Detailing Effort of a New Drug: Targeting the Physicians using the Doctor-Patient Interaction Information from a Survey Data

Eddie Rhee, Stonehill College
John C. Yi, St. Joseph’s University

Summary Abstract

The pharmaceutical firm’s detailing effort of a new drug plays an important role since detailing has positive and significant impact on the number of new prescriptions issued by a physician. However, a detailing visit typically lasts very short time and the sales people often find hard time achieving what they initially planned to deliver. In order for the pharmaceutical sales people to perform an efficient detailing effort for their new prescription drug, they will need to target their messages to the right group of physicians.

In studying the physician’s prescription intention of the new drug for the targeting effort, the pharmaceutical firm needs to understand the nature of interactions between doctors and the patients.

However, the pharmaceutical firm would not know what is really going on between them since the release of such information is prohibited by the law for the patient protection. In order to obtain such information, a national survey is done on the physician’s profile, their past prescription behavior and the future prescription intentions of the new drug. An econometric model is set up and estimated on this data and the study discusses the managerial implications to the pharmaceutical firm about targeting the right physicians to improve their detailing effort.

References available upon request.
The Influence of Branded Trash on Consumer Brand Attitudes

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Abstract
Nearly all consumer products are delivered to consumers within some form of packaging material. In most cases, this packaging material is not explicitly part of the product, though it may function as a delivery mechanism for the product (e.g., a Starbucks cup holds the consumer’s coffee, but is not itself consumed by the consumer). Once the packaging has performed its function, whether that be protecting the product during shipment, communicating with the consumer while on the shelf, or containing the product until it is completely consumed, the packaging is disposed of as trash by the consumer. In a set of three experimental studies, the present research evaluates consumer response to branded trash, in the form of consumer attitudes and intentions.

Objective
Most consumer products are delivered to consumers in some form of packaging, i.e., the product itself is contained within other material that is not, itself, part of the actual product. This is true with consumer goods like laundry detergent and shampoo, grocery products like cereal and bread, canned goods like peanut butter and peas, takeout food like McDonald’s and Starbucks, and pre-packaged beverage products like Coca-Cola or Budweiser. In nearly every case, once the product itself is consumed, the packaging material is discarded as trash. At this point in the consumption process, an object that was once an integral component in the consumer’s interaction with the brand has served its purpose and is no longer of any use to the consumer.

This research is intended to study the post-consumption effects of the branded packaging material as it moves from relevant package to discarded trash, or as it will be called within the present study, branded trash. Our specific research question is whether this branded trash has a negative impact on consumer attitudes and intentions toward the brand. The existing literature on packaging has focused on utility, aesthetics, and labeling – there is virtually no research present in the literature regarding the attitudes toward post-consumption branded trash. Our theoretical position is that the branded trash will have a negative impact on brand attitudes and intentions, and that this will be especially true for brands whose packaging is an integral part of the product up to and including the point of consumption (more details on this will be addressed below). Relevant managerial implications of the research findings will be addressed.

Background
Nearly all marketing efforts from brands are directed toward the pre-consumption process, i.e., marketing efforts are focused on getting consumers to consider the brand, purchase the brand, and consume the brand’s products. Very little effort is directed toward post-consumption disposal of packaging materials and other branded trash. As a result, very little research exists in the literature on post-consumption waste and its disposal. In our extensive literature review, we have identified only three studies examining the concept of branded trash, two in the United Kingdom (Roper and Parker 2006; Roper and Parker 2008) and one in New Zealand (Stevens 2008). These previous studies looked only at the presence of branded trash, with the Stevens (2008) study looking at the impact of branded trash on a single brand, McDonald’s.

While we are certainly interested in brands with packaging that commonly finds its way to trash cans (and is often littering sidewalks and public spaces), we are especially interested in brands where the packaging serves as the primary means of product delivery. In these cases, the package is a critical component of the product through the point of consumption – examples include a Coca-Cola can or bottle, a Starbucks cup, or a Budweiser bottle or can. The packaging material for these products is essentially the mechanism of product delivery. We hypothesize that the negative effect of branded trash on consumer attitudes and intentions will be stronger for
brands of this type, compared to brands whose packaging is not a central component of the product delivery process.

**Methods**

Study 1. Participants will be exposed to a series of photographs and advertisements containing images of brands, branded products, and branded packaging. This series of photographs and advertisements will also contain images of the branded trash associated with focal brands under study (the focal brands will be determined via pre-test). The attitudes and intentions of the participants will be compared to those of a control group that is not exposed to the branded trash images. This study will be conducted in the behavioral labs at University of Sydney and Indiana University, and on-line utilizing a sample of UNC Charlotte students.

Study 2. Participants will be incidentally exposed to branded trash within the research facility. The incidental exposure will consist of branded trash (e.g., a Coca-Cola can, a Starbucks cup, or a Snickers wrapper) lying on the research facilitator’s desk, and this incidental exposure will act as a subconscious prime for the experiment. The different brands identified above will serve as conditions in the study. Participants will complete the research instruments at a computer terminal, and their responses will be compared to a control group that will not be subject to the incidental exposure. Given the lack of a dedicated research laboratory in the Belk College of Business, this study is expected to be conducted at Indiana University.

Study 3. Recently, Sun Chips, a brand of snack chips from Frito Lay, introduced a packaging material that decomposes naturally, whether in a compost bin or in a trash landfill. This effort from Frito Lay exhibits strategic thinking regarding the post-consumption outcomes for the brand. The third study is intended to evaluate potential interventions available to brands regarding the disposal, recycling, or bio-degrading of their branded trash. The three post-consumption options (disposal, recycling, bio-degrading) will serve as conditions in the experiment as we test whether these post-consumption efforts have a positive influence on brand attitudes and intentions. This study can be run in a behavioral lab or on-line.

**Expected Results**

We expect to see consumer attitudes and intentions to be degraded by the presence of branded trash, whether this presence is in the form of a focal stimulus (photographs of branded trash or overflowing trash bins) or in the form of incidental exposure to branded trash. We also expect brands that take proactive measures to deal with the post-consumption branded trash will be rewarded with higher consumer attitudes and intentions than those brands that do not engage in proactive efforts.

*References available upon request.*
Entrepreneurial Branding: The High West Distillery Case

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Entrepreneurs face unique problems of establishing an identity, designing brand-based products and connecting with their potential customers with limited resources. Entrepreneurial branding has been linked to new venture growth and success. This paper studies entrepreneurial branding through the practices of one new venture, the High West Distillery located in Park City, Utah. The paper argues that High West’s brand building practices, reflecting tactics identified in previous entrepreneurial branding studies, may account for some of High West’s initial success in its market.

Introduction

While there is general consensus that successful entrepreneurs drive economic growth, the failure rate of new ventures remains particularly high (Hisrich, Peters and Shepard 2010, p.19), resulting in lost capital and personal tragedy. Good ideas and money simply are not enough. An emerging body of case-based research suggests that entrepreneurial branding (EB) is a powerful factor, contributing to growth and long-term success for new ventures (Abimbola and Kocak, 2007, Krake 2005, Wong and Merrilees 2007, Merrilees 2007). Because the concepts of EB blend marketing and entrepreneurship, and are new, many terms remain “fuzzy,” with various interpretations. Our working definition states: EB is the creation of a strategic asset differentiating the new venture from its competitors through compelling products and a unique connection to target customers.

Wong and Merrilees (2007) found that entrepreneurs on who placed EB at the center of their company strategies were more successful. Abimbola and Vallaster (2007) suggested that aligning brand, organizational identity, and reputation building, tools used by large company brands, could effectively create meaning and consistency in small companies. More recent research, such as Bresiani and Eppler’s (2010) study of Swiss start-ups, has begun to define and develop actionable techniques. We believe that EB has a potential to identify tactics that successful entrepreneurs can employ to their build brand.

David Perkins, the founder of the fast growing High West Distillery, provided an opportunity to add to the literature specific examples of how an entrepreneur implemented branding tactics to create a successful enterprise in the highly competitive whiskey industry. Appropriately, branding began not in the cattle industry, but in the whiskey business. Before bottles became common in the 1890s, customers bought whiskey directly from the barrels to carry home in their jugs. Legend describes Col. E. H. Taylor, Jr. burning his product name and his signature into the face of his barrels with a red-hot iron to create point of sale advertising and the first “brand.”

Research Methods

Because the research is still in its infancy, Abimbola and Kocak (2007) recommended that EB could be best studied with qualitative data, more specifically like Boyle’s (2003) pioneering case study of the entrepreneur, James Dyson. The authors selected a case methodology as the most the suitable approach for a holistic in-depth exploratory investigation (Feagin, Orum and Sjoberg 1991). The purpose of the study was to examine EB practices of David Perkins at the High West distillery. In the present study, we identified and described the branding practices of High West, a highly successful start-up, following the examples of Boyle (2003), Merrilees (2007), and others.

While Boyle (2003) was limited to documents about James Dyson for her study of his entrepreneurial branding practices, one author was able to hold approximately a dozen semi-structured interviews with David Perkins from the early concept stage in 2004 through the final months of 2011 and made five trips to Park City, visiting all of the company’s facilities. He granted access to the initial business plan, selected advisory board discussion outlines, but did not attend any board discussions. He also collected published materials...
about High West and received Investor’s Quarterly Reports. Finally, he observed David Perkins as he conducted an educational seminar and interviewed nine restaurant owners and bartenders in the Atlanta area about their perceptions.

David Perkins’ Big Idea

With no first-hand knowledge of the spirits industry, David Perkins committed to his entrepreneurial dream—to create, make and sell a new category of whiskey. In June of 2004 he quit his job as a product manager at a premier biotechnology company, one of Fortune’s Top Companies to Work For” and moved to Park City to make whiskey.

Perkins’ path to Park City formed over many years. He began his education by earning a chemistry degree at the University of Virginia. While working on his MBA in marketing at Dartmouth’s Tuck School, he wrote an entrepreneurial business plan for a brewery in Aspen, Colorado called Aspen Brewing. For a young man it seemed like an ideal business—abundant beer and superb skiing—but another group of entrepreneurs beat him to it.

A turning point came a dozen years when Perkins and his wife, Jane, visited Kentucky in the spring of 2002. They drove two hours to find the Maker’s Mark Distillery, in the middle of proverbial “no-where.” Since distilleries were hard to find, were often located in dry counties, they were typically unprepared for visitors. A pleasant Southern lady guided their ad hoc tour with a few spontaneous, folksy comments.

“For me,” Perkins remembered, “the most powerful experience took place in the aging warehouse. I inhaled the ‘Angel’s Share,’ the whiskey’s perfume that slowly evaporates from the barrels as they mature. Rich, subtle aromas of caramel and vanilla and the scents of various spices hung the still air from barrels laid away to age so very long ago. The profound silence of the place was mesmerizing. Of course, Jane and I was the last to leave, very late in the evening.” This event triggered Perkins’ passion for the whiskey business. Yet Perkins felt the visit was incomplete. He imagined a distillery more like the California wineries that would be easy to visit with a customer-centric experience, showcasing how the product was made and featuring informative tastings.

While researching the spirits industry Perkins found that while whiskey sales had declined for thirty years and a few giants was dominated the market, there was growth in the premium segment, a market opportunity that might be met by a boutique distiller with a high quality product. Perkins envisioned something new, a Western whiskey. The category did not exist in 2002, yet people easily appreciated the mythology of the Old West where whiskey and the saloon were the center of social life for cowboys, miners, ranchers, outlaws and marshals alike. He viewed High West as a mental destination that would deliver the emotional appeal of the mythic Old West. “The core of my vision was to capture people’s imagination about the whiskey their cowboy heroes drank. Anyone who connected emotionally with the American West was in my gun sight,” he said.

Perkins picked Park City, Utah as the place for his Western whiskey. Soon after the Civil War Park City became a prosperous silver mining town with countless saloons. Butch Cassidy, the Sundance Kid, and their Hole in the Wall Gang robbed and rustled nearby. Utah had it share of legitimate Western history too, including the Mountain Men’s annual rendezvous and the driving of the Golden Spike that united the country with a transcontinental railroad. The state’s Mormons did not drink alcohol but they did distill and sell a whiskey called Valley Tan, which Mark Twain described as, “The traditional Mormon refresher. Tradition tells it is made of hellfire and brimstone—imported, of course.”

Three Elements for Building a Brand

The authors derived three concepts from the literature as a framework to organize the many tactics that entrepreneurs use to implement EB. The first element was the strategic vision to create an enterprise identity. Next, using the identity to design products in ways that support the brand. And, third, developing unique connections to customers. These elements resembled three dimensions—history, product performance and interpersonal relation--found in Lehman, Keller and Farley’ (2008) factor analysis of the structure of brand metrics. Beginning with tactics drawn from the EB literature, the authors identified examples from interviews with David Perkins, and from
High West’s artifacts, website, documents and visuals. The tactics were then assigned to one of the authors’ three categories. Although industries and customers determine what tactics are appropriate, High West proved to be a robust example since the founder addressed each element using several EB tactics.

1. Enterprise Identity at High West

“Who are you? I’ve never heard of you,” are standard questions that begin the customer’s dialogue with entrepreneurs and their start-ups. These lines will always precede the question, “May I buy your product?”

Asked his opinion of Krake’s (2005) finding that half of entrepreneurs had no plans for branding, High West’s David Perkins replied, “They do if they want to be successful.” He saw EB as a central strategy in his business planning. Perkins’ vision for High West had three points: Create an iconic Western brand. Be known as THE leading boutique whiskey maker in the US. And to grow by sharing High West’s passion and helping create appreciation for good whiskey through food and education.

To examine how David Perkins built an identity for High West, we used a list of questions similar to those one might ask a new acquaintance at a cocktail party, or a professional convention.

What’s your name? What do you do? (And what do you stand for?) Where’s your home? And yes, what’s your sign? How can I contact you?

Company Name

Bresciani and Eppler (2010) found some high tech Swiss entrepreneurs in their study had changed their company names as many as four times in the first five years of operation, a costly and potentially fatal problem. High West wasn’t the first name for Perkins’ new company. The first name was “Quaking Aspen.” He liked the name a lot—for reasons known to him alone, but after too many people read the name as “Quacking Aspen,” he sought a new name. “I chose ‘High West’ after watching Clint Eastwood once more in High Plains Drifter. It gave our brand a sense of place,” Perkins said. “Some people assume the “high” is a play on inebriation, but High West folks are whiskey sippers, not guzzlers. The High West distillery and Saloon is in the Rocky Mountains at 7,000 feet of elevation. You can feel the altitude here in Park City. I would add that the word “high” reminds us of our fundamental commitment to high quality products.”

Having read about Valley Tan he recognized the value of that historical name, and quickly secured the rights to use it several years before he launched his ValleyTan product in the fall of 2011.

What Do You Do? (What Do You Stand For?) – The High West Value Proposition.

“We produce unique, hand-crafted whiskeys of the highest quality in the spirit of the Old West” is the company’s stated Mission. Strategically, High West defined its target market as the premium segment, which will pay a higher price for a top quality Western product and Perkins has earned “proofs” of his product quality from whiskey experts. While the quality of booze on the frontier was not always the best, he emphasizes the importance of whiskey in the hospitality and daily social lives of the early settlers. The distillery has featured rye whiskey, asserting that rye was the preferred beverage at the heyday of the Wild West and is wrongfully neglected today. The Western whiskey heritage is reflected once more in the company’s newest release, Old Monongahela (OMG) Silver Whiskey; that Perkins claims is similar to the Pennsylvania ryes of the 1800s and mentioned by Herman Melville in Moby Dick.

Where is Your Home? – The High West distillery and restaurant saloon.

Perkins had an estimate from an experienced local chef, James Dumas, suggesting that fine restaurant could draw 50,000 patrons a year and the Park City Museum claimed to get 75,000 visitors annually. Therefore, he figured a distillery that was also historical attraction in the Old Town area would attract thousands of people. Two adjoining properties best fit High West’s needs for an authentic Western site with easy accessibility to many people, a livery stable build in 1908 and the Beggs house, a two-story clapboard home build by Beggs himself in 1914.

After the city sold the historic buildings to High West, Perkins completely rebuilt them using an architectural design that would showcase the shiny copper pot stills in a glass hallway connecting the two structures.
Perkins felt the unusual sight might lead curious folks to venture inside for a tour by an “my enthusiastic staff that delights in explaining how High West products are made.”

“I felt it was essential to have a place where customers could come and taste our products, but it was and still is illegal to have a tasting room in Utah,” Perkins said. “So I settled on the idea of adding restaurant-saloon to the distillery. I really like the idea of pairing foods with our whiskeys. And my favorites are desserts together with a High West after-dinner drink. Vanilla ice cream and chocolate marry wonderfully well with the spicy caramel and vanillas in our old ryes.” A fine dining restaurant features Western and Alpine inspired foods often using the flavorings of High West products. The saloon bar itself was crafted from the timbers salvaged from the old Salt Lake Railroad Trestle Bridge. Situated at the base of the popular “Home” ski lift, High West created the first “ski in, ski out distillery.” Due to a change in the law the distillery store can now sell whiskey even on Sundays.

What’s your sign? The High West logo

While investigating potential distillery sites, Perkins found a red-rusted horseshoe in the Old Livery stable that is now the distillery’s home. Hoping for good luck, he picked the horseshoe as the centerpiece for the High West trademarked logo. He decided every bottle should display the raised emblem of that horseshoe with the initials HW and an outline of mountains.

How can I contact you?

The High West Website –Websites are increasingly important as the initial contact point for marketing products. The High West site offers a rich mixture of photos, drink recipes, and information, as well as an “under construction, soon-to-be-developed “Cowboy Society” aimed at continuing customer contacts with some form of loyalty program.

According to Perkins, the website provides user information about the restaurant, its offerings and hours, the distillery and its products, and where to purchase the products. But in a larger sense, Perkins wanted the website to convey the High West “brand personality.” For this reason he added other features, including photos, recipes and a history of the property. David Aacker (1996) contrasted the brand personalities of Jack Daniels and Black Velvet whiskies—one sincere and comfortable, the other sophisticated and sleek. High West website strives to reflect a “smart but genuine” personality. We present a sample of student perceptions of the High West personality in Table 1.

2. Brand-Driven Product Design

Our second element holds that brand must drive the design of the products in both smaller issues like labels and in the largest one such as product quality. In the High West case, the Western whiskey theme must infuse the total product in order to fully build the brand. The authors’ examined how Perkins has tried to fulfill this objective by examining four topics: the basic High West bottle, product quality, labels and innovation.

The High West Bottle

From his youth in Atlanta Perkins knew beverage bottles were important to. The iconic 1914 coke bottle remains without doubt the most recognized bottle on the planet. Liquor bottles are critical on the shelf, at the point of purchase. There are few vodka connoisseurs since vodkas are virtually identical, and therefore the shape of Absolut Vodka bottle became the centerpiece of a truly legendary ad campaigns in marketing history. Company legend holds that the Jack Daniels bottle is square because Jack said he was a square-deal guy. After looking at literally more than a hundred different options, Perkins said, “For High West I selected a simple bottle with a very tall, straight shape. A bottle that I could see Clint Eastwood’s Pale Rider character drink from before he strode into the street to face the crooked sheriff and his gunfighters.” The bottle and the High West logo are illustrated in Exhibit 1.

Perkins also required a kind of glass that would reinforce the brand’s Old West image. He found a premium tequila brand used a glassblower in Guadalajara, Mexico who still made bottles by hand with the little imperfections that are seen in authentic bottles from the Old West. However, language barriers and artistic differences required another eight months to resolve. Each High West bottle is imperfect: it feels like the genuine article.
**Product Quality**

Having observed customers were willing to pay a premium for the small batch, specialty bourbons that entering the market, Perkins’ vision was to create a Western whiskey of the highest quality. Since serious whiskey enthusiasts were High West’s target market, Perkins had to set a very high standard of quality for his products. Independent “Proofs” are helpful if not essential to establish product performance.

“Contest Awards and high ratings from industry experts drive sales in the whiskey business and we seek them out and we do like to win,” Perkins said. His first offering, *Rendezvous Rye*, won the prestigious “Double Gold” prize at the San Francisco International Spirits Competition in 2008 and the Malt Advocate ranked it among the year’s “10 Top Whiskeys.” It was the only whiskey on the list priced under $100 a bottle. A parade of other awards has followed; for example, the new *Silver Whiskey* achieved a “94/Exceptional” from the Beverage Testing Institute in 2010. The most recent product, *Double Rye*, was described as “Super/Outstanding” by the Sourmash Manifesto and was picked for two “Top Ten” lists last year.

**The High West labels**

How important are labels? Very. In fact, psychologists have shown people are hesitant to drink from a cup labeled “Cyanide” even when they fill it with water themselves. In a memo in 2007, Perkins itemized his criteria for his labels. First, the text should as much as possible “pop out” and be easy to read from across the room. Next, the High West label must be distinctively different from competitors. The visual effect must tie to the historical feel of the Old West. And finally, it must not be “cheesy” Western. He opted for a play on the old wanted posters as illustrated in Exhibit 2. High West labels feature large block letters in a font style from the 19th century on weathered-looking yellow paper. The best example is the recent Valley Tan label with the picture of a Mormon lawman, although he looks like public enemy number one. Porter was brave man and an admirer of Valley Tan, which he shared with the famous 19th century English explorer, Sir Richard Burton.

**Innovation**

The EB literature has identified the power of constant innovation for building a new venture’s brand. New products provide customers with a strong proof of a company’s competitive strength and extending the product line helps the new venture capture and retain the attention of a fickle public.

High West introduced six new and successful products in the last year with two other definitely planned for 2012. One, for example, was a barrel-aged Manhattan, dubbed The 36th Vote, a tribute to Utah’s decisive vote to repeal Prohibition. On July 2, 2011 he Wall Street Journal wrote in its Weekend lifestyle “The Spirits in America” section, “Aged for 90 days, it’s smooth.” The product soon sold out. The Whiskey Advocate, a premier industry authority named Perkins “Pioneer of the Year.”

3. **Unique Connection to the Customer**

Because entrepreneurs have limited resources, their effort must connect efficiently to their target customers, creating a bond, rather than simply “communicating” via expensive mass media advertisements. Broadside transmissions such as the Super Bowl TV ads attempted by entrepreneurial dot com companies a decade ago generally prove to be very costly failures. Our third element centers on developing and strengthening relationships with messages aligned around the new venture’s brand personality. We examined High West’s methods to break through the clutter of marketing communications, building brand awareness with potential customers.

**Public relations not advertising**

Perhaps the most common recommendation in the EB literature is to avoid expensive mass media advertising and to substitute public relations. Effective public relations are those that build awareness and differentiate the entrepreneur’s product without cost, for example, Seiders’ classic example of Maker’s Mark (1999) In the High West case the media assumed that the distillery would face strong opposition from the Mormon community in Utah, although the perception was largely inaccurate, yet reporters appreciated the oddity of a distillery among the abstaining Mormons. They caught the story and High West received favorable publicity
(Pacenza 2008), the unique location differentiating High West in a way that was memorable.

The recent revival of interest in rye whiskey has stimulated general interest in rye distillers, including High West. For example, two weeks before Christmas in 2011, a Wall Street Journal Cooking and Eating section featured an article called “Do the rye thing.” It wrote that when tasting Double Rye “a gentle bourbon-like sweetness greets you, but then a raucous spice barges in, and before you know it, you’re back for more.” The newspaper’s sophisticated audience matches the segment High West seeks as customers. Finally, ski magazines in their annual reviews of resorts have frequently noted the new attraction, along with to the powder on the slopes and the après-ski scene in Park City.

**Point of sale advertising**

Boyle (2003) noted that James Dyson connected with customers in a unique, low-cost, high impact way by writing point-of-sale literature that not only detailed the technical working of his vacuum cleaner, but also provided the basis for the Dyson brand personality. Perkins has used bottle hangers in a similar way for his Silver Whiskey and also for Double Rye. Old cowboy photos and pictures of historical heroes including Teddy Roosevelt and Amelia Earhardt decorated one side and advertising text the other. Here are selected lines:

“High West created Double Rye for folks who enjoy celebrating their inner cowboy. Do you have a pioneering spirit and a spirit of adventure? Cowboys know who they are. You don’t have to ride a horse or wear a hat to be one. At High West it is the cowboy spirit that matters.”

As did Boyle, this example illustrates the important role of brand personality and values in integrating customer messages.

**Events**

As cocktails return to fashion and high-priced liquors abound, bartenders have become the new sommeliers. They are eager to expand their knowledge of the Sazerac and cocktails, and of the finer points of whiskey. Perkins reported that he brings his passion to educating “mixologists” in industry seminars and in their bars, enjoying these contacts.

While Boyle (2003) portrayed James Dyson in terms of a heroic archetype in his role as a spokesman for his brand, Perkins’ persona is the cowboy. A sample of half a dozen restaurant owners and bar managers agreed with that characterization. Rarely wearing business clothes, his style is casual, yet “he’s someone you listen to and trust when he explains his products. Most of those guys are arrogant, but he’s easygoing and we like him. Perhaps Perkins’ model was Will Rogers, the humble cowboy humorist, who once observed, “Everybody’s ignorant, just about different things.”

Observing the success of the single malt scotch whiskey distillers who marketed their wares with food pairing, Perkins meets with top chefs to help them develop exciting whiskey dinners for their patrons. For example, one restaurant paired the following: First course, “Heirloom tomato salad with sweet marjoram, white tomato mousse, High West’s Silver Oat Whiskey;” second course, “Sea Island Shrimp Creole, High West “Bourye” Whiskey Old Fashioned Cocktail;” and finally two courses later, came the dessert, “Vanilla Pound Cake with Sweet Corn Ice Cream and Cinnamon, Local Blackberries, accompanied by High West’s 21 Year Old Rye Whiskey.”

**Tours and visits to the distillery and restaurant-saloon**

Fortunately, the distillery is visible from the street and curious tourists often walk in, but the High West website also alerts many visitors to the tours, encouraging them to “Go behind the scenes at High West to see just how our small-batch mountain-crafted spirits and Rocky Mountain whiskeys are made...in the ‘traditional 250 gallon copper pot still’” so very The final website line is inviting, “We’d love to show you around.” High West offers two or three tours daily.

Perkins’ primary criterion for High West guides is a passion for the product. They are so knowledgeable that Perkins said one of the guides probably knows more about whiskey than he does. Provided with basic scripts, the guides embellish do it with their own personalities. The tours last about forty minutes. From time to time, David Perkins and Brian Coyle, the Master Distillery, take a turn to keep close to customers and learn what questions their visitors are asking and how they are reacting and to set a positive example. A recent visitor, a
woman who leads the tours at a major distiller, gave High West a wonderful complement when she said, “Your tour was better than ours.”

Unlike the Kentucky bourbon and Tennessee whiskey makers located in dry counties back east, High West worked successfully to change Utah’s laws so that the distillery can also offer guest a chance to sample their products on site, by choosing a drink at the saloon, and then buying a “take home” bottle in the small store on the premises.

**Conclusion**

High West’s progress has been excellent thus far. Perkins was recognized as one of the five “Top Utah Entrepreneurs” and The High West Restaurant and Saloon was judged the “Best in Park City” by City Weekly magazine in 2011.

In context, after four years High West sales volume is still a tiny fraction of any major brand. The Wall Street Journal (2011) reported that Jack Daniels sold over 10 million cases, Jim Beam sold 5 million, and even Marker’s Mark sold more than one million cases last year. With less than 20,000 cases sold, High West is David against the Goliaths of the spirits industry. Currently, High West products are available in only nine of the fifty states and since whiskeys compete in a national market, the company must continue to grow to reach additional customers.

**Limitations**

Although the initial studies of large company branding were primarily based on U. S. corporations, EB has already been studied in many different countries. Therefore, a frequent limitation to research, the ability to generalize the findings cross-culturally is less relevant for EB. A more fundamental limitations to the High West study is that much of the data is anecdotal, subject to interviewer bias and mistakes of judgment. Also, High West is a single one company, functioning in a segment of a highly regulated, consumer business. Like Dyson, Perkins is also a unique personality. What worked for these two founders might not for another entrepreneur. We may expect that different EB tactics will emerge as critical success factors (CSFs) from other industries and from companies driven by other personalities.

**Practical applications**

In the years since Boyle’s study, the EB literature has advanced to the state where now we can recommend an EB strategy along with examples of successful tactics, if not the specific CSFs that can be used by each new venture and that can reliably improve the viability of that business. Appreciating that lists of “best tactics” will vary, the centrality of EB to a new venture strategy remains a clear predictor of success and the core elements of enterprise identity, brand-directed product design, and unique connections to the customer can provide a clear direction for generating tactics that are analogous to those of High West, and that will be effective when adjusted for differences in the industry, the product and the customers. Academics who teach entrepreneurship and consultants advising start-ups now have an increasingly robust repertory of tactics that can make a demonstrable difference in the effectiveness of their students and clients.

**Further research**

Bresciani and Eppler (2010) followed their summary of EB insights by proposing a typology. Their dimensions highlighted the amount of branding expected in the industry sector and the company’s attitude toward branding. In the High West case, the company would rank high on both dimensions. As more data is gathered from a variety of firms, a set of the best practices may emerge in ways that can make it easier to generalize across industries and to prescribe the tactics most appropriate and useful for a given business.

Finally, we believe that because the failure rate of entrepreneurs has remained dauntingly high, this study and further developments in EB are encouraging and beckon for future research. By documenting best practices in case after case, we believe researchers can build a database of EB tactics successful entrepreneurs use. In time, researchers can then build a more general theory of situationally specific CSFs to guide entrepreneurs as they launch and build successful new ventures.

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A Content Analysis of the Public Participation within Social Media Regarding Breast Cancer Health Campaign

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Summary Abstract
Social media, new media or media 2.0 has allowed users to access health information and created forum to encourage interactions between each other. An analysis of internet based social media outlets will reveal how individuals engage in online health communications while identifying what information is being circulated. Understanding the effectiveness of a health campaign through social media will aid in gauging the future direction health communication. The individual’s belief in collective efficacy ignite social change, therefore, play an integral role in of policy and public health perspective of health promotion and disease prevention (Bandura, 1998). Social networks are often used to help individuals inform, persuade, and teach about the underlying issues concerning vital health issues (Goldsmith, McDermott, & Alexander, 2000). A study analyzed online breast cancer support groups discussions and activities and found that online interactions empowered the individuals to gather their “collective intelligence” concerning breast cancer and help develop social policy (Radin, 2006).

This study observed the online interactions between various breast health campaigns while applying the social cognitive theory (SCT), health belief model (HBM), and transtheoretical model (TTM) in order to illustrate the diverse representations of breast cancer health campaigns within the social network, Facebook. This study employed a qualitative analysis method in order to measure the public participation and activity within Facebook, a social media, concerning different breast cancer health campaigns. Frame analysis of Facebook interactions were subsequently categorized into one of 20 different health intervention frames (Doshi et al., 2003) in order to identify an inverse relationship between health interventions strategies and Facebook users. This study transformed the health strategies into health frames while inversely relating them to the qualitative post frames in order to measure the relationship between health campaign organizers and the general public.

References
The Role of eHealth Literacy in Consumers' Utilization of Health Information on the Internet

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This study aims at understanding the role of eHealth literacy in consumers' utilization of health information on the Internet. Using survey data collected from retirees who spend winter months in South Texas on a yearly basis, this study tested the effect of eHealth literacy on consumers’ trust in and attitude towards health information websites. The impact of consumers’ Internet knowledge and health information orientation on eHealth literacy was also tested.

Introduction

Consumers are increasingly turning to the Internet as an important source for health information. According to a recent report by the Pew Internet & American Life Project, 59% of U.S. adults seek health information online and 54% of Internet users have visited a website that provides information or support for people who are interested in a specific medical condition. These trends have given rise to the concept of eHealth literacy that is commonly defined as "the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem." (Norman and Skinner 2006, p2) This research examines the role of eHealth literacy in influencing consumers’ trust in and attitude towards health information websites and by examining the impact of consumers’ Internet knowledge and health information orientation on eHealth literacy.

Research Framework

Building upon existing literature (e.g., Bodie and Dutta 2008; Dutta-Burgman 2005; Norman and Skinner 2006; Rains 2007; Weaver et al. 2009), a research framework is proposed to explain the relationships between eHealth literacy, trust in and attitude towards health information websites, Internet knowledge, and health information orientation. Specifically, it is proposed that a consumer’s Internet knowledge and health information orientation will have a positive effect on eHealth literacy, which in turn will have a positive effect on the consumer’s trust in and attitude towards health information websites.

Results

1138 retirees who come to South Texas annually to spend their winter months responded to the survey. Among the returned surveys, 459 were completely answered and thus retained for data analysis. Preexisting scales that have been validated were adapted and used in measuring major constructs of interest in this research. Confirmatory factor analysis (CFA) was performed to assess measure validity. CFA results showed that the model had a good fit, $\chi^2=856.43$, $df=461$; $\chi^2/df=1.86$, GFI=0.90, CFI=0.97, RMSEA=0.04. Structural equation modeling (SEM) was then conducted to test the hypotheses. SEM results showed that the data fit the model well, $\chi^2=418.32$, $df=240$; $\chi^2/df=1.74$, GFI=0.95, CFI=0.99, RMSEA=0.03, and that Internet knowledge and health information orientation positively affected eHealth literacy, which in turn positively affected trust and attitude.

Discussion

Study findings demonstrate that eHealth literacy is a determining factor of a consumer’s trust in and attitude towards health information websites and that the
consumer’s Internet knowledge and health information orientation contribute to his/her eHealth literacy. These findings suggest that healthcare providers targeting seniors can be more assured of trust in and positive attitudes toward their websites by identifying computer savvy seniors with higher levels of online health literacy. Conversely, healthcare website providers may work to raise the computer knowledge and health information capability of seniors to build trust in and positive attitudes toward their websites.

References
Knee Arthroplasty: Shared Experience in a Virtual Community

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Information once obtained secondhand from family, friends, and acquaintances—the two-step-flow of communication—can now easily be found via the Internet. This paper examines how opinion leadership, trust, credibility, and virtual community intersect in a confidential online health community formed around potential, pending, and completed knee replacement. Knee replacement surgery (knee arthroplasty) is the most commonly performed joint replacement procedure. This mixed-method case study utilized Social Network Analysis (SNA), an online survey, and phenomenological interviews to understand how members of one such online community used information they gathered there.

Findings indicate that experiential proximity—impressions that the “other” has been through similar circumstances—generates perceptions of opinion leadership, trust, and credibility. Results show that how people use online health forums and what attracts people to them is related to how effective forums are in helping users cope with a particular health condition. Peer-based information exchange is valued because of the experiential information available through relationships formed online.

Introduction

There is no argument that the internet has become fundamental to living in contemporary society. People are constructing and spending considerable time in new kinds of places on the internet, places not geographically bound—they are occupying cyber landscapes where construction is achieved through social action (Carter 2004). As a result, place may invite new definitions. The virtual community has become one such place where people actively seek social relationships, and these communal associations offer opportunity to create, negotiate and reproduce complex social places. Study of this particular type of place helps illustrate how people are extending themselves into cyberspace and how certain aspects of relationships constructed therein are being moved offline and incorporated into daily life.

Ridings, Gefen, and Arinze (2002) offer a comprehensive definition of the term virtual community that embraces the attributes discussed above and which this research will follow: “Virtual communities are groups of people with common interests and practices that [sic] communicate regularly and for some duration in an organized way over the internet through a common location or mechanism” (p. 273).

Twenty years ago medical information was likely obtained (if at all) directly from health care professionals, or indirectly through friends or family members who were accessible and perceived to be opinion leaders (Case et al., 2004). Now information about diseases, treatments, and prevention is readily available over the internet; consumers may bypass entirely some of the more traditional sources of health-related information.

It is not just convenience that draws health information seekers to the internet, but the positive experiences they have with online research and interaction. The kinds of health information sought and found online are different from what people can glean from most traditional sources, and this translates into much more than doctor-patient communication (Fox, 2010). The internet is a medium that health seekers can tap into wherever and whenever they need it, connecting with whatever source they believe will help them at that moment. Today, that source is not always a doctor, or even a health professional.

Literature Review

Joint Replacement

The knee is the largest joint in the human body as well as one of the most vulnerable. Normal knee function is required to perform most everyday activities; the knee joint must bear the weight of the upper body as well as the stresses and shocks carried upward through the feet when a person walks or runs (Righthealth.com, 2010). Knee replacement surgery, or knee arthroplasty, the most common joint replacement procedure today, is a surgical procedure most often performed to relieve the pain and disability from degenerative arthritis—mainly osteoarthritis—but it resolves other arthritides as well (Kurtz et al., 2007). Knee arthroplasty has two primary purposes: pain relief and improved functioning of the knee joint.
BoneSmart.org is an orthopedic implant and joint replacement consumer awareness website established in 2002. The primary goal of the BoneSmart® Community Forum is to “foster communication between persons who may need joint replacement surgery and those who have had or may have replacement surgery.” The site encourages experienced users to help mentor new patients, and provides a nurturing environment of support and knowledge through the community forum (BoneSmart.org, 2010). While the site also supports a Hip Replacement Forum, BoneSmart’s Knee Forum, claiming 2,481 members, offers comprehensive information regarding knee pain, injury, replacement and surgery recovery, and provides a network for its members to discuss a variety of on-topic issues. Only members can post information (registration is required).

**Social Support**

To give and receive support is an important aspect of social interaction, and since the internet and World Wide Web have become so integrated into modern-day life, it is no surprise that social support is increasingly exchanged online (Preece, 2000; Tanis, 2008). While features of digital communications media affect how people interact online—how they compose and receive messages, form and maintain relationships, organize and structure groups—online communities formed to help others with specific issues or problems offer members some unique characteristics compared with face-to-face groups in dealing with the topic at hand. The anonymity and text-based nature of community exchanges allow for physical place and time independent interactions that increase the possibilities for members to expand these supportive connections (Wilson & Peterson, 2002).

**Opinion Leadership**

The importance of personal influence—that close social ties play a part in the flow of information from media to mass—became apparent to social scientists after several mid 20th century studies revealed that people received a great deal of their information from other people. Katz and Lazarsfeld (1955) originally defined opinion leaders as “the individuals who were likely to influence other persons in their immediate environment” (p. 3), and this definition remains in use, more or less unchanged (Shah & Schleufele, 2006). In an environment that proffers reduced social cues, other psychological comparisons, such as an inclusive mind-set (Blanton, 2001) or shared group identity (Brewer & Webber, 1991) are more important to enhancing communication effects than is structural similarity—the shared social characteristics such as gender, age, ethnicity, physical similarity, occupation or socioeconomic status (Wellman, 1997; Kollock & Smith, 1999). Most vital to enhancing communication in an online health community, however, is experiential proximity—the knowledge or perception that those with whom one engages have a certain degree of experience or understanding of their own situation (Maloney-Krichmar & Preece, 2005; Tanis, 2008).

As flows of information and opinion leadership are inarguable mechanisms of social structure, these concepts can be analyzed in terms of the relational ties and the patterns of ties that link members of a social structure—in this research, a social structure in the form of a community created and maintained in virtual space.

The concept of opinion leadership has generally been researched within the context of traditional forms of community and social interaction (Nisbet & Kotcher, 2009). The customary view holds that individuals sharing geographical space engage in primarily face-to-face communication discussing news, politics, consumer products, popular culture, or behaviors. Yet in today’s networked society, personal interaction is no longer dominated by physical proximity, relatively strong interpersonal ties, and face-to-face conversation, but rather is shared with geography-spanning digital interactions that involve many loose ties (Boase et al., 2006).

The increasing use of internet sources for information can be seen as a mutation of the two-step flow hypothesis. It is obvious the internet and World Wide Web have changed the nature of information seeking, as the internet is often the first choice to inquire about a host of topics, and serves as a conduit for discussing those topics with other internet users (Fox, 2010; Hesse et al., 2010; Kaye & Johnson, 2003). A more accurate depiction of modern communication flow, then, would include the recognition of a multi-step process.

**Trust, Credibility and Homophily**

Virtual communities are sources of and for information and are typically emergent, they arise as a natural consequence of people coming together for any number of reasons; e.g., to discuss a common hobby, medical affliction, personal experience, or to develop relationships around a lifestyle or consumer product (Ridings et al., 2002). The rapid growth of virtual communities on the internet and accompanying surge in interest by researchers (Hine, 2000; Kozinets, 2002; Preece & Ghozati, 2001; Rafaeli & Raban, 2005; Wellman, 1997; Wellman & Gulia, 1999) raises questions as to what encourages members to interact in virtual communities; what makes them initiate contact, attend and respond to messages, revisit, and in many cases, remain in these communities. This study suggests that trust, credibility, and homophily (similarity) are elements generated by individual perception that help promote voluntary online cooperation among strangers in virtual communities.

Differences between online and offline communication are important because member trust in electronic communities must accordingly be made in most cases on the basis of written communication only. Face-to-
Social Network Analysis

One of the most potent ideas in the social sciences is the notion that individuals are embedded in thick webs of social relations and interactions. Social network theory and analysis provides answers to questions that have occupied social philosophy since the time of Plato, namely, the problem of social order: how autonomous individuals combine to create enduring, functioning societies (Borgatti et al., 2009). Social Network Analysis (SNA) has the potential to provide explanations for numerous social phenomena, from individual creativity to corporate profitability (McCarty & Bernard, 2003).

Social network analysts seek to describe networks of relations, tease out prominent patterns in such networks, trace flows of information (and other resources) through them, and discover what effects these relations and networks have on units of analysis (Garton, Haythornthwaite, & Wellman 1997). The use of computer software (Ucinet® in the current study) allows the researcher to generate various social network maps visually depicting communicative relationships among members of a social system, providing realistic rather than probabilistic results. These maps illustrate not only the direction of relationships, but their strength as well.

Research Questions

Both the potentiality and the experience of knee arthroplasty envelop a number of constituent elements. Looking to explore lived experience in this context, seven research questions were developed. Some sought to discover how people describe the experience of being a member of an online health community, what significance the internet has for members as it relates to his or her knee condition, and how members use the health-related information they gather in these online communities. Others looked to discover if trust, credibility and homophily are developed here, and if so, how, and if this online community generates opinion leaders.

Methodology

This research utilized a mixed methods approach to answer the research questions. Fundamentally a case study, this investigation examined in-depth a singular social phenomenon: the encompassing experiences of members of a virtual community in which these members gather information and make decisions regarding knee replacement (for themselves or others).

While this investigation utilizes both quantitative and qualitative data, qualitative data is given priority in that the experiences of respondents can be more fully accessed and understood via interviews. Looking to describe not only what is common and patterned among community members, but also what is individual and variable within this network, this study utilized purposive sampling, selecting the BoneSmart® Knee Forum community due to the large number of active members frequently conversing on the topic of knee arthroplasty.

After approximately 18 months of periodically reading posts (no registration, no interaction, unknown to all except the forum administrator) in order to determine how research worthy the BoneSmart® community was with regard to this study’s objectives, the investigator secured permission to survey and interview members with owners of BoneSmart.org and the administrator of BoneSmart’s Knee Forums. Recruitment for the questionnaire occurred through a letter of introduction from the forum administrator of the BoneSmart® community and a call to action posted on the main page of the Knee Forums, which then led to an explanation of the study’s general objectives.
and a consent form. Recruitment for online interviews occurred via an invitation to participate at the end of the questionnaire.

After collecting selected postings on the BoneSmart.org website (the subject of this investigation) from both the Pre-Op and Recovery Forums, Social Network Analysis (Wellman, 1983; Scott, 2000) was employed to observe if certain individuals were central to communication processes in the community. Using sociometric methods (Katz & Lazarsfeld, 1955) to, in part, identify opinion leaders in the community, an online questionnaire was disseminated which also included measures of trust, credibility, and homophily. In addition, results from the questionnaire revealed a wide array of knee-health experiences as they related to demographic variables, which aided in the selection of interview respondents who represented the widest possible range of conditions and circumstances in the community. Systematic analysis of online phenomenological interviews with consenting respondents extracted the individual, interpersonal and cultural logics that these respondents employed in their communication processes within this community.

Results

**SNA Observation**

In an effort to initially determine if certain members of this virtual community were central in the interactions among members—which may indicate opinion leadership—observational techniques common to SNA were employed. After observing postings in the BoneSmart forums and using the NetDraw function within UCINET6®, valued data stemming from social ties in both the Pre-Op and Recovery Forum were used to generate sociograms that illustrated the direction and type of tie for each forum. Directed ties among sampled and coded members of the Pre-Op and Recovery Forums are shown in Figures 4-1 and 4-2. Interactions were based on Bales’s (1951) Interaction Process Analysis:

1 = general comments
2 = thanks/well wishes
3 = support
4 = seeking advice/information
5 = giving advice/information
6 = experiential proximity
7 = giving advice/info + experiential proximity (5 + 6)

**Figure 4-1. Sociogram of Pre-Op Forum members**

![Sociogram of Pre-Op Forum members](image)

Note: Line thickness/color aid tie type recognition. Direction of arrow indicates direction of relation. Location of node is arbitrary.
Figure 4-2. Sociogram of Recovery Forum Members

Note: Line thickness/color aid tie type recognition. Direction of arrow indicates direction of relation. Location of node is arbitrary.

Figure 4-1 illustrates social structure in this sample of the Knee Pre-Op Forum. Summing outgoing ties by tie strength for each member shows that PRBX76, PRBN66, and PRCS97 are clearly central in this sample, signified by high out-degree centrality. Note that while PBW75 and PRAE31 have fewer ties than the three members mentioned above, they also demonstrate high out-degree based on stronger tie strength—stronger value of their outgoing advice. PRBX76 exhibits both high out-degree and high in-degree centrality (summed incoming ties by tie strength), indicating an influential member in this community. Note that while PER148 has high in-degree based on the strength of the advice he/she is receiving, this member displays no out-degree ties.

Figure 4-2 illustrates social structure in this sample of the Recovery Forum. Again, PRBX76 and PRBN66 are central, along with, to lesser degrees, RCU99, RFG163, and PRFZ182. Also note that while RBD56 has high in-degree based on the strength of the advice he/she is receiving, this member displays no out-degree ties.

In the flow of information, the structure of a social network helps determine the network's usefulness to its individuals. Observation of this social network suggests that the attributes of individuals may be less important than their relationships and ties with other members within the network.

**Online Questionnaire**

A 54-item online questionnaire was disseminated in the community after the investigator’s identity was revealed as a researcher. Accessible to members for three weeks, the questionnaire asked for demographic data and included measures of general internet use (Papacharissi & Rubin, 2000), community knee health-related information gathering, trust (Ridings et al., 2002), credibility (McCroskey & Richmond, 1996), and homophily (McCroskey, Richmond, & Daly, 1975). The questionnaire also asked respondents to name (via screen names) who in the community they seek out for general information, and who they go to in the community for information about their own particular circumstance. E-mail addresses were solicited for follow-up interviews.

Descriptive characteristics of survey respondents revealed that overall, respondents were primarily older, college-educated Caucasian women, who were small-town U.S. residents, employed full-time in professional or technical occupations, and members of the BoneSmart...
community for three months or less. Several respondents lived in other English-speaking countries. Results showed that trust among members is fairly high and that the information exchanged in the community is believed by these participants to be credible. In addition, opinion leaders evident through SNA observation were confirmed through a “nominate a leader” write-in item on the questionnaire.

Fourteen trust-related questions (based on Ridings et al., 2002) were measured on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) and assessed specific trust-related items such as perceptions of others’ willingness to divulge personal information, concern for others, and ability to know the topic under discussion. Mean for all trust responses was 4.02. Credibility was assessed by seven questions using a 5-point semantic differential scale, e.g., Unreliable = 1 ….. 5 = Reliable. Means for credibility measures here were fairly high (4.13), supporting the notion that credibility in this community largely derives from the perception that the source of information has been through similar circumstances, has had similar problems and engaged in similar behaviors, and has similar attitudes and beliefs about the condition he or she is facing.

Homophily was assessed with nine questions based on bipolar scales developed by Mc Croskey et al. (1975), e.g., 1 = Others here don’t think like me…. 5 = Others here think like me.) Mean across all measures for homophily was 3.45. Most participants perceived that they were communicating with people like themselves, as evidenced by the relatively high mean scores for these measures.

Also critical to this research were nominations of certain community members by other members based on these others’ perceptions of leadership in the community. Given the opportunity to list four distinct leaders in the Knee Forum—a main-source knee contact/leader, then three additional leaders distinct from other nominations (“Who are leaders in this community?”), participant response paralleled SNA observations, as depicted in Figures 4-1 and 4-2 above. For main knee contact, PRBX76 garnered 46% of nominations, with PRBN66 second at 6%. For Leaders 1, PRBX76 accrued 54% of nominations and PRBN66 19%. PRBN66 also claimed 54% of nominations for Leaders 2. RGG189 was a distant third for Leaders 3 at 6%.

Results from the online questionnaire suggest that people in this forum do recognize that certain members among them are leaders in the ways that they present themselves online. These findings also show that members perceive others with whom they communicate here to be similar to them in many ways and that the information offered is credible and trustworthy.

Online Interviews

At the conclusion of the 54-item online questionnaire, participants were presented with an opportunity to take part in online interviews by offering a valid e-mail address through which interviews could be conducted. By means of e-mail exchange in response to semi-structured questions, interviews were conducted to not only understand the experience of potential and performed knee arthroplasty, but also to confirm or deny the existence of opinion leaders in this community in respondents’ own words. Moreover, interviews were structured to extract respondents’ beliefs regarding trust and credibility—whether or not these concepts are present here and if so, how they develop and are maintained. Textual analysis revealed underlying themes associated with the physical aspects of this phenomenon, and direct responses to questions indicated that trust and credibility are developed and maintained through thematic consistency in any one individual’s postings. These interviews confirmed that opinion leaders in fact do exist in this community—and are almost exclusively the same ones who became apparent both through SNA observation and nomination in the questionnaire.

So as not to intimidate interviewees with an overwhelming amount of information at one time, interview questions were sent in three rounds. Round one consisted of four multi-part questions addressing online trust, opinion leadership, and credibility of information; round two focused on what being a member of this online community was like and how individuals used the information they gathered; round three consisted of several questions seeking to understand how the physical changes and accompanying anxiety affected the participant’s emotional state on the way from problem recognition until this written reflection.

Textual Analysis

Participants were coded and thematic categories emerged from the online interviews. Repetition is one of the easiest ways to identify themes; some of the most obvious themes in a body of data are those topics that occur and reoccur. The more the same concept occurs in a text, the more likely it is a theme (Ryan & Bernard, 2003).

Research Questions Resolved

This research offered some evidence for how people experience a specific phenomenon, and how they gather, share, and act on information regarding that phenomenon. Using research questions designed to explore these experiences, this study expanded on a particular set of circumstances involving online networks in order to advance understanding of relationship development in cyberspace. While SNA observation and responses compiled from the online questionnaire help
provide a practical framework for understanding this phenomenon, analysis of themes extracted from interviews illuminate its experiential aspects. For each Research Question, selected quotes from respondents that best illuminate the concept of inquiry appear.

RQ1: How do people describe the experience of being a member of an online community?

M9: Being a member of an online forum is a great experience. I meet people all over the world who share very similar problems as I do. Since it is on my computer, I don’t even have to change clothes – if I want to stay in my pajamas, I can. BoneSmart fits into my life easily, since I can go online anytime and read other member’s posts or write my own. I do socialize and keep up with what is going on in the ‘Social’ section. I already feel like I am part of BoneSmart’s extended family and look forward to checking on many of the members to see how they’re doing every few days.

A peripheral of RQ1 asked members what they perceived BoneSmart to be. Is it a “community”? Is it a “place”? A majority of members queried for this research experience the BoneSmart® Knee Forum as community. These members feel that this online forum not only shares a common interest, but members care about each other’s knee-health progress and about each other’s lives in general. They claim this is what qualifies BoneSmart® as a community. This view was not overwhelming however. Others felt BoneSmart® was merely a “place to go” to solve a problem, and what they perceived to be the transient nature of membership—member comings and goings—prohibited BoneSmart from being a community.

RQ2: What significance does the internet have for these community members as it relates to his or her physical (knee-related) condition?

D13: The Internet was virtually my sole source for knee related information. My consultant asked me to go away for 6 months and lose some weight. I was very disheartened that I would have to spend a further 6 months and lose some weight. I was very discouraged about it. I was physically unable to do all the things I was accustomed to doing. I was totally confined to a wheelchair for 6 months, which was the first 6 months I spent doing nothing. I was in a great deal of pain and limitation. I published this online and was ‘encouraged’ to appeal against this decision, [he then rescinded] and there was no consultation about my expectations, possible outcomes, possible complications, so my only source for any information was the Internet, hence I ‘stumbled’ upon Bone Smart. I consider the Internet to be ‘a way of life.’ I turn to the computer for the answers to any questions.

B12: BoneSmart opinion leaders are gifted with the ability to use words in such a way as to build relationships and gain the trust of members. These leaders have also experienced similar experiences...pain prior to surgery, prep for surgery, surgery, recovery and then return to a “normal” life. Experience is a great relationship builder. They are genuinely concerned for the member...that they have the best possible experience in their journey. PREQ147 sees the replacement process from an athlete’s point of view. He can relate well to those (men & women) who have been athletic all their lives and are facing replacement. He can by example help these folks to see that at the end of the tunnel...there is light. One can return to a normal lifestyle. He is very intelligent and by his participation over the years has gained much knowledge in the physiological aspects of the replacement. In real life he is a referee for football and baseball as well as a teacher. RGG189 sees the replacement from experience. She never offers medical advice, but offers experiential advice. Yet her manner is that of a caretaker...one who has genuine concern for others.

RQ4: How is trust developed and maintained in this online community?

V3: I look for consistency in replies... if the answer to a question today is generally the same in a few days or weeks, I begin to place more weight on the person’s opinion and advice. If you get a big enough sample of contributors you are bound to get someone who has experienced similar problems (or successes) to what you are experiencing.

RQ5: How is credibility accorded to sources and messages in this community?

D13: It was only after exploring the whole site further and reading the vast range of information available that at the end of the tunnel...there is light. One can return to a normal lifestyle. He is very intelligent and by his participation over the years has gained much knowledge in the physiological aspects of the replacement. In real life he is a referee for football and baseball as well as a teacher. RGG189 sees the replacement from experience. She never offers medical advice, but offers experiential advice. Yet her manner is that of a caretaker...one who has genuine concern for others.

RQ7: How do community members use the health-related information they gather in these online communities?

D13: I was bought up not to question a ‘doctor’ so reluctantly I just accepted his decision. The ‘kick in the teeth’ for me was that on leaving I heard him say to his understudy ‘hopefully she will have turned 50 by then and
I won’t feel as guilty replacing her knees’. When I got home I posted on Bone Smart what had happened and the response was unanimous; why wait 6 months? The operation is inevitable so why suffer for a further 6 months, It was suggested that I contact him and ask him to reconsider and to go ahead with the operation, my ‘friends’ online had given me the courage to say what I had wanted to say all along. I would say the information I have received has given me more courage to not always accept everything as absolute just because it comes from a healthcare advisor, I feel more confident to ask questions if I have even a limited understanding of what is happening.

Conclusions

This research used mixed methods to answer seven research questions. After collecting selected postings on the BoneSmart.org website, Social Network Analysis demonstrated that certain individuals were central to communication processes in the community. This finding was confirmed not only by sociograms generated through observation, but also by responses from members who participated in the online questionnaire, and from answers to semi-structured questions posed to questionnaire respondents who agreed to be interviewed via e-mail.

Overall, survey results indicated that members sense other community members to be trustworthy, credible, and similar to themselves, although mean scores measuring how informed and how “expert” respondents perceived fellow members to be were lower than means scores for other trust and credibility measures. While scores measuring these elements were generally high, members still claimed to verify knee-related information through outside sources, although experiential proximity was the most noteworthy generator of trust and credibility. Survey results also showed these participants to be more interested in gathering knee-related health information from BoneSmart® and other online sources than from traditional media.

This study argues that peer-based information exchange is generally an ongoing positive experience for those suffering a potentially incapacitating physical condition. People here feel rewarded in the sense that peers connect with them more deeply than others who are not faced with the physical and mental challenges this condition engenders. Online peer-based health information exchange fills an informational gap in the lives of those suffering distressing knee conditions.

The internet is now established as both a primary source of information and a social environment, thus the concept of opinion leadership is applicable to online activity. Findings, particularly through interviews, suggest that an association exists between online opinion leadership and the ability to effectively communicate, leading one to conclude that opinion leadership in this environment involves the perception of possessing convincing knowledge, the ability to influence others, and a tendency to be empathetic to others. While these traits are also present in traditional opinion leaders, what is different here is that the perception of these traits occurs in a text-only environment where traditional social cues are absent.

Several conclusions can be drawn from recognition of experiential proximity, a ubiquitous concept in this research. While trust, credibility and homophily certainly occur (or fail to occur) in offline face-to-face interaction among people who share a health (or any other) condition, these factors are also present in virtual communities and are fostered by experiential proximity. BoneSmart® members are willing to exchange information and advice, and interaction in this community is only marginally based on like mind, attitude, and background; most important is experience, as that experience relates to knee-health concerns. Some features of traditional community are attained, including relationships, common purpose, sense of identity and belonging, various norms, along with unwritten rules and the potential for rejection. This virtual community offers possibilities for motivated and interactive communication based on experiential proximity that are not available from mass media or one’s immediate physical environment.

The diversity of information and experience found in BoneSmart® about injuries, treatments, recovery, and specific conditions within the fairly narrow domain of knee-related health are primary attractions to the community, and as interaction occurs on these topics it expands into social and personal matters, creating conditions for communal interaction on other levels. Experiential proximity appears to be a factor in why people join online forums, why they remain, and is an important generator of community in the online world.

Empowerment is also an emergent theme in this research. Interacting with others in the community appears to give members a sense of empowerment that helps them communicate more competently with their healthcare professionals. They feel they can go to their physician or specialist fortified with information about many aspects of the condition they suffer, from diagnosis through therapy and pain management, and discuss them intelligently. Through community interaction they are also able to assess the quality of care they receive compared to other members and, in some cases, seek second opinions based on that interaction.

This study contributes to what is known about health-related online forums by examining in more detail what motivates people to make use of forums, and empirically linking this to how effective people perceive these forums to be. It also extends previous research by showing that peer-based information exchange is valued
because of the experiential information available through relationships formed online. Results indicate that how people use online health forums and what it is that attracts people to them is related to how effective forums are believed to be in helping users cope with a particular health condition. These findings are important as they specify what it is that makes these forums conduits to improving quality of life for users.

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Users’ Preferred Interactive E-Health Tools on U.S. Hospital Web Sites

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The purpose of this study is to investigate, from the user’s perspective, what patient-oriented e-health interactive tools on hospital Web sites are considered useful. Two rounds of online surveys among 242 qualified participants from diversified backgrounds have revealed that the users highly appreciate core business tools, especially access to medical records and lab results, while discounting hospitals’ efforts to connect to social media. The data show that hospitals’ e-health implementation on their Web sites has greatly lagged behind the users’ needs for interacting with hospitals online. It is concluded that, while continuing to provide traditional functional tools, hospitals should expedite their development in providing core e-business tools and emerging functional tools in order to accomplish multiple objectives, including service, education, and marketing.

Introduction

Studies have found that, by enhancing customer attraction, delivering service, and facilitating transactions, a hospital can turn its Web site into an essential marketing tool to influence and assist users in their healthcare decision-making (Catallo, 2008; Nguyen, 2004; Song and Zinkhan, 2008; Taylor, 2005). Hospital online marketing is best implemented when providing users with the ability to interact with the hospital system and encourage consumer involvement (Buckley, 2007; Peter, 2006; Wylie, 2006). E-health—the combined use of electronic information and communication technology in the health sector for clinical, educational, research, and administrative purposes, both at the local site and across wide geographic regions (Mukherjee and McGinnis, 2007, p. 350)—is highly based on the interactive online technology so that all its functions, such as e-billing, e-payment, e-prescription, e-supply, and e-records, are made possible (Varshney, 2009, p. 17).

Healthcare is increasingly becoming an important part of people’s online content consumption (Romano, 2003; Shaman and Pralgever, 2004; Taylor, Gombeski, and Dillon, 2005). According to the 2002 PEW Internet Project survey, the online healthcare content that people search for most were specific disease or medical problem (63%), certain medical treatment or procedure (47%), a particular doctor or hospital (21%), and experimental treatments or medicines (18%) (Taylor et al., 2005, p. 33). In 2004, when people were using a hospital Web site, 33% looked for hospital information, 19% for medical information, 18% for other health information, 14% for a physician, and 9% for directions or parking Information (Ibid., p. 35). It is clear that interactivity can greatly help with such tasks and more.

Today, hospitals that settle with traditional “read-only” information fed from glossy brochures and flyers are way behind the technology curve (Randeree and Rao, 2004). Catallo (2008) argues, “Online marketing instead must incorporate more interactive, customer-controlled capabilities that serve to attract new patients who logically expect to ‘converse’ online with hospitals in the same manner that they do with schools, financial institutions, and other major service providers in their lives” (p. 24). After the e-health concept was introduced at the turn of this century (Mukherjee and McGinnis, 2007) and as the Web 2.0 technology, which is characteristic of interactivity and multimedia, has become increasingly mature, new interactive e-health tools have begun to emerge on some hospital Web sites, where users can schedule an appointment with a physician, view their own medical records, pay bills, reorder prescriptions,
choose and buy new-baby photos, generate patient greeting cards, send flowers to hospitalized loved ones, and so on (Catallo, 2008, p. 27). Palomar Pomerado Health in San Diego, assisted by its partner Cisco Systems, went as far as moving the whole hospital to Second Life, a wholly interactive virtual environment, to explore the hospital of the future (Zensius, 2009). After analyzing the data regarding the implementation of patient record system in all nonfederal hospitals in the nation, Dave Garrets, president and CEO of HIMSS Analytics, said, “This [e-health] is the most transformational thing a hospital will ever do” (H&HN, 2009).

While many interactive e-health tools are scattered on many hospital Web sites (see Table 1 for examples), it is not clear what users perceive as highly necessary and useful. Thus, this study was conducted to investigate what are the patient-oriented interactive e-health tools on hospital Web sites that users deem essential. The findings of this study will provide empirical evidence for strategic planning for e-health development on U.S. hospital Web sites. Specifically, this study aims to answer the following two research questions:

RQ1: What interactive e-health tools do users perceive as the most useful to them?
RQ2: Are hospitals focusing on providing the e-health tools that users want most?

Literature Review

Blattberg and Deighton (1991) define interactivity as individuals and organizations communicating directly with one another regardless of distance or time. The importance of interactivity in online presentation for marketing purpose has been most effectively conveyed by the flow theory, which has been developed by multiple scholars over time (e.g. Csikszentmihalyi, 1975; Ghani and Deshpande, 1994; Hoffman and Novak, 1996; Pace, 2004; Trevino and Webster, 1992; Webster, Trevino, and Ryan 1993). Flow represents “a state of consciousness where a person is so absorbed in an activity that she excels in performance without consciously being aware of his or her every movement” (Finneran and Zhang, 2005). According to Hoffman and Novak (1996), telepresence—simulated perception of direct experience—occurs in a flow experience and it has two components: interactivity and vividness. Many studies have demonstrated the role of vividness, often represented by a multimedia presentation, in such a flow experience (e.g. Akagi, 2008; Hermann, 2002; Huang, 2009; Huang 2010; Johnson, 2007; Poller, Ljung, and Gonda, 2009). Interactivity, on the other hand, facilitates a seamless sequence of responses that characterize network navigation so that the flow is made intrinsically enjoyable, accompanied by a loss of self-consciousness and self-reinforcing (Novak et al., 2000, p. 23). In the flow experience, interactivity, together with vividness, causes increased learning, perceived control, an exploratory mindset, and positive experience (Hoffman and Novak, 1996).

A few studies provide examples regarding the relevance of interactivity on Web site effectiveness. In an experiment examining interactivity and vividness on Web sites, Coyle and Thorson (2001) found that perceptions of telepresence grew stronger as levels of interactivity and levels of vividness in Web sites increased. In addition, respondents who saw sites high in vividness developed more positive and more enduring attitudes toward those sites. Further, based on the observation of world-class Web sites, Wylie (2006) suggests that enhancing interactivity, customization and the use of rich media, among other techniques, makes a Web site more engaging. Lin (2007) demonstrates that interactivity, site design, informativeness, security, responsiveness, and trust all bring about customer satisfaction with a Web site.

Empirical studies regarding hospital Web sites are rare. Gallant, Irizarry, and Kreps (2006) advocate a user-centric design in order to enhance user adoption in the context of hospital Web sites. Specifically, through usability testing and in-depth interviewing, their study indicates, “Web site users want personalized information geared to their health needs presented in a seamless and easy-to-use manner” (p. 20). In addition, perceived usefulness of the Web site and quality information are instrumental in establishing institutional trust and credibility of the Web site.

Studies that measure e-health in a systematic manner did not exist until 2011. In a recent study that investigated how U.S. hospitals implemented e-health interactive tools on their Web sites, Huang and Chang (2011) identified 21 interactive e-health tools in six categories (see Table 1). In addition, they also noted whether a site had an online service menu or provided a secure Web site for personalized e-business. These identified tools and the findings from Huang and Chang’s...
study will be compared with the users’ perceptions revealed in the current study.

<table>
<thead>
<tr>
<th>Interactive tools</th>
<th>Adoption Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Traditional functional tools</strong></td>
<td></td>
</tr>
<tr>
<td>Online search</td>
<td>66.6%</td>
</tr>
<tr>
<td>Interactive map</td>
<td>60.8%</td>
</tr>
<tr>
<td>Finding a physician</td>
<td>56.7%</td>
</tr>
<tr>
<td>Contact us</td>
<td>46.1%</td>
</tr>
<tr>
<td>Interactive calendar or event finder</td>
<td>42.8%</td>
</tr>
<tr>
<td>Virtual tour</td>
<td>8.6%</td>
</tr>
<tr>
<td><strong>Core e-business tools</strong></td>
<td></td>
</tr>
<tr>
<td>Paying bills online</td>
<td>40.2%</td>
</tr>
<tr>
<td>(Pre)registration online</td>
<td>19.4%</td>
</tr>
<tr>
<td>Making a doctor’s appointment or communicating with a doctor online</td>
<td>15.3%</td>
</tr>
<tr>
<td>Accessing health record, medical record, and lab results</td>
<td>10.1%</td>
</tr>
<tr>
<td>Refilling prescriptions online</td>
<td>9.7%</td>
</tr>
<tr>
<td><strong>Patient support tools</strong></td>
<td></td>
</tr>
<tr>
<td>Interactive patient education or health risk assessment</td>
<td>47.0%</td>
</tr>
<tr>
<td>Patient caring and support through CarePages, blog, or chat room</td>
<td>16.2%</td>
</tr>
<tr>
<td><strong>Visitor-related tools</strong></td>
<td></td>
</tr>
<tr>
<td>E-card or email for a patient</td>
<td>28.2%</td>
</tr>
<tr>
<td>Online nursery for viewing/purchasing baby photos</td>
<td>27.7%</td>
</tr>
<tr>
<td>Online flower/gift shop</td>
<td>9.3%</td>
</tr>
<tr>
<td><strong>Public relations-related tools</strong></td>
<td></td>
</tr>
<tr>
<td>Presence on social media, such as Facebook and Twitter</td>
<td>35.7%</td>
</tr>
<tr>
<td>Online caregiver recognition</td>
<td>3.9%</td>
</tr>
<tr>
<td><strong>Emerging functional tools</strong></td>
<td></td>
</tr>
<tr>
<td>ER wait time</td>
<td>5.6%</td>
</tr>
<tr>
<td>Interactive cost estimator</td>
<td>3.5%</td>
</tr>
<tr>
<td>Site or application for mobile devices</td>
<td>2.0%</td>
</tr>
<tr>
<td>Online service menu*</td>
<td>11.0%</td>
</tr>
<tr>
<td>Personalized account*</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

Source: Huang and Chang (2011)

Note: Percentage calculations are based on 712 sampled hospitals that had a Web presence.
* These are interface designs that promote some of the interactive tools.

**Methodology**

Because there is no fixed list of patients to represent a large patient population, coming up with a systematic probability sample of patients is impossible. Therefore, traditionally, almost all the healthcare-related surveys have relied on a purposive sample. To overcome the poor representativeness of a convenience sample, this study drew respondents from multiple sources: one listserv for a university’s staff and faculty, one university class, one listserv for patients who previously volunteered in healthcare research projects, personal invitations to patients from two hospitals, two community organizations, and three online healthcare forums. Snowball sampling method was applied; many of the initial contacts were requested to invite other qualified respondents to join the study. A qualified participant was defined as anyone living in the United States who was at
least 18 years old and who had visited either a hospital/clinic or a hospital Web site in the preceding 12 months.

Although the sample in this study is not a systematic probability sample, with many respondents drawn from a specific geographic area, the diversity of the backgrounds of the participants from all over the nation helped offset the homogeneity of a typical convenience sample, such as a student sample or patients from a specific clinic/hospital. The findings and conclusions from this study can only be applied to these respondents, but they might hint at a pattern for a larger population.

Data collection was conducted from June to August in 2011 in two stages. The procedure was a simplified model of Delphi technique as described by Allen (1978). Data collection in each stage was accomplished by an online survey questionnaire. Since the questionnaires were designed in such a way that skipping required questions was impossible, missing data were minimized. The survey questionnaire in the first stage presented 21 e-health interactive tools, and each tool was illustrated by a typical, live example from a hospital Web site. The respondents were asked to evaluate the usefulness of each interactive tool on a 5-point scale with 5 being the most useful. Demographic data were collected at the same time. In the second stage, a follow-up survey questionnaire was sent to those first-round respondents who left an email address (almost all did). Both close-ended and open-ended questions were used for the respondents to answer questions related to the major results from the first round of survey. Consequently, the statistics from the first round of survey received explanations by the respondents themselves. For the open-ended questions, after extensive exchanges of ideas, two coders encoded the answers independently by clustering them in answers to each question. The average value of Scott’s Pi for the coding of three open-ended questions was 0.86.

Findings

In total, 242 respondents successfully participated in the two rounds of survey. A typical participant was a White (74%) female (76%) with a bachelor’s degree (43%), who was 46-55 years old (22%) and who visited a medical institution 3-5 times (33%) and visited a hospital Web site with a broadband connection (94%) once or twice (38%) in the preceding 12 months.

In the preceding 12 months, 26% of the respondents never visited a hospital Web site for the following reasons: (1) no or little need; never thought of using it; not aware of the presence of the Web site of their frequently visited hospital (63%) and (2) little useful info on a hospital Web site; difficult to find info; no or few useful interactive tools; info not current (30%). A few respondents said that they’d rather call a hospital for any info (5%) or that they were concerned about the security of using hospital sites (2%). In addition, the more a participant visited a hospital, the more he or she tended to visit its Web site (Pearson r=.459, p<0.001).

Chart 1 lists the interactive e-health tools in the order that the respondents perceived as the most useful to the least useful. The numbers shown represent the percentages of respondents who considered the tools to be useful (selecting 4 or 5 on a 5-point scale). At the same time, the data from Huang and Chang’s 2011 study—specifically, the percentages of U.S. hospitals that have implemented these tools on their Web sites—are displayed side by side to provide a context to the current data. The user preference data and hospitals’ adoption rates of interactive e-health tools are certainly two different things. But a comparison between the two can demonstrate where each party’s passion is and highlight the discrepancies between users’ preferences and hospitals’ implementation efforts.

Chart 1 reflects four major discoveries from this study. First, the respondents highly desired access to their medical records and lab results on their hospitals’ Web sites (83.7%). Unfortunately, only 10.1% of the hospitals were providing such a service. The discrepancy is huge. The follow-up survey shows that 59% of the respondents had no such access and 34% of them were not sure whether they had such access. Only 7% were enjoying the access to their medical records. The respondents provided five reasons in their own words why they craved such access on a hospital Web site:
1. It will be convenient and quick to access the information about their health for free. (38%)
2. It will help track and monitor health conditions; research, remember, understand, and verify health conditions and services; and reduce unnecessary procedures (24%)
3. It will be convenient to transfer records, share information, and ask for a second opinion. (18%)
4. It will make users feel empowered and informed to take care of their own health. (14%)
5. It will be easy to check for accuracy for insurance and other purposes. (6%)

One participant probably best stated the reasons:

My doctor does not send me my lab values, just a comment if the levels are normal or abnormal. I'm an RN (registered nurse) and advocate for my own healthcare. I like to keep my information to follow trends of improvement or decline of my health status. It is a motivator to maintain my health. Also, when seeing other specialists, I have the medical information readily available and accurate. I don't have to rely on memory. That is the purpose of the electronic medical record.

Second, having a presence on social media, such as Facebook, Twitter, and YouTube, has become a trend for hospitals in the last three years or so, and many researchers and practitioners have promoted such a presence as a way for hospitals to market themselves (Hawn, 2009; Jain, 2009; Terry, 2009). For example, Ackerman (2010) suggested that “many doctors see social media as a way to strengthen the patient-physician relationship, interact with their peers and publicize their opinions on key issues.” Huang and Chang (2011) found that 35.7% of the U.S. hospitals have made an effort connect to their patients/users via social media. The respondents in this study, however, showed the least interest (10.4%) in seeing such a tool on a hospital Web site. Again, the hospitals’ emerging passion for a presence...
on social media and these users’ extreme indifference constitute a stark contrast. As a matter of fact, these users believed that it was even less important for hospitals to have links to social media Web sites than to have an online gift shop/flower shop (16%). The follow-up survey showed that 80% of these respondents never visited or got information about a hospital on a social media Web site.

The respondents listed three reasons why they did not like to access a hospital via social media: (1) never thought of using it; no need; no interest; not aware of hospitals’ presence on social media; would visit a hospital site directly if necessary; no specific hospital to connect to; no interest to “socialize” with a hospital (52%), (2) not appropriate, professional, credible, or secure to interact with a hospital via social media; privacy concern; hospitals doing nothing but self-promoting on social media (35%), and (3) having no social media accounts (13%). One participant commented, “I don't feel that hospitals are social; therefore I wouldn’t be interested in interacting with them via social media.” Another participant noted, “I just feel social media is not the place for my personal health issues. I do not want everyone or at least 'my friends' to see what is going on unless I want them to know.”

Third, Chart 1 shows that a little more than half of the respondents loved to have a dedicated menu (52%) on the homepage of a hospital’s Web site so that they could immediately see what interactive e-health tools were available. The respondents actually felt an even stronger yearning for the personalized functions (61%) on a secure section of a hospital Web site so as to be engaged in sensitive data processing, such as accessing medical records, (pre)registering, making a doctor’s appointment, refilling a prescription, paying bills, etc. In both cases, hospitals had only an 11% adoption rate. Again, what is offered and what is desired has yet to be aligned.

Fourth, when the users’ top ten preferred interactive tools are compared with the top ten interactive tools provided on hospital Web sites, it is found that the respondents considered all the core business tools to be highly useful, including accessing medical records and lab results, refilling prescriptions, (pre)registering, making doctor’s appointment, and paying bills. None of these except for paying bills is among the hospitals’ top ten choices. In contrast, some top interactive tools available on hospital Web sites, including patient education, online calendar, a presence on social media, e-card, and online nursery, are not among the respondents' priorities. One participant commented on the calendar function, “I find that the calendar of events and classes is often inaccurate or difficult to find.”

When these 21 tools are clustered into six categories (see Chart 2) as Huang and Chang (2011) did, two noteworthy discrepancies between user preferences and hospital implementation emerge. First, what the respondents needed most on a hospital Web site was the core-business tools (73%, the most preferred category of tools), but the implementation rate (51%) was way below user expectations. In contrast, U.S. hospitals were largely staying on the level of implementing traditional functional tools, such as online search, online maps, and finding a doctor (90.6%, the most implemented category). Second, the respondents were very interested in seeing emerging functional tools on a hospital Web site, including ER wait time, interactive cost estimator, and site and applications developed for mobile devices (46%, the 3rd most preferred category), but only roughly 9% of the hospitals provided such new tools (the least implemented category). Among these emerging tools, the respondents were most interested in using an interactive cost estimator (see Chart 1). One participant wrote:

Depending on the accuracy of the ‘estimate,’ the interactive cost estimator could become a powerful tool in the future. Rising health care costs, coupled with an uninsured/under-insured population, means people will be looking for ways to get the best care for the lowest cost. This tool could even be used with the ‘Find a doctor’ tool to compare providers, services, and costs across hospitals/facilities (assuming other hospitals/facilities have an estimator tool).

Discussion and Conclusions

The two rounds of online surveys in this study have investigated the usefulness of 21 patient-oriented e-health interactive tools currently available on U.S. hospital Web sites, from the users’ perspective. The findings based on the responses of 242 qualified participants recruited from multiple sources have provided many valuable lessons for hospital administrations. The findings can be readily applied to a hospital’s planning of e-health implementation on its Web site, which is an important contact point between a patient/user and the hospital. In contrast to prior research on general user behavior (e.g. Gallant et al. 2006; Taylor
preferred interactive tools that hospitals should consider adopting on their Web sites to provide a flow experience so as to better serve their patients/users.

The study found that 62% of these respondents used a hospital Web site from zero (26%) to once or two times (38%) in a year while 78% of them visited physical hospitals at least three times in a year. It is obvious that hospital Web sites have been very much under-used, quite possibly for the various reasons the users stated. It was found that the more a participant visited a hospital, the more he or she tended to visit its Web site. This finding suggests that, when users have to visit a hospital, they do like to use a hospital Web site. In other words, there is a strong need for patient/user’s telepresence on a hospital’s Web site. Therefore, a hospital should seriously consider moving some of its interactivity-based services online so that users are interested in using a hospital’s online services.

The results from this study take on a new layer of meaning when compared with the hospital implementation data with the same set of interactive tools that hospitals’ development in interactive e-health tools has greatly lagged behind the users’ needs and expectations across the board. What the participants needed most on a hospital Web site are the core-business tools, including accessing medical records and lab results, refilling prescriptions, (pre)registering, making doctor’s appointment, and paying bills, but U.S. hospitals are still largely staying on the level of implementing traditional functional tools, such as online search, online maps, and finding a doctor, etc., which the users do also need.

The data also show that there has been huge misalignment between what the hospitals believe the patients want and what the patients actually want. Many hospitals have made much effort in connecting to patients via social media, but the respondents have shown the least interest in “socializing” with any hospital. Instead, the respondents showed effusive enthusiasm in accessing medical records and lab results on their hospital Web site, and they have also showed conspicuous interest in emerging interactive tools though extremely few hospitals are providing such services. Some scholars have argued that...
that the mere presence or absence of certain interactive features on a Web site matters only if these features affect how consumers navigate and use the site (Lee et al., 2004; Song and Zinkhan, 2008). To make a hospital Web site relevant to the patients/users and to make them willing to use such a site, hospitals should design user-centric Web sites as Gallant et al. (2006) advocated.

This study has its limitations. White females self-selected to be included in this study and constituted the significant majority of the sample; in addition, 22% of the sample was between 46-55 years old. The significant proportional change of either group may change the results of this study.

Based on the findings from this study, here are the recommendations to U.S. hospitals for building a user-centric hospital Web site for the future:

1. **Build a highly interactive Web site.** Almost all the reasons that the respondents put forward for accessing medical records and lab results can be summarized as providing convenience and empowering. This finding supports Reichheld and Schefter’s argument that “the largest single segment of online customers seeks convenience above all else… They want to do business with a site that makes their lives easier” (Reichheld and Schefter, 2000, p. 110). Wylie (2006) suggests that enhancing interactivity and customization make a Web site more engaging. Interactivity helps make a user lose self-consciousness and self-reinforcing in a flow experience (Novak et al., 2000, p. 23). Therefore, hospitals need to enhance interactivity on their Web sites by first being aware of the 21 interactive e-health tools and then implementing as many of those as possible that the patients/users care for. When a hospital enables its users to conveniently do and not just watch things on its Web site, the site will become much more valuable to the users. As Catallo (2008) pointed out, when hospitals promote Web 2.0-style interactivity, they can “quickly establish brand images of convenience, caring, and responsiveness for their institutions” (p. 26). In this rapidly moving and changing world where many people are short on time, the remarkable convenience of a well-developed hospital Web site that provides what the patients need will instantly make the hospital more appealing than competing institutions and will empower people to take responsibility for their own health.

2. **Develop more sophisticated and emerging interactive tools.** The respondents’ top ten preferred tools fall exclusively into the traditional functional tools and core e-business tools categories. While hospitals continue to provide traditional functional tools and continue to explore how to connect to its patients/users via social media, they should focus on developing core business interactive e-health tools—especially accessing medical records and lab results—as their top priority. At the same time, hospitals can consider implementing emerging functional tools, including ER wait time, interactive cost estimator, and site and applications developed for mobile devices, to cater to patients/users’ contemporary, fast-paced lifestyle.

3. **Promote interactive tools.** Once hospitals have implemented an extensive array of interactive e-health tools, they should promote the tools to their users by designing a dedicated interactive tools menu on the home page so that more patients/users will do business with a hospital online. More important, more hospitals need to create a personalized and secure Web space for convenient and carefree transactions of sensitive data and for easier access to up-to-date user-specific information on a hospital Web site.

4. **Customize interactivity to a specific population.** The findings show that a respondent’s sex, education, and age all had an impact on the preference of interactive tools, whereas race did not. For example, female (vs. male) respondents considered the features of online search, virtual tour, online gift shop, online nursery, and a presence on social media to be more useful (all p’s < .05). Respondents with higher (vs. lower) education levels considered the features of finding a doctor, paying bills online, and accessing medical records to be more useful, but a presence on social media to be less useful (all p’s < .05). In all, it is likely that a hospital may match patient population demographics or the nature of the hospital (e.g. women’s hospital or other specialty hospital) with the design of the interactive tools on its Web site. While the present study provides an overview of users’ preferences, individual hospitals may further cater to their specific profile of patients/users and adapt their Web sites and provision of interactive tools accordingly. Since those patients/users who frequently visit a hospital tend to be the ones who visit its Web site the most often, identifying this group of users/patients will be helpful as they can provide tracking data and feedback to better the design of the Web site and its features. They can also serve as the target of word-of-mouth campaigns to bring in more potential users to the Web site.

Hospitals’ e-health development efforts have been behind the users’ expectations at large. Future research should explore whether such lagging has resulted
mainly from the lack of technical know-how, lack of funding, governmental regulations, and/or lack of vision on the administrative level. Nevertheless, the importance of understanding users’ needs and preferences for e-health interactive tools cannot be overemphasized. Various discrepancies uncovered in this study serve as a practical starting point for hospitals when they attempt to implement e-health on their Web sites by providing useful interactive features. Taken together, hospitals cannot overlook the opportunity to shape their relationships with their patients/users and to enhance their reputation and credibility by adopting useful patient-oriented interactive tools; such successful implementation will make a hospital truly stand out by serving multiple objectives, including service, education, and marketing.

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From the Patients’ Perspective: Experiences with Healthcare Delivery Redesign

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Primary practice redesign creates many changes. These changes often impact work flows and the way care is delivered. Changes impact patients both directly and indirectly and may have both intended and unanticipated consequences. In a series of 10 patient focus groups we explore the experiences of our patients with our transformation to a new healthcare delivery model.

Introduction
The University of Utah Community Clinics (CC), a network of 10 primary ambulatory care clinics, has redesigned its care delivery with aspects similar to a Patient-Centered Medical Home. Several key aspects of our redesigned model which we call Care by Design™ (CBD) include each patient having a primary care provider, care delivered by a care team including a provider and a medical assistant, and an advanced electronic medical record (EMR) into which patient visits are recorded as they occur. CC recently implemented a patient portal to its EMR (MyChart) with the intention of increasing patient engagement in their care. MyChart was rolled out in summer of 2010. In this research we sought to assess patients’ experiences with the changes implemented in care delivery, specifically the use of care teams and the implementation of the EMR. Questions were asked about what changes patients noticed, how the changes had impacted their relationship with their primary care provider, and their sense of coordination and integration of care with the new model of care.

Method
We conducted ten focus groups (n=63). Patients were recruited based upon having had multiple visits to CC over 1+ year. Groups ranged in size from 3 to 12 and were held at each of the 10 Community Clinics. One session was conducted in Spanish so that we could obtain feedback about our new delivery model from our patients for whom English is not their first language. Sessions were conducted by trained facilitators and lasted approximately 1 ½ hours. The facilitator or a research assistant took notes on a flip chart using the notes as a confirmation check with participants. The sessions were audio recorded and notes were taken by an observer/research team member. Audio recordings were transcribed by a professional transcriptionist. In total 225 pages of transcript were generated. Transcripts were entered into NVivo software for analysis.

The focus group protocol included questions about our patients’ experiences with the changes implemented in care delivery, specifically the use of care teams and the implementation of the EMR. Questions were asked about what changes patients noticed, how the changes had impacted their relationship with their primary care provider, and their sense of coordination and integration of care with the new model of care.

Findings
Preliminary analysis revealed several key themes: Partnerships, Enhancement of Patient/Provider Relationships, Patient Empowerment, and Social Support. Insights about these themes came as participants talked about their providers, their care teams, and their use of MyChart, our patient portal.

Partnerships
Primary care has been described as a “team sport” in part because it takes the cooperation of many players to accomplish all that is delivered in a primary care visit. Implementation of care teams is an important means by which Community Clinics deliver care. Our care teams include the primary care provider, nurses, medical assistants, care managers, pharmacists, receptionist, and call center staff, among others. Primary care is also a team sport in the sense that to achieve the best outcomes, the patient and provider must work together in a close partnership. Both of these aspects were revealed by patients when asked about their care teams. Patients related that their team “cares about me” saying that their care team members “listen to me” and “make me feel important.” Participants report that having a care team makes the clinic run more smoothly and that team members work well together. They feel there is good communication between members of the team, especially between providers and medical assistants.
There were mixed perceptions of who captains the care team. Some patients reported that the primary care provider “leads the parade” while other patients were emphatic that “the patient is the most important person on the team.”

One participant related his story…

“I am a very proactive patient, I’m in charge of my healthcare, nobody else. I work with these guys and I tell everybody up front, I’m in charge, not you.”

Later in the discussion that same patient said…

“…when you make that connection like these two guys (he is seeing now), it works.”

Despite these different perspectives, it was clear that most patients felt that their care plan was developed with their provider not by their provider. Participants often referred to the team as “we,” reflecting the fact that they were an integral part of the care team.

**Enhancement of Patient/Provider Relationships**

Several of the changes made as CC has implemented CBD have potential impacts on the patient/provider relationship. Care teams must be introduced carefully so that they are perceived as adding value for the patient rather than driving a wedge between the patient and the provider. MyChart must be used sensitively in conjunction with sufficient person-to-person communication so that patients don’t feel removed from the human connection that epitomizes quality primary care. In our focus groups patients spoke positively about their providers saying that they were “proactive” on their behalf, that they were “advocates” for patients’ needs, and that they were resourceful problem solvers. One patient who had been dealing with serious health issues for about 10 years commented:

“I’m a doctor’s advocate…two different doctors have basically saved my life…I have changed my thought…I have decided that the doctor’s time is so valuable that I don’t ever see a doctor without my list and I go in with a written list or an I-Pad and I actually cover everything they want and write down the answers, that way the doctor, I use his time to get everything I can out of him…”

Participants were very appreciative of the caring they felt from their providers. One related an incident in which he was in and out of the emergency department multiple times:

“Some one contacted him (primary care provider) on the team, he called me from vacation and was accessing the information on his laptop, calls me on the phone and says you go back up there and you tell them you are not leaving until the pain is gone. I’m going to call ahead so when you get there, they know you are coming and you don’t leave until the pain is not there. So I went up and the third time, my whole treatment changed…if he hadn’t made the phone call I would have gone back home a fourth time.”

One patient who was dealing with migraines reported that as she and her provider trialed various medications to treat her headaches she could report through MyChart after each dose how she was feeling and how the new medication was working. The ability to share her experiences with her provider in real-time meant that medication adjustments could be made quickly and the patient experienced relief sooner.

Another patient reviewed his own past history on MyChart (at home) and then discussed observations with his provider (during a visit). Together they could see graphs of his health status over time (back years), providing a better idea of how he was progressing. With this information the provider and patient were able to formulate a plan of care together.

Although MyChart has the potential to depersonalize care, some patients noted that it actually bolstered their relationship with their provider, especially if they already had a close relationship with their provider.

“I think it (MyChart) enhances, I used it with (my primary care doctor), I don’t use it with (my specialist), but then (my specialist) has a real close relationship with me because of everything I’ve gone through, so it enhances it (the relationship with my physician), but it is not the primary part, it is the relationship with the actual physician.”

**Patient Empowerment**

We implemented our patient portal in large part to enhance communication with our patients. It was viewed by management as a way to create efficiencies for providers and medical assistants in communicating test results to patients reducing the need for them to make telephone calls or send letters to patients with the results. It was also anticipated that in the future patients would be able to schedule appointments and send secure e-mails to their providers and care team through the portal. We found that these functional capabilities did far more than improve the efficiency of communications between patients and their providers, the portal stimulated patient engagement and “put the patient in the driver’s seat.”

Several patients talked about their use of MyChart to look up test results. They liked the convenience of getting lab results on-line.

“I have my blood tests done and I’m going to see the doctor on Friday and I have blood tests Wednesday, …he posts it on Thursday so I can see it before I go.”

Some patients liked the ability to track their health status over time, noting that they could search their health record back for several years. The historical information could then be used by their provider to formulate treatment plans.
In addition to MyChart, patients appreciated that their information from various providers was all available in the electronic medical record.

“The reason I stay at the University is like you said about the blood tests, I go to the dermatologist, I go to the orthopedist and all of them, they can go in and pick up all of my information...Like the last time I went to (my clinic) and saw (my doctor), he was able to go in and pick up everything and avoided having me get another blood test because it was all there from like a week or so before from another doctor.”

Other patients used MyChart for reminders.

“...Too I can check when I forget, instead of trying to keep the appointment card, I just go on there and I make sure of when my appointment is.”

Participants like the reminders they were sent through MyChart and noted that they helped patients keep on track with recommended screenings. One patient reported that when she tried to schedule a routine preventive screening, she found by looking at her records in MyChart that it wasn’t yet time for that exam. She was able to avoid an early test that would not have been covered by her insurance. Access to her medical record on-line gave her more control over her healthcare and a feeling of enhanced self-management.

Participants also reported that having all their health information available through MyChart made application for social service benefits easier.

“When I was applying for disability all those records and the medicines and the drugs was available to me to list onto the internet for Social Security.”

Social Support

To our surprise many participants had been on our patient portal; nearly all of them had been looking up their health benchmarks after an appointment to check the posted results. What surprised us was that patients wanted to share their experiences, even small successes, with friends: “I got my blood pressure under control! or “my average blood sugar is lower,” or “I lost five pounds!” They looked forward to getting encouragement from their peers. That “pat on the back” was more meaningful to them coming from other patients who understood the particular situation they were in better than their doctor does.

Five of six participants in one focus group were avid users of MyChart and the other one was an admitted technophobe. The five users repeatedly asked how they could help the non-user “get up” on MyChart so he could start seeing the benefits.

Patients were not dependent on healthcare providers for support; they wanted to be there to support each other. One patient raised the possibility that patients with similar conditions could start a peer support group. The information shared in such a group was perceived to be vital. For example, one patient said, “I wish my care team didn't ask me what meds I was on every visit.” Another member of the group responded, “That’s because you only see one doctor; I see seven!” So the light bulb came on for the one who was objecting to the medication reconciliation; she said, “Now I get it!” They are able to explain to each other in understandable terms why things are happening with their conditions and their care. That’s really powerful. That’s the whole basis of social networking.

Issues for Improvement

Overall feedback from patients about how our CBD model is working was positive. Patients generally reported improvement in communication with patients, in appointment processes, and in visit efficiency (e.g., wait times). Participants in our focus groups pointed to several issues that deserve management’s attention.

MyChart

Although patients were enthusiastic about the use of MyChart, the focus groups revealed a number of issues that management must address. Even though MyChart had been available for about a year, not all patients were aware of the portal or what they could do through it. They wondered who was responsible for educating patients about the portal. Some providers actively encourage their patients to use MyChart and this appears to positively impact patients’ utilization of the tools. Some who were aware of it had sought assistance from the staff (receptionists, MAs) in getting started:

“(my doctor)...one of his assistants, I said yeah, I’d like to do it so she came in and signed me up for it and did my thing and my password and off we went.”

But others found that the staff did not always know how the system worked or what patients needed to do in order to use the system. Some patients who had used MyChart found test results posted there so quickly that their provider had not yet reviewed the results. For some this was disconcerting and they preferred to have their doctor *interpret results* for them rather than just receiving “reports” through MyChart. Several opined that they would rather have their provider or MA call them with results, especially if the results were “negative” or “abnormal,” as such reports heightened patients’ anxiety.

“I know I can go on (the) computer on MyChart and look for the results of my blood tests, but I like listening to their voices and if I was too worried, I will go to the computers.”

For some patients, an aversion to computers appears to underlie their lack of use of MyChart.

“I’m supposed to use MyChart, but I’ll tell you I am computer illiterate and I don’t like computers. I know now a days you cannot survive without a computer, but I’m the old fashion way...”
Some patients expressed concern about the security of their personal health information in MyChart. This concern was linked to the recent security breach encountered by University Health Care that got a lot of local press. Others noted that not everyone could afford Internet access and some did not feel comfortable accessing MyChart via public computers.

**Care Teams**

An issue raised by many participants was the perception that patients were asked the same questions by multiple members of the care team. Although visit protocols may direct both the medical assistant and the provider to ask the same questions, it is not always clear to the patient why redundant questions are asked. Patient education should include explanations of the safety benefits to them of verification of important information by both the MA and the provider such as medications the patient is taking.

Participants also expressed a wish that they could have the same medical assistant at every visit. Some said that they would like to build a relationship with their medical assistant, just as they do with their provider. One participant said that he tries to schedule his appointments when he knows a particular MA will be working. Another participant said he would like to take a care team member home as she reminds the participant of his daughter.

**Communication**

Most participants reported improvements in the CCs communication with patients. However, some reported frustration with not being able to speak to their providers by phone.

“I wish I could use the old fashion way just go and talk to a nurse…what upsets me the most is that when you see the doctor, he says do you have any questions and like I told him three hours later I might remember, but not at that time and so if I want to call and I want to talk to the doctor, you never talk to the doctor, never ever, they say well if you remember the question just give me a call. When? It is easier to talk to President Obama than talk to my doctor.”

**Primary Care Provider**

Although most patients spoke very positively about their primary care provider, some expressed disappointment in providers’ familiarity with their personal situations. One complained that although her provider also saw her children the provider never remembered their names or anything about them. Several participants expressed displeasure with how short a time they had with the provider and wished that they had an opportunity to “visit with their provider” in order to relay all the concerns they had. Some said their providers ask them why they were there (for a visit) and then would not discuss any other concerns, saying the patient would need to make an additional appointment in order to discuss more issues.

“…the doctor has to say what brought you here today and you try to say something else (the doctor will say) well if you came specifically for your headache, we cannot treat anything else, you cannot let me know of any other problems, we are going to have to schedule another appointment to talk about other problems because we don’t have time for you to talk about other problems.”

One of the things patients most appreciate about their primary care providers is the sense that the provider “knows them as a person”. Continuity with the same provider enhances confidence and trust and ultimately can contribute to more positive outcomes. Some patients liked the fact that when they called for an appointment and their primary care provider was not available that they were offered an opportunity to see another provider. Others, however, didn’t like seeing whoever was available and would rather wait to see their own provider. Some participants expressed frustration with the availability of primary care providers at the faculty residency clinic. One participant who had just moved from out-of-town and who had had three different providers in the last year commented:

“I say well I wish I could have one doctor you (see) all the time, like a personal doctor, I’m tired of if you can get attached to your doctor and then you have to go to another doctor and then they said well I’m here only three times a week, I’m like I can’t see you all the time? I say oh well, there we go again.”

**Discussion**

Those patients who participated in our focus groups were highly engaged. Although this may reflect a selection bias, in that engaged patients may have been more willing to join the focus groups, we believe that our participants represent a subset of patients for whom there are a variety of opportunities.

First, these engaged patients revealed a sense of peer support that health care providers should deliberately facilitate. Some of our participants had already been active in peer support groups, but they were anxious to do more. Peer support specialists are emerging as a new type of health care worker, particularly in the provision of mental health care services. These workers are selected because of their similarity to the patients with whom they work (e.g., personal experience dealing with substance abuse). Primary care practices may want to explore ways in which such “similar others” could be enlisted to assist other patients, particularly those dealing with chronic conditions.
Second, the patient-physician relationship is seen as the foundation of primary care. As the delivery model shifts away from a single provider toward team delivery of care, it is important to understand patients' relationships with all of the members of the care team. In our analysis we found that in addition to their relationship with their primary care provider, participants also valued their relationships with their medical assistant, pharmacist, and even lab tech. If practices are to truly be patient-centered and provide “personalized care” through “personalized care teams” they should consciously work to ensure that patients have a sense of a personal relationship with each of their care team members. This may require some changes in the deployment of care teams so that patients are able to interact with the same team members over time. This team continuity may do a lot to enhance patient (and care team) satisfaction, improve quality of care, and reduce cost.

Third, the themes of patient empowerment and partnership appear to be closely related. Our participants expressed a strong sense of partnership with their providers and care team. This partnership means that patients have an important role to play in their care. Tools provided by our clinics such as our patient portal, self-management education, and group visits for those with chronic conditions, empower patients and facilitate their involvement in their own care. This appears to heighten patients’ sense of responsibility and accountability for their own health, encouraging them to be active in decision-making about their care and to be conscientious about using the limited time with their providers in effective and meaningful ways.

Our patient focus groups revealed both intended and unintended consequences from our practice redesign. Careful analysis of patients’ experiences with our transformation is not only helping us fine tune our practice model, it also highlights new opportunities continuing to improve our patient-centeredness.
Predictors of the Efficacy of CDC Recommendations for Prevention and Spread of MRSA

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Summary Abstract
The last few years have seen an increasing number of studies investigating public perceptions of healthcare-acquired infections or healthcare-associated infections (HCAIs or HAIs), reflecting the growing importance placed on this issue among governments and policy makers, healthcare organizations and providers, the media and patients worldwide. According to Congressional testimony on behalf of the Infectious Diseases Society of America (2010), these infections constitute “a serious public health, patient care and safety, and national security issue” that results in “tremendous pain, suffering, and disfigurement in adults, children and infants, and have caused millions of deaths worldwide” (p. 2). Similarly, the World Health Organization (2000) warned as far back as the turn of the millennium that the problem of bacterial resistance to antibiotics was at crisis point.

A significant cause of these HAIs is methicillin-resistant Staphylococcus aureus (MRSA), a potentially deadly infection whose incidence has risen substantially. The infection is most commonly seen in hospitals and other healthcare settings, but its growth has been especially rapid in community settings among people with no exposure to the healthcare system (Mozzillo, Ortiz, and Miller, 2010). MRSA results in several significant and costly consequences, including more than doubling the hospital death rate (2.1% vs. 4.7%), more than doubling the average length of a hospital stay (4.6 days vs. 10 days), and nearly doubling the average cost of hospitalization ($7,600 vs. $14,000) (Elixhauser & Steiner, 2007).

In response a number of prevention messages have been suggested, including the CDC’s recommendation that patients should take on the responsibility themselves for making sure their health care providers do not spread the disease. One method is for the patients themselves to ask their health care provider to properly wash their hands an examination involving physical contact.

This study investigates the efficacy of such a recommendation by exposing subjects to video depictions of physicians’ hand washing protocol, patients’ requests for the physician to wash and the physician’s reaction to that request. Dependent measures include perceptions of the safety of the examination, attributions for the hand-washing request, and beliefs about the physician’s attitude toward the patient. Additional independent variables include two personality traits likely to influence perceptions of the interaction: authoritarianism and social anxiety.

References available upon request.
The Role of Self-Efficacy and the Stages of Behavior Change as Related to Physical Activity Levels of Senior Citizen Center Participants

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Summary Abstract

This study investigated the role of self-efficacy and the stages of behavior change as related to physical activity levels of adults that attend senior centers. The participants included 358 adults (ages 51 to 97) that attended 11 selected senior centers. The data were collected through a questionnaire in which cumulative self-efficacy was examined through the use of three physical activity self-efficacy sub-scales: self assessment, confidence, and outcomes. The findings demonstrate that physical activity self-efficacy scores significantly differed at the various stages of change in overall self-efficacy and the three sub-scales. Overall self-efficacy showed significant differences between the maintenance and the precontemplation, contemplation, and preparation stages. Of the three self-efficacy sub-scales analyzed, the self assessment sub-scale was the strongest for predicting overall self-efficacy at the various stages of change. A significant positive relationship was shown between physical activity cumulative self-efficacy scores and stage of change.

References available on request.
The Role of Mindfulness in Explaining College Student Lifestyle Choices

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Summary Abstract
College students undergo life transitions that can be stressful, often leading to the use of unhealthy consumption behaviors as coping mechanisms. This study explores the mindfulness construct, which is a burgeoning area of research in psychology and clinical behavioral sciences (Baer 2003). We propose a theoretical framework for the integration of mindfulness research in marketing scholarship. Additionally, the study provides an empirical investigation of the role mindfulness plays in college students’ lifestyle choices.

Mindfulness is “paying attention in a particular way: on purpose, in the present moment, and non-judgmentally” to what one is doing (Jon Kabat-Zinn 1990). Such a simple and obvious action has proven to be a powerful antidote to breaking bad habits, overcoming stress-related afflictions, bringing psychic clarity to better decision-making, and enhanced well-being (Brown and Ryan 2003). However, mindfulness has not been explored with respect to consumer behaviors, despite its potential to positively contribute to consumer well-being through better consumption lifestyles.

Mindfulness is both a technique and an acquired trait that allows for reflective—rather than reflexive—response to stimuli. Even though mindfulness is grounded in Buddhist philosophy, it is being used as a secular practice to overcome disorders and develop healthier lifestyles. Mindfulness can help individuals overcome suffering from poor habits by helping the individual identify the roots of affliction and promote new habits that will allow the individual to reach his or her long term goals (Hanh and Cheung 2010). In this paper, we propose an eight-step theoretical framework based on Buddhist psychology supported by neuroscientific conception of mindfulness. This theory acknowledges the philosophical and psychological notions that mind is the basis for all actions. Thus, all actions arise from the mind consciousness comprising individuals’ conscious thoughts. The mind consciousness is informed by conditioned tendencies and habits shaped by past experiences that reside in a portion of the mind called store consciousness. Our theory unfolds in eight steps:

First, individuals’ actions are derived from mind consciousness. Second, individuals’ past habits reside in their store consciousness. Third, the store consciousness contains both habits of affliction (eating disorders) and mindfulness (awareness in present moment). Fourth, mind consciousness draws from store consciousness to respond to external or internal stimuli. Fifth, affliction results in a reactive, narrow response when accessed by mind consciousness; however mindfulness creates psychological space for the individual to consider choice. Sixth, store consciousness habits get reinforced when the individual is drawn into mind consciousness, but atrophy from lack of use. Seventh, an affliction habit will be enacted when the stored habit of affliction is stronger than the stored habit of mindfulness. On the other hand, a mindfulness habit will be enacted when the stored habit of mindfulness is stronger than the stored habit of affliction. Lastly, the action will reinforce the relevant habit in the store consciousness.

In discussing mind and store consciousness, it is also pertinent to distinguish the mental models associated with mindfulness and other dual mode processing and differential theories used in marketing. Training in mindfulness programs has been shown to cultivate the ability in participants for a wider awareness encompassing sensory and conceptual processing (Williams 2010). As such, mindfulness points to a way of being that is broader in scope than mere analyzing and central processing. This formulation of mindfulness theory presents an interesting supplement to the existing information processing and decision marketing literature.

We therefore focused our exploratory research around whether the trait of mindfulness had an impact on eating disorders in the college environment. Specifically, we questioned if mindfulness in students’ store consciousness reduces the propensity to overeat and or skip meals. To answer this question we investigated whether the overarching construct of the mindfulness trait and the dimensions that comprise this construct explained variations in levels of unhealthy habits. A survey of 302 college students, coupled with structural equation analysis, was used to examine the psychometric properties, and validity of existing
mindfulness scales. The survey instrument incorporated previously used scales in the psychology literature on mindfulness. Additionally our survey instrument included scales that measured perceived stress, life satisfaction, and social desirability. Confirmatory factor analyses found a preferred second-order factor model consisting of four first-order dimensions: acting with awareness, non-reactivity to inner experience, non-judging of experience, and describing with words.

Poisson regression analysis was then used to relate the construct of mindfulness and other predictor variables to student propensities to engage in unhealthy and healthy behaviors. Due to the count data (number of days per week respondent engaged in activity last week), a Poisson distribution was estimated for these models. The mindfulness construct was found to have a significant negative impact on the bad habits of drinking more than four drinks in a row, eating too much, and skipping meals. Males were more likely to engage in drug and binge drinking, and less likely to overeat.

This paper introduced the concept of mindfulness to the context of addressing college students' bad habits. We found that the levels of mindfulness have an impact on some bad habits. The exploratory findings suggest that mindfulness makes students more aware and make better choices. Future research is encouraged to explore the impact of mindfulness in supporting long-term changes for better health and over all well-being.

References
Anne L. Balazs, Eastern Michigan University
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The introduction of health care marketing into the business school was an exciting development decades ago. The health care industry was exploding with increasing demand, innovative R&D, organizational change, and competition and required new tools to harness and capitalize on the growth. At the time, popular MBA and executive programs offered much promise in training practitioners and management personnel in a progressive and profit-oriented way of thinking. The field of health care marketing held promise for changing the industry in positive ways. The special session will explore where health care marketing is now, as a subject taught in business schools (and elsewhere on campus), the contributions it has made and the prognosis for its relevance and usefulness in the future.

The session presenters will be Anne L. Balazs, Ph.D., Eastern Michigan University and Tammy McCullough, Ph.D., Eastern Michigan University. Amy Rule, MBA candidate, Eastern Michigan University is a co-author of the presentation.
Sustaining Quality in Health Service Delivery: Strategies for Reducing Health Service Failure

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This paper is intended to stimulate discussion on the issue of health service delivery. Some of the underlying characteristics of services are reviewed from a health service perspective. The nature and implications of health service failure on sustainable health care operations are discussed. Key findings from a recent Australian study of practice in open disclosure of service failure in public hospitals will be reviewed for the purpose of examining the impact of service failure in a health care setting. The paper then goes on to explore the process and nature of health service delivery in terms of potential shortcomings and flaws with its implications for service quality. To begin the debate on potential solutions, a matrix table is developed to highlight the key areas of health service failure, suggested causes, and finally go on to suggest possible prescriptive measures to help manage the risks involved in the health service delivery process.

Introduction

Health services are a critical component of any modern society. They are concerned with maintaining and improving an individual’s physical and mental well being. On the demand side; the range, quantity and quality of health services required continues to increase over time as standards of expectation and acceptance advance (Perrott 2008, p 62). The supply side is also going through constant change as advancing knowledge and technologies allow improved health services to be produced and consumed (Perrott 2008, p 64). The advancing demand for health services in modern societies presents challenges in terms of funding and adequacy of service supply. Some academics see health care as a fertile field for future service research (Berry and Bendapuri 2007).

Health service characteristics

Although services come in many forms, they are seen to possess several core characteristics (Lovelock and Wirtz 2004, Zeithaml and Bitner 2003.). All services are intangible. This means that the consumer will not be able see, touch or smell the service either before or after acquisition. In contrast to tangible products, a service cannot be inspected before it is acquired. This makes the task of evaluation more difficult and subjective. For health services, the consumer relies on the expertise and standing of those who are qualified and licensed to deliver a particular health service. Confidence in what the particular service is said to deliver is sublimated with physical cues such as hospital and surgery settings, staff uniforms and badges.

Any service is perishable as it cannot be stored for later consumption. A window of time is available for a service to be delivered and experienced. Once this time zone has passed, so too is the opportunity to experience the service in that particular sequence in time. This is a lost opportunity and has implications both for the supplier and consumer of a service. The time zones when the service can be produced must be matched against the time zones where the consumer is able and willing to consume the service. If a mismatch exists, strategies need to be implemented in an attempt to align supply and demand to levels that are acceptable to suppliers, consumers and key stakeholders. This characteristic is a critical factor in the instance of health services. A constant challenge exists to ensure that a health service can be supplied in sufficient quantity and quality at a particular place when needed. Health care workers are relatively costly with inflexible budgets and often in short supply. Sometimes a need exists for arbitration and compromise regarding the shortfall of supply over demand at critical times. Some manifestations of this are hospital waiting lists for certain procedures and long waiting times for consultations with specialists who experience strong demand.

A service is tied with its supplier. This presents issues regarding personal service delivery. The service has the potential to vary according to the person and the occasion when each delivery takes place. This characteristic
is that of variability. In health services, this is both an opportunity and also a potential threat. The opportunity is to vary the service delivery according to the particular circumstances and needs of each patient. The threat is that a service may not be delivered each time as intended which may lead to a breach of standards in service delivery. One strategy used to help address this issue is the implementation of total quality standards (TQM) and management processes. (Perrott 2002). The implication of this characteristic in health is that a service may vary each time delivered by a health care worker. Some health organizations look to instigate formal risk management processes to ensure that such potential variability is kept within acceptable parameters (Perrott, p 529). This presents challenges for example when and if the health procedure is delivered in emergency conditions where time pressures may compromise the assurance of adequate conditions and standards being followed.
Figure A illustrates how a health service is delivered to an individual. The health care worker may use one or several of the alternative media available for delivering the service. The basic options are to deliver a

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health service by offering advice (mental process), by executing a physical procedure (physical processes) and by delivering the service through or with the aid of a machine or device. Any one channel or combination of channels may be used in the delivery of a health service. The service environment is shown as the dotted oval in Figure A. This provides the important context in which the service is delivered. For example, a patient may be taken to an operating theatre where a surgeon performs an operation using arthroscopic devices to expedite the procedure. Other staff and support equipment are at hand to increase the probability of a quality outcome for the patient, health workers and the institution providing the facilities. After the operation, the patient may be taken to a hospital ward where other health services are provided during the recovery period.

Another concept drawn from the marketing literature is useful when analyzing the structure of health services. This concept suggests that a central core service provides the primary benefit to the patient (Solomon et al. 2008). In the example given in the preceding paragraph, this would be the operation performed to rectify a complaint using the arthroscopic procedure. Some authors categorize the core service according to the extent of customer involvement in the service delivery system; high, medium and low. They classify health and medical services in the high contact category (Lovellok, Patterson and Walker 2004). In addition, there are a number of augmented services that need to be provided to support this core service such as anaesthesia, nursing, transport, pharmaceuticals, physiotherapy, food etc. The augmented services should be arranged to complement and support the core service which is the primary objective of this provider-patient encounter.

Service quality

Because services are not produced until the time of consumption, the quality of a service cannot be assessed in advance. Hence the quality of a health service cannot be guaranteed even though performed many times previously (Lovellok, Patterson and Walker 2004). Satisfaction can be seen as a consumer’s post purchase feeling or emotion that expresses the degree to which the consumer’s needs, desires and expectations have been met or exceeded (Rust and Oliver 1994). Quality management in service can be seen as a focus on providing customer satisfaction and delivering the service to established standards that are accepted by the provider. One author observes that customer expectations may be difficult to satisfy as they can be influenced by stories people hear from friends and family and may not be realistic or achievable in reality (Webster 1991).

In health services, customer satisfaction may be relative or difficult to assess (Sim and Mackie 2007). For example, an operation may be performed to minimize the advancement of a serious disease. The patient may be grateful but not realize satisfaction. Hence customer surveys are rarely used to assess customer satisfaction levels of core health services. Quality of a health service usually relies on delivery performance compared to accepted professional practice standards. Included in these standards may be the stipulation of the absence of negative outcomes occurring during or after the health service delivery. A consumer of a health service may not be in a position to assess the quality or adequacy of the service provided. The assessor of the quality and adequacy of the service may be the responsibility of the health care worker or provider rather than the patient or consumer of the health service. One study conducted in a public health care delivery system found that employee assessments of service delivery were lower than those of their customers (Young, Meterko, Mohr, Shwartz and Lin 2009). In the future, health care quality management is likely to move from predominately an operational discipline to a more strategic focus (Perrott 2002, p 163).

Service quality is sometimes measured longitudinally. The Servqual scale is a popular measure that can be used to assess changes to the levels of consumer satisfaction over time (Parasuraman, Berry and Zeithaml 1988, Parasuraman, Berry and Zeithaml 1991). Numerous attempts have been made to adapt this scale so as to be appropriate and suitable for different types of service quality assessment (Sullivan and Estes 2007, Mc Fadyen 2001, Parasuraman, Zeithaml and Berry 1985). Five dimensions of service quality make up the Servqual assessment. Each of these dimensions could be used to assess the quality of health service delivery. 

Tangibles; Gaining impressions of the physical dimensions surrounding the delivery of the service including surrounding, equipment and appearance of service staff

Reliability; Perceptions of the ability to provide the service in line with what was promised or inferred

Responsiveness; Staff ability and willingness to assist the customer and provide the service effectively and efficiently
Assurance: The ability to convey trust and confidence in service delivery
Empathy: The degree of caring and customer attention actually delivered

Service Failure
Recent times have seen an increased focus regarding the reporting and accountability of health service failure. For example in Japan, the public is reported to begin to pay attention to medical errors in 1999 (Schoenberger 2007). This focus was triggered with the reporting of two key cases. The first case was when Yokohama City University doctors mixed the treatment of two patients, providing lung surgery to a heart patient and heart surgery to a lung patient. Shortly after this, the public hospital in the Tokyo suburb of Hiro reported the death of a patient that had been mistakenly injected with a full syringe of disinfectant. As newspapers searched for similar cases and found that the number of civil suits brought against doctors had doubled in the decade preceding 2004.

In Australia, malpractice insurance premiums are reported to have doubled to twice the 1995 level. In South Korea, angry families have been seen to stage sit-ins at an accused doctor’s office or hospital. Tia Joon Moon as head of the Korean Medical Association traces the upswing in law suits to the increasing consumer awareness of health care procedures partly made possible by access to information on the Internet (Schoenberger 2007, p 90).

Some research has shown that providing service customers with logical explanations for service failure and compensating them in some way can substantially reduce dissatisfaction levels (Bitner 1990). This process is known as open disclosure (OD) in health services. If the wrong service is delivered or a health service is not delivered in the way intended, then the supplier of a health service can be said to have breached contract and understanding with the patient and other interested stakeholders. An error may occur during the delivery of a service that may result in an adverse outcome for the patient and their family. These are the circumstances that make way for open disclosure.

Open disclosure is seen to cover the domain of communications the clinicians engage in when signalling that an error has occurred to the patient and/or the patient’s family during the process of delivering a health service (Buchman 1992). Although this practice is not completely new, formalizing the OD process in open discussions with patient and family is a recent practice. The principle of OD is said to have originated in the US following pay outs of US$1.5 million at the Veterans Affairs Centre in Lexington in the late 1980’s (Kraman, Cranfill, Hamm and Woodward 2002). Administrators at the Centre decided to adopt a more proactive policy with cases that had the potential to progress to litigation (Woods 2007). Since this time, OD has been adopted by numerous health organizations across the United States. Some research has suggested that OD practices can reduce litigation pay outs (Kraman and Hamm 1999). OD was addressed in the UK through the National Health Service’s National Patient Safety Agency policy entitled, Being Open- Communicating patient safety incidents with patients and their carers (UK Department of Health 2005).

In Australia, OD entered the national policy agenda as an important dimension of improving clinical incident management in a climate of rising public awareness of complaints and litigation (AHMAC 2002). The National Open Disclosure Steering Committee was re-appointed by the Commission in April 2006. Its brief was to provide national leadership and policy direction for the implementation of an Australian OD strategy. This Committee targeted 21 sites in order to conduct an evaluation of the OD pilot. The research approach was qualitative and involved both semi structured and open-ended interviews with 131 clinical staff together with 23 patients and family members. All interviewees had participated in one or more OD meetings (Iedema, Mallock, Sorensen, Manias, Tuckett, Williams, Perrott, Brownhill, Piper, Hor, Hegney, Hermine and Jorm 2008). Analysis of the data collected involved mapping of discursive sub-themes across the transcripts.

The main findings of the Australian OD research project were that OD is met with approval and support by both health professionals and health service consumers. Under an OD protocol, staff has the opportunity to review and discuss matters that had often seen as difficult to discuss. Consumers are pleased to have an explanation of the circumstance of a service failure. OD also creates uncertainty and confusion regarding such matters as which incidents trigger OD, the full impact of an OD event on the reputation of the health care organization, and the uncertainty of whether colleagues will support those involved in OD processes. Both staff and consumers expressed a desire to have OD more firmly established in everyday clinical practice.

Health Service Management
Service failure has implications in a number of areas of a health care delivery system, namely the psychological, sociological and economic dimensions. Consumers, their families and health care workers often suffer mental anguish when service failure results have harmful outcomes. One study showed that consumer’s react negatively when they believe the service provider could have easily prevented the service failure. Conversely, when consumers feel partly responsible or are ambiguous about the cause of failure, the negative effects of poor performance are somewhat mitigated (Choi and Mattila 2008). Society’s confidence in their health care institutions and systems may suffer image and reputation damage. Service failure also has economic implications as scarce health resources are wasted on enquiries and investigations to find the underlying causes.

An important challenge in the debate of health service failure is to build a better understanding of where and why failure occurs, and then develop strategies to minimize the occurrence, impact and severity of service failure. The pilot research project in OD outlined above provided useful insights into some of the shortcomings that can occur in the processes and workings of a health service delivery system.

As an early contribution to the service failure debate, a tentative health service schema is proposed in Figure B. The concepts presented in this model have also been inspired by the earlier work of other service theoreticians (refer Parasuraman et al 1985). The objective of proposing this draft model has a number of dimensions, firstly to identify key players and the functions or events they perform in interpreting health service delivery. The second dimension identifies potential gaps between what is expected and what is delivered. The intention is to then postulate possible causes of failure at the key health care delivery event points identified in Figure B, and finally to propose some initial prescriptive solutions which can be reviewed and further developed by both theoreticians and practitioners (see Table A).
Figure B shows each of the critical points in the health service specification, delivery and evaluation sequence. Key events in the service delivery process are as follows:

**Event A** Specification of the health service to be delivered

**Event B** Health care worker’s interpretation of the health service specification

**Event C** Actual health service delivery

**Event D** Health care worker’s perceptions of the health service actually delivered

Bruce Perrott, UTS, Sydney
**Event E** Patient’s perception of the health service actually delivered

**Event F** Patient’s expectation of the health service to be delivered

The first step is to specify the service to be delivered (point A). This may be compiled from best practice information sources and contain input from respected research centers. In the steps that follow, a number of interpretations and perceptions of the health service and how it should, and was delivered is possible. Each location holds its own risks in service specification interpretation and delivery.

Event B is where the health worker will interpret the specification within their scope of understanding and experience. Event F is the point where the patient will form expectations of the service to be delivered following communication from the health worker.

Event C is the actual delivery of the service as planned and interpreted. Event D is the health worker’s perception of the actual service delivered. Event E is the patient’s perception of the service actually delivered.

Figure B also shows the potential gaps that may occur between perceptions of the health service expected and what is actually delivered. These potential gaps are outlined as follows;

**Gap 1** A potential gap between the health workers perception of what they believe the health service is to be delivered, and the patient’s expectation of the service to be delivered

**Gap 2** A potential gap between the health workers perception of the health service actually delivered and the patient’s perception of the service actually delivered

**Gap 3** A potential gap between a patient’s expectation of the service to be delivered and what is actually delivered.

**Gap 4** A potential gap between the health service specification and the health worker’s interpretation of the service to be delivered

**Gap 5** A potential gap between the health service specification and perceptions of the service actually delivered.

A number of occasions exist where service faults or failures may develop. Table A attempts to summarize the risks of health service failure at each of the six service process event points (shown as events A to F in Figure B). The first column in Table A identifies the six health service event points. Risk of health service failure is shown in the second column. Possible causes of health service delivery fault or failure for each event is shown in the third column. Column four sets out a number of possible prescriptive measures that can be taken to minimize or eliminate health service delivery failure that occurs in the health service specification, delivery and evaluation processes.
<table>
<thead>
<tr>
<th>TASK</th>
<th>RISK OF HEALTH SERVICE FAILURE</th>
<th>POSSIBLE CAUSES</th>
<th>PRESCRIPTIVE PLANNING</th>
</tr>
</thead>
</table>
| A    | Specifying the health service to be delivered | Inadequate/unclear/incorrect health service specification | •Inadequate specification  
•Incorrect specification  
•Faulty assumptions  
•Poor communications | •Specification preparation and training in communication  
•Strong research and development of the health service |
| B    | Health care workers interpretation of the service specification | Mistake or shortcoming in health service ultimately delivered | •Shortcoming in ability to interpret specification  
•Insufficient time to study/understand the specification  
•Distractions whilst studying the specifications | •Health care worker training and education  
•Improve specification learning process  
•Examine/test specification knowledge |
| C    | Health service delivery | Service not delivered to specification | •Distractions during delivery  
•Lack of skills or knowledge of health care workers  
•Shortcomings in support services | •Rigorous quality controls  
•Knowledge and skill testing and upgrade  
•Review support strategies and capability |
### TABLE A (Continued)

<table>
<thead>
<tr>
<th>TASK</th>
<th>RISK OF HEALTH SERVICE FAILURE</th>
<th>POSSIBLE CAUSES</th>
<th>PRESCRIPTIVE PLANNING</th>
</tr>
</thead>
</table>
| D    | Inadequate understanding of what was delivered | • Insufficient post service information  
• Inadequate post service evaluation process  
• Inadequate knowledge of the specification | • Training in post service reviews  
• Improved service delivery evaluation  
• Improved post service data analysis and interpretation |
| E    | Misinterpretation or misunderstanding of service delivered and range of outcomes | • Inadequate relevant medical knowledge  
• Misinterpretation of service delivered and outcomes  
• Medical complications  
• Insufficient information | • Patient education  
• Improved communication - post treatment |
| F    | Misunderstanding of service to be delivered | • Inadequate relevant medical knowledge  
• Misunderstanding of health service to be delivered  
• Insufficient information communicated on the service to be delivered | • Relevant patient education  
• Improve preservice information and communication |

### Next Steps

This review has presented a tentative schema for the purpose of promoting future research and discussion aimed at decreasing the incidence of flawed health service delivery and identify where and how service quality may be improved. The following is a summary of possible key future actions for both the six step delivery sequence and the service gap review (refer Figure B, Health Service Delivery Schema). These actions also have implications for healthcare policy makers who have the responsibility to set quality standards both within, and across multiple organizations that make up the domain of their policymaking charter.

Health service critical points:
- **Sequence research/study**: Conduct research at priority health service locations in order to better understand the...
six step service delivery sequence in the context of service standards and delivery outcome objectives

**Stage and sequence specification:** Prepare and review specifications for each service stage in terms that can be understood and actioned by the relevant health care workers

**Sequence quality management:** Undertake communication programs to motivate health care workers to follow and manage to agreed service specifications.

Health service gap review:

**Gap research/study:** Conduct research of service gaps at priority health service locations in order to better understand the idiosyncrasies of health service gaps in the context of service standards and delivery outcome objectives:

**Potential gaps identified:** Identify the type and range of health service gaps that may occur

**Gap cause analysis:** Prepare analyses of the possible causes and extent of each gap

**Gap management:** Prepare both pre and post action steps to guide health care workers in order to ensure health service gaps are eliminated or minimized

**Summary**

Some of the underlying characteristics of services were first reviewed from a health service perspective. The nature and implications of health service failure were then discussed. Key findings from a recent Australian study of practice in open disclosure of service failure in public hospitals were reviewed for the purpose of examining the impact of service failure in a health care setting. The paper went on to explore the process and nature of health service delivery in terms of potential shortcomings and flaws with its implications for service quality. A matrix table was developed to highlight the key areas of health service failure, suggested causes, and finally suggest possible prescriptive measures to help manage the risks involved in the health service delivery process. This paper proposed a framework that will stimulate debate on the ongoing task (Tan 2007) of ensuring consistent health service quality improvement standards evolve over time in line with the changing expectations of key stakeholders (Lester and Roland 2007).

**References**


McFadyen K, 2001, Measuring Service Quality in a Corporatized Public Sector Environment, Journal of
Development of a Ranking Model for Home Healthcare Provider Quality

Justin Gressel, The University of Texas-Pan American

This study aims to improve accessibility to and understanding of home healthcare provider quality information through the creation of a ranking model that consists of multidimensional quality indicators. The
selection of quality indicators and their respective weights was done through an online expert panel of 67 NAHC members. The weights and providers’ performance on each indicator, a composite score can be calculated that reflects a home healthcare provider’s overall quality level.

Introduction
Currently, quality information on healthcare providers is spread across various data sources (Evans 2007), some of which must be formally requested or purchased. This fragmentation of healthcare information or “scatter” of relevant healthcare information makes it difficult for consumers to retrieve complete information with which to make informed decisions (Bhavnani and Peck 2010). Another obstacle in accessing healthcare information is the sheer amount of the available data, which makes it difficult for consumers to synthesize and summarize the relevant quality information. The present study focuses on the assessment of quality within the context of home healthcare (HH), a burgeoning industry with expenditures of $68.3 billion and a growth rate of 10% as of 2009 (CMS 2009).

Currently, the only comparison tool available to the public for HH providers is Home Health Compare, which is based on various outcome assessment measures collected by the Centers for Medicare and Medicaid Services (CMS). Criticisms of Home Health Compare are: there are too many indicators, there is no overall evaluation or summary of the quality indicators, only three providers can be compared at a time, and the outcome assessment measures exclude other relevant quality indicators such as cost, efficiency, and compliance with laws and regulations.

Methodology
A HH ranking model was created by integrating quality indicators from the following sources: Home Health Compare, Medicare Claims, and the Department of Aging and Disability Services. In order to account for the differential effect of individual quality indicators on overall quality, an expert panel was conducted online with the National Association for Home Care and Hospice where respondents were asked to select weights for each of the 14 preliminary quality indicators by allocating 100 points among them to indicate overall contribution to HH quality.

Results
The online panel consisted of 67 respondents, with a completion rate of 78%. The highest weighted indicators were patient satisfaction (26%), violations (20%) and accreditation (15%). The five indicators from Home Health Compare amounted to a total of 27%, and the four indicators from Medicare Claims data totaled 12%. Given the weights and providers’ performance across the quality indicators, a composite score that reflects the overall HH quality level can be calculated by multiplying providers’ performance levels by the respective weights and summing the resulting products. First, however, the performance scores must be normalized and reverse-scaled to account for differences in range and valence.

Discussion
Study findings indicate that HH professionals believe HH quality is influenced by multiple, multidimensional quality indicators. Patient satisfaction, which CMS only recently began to measure, is the most influential indicator on overall HH quality, followed by violations and accreditation. The Home Health Compare and Medicare Claims indicators received significantly less weight.

References
Patients’ Experience in a Patient-Centered Medical Home: Results from a Pilot Test of the new PCMH-CAHPS Instrument

Debra L. Scammon, University of Utah
JaeWhan Kim, University of Utah
Annie Mervis, University of Utah
Julie Day, University of Utah
Michael K. Magill, University of Utah

Patient experience is recognized as a critical metric for assessing the performance of healthcare organizations. A new survey, the PCMH-CAHPS survey, available for public use from the Association for Healthcare Research and Quality, will be the national standard for practices seeking recognition as patient centered medical homes. In this research we use a pilot version of the new survey to assess patients’ experiences during the transformation of our delivery model to a patient centered medical home.

Introduction
Enhancing the patient experience is a catchphrase these days in healthcare. The “exceptional patient experience” has emerged as a strategic initiative within many healthcare organizations (Daniels 2011). This trend highlights the importance of the patient’s experience as a metric for assessing performance of healthcare organizations.

Marketers have long known that it is exceptional experiences that bring customers back again and that provide a reason for them to tell friends, family or neighbors about their experiences. The most successful businesses aim to delight their customers by understanding their specific personal interests, anticipating their needs, exceeding their expectations, and making every experience an exhilarating experience. Healthcare marketers also realize that exceptional experiences in the healthcare setting build patient loyalty and support positive word-of-mouth.

Patient Centered Medical Home
With increased attention being paid to primary care as an essential foundation for healthcare delivery reform, the Patient Centered Medical Home is gaining in popularity. A Patient Centered Medical Home (PCMH) is a primary care medical practice that offers personal, accessible, coordinated, comprehensive, and ongoing care to patients. The Medical Home offers patients an ongoing relationship with a personal physician who will meet their needs for acute, chronic, and preventive care. The personal physician works with a health care team to ensure coordination and continuity of care. When care by a specialist is needed, the primary care physician and team coordinate and follow up on the care, making sure that all the necessary linkages are made. Care is patient-centric and ensures that all recommended care is being delivered and that unnecessary or harmful care is not.

Patients with specific health conditions are tracked in a registry to ensure timely delivery of needed care. Outreach to these patients helps ensure they receive recommended care. All of these elements of care are facilitated through health information technology. Health information is managed through an electronic health record (Day, Scammon and Magill 2010).

Consensus is developing around what the essential components of a PCMH are. The National Commission on Quality Assurance (NCQA) has established a set of criteria practices must meet in order to be recognized as a PCMH (http://www.ncqa.org/tabid/631/Default.aspx). These include capacity for assuring access to care, such as same-day appointments; the use of templates for documenting patient health care needs such as progress notes; the availability of best practice alerts such as reminders for preventive care and recommended diagnostic tests; execution of standing orders for medication refills, previsit planning; and patient education.

What is Patient-Centeredness?
Beyond the structural components of a patient centered medical home, patient-centered care emphasizes the relationship between patients and their care teams. The Institute of Medicine (IOM 2001) defined patient-centeredness as “providing care that is respectful of and responsive to individual patient preferences, needs, and values” and additionally “ensuring that patient values guide all clinical decisions.”
Patients rate the patient-physician relationship as second only to family relationships in level of importance (Erdman & Harrison-Walker, 2006). Relationships are built through effective communication and ongoing interaction. Relationship-centered care (RCC; Suchman 2005) recognizes the importance of partnerships whereby providers and patients can do things together that the individuals could not do on their own.

Effective communication between patients and their care teams helps build strong relationships. Exchanging information, responding to emotions, managing uncertainty, and fostering trusting relationships are critical facets of successful interpersonal communication between patients and providers (Arora, et al., 2009; Mead & Bower, 2000).

Patient centered communication has been associated with a number of important outcomes including provider behaviors such as ordering fewer diagnostic tests (Stewart, et al., 2000), and making fewer referrals (Little, et al. 2002). Patient centered communication has also been associated with patient satisfaction, overall, with the visit (Flocke, Stange & Zyzanski, 1998), with the provider, and with the technical quality of care. It is also associated with patient responses such as understanding, perceived control, adherence with recommended care plans, and perceived change in health status (Safran et al., 1998; Ramsay et al., 2000; Epstein, et al., 2005).

Patient-centered care has been associated with decreased health care utilization, including decreased number of annual visits for specialty care, less frequent hospitalizations, fewer laboratory and diagnostic tests, and lower total medical charges (Bertakis and Azari 2000). Together this evidence suggests that patient centered care yields not only important emotional outcomes for patients, but also health benefits which ultimately impact utilization and cost of care.

Assessing Patient Experience

Patient experience is an important measure of the quality of healthcare. It is essential to assess the experience of a healthcare visit from the patient’s perspective. The patient is the best, and perhaps only, true source of information about their experience with care.

The Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys are familiar tools to many hospitals (HCAHPS) and clinics (CS-C AHP S) for operational management and benchmarking. A new instrument within the CAHPS family of assessment tools, PCMH-CAHPS, became available for public use in October 2011. The new instrument includes questions that evaluate patients’ experiences with healthcare delivery processes designed to enhance the key components of the patient centered medical home.

NCQA has adopted this instrument for use in its Physician Practice Connections-Patient Centered Medical Home (PPC-PCMH) Recognition Program. Beginning in 2012, practices seeking additional designation through this program for Patient Experience will be required to administer a patient survey demonstrating their use of patient experience data in assessing their performance. In the future, both PCMH recognition and patient experience designation will make practices eligible for higher reimbursement from CMS for services delivered.

Background on PCMH-CAHPS

Starting in late 2009, a group of researchers at AHRQ called the CAHPS Team began developing the PCMH Item Set as a tool for assessing patients’ experiences with the domains of primary care that define a medical home. The process of developing and testing the PCMH items included multiple steps:

- Literature review to ensure the items would reflect the desired content and best research in the area;
- Input from a Technical Expert Panel and other stakeholders, in collaboration with the National Committee for Quality Assurance (NCQA);
- Focus groups with patients to understand how they describe the care they receive;
- Cognitive testing (two rounds) in English and Spanish;
- Development of a survey for field testing;
- Field testing by NCQA of the draft version PCMH items; and
- Psychometric analysis of the field test results and refinement of the survey.

CAHPS surveys include core and supplemental items. The core items provide a basis for comparison with other provider entities, while the supplemental items offer users the ability to address specific topics of interest. The new survey uses this same approach. It begins with the Clinician and Group CAHPS (CG-CAHPS) questions and adds supplemental items to address the PCMH domains. The survey asks patients about their experiences interacting with three groups: this provider (an individual clinician defined in the first question), care team (all the people who work with the provider), and office staff (clerks and receptionists in the practice). It asks about care received in the last 12 months rather than just a single visit since the PCMH concept applies to care received over time and between visits.

The pilot tool included 124 items intended to assess the domains of the PCMH. Multiple items assessing each domain were included in order to identify the one(s) with the best construct validity. Through the refinement process described above, the final version was reduced to 52 items.
Using the PCMH-CAHPS Tool
Community Clinics’ Care by Design™

Setting

The University of Utah’s Community Clinics are a network of 10 clinics located in a five-county area surrounding Salt Lake City, Utah. In 2004 the clinics began implementing a new model of care, called Care by Design™ (CBD), that incorporates many of the components of a PCMH. The model is based upon three organizing principles: appropriate access, care teams, and planned care. Although CBD is a comprehensive model, it was implemented one component at a time beginning with appropriate access in 2003, expanding to care teams in 2004, and more recently incorporating planned care. Most recently CC implemented a care management program targeted to patients with chronic conditions as an enhancement to planned care. With grant support from the Agency for Healthcare Research and Quality (AHRQ) the CCs are doing a retrospective analysis of the implementation of the CBD model and as part of the Utah Beacon Community initiative, CCs are piloting the care management program.

As one of several AHRQ grantees studying primary care practice redesign, we obtained permission to use the PCMH-CAHPS tool during the pilot period to investigate our patients’ experience with receiving care under our new model. For our implementation, we selected those items that assessed the specific innovations that CCs had introduced with CBD. We also added several questions to assess transitions of care for patients moving from hospital to primary care. Our final survey included 52 questions.

Method

Using a commercial vendor, our customized PCMH-CAHPS survey was administered to 4300 randomly selected CC patients. The questionnaire, cover letter that provided informed consent, and a return postage-paid envelop were mailed in July 2011. No follow-up was attempted. Patients were eligible to participate in the survey if they had had multiple visits to a CC within the 12 months between July 2010 and June 2011. In total, 831 completed surveys were returned within three months (a 19% response rate).

Our preliminary analyses of the survey responses explore patients’ perceptions of their care within each of the domains of PCMH. We also examine the correlation of these perceptions to patients’ overall satisfaction with care.

Findings

Demographics

Survey participants were well educated with over 1/3 having a college degree or higher. Nearly 2/3 had annual household incomes of less than $50,000. Fewer than 10% of our respondents were Hispanic. Although we had representation from several races, 89% of our respondents were white. Just over half of our respondents had two adults in their household (see Table 1).

<table>
<thead>
<tr>
<th>Table 1: Demographics of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
</tr>
<tr>
<td>Did not graduate from high school</td>
</tr>
<tr>
<td>High school graduate or GED</td>
</tr>
<tr>
<td>Some college or 2-year degree</td>
</tr>
<tr>
<td>4-year college graduate</td>
</tr>
<tr>
<td>More than 4-year college degree</td>
</tr>
<tr>
<td>Income</td>
</tr>
<tr>
<td>Less than $25,000</td>
</tr>
<tr>
<td>$25,001-$50,000</td>
</tr>
<tr>
<td>$50,001-$100,000</td>
</tr>
<tr>
<td>Over $100,001</td>
</tr>
<tr>
<td>Ethnicity</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
</tr>
<tr>
<td>Non-Hispanic or Latino</td>
</tr>
<tr>
<td>Race</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Black or African American</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Native Hawaiian or Pacific Islander</td>
</tr>
<tr>
<td>American Indian or Alaska Native</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>
Experience with PCMH Domains
To get an overall sense of how patients experienced the various domains of PCMH we grouped the question items assessing each domain of PCMH together and calculated the mean of the means for each dimension (see Table 2).

Table 2: Mean Experience Scores PCMH Domains

<table>
<thead>
<tr>
<th>PCMH Domain</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>91.8</td>
<td>15.88</td>
</tr>
<tr>
<td>Office staff</td>
<td>88.6</td>
<td>18.07</td>
</tr>
<tr>
<td>Coordination of care</td>
<td>82.9</td>
<td>20.49</td>
</tr>
<tr>
<td>Shared decision making</td>
<td>77.6</td>
<td>26.29</td>
</tr>
<tr>
<td>Access</td>
<td>77.5</td>
<td>21.11</td>
</tr>
<tr>
<td>Whole person orientation</td>
<td>75.0</td>
<td>20.93</td>
</tr>
<tr>
<td>Self management support</td>
<td>47.2</td>
<td>38.99</td>
</tr>
<tr>
<td>Comprehensive care</td>
<td>43.7</td>
<td>43.60</td>
</tr>
<tr>
<td>Continuity of care</td>
<td>40.8</td>
<td>36.10</td>
</tr>
</tbody>
</table>

Aspects of the visit experience that involved interaction between patients and their providers, their care teams, and with office staff had the highest means. Included in the communication domain were questions about providers’ explanations, their listening behaviors, and their answering of questions. Staff who were helpful and who treated patients with respect and courtesy were rated highly.

Experiences in the domains of shared decision-making, access, and whole person orientation were also highly rated. Shared decision making included questions related to the provider talking about reasons to take or not to take medications and reasons to have surgery. Access included questions about ability to get appointments, contacts through phone and e-mail, and waiting time at the clinic. After-hours phone access and wait times had the lowest mean scores. Whole-person orientation included questions about providers’ knowledge of patients’ history, responsibilities, and them as a person. Among these questions, knowledge of the patient’s history was rated highest.

Appropriate access and care teams are the components of CBD that have been in place the longest. Patients’ reported experiences reflect positive encounters in these areas. Our care model is supported by a fully functional electronic medical record (EMR). Thus, providers’ knowledge of patients’ histories is facilitated with ready access to information about past encounters, treatments, medications, and diagnostics through our EMR.

The domains that received the lowest mean ratings included self-management support, comprehensive care, and continuity of care, all components of our new care management program. This program is being phased in, with our first care manager introduced into one clinic in March 2011. By August when this survey was completed only a very few patients had had experience with this new program. Thus, these data provide a baseline for the impact of our care management program and we anticipate seeing changes in these measures as our care management program is fully implemented.

Our care management program is designed to ensure more comprehensive care by including such things as depression screening and medication management. We included items addressing these components of a visit in our pilot survey. Within the domain of comprehensive care we included questions to assess the extent to which the provider talks about things that cause patients stress and asks about depression. Ratings on these questions were low, leaving room for improvement as our care management program reaches more patients. Similarly, the questions we included to assess self-management support focus on goal-setting and help in making changes to health behaviors. These aspects of a clinic visit are the focus of redesigned roles and responsibilities among care team members and goal-setting tools are currently being programmed into our EMR. Questions to assess continuity of care included getting help managing care and after-visit notes summarizing the visit. These are aspects of the clinic visit that are receiving more attention through our care management program. We anticipate seeing improvements in patient experience ratings for these domains as our care management program matures.

Correlation of Experience with Satisfaction
To understand the contribution that experiences in each of the PCMH domains make to overall satisfaction we ran correlations between the sets of items and overall satisfaction. Survey responses revealed a strong positive correlation between patients’ experiences on some, but not all, domains of PCMH and overall satisfaction (see Table 3).

**Table 3: Correlation between experience and overall satisfaction**

<table>
<thead>
<tr>
<th>PCMH Domain</th>
<th>Corr*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole person orientation</td>
<td>.658</td>
</tr>
<tr>
<td>Communication</td>
<td>.621</td>
</tr>
<tr>
<td>Coordination of care</td>
<td>.436</td>
</tr>
<tr>
<td>Shared decision-making</td>
<td>.408</td>
</tr>
<tr>
<td>Office staff</td>
<td>.323</td>
</tr>
<tr>
<td>Access</td>
<td>.315</td>
</tr>
<tr>
<td>Self management support</td>
<td>.312</td>
</tr>
<tr>
<td>Continuity of care</td>
<td>.258</td>
</tr>
<tr>
<td>Comprehensive care</td>
<td>.217</td>
</tr>
</tbody>
</table>

Note: All correlations are statistically significant (p-value ≤0.05)

The highest correlations with overall satisfaction were with whole person orientation and communication. Literature on patient-centeredness suggests that within the patient-provider relationship a sense of being viewed as a complete person, not just as a patient with a particular presenting problem, is an essential feature of a positive relationship. A provider who is knowledgeable of the patient as a person, of the patient’s history, and of the patient’s life circumstances is valued by patients.

Communication also plays a strong role in patient-provider relationships. A core set of communication skills has been identified as having a positive effect on medical communications (Simpson, Buckman, Stewart et al., 1991). Among them are skills, such as establishing focus, active listening, and the use of communication to reach common ground. For the patient this encompasses such things as being listened to, having instructions presented in easy to understand ways, and having their questions answered.

**Discussion**

If patients are to be at the center of the Patient-Centered Medical Home, it is essential that their experiences be carefully monitored. The new PCMH-CAHPS survey was designed to provide a standardized assessment tool for use by practices adopting a PCMH model of care. Data generated with this tool can provide actionable feedback for improving care processes to enhance the patient experience.

Literature on patient-centered care clearly establishes the importance of effective communication and strong relationships between patients, their providers, and their care teams in achieving positive outcomes. In our survey, the PCMH domain with the highest mean rating was communication. Communication also had the second highest correlation with overall patient satisfaction. In our survey this domain included items related to clear explanations, careful listening, and satisfactory answers by providers. It also included a sense by the patient that their provider understands what is important to them, respects what they have to say, and spends sufficient time with them.

Relationships in which providers have full and up-to-date information about patients’ health issues, and understand patients’ personal circumstances and health and life goals are valued by patients. In our survey whole person orientation had the highest correlation to patients’ overall satisfaction. This finding reinforces the importance of patients feeling that their concerns are heard, that there is mutual understanding between them and their providers about their health goals, and that there is a true partnership between patients and their providers and care team.

It is important that practices collect patient experience data and use it regularly to help enhance patient outcomes. Our survey provides a baseline from which we can assess progress and by which we can identify areas of our care that can be improved.

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A Research Proposal for Measuring the Economic and Social Impacts of Maternal, Child, and Community Health Care Programs in Southwestern Uganda

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The purpose of the research program proposed here is to investigate the intricate and critically important relationship between human health and behavior and the role this interaction plays in the economic sustainability of health care programs in rural southwestern Uganda. The economic evaluation of health care programs in developing nations is fraught with many challenges, and there are very limited data to support policy, program, and resource allocation choices. Health care decisions being made in poverty-stricken areas like southwestern Uganda can often mean the difference between life and death for countless individuals; thus the importance of making informed decisions increases dramatically. Often, because of an inability to demonstrate the actual economic benefits of particular medical treatments or early intervention programs, already limited resources may become diverted to other areas of development such as manufacturing or infrastructure.

Currently, limited data are available to calculate the return on investment in certain areas of health care, notably maternal, child, and community health programs in this rural region of East Africa. With the cooperation of the Bwindi Community Hospital and the hundreds of Ugandan volunteer Village Health Promoters in the region, I intend to develop a framework to collect comprehensive and critically needed data on the economic impact of households’ health status in the region. Once adequate collection mechanisms are in place, the lasting value to the community will include vitally important longitudinal analyses in the coming years. Additionally, the development of this framework may have broader implications for use in other similar regions of Africa.

This multi-method research proposal has several well-defined and interrelated goals. The Bwindi Community Hospital first implemented a ‘Household Health Survey’ in 2008. This instrument represents a significant first attempt to collect health census data; however, the instrument is still relatively undeveloped in form, specifically lacking data collection in the areas of maternal health and the household impact of illness on the family. Therefore, my first objective will be to revise this data collection instrument with the guidance of the hospital director, Dr. Charles Birungi Mutahunga. The first step in revising the existing questionnaire will be to organize a series of in-depth interviews and focus groups comprised of local Village Health Promoters and Bataka leaders, the individuals who administer the existing survey. This critical qualitative first step will provide a more in-depth understanding of the existing quantitative data and also better inform later revisions and additions to the questionnaire instrument.

The second primary objective of this research project will be to educate, advise, and support the 600+ administrators of the revised household health questionnaire. As the accuracy and adequacy of the data collected from the household survey improve, the hospital administration will be better positioned to make data-driven decisions with respect to health care program implementation and effective resource allocation at the hospital and within the region it serves.

The second objective of this research relates to the data collected. The questionnaire will be designed to help the hospital administration determine the economic impact of the services that they currently provide, specifically through their maternal health, child health, and community health programs. This information will better position the hospital in terms of allocating limited resources to these areas and in determining the most appropriate grant applications moving forward. The sample size of the 2009 household survey was N=41,629 individuals and N=8,576 households. The potential to use...
health-related economic and behavioral data from such a significant portion of a rural Ugandan community is immense. The hospital has laid an impressive foundation given the resources they have available to them; however, the potential to update, improve, and add to their primary data collection methods will undoubtedly lead to better health and efficiency in health care delivery in a very poor region of a very poor nation.

The fourth objective of this research will be to build a database which Bwindi Community Hospital staff and physicians will be able to update annually and rely upon for longitudinal research purposes relating to the health status of their community. With these data, hospital administrators will be able to identify potential community health issues most in need of intervention, education, or treatment.

Methods
Because of the critical role that good, comprehensive data play in informed resource allocation and policy decision making, this research project will require methodological triangulation, requiring both qualitative and quantitative approaches to better understand the community health situation in Bwindi. The methodologies employed will not only include the aforementioned large-scale household survey questionnaire, but also qualitative techniques, including in-depth interviews, focus groups, and observation. The use of qualitative methods will supplement and add depth to existing survey data and inform the large-scale questionnaire redesign, while the quantitative data themselves will also increase the generalizability of the findings.

The interviews and focus groups with Village Health Promoters, Bataka leaders, and community members will be conducted during 2012. The data gathered through these qualitative phases of the research program will be used to revise the existing household survey questionnaire and add several sections specifically addressing maternal and child health issues, as well as the economic and humanitarian impacts of household illness and/or injuries, whether treated or not. The current questionnaire is most notably lacking in maternal health, child health, and economic impact questions. The most recent questionnaire is being submitted along with this application. While it is an impressive initial patient survey in such a rural and impoverished area of Africa, there is room to significantly improve the questionnaire in terms of its comprehensiveness, the quality and usefulness of the data collected, and data analysis.

The implementation of the new household survey questionnaire will take place during the fall of 2012; its administration will be facilitated by the efforts of approximately 690 Village Health Promoters and Bataka leaders. The analysis of the quantitative data will take place during the winter of 2012, and the results will be disseminated early in 2013.

Dissemination & Contributions
The most important audiences for this research project are the hospital administrators and physicians at the Bwindi Community Hospital and health officials working in Uganda. I believe these audiences are the most important because the enriched data and additional information provided by this research will help them better provide more effective and efficient care to their community.

The results of this research will also be disseminated to academic audiences at conferences in the fields of public health and/or health economics such as the International Conference on Health Economics, Management and Policy or the International Union for Health Promotion and Education’s World Conference on Health Promotion. Additionally, the results will be shared through the publication of results in academic journals such as the Journal of Health Informatics in Developing Countries or the Journal of Health Economics. It is my hope that this type of community-based household health survey research will have a much broader application throughout the poorest regions of Africa, leading to significant improvements in human health care.

There are both short- and long-term contributions of the research proposed here. In the short term, the Bwindi Community Hospital will be better able to allocate limited financial and staff resources to services and programs that are most effective in delivering necessary health care. Once the economic return on investment can be measured for a few of the hospital’s central programs (maternity, child health, and community health), administrators will be better positioned to learn from the successes of those programs and, hopefully, increase the efficiencies and effectiveness of other programs as well.

The long-term value of research in this area of study is incalculable for the very reason that makes inquiries of this nature so compelling. Should it be
determined that the findings of this research are
generalizable to communities and cultures beyond rural
southwestern Uganda, the value of improving the
efficiency and efficacy of community-based health care
would be immeasurable in terms of numbers of lives
improved and/or saved throughout Africa. The potential
for the replication of the collection techniques and the
application of community-based health economic data
developed during this research holds tremendous value.
Social marketing is a communication theory widely used to formulate effective public health campaigns. It is based upon the traditional four P’s of business marketing: product, promotion, placement, and price. A literature review of published articles about celebrity-endorsed health campaigns was conducted in order to understand how the framework of social marketing was (un)successfully employed. Positive outcomes of such efforts included greater issue awareness and increased behavioral intentions and actions. Negative outcomes of such efforts were lack of perceived relevance of celebrity endorsements in health campaigns and greater public dissatisfaction due to celebrity-issue incongruence. Overall, it was clear that celebrity-endorsed health campaigns have been utilized to serve the purpose of multiple social marketing P’s, with mixed results. Further research on this subject is necessary in order to better understand its value in the field of health communication.

Introduction

The United States of America is home to one of the largest celebrity populations in the world. Public fascination with this demographic has spurred the development of full-time paparazzi photographers, celebrity-watch television, tabloid print news, and invasive websites dedicated to the lives of the rich and famous. By profession, U.S. celebrities include athletes, actors, musicians, socialites, reality stars, corporate gurus, and even political figures. Lists aside, whether for good or for bad, it is clear that celebrities are an ingrained part of the current American way of life. Due to this reality, the celebrity endorsement of commercial products has become a popular vehicle to sell products and spread more awareness of corporate agendas. In fact, multi-million dollar endorsement deals are now the norm for many, often becoming celebrities’ top sources of income. Due to the apparent widespread success in this marketing ploy, practitioners in the health promotion field are now joining in on the idea of using celebrities to “sell” public health messages and behaviors. It is the goal of this essay to provide a thorough analysis of the ways in which the marriage of celebrity and health has evolved in public health communication and practice.

Social Marketing

Social marketing is a communication theory widely used to formulate effective public health campaigns. Adapted from general theories of business marketing, social marketing was initially defined by Kotler & Zaltman (1971), who recommended utilizing the four P’s of marketing research and practice for planned social change: product, promotion, placement, and price. To them, “social marketing is the design, implementation, and control of programs calculated to influence the acceptability of social ideas and involving considerations of product planning, pricing, communication, distribution, and marketing research” (Kotler & Zaltman, 1971, p. 5). Since this critical publication, health communication has become an increasingly recognized domain of both the public health and communication research communities. Simply put, social marketing adds significant strength to other ongoing forms of health communication research. The theory even currently hails an academic journal of the same name, and other periodicals with similar ambitions have developed, as well.

The heart of social marketing is the four P’s listed about, with the first being product. The business marketing definition of product relates to sellers designing products that meet the needs and desires of target populations. It is important to note that this is different from direct sales, in which pre-made products are promoted to target populations. In terms of health communication campaigns, product refers to raised awareness, behavioral change, or other outcomes that lead to the prevention of undesirable health outcomes. Specifically, the health product can be divided into two aspects: perceived behavior change benefits and actual behavior change (Wood, 2009). Because neither of these products is tangible, their development is not problem-
free: “In some social causes, the most difficult problem will be to innovate appropriate products; in other cases it will be to motivate purchase” (Kotler & Zaltman, 1971, p. 7). It is easy to understand how marketing a plan for social change may be more difficult than one for commercial products. This is where the next P comes into play, promotion.

Promotion of business products takes place through various avenues: advertisements, personal selling, publicity, and sales promotion (Kotler & Zaltman, 1971). A major step in successful promotion is segmenting the target population into groups that will respond similarly to these tactics in order to optimize results. All of these steps are mirrored in social marketing promotion, but, again, the barriers in this step toward health change may be greater than those for commercial products. Kotler and Zaltman (1971) originally warned:

This should not be identified as the marketing approach to social objectives. Many persons mistakenly assume that marketing means hard selling. . . . Second, the issue is not whether a particular approach suits one’s personal taste, but whether it works. (p. 8)

This concern has been recently echoed by Merritt, Christopoulos, and Thorpe (2009), who raise concern over the mislabeling of health campaigns as marketing rather than the sales efforts they may truly be: “Maybe a problem with the 4 Ps is that we start with a ‘‘product’’ in mind very early on” (Merritt et al., 2009, p. 8). This points out how the line between product and promotion can be blurred, and it argues that target populations must be more vigorously engaged to create products that are perceived as needed. However, others argue in favor of combining product and promotion, making a call for more branding in social marketing efforts. Wood (2009) postulates that commercial branding has been highly successful in promoting product sales by strengthening business-consumer relationships. Hence, “in a branded world social marketers should consider how branding may help in the promotion of healthier choices” (Wood, 2008, p. 82).

The final two P’s are place and price. In both business and social marketing, place deals with the channels used to promote the product, as well as with specific characteristics of the target population that should guide the promotion process.

Thus, place means arranging for accessible outlets which permit the translation of motivations into actions. Planning in this area entails selecting or developing appropriate outlets, deciding on their number, average size, and locations, and giving them proper motivation to perform their part of the job. (Kotler & Zaltman, 1971, p. 9)

The placement of a health communication campaign can vary widely, ranging from pamphlets in a physician’s office to nationally broadcast public service announcements. In conjunction with proper placement, price of the product is important to actual purchase. In business marketing, this concept is straightforward—if the product is perceived as needed and is affordable, purchase intention will likely turn into actual purchase. However, in social marketing, price is more difficult to judge. Although a health communication campaign may require actual monetary expenditure, the more probable price for the target population correlates to other factors. Specifically, “buying a behavioral change ‘‘product’’ often involves costs but these are likely to include perceived time, effort, change of lifestyle, and negative impact on social relations resulting from changed behavior” (Wood, 2008, p. 80). The ability to conduct a cost-benefit analysis in this situation is presumably more problematic than when purchase concerns commercial products.

To date, social marketing has been used extensively as a guide in health communication campaigns. The four P’s provide a clear road map for designing programs aimed at social change, although they can present a few challenges. In addition to the concerns raised previously, another is that concepts of the theory have been used both intentionally and unintentionally, leaving less literature to review than examples that actually exist. Also, measurement issues further confound the representativeness of the available research. Lister, McVey, French, Stevens, and Merritt (2008) note that it is difficult to attribute behavior change to specific social marketing health campaigns due to their complex nature. Still, some published examples of evaluated campaigns do exist. The following literature review will focus on how the concepts of social marketing have been utilized in celebrity-endorsed health campaigns, as well as on the measured impact of such tactics.

**Literature Review**

In their content analysis of U.S. and Thai magazines, Seitz, Razzouk, and Eamsobhan (2007) discovered that celebrity endorsements in one major U.S.
magazine were most prevalent in the category of “beauty, dietary and health services, hospitals, and weight loss clinics” (p. 394). Clearly, the connection between celebrity and health exists, and these citizens can join health communication efforts for a variety of reasons; personal involvement with a health issue may prompt action, or being approached by an organization to help with a cause may do the same. Regardless of whether celebrity involvement in health causes deals with personal public relations or genuine concern, the underlying assumption is that these choices have real effects on the communication patterns and behaviors of others involved with the issues at hand. Both positive and negative outcomes associated with celebrity endorsement of health causes will be discussed below.

**Positive Outcomes**

The beneficial effects of using celebrity endorsements have been evaluated primarily in commercial advertisements. Increases in brand name recognition, product appeal, message recall, product believability, positive brand attitudes, and the likelihood of purchase are several outcomes that have been discovered in market research (Seitz et al., 2007). Additionally, celebrities have endorsed both established and new products to draw upon these desirable effects. Hence, it is understandable why social marketers in the health field have reached out to celebrities to help promote and brand their products. Based upon the studied literature, it is clear that celebrity endorsement has had positive outcomes in increasing issue awareness, behavioral intention, and behavioral action linked with the communication campaigns to which target populations were exposed.

**Issue awareness.** By far the most common of the three positive outcomes to achieve, issue awareness is often the—or at least one—goal of many health communication campaigns. In part, this is due to the ease of measurability of this construct. However, the significant energies spent on campaigns to raise awareness may also be due to the relatively general unawareness of the issue; understanding that a problem exists is a prerequisite to behavioral intention and change. Due to these factors, several examples of desired increases in issue awareness exist. These campaigns have occurred through print media, television advertisements, and community-setting placement. In print, the “Got Milk?” campaign is one of the most visible celebrity endorsed health communication efforts in both the U.S. and other nations. Bower and Mateer (2008) studied a milk mustache campaign in the U.K. modeled on the U.S. version and found empirical evidence of many positive outcomes of the program. Recall of both the celebrity and the milk mustache were significant, as well as “an overall feeling of the advertising portraying milk as good for you and healthy and nutritious” (Bower & Mateer, 2008, p. 172). They summarized that the top output of the advertising campaign was product awareness.

On television, public service announcements (PSAs) are a common social marketing promotional tool. A recent study found that health is the most common topic of PSAs, but that these advertisements do not air during preferable viewing times. Specifically, PSAs air most often during the hours of 1:00-5:00 AM (Fuhrel-Forbis, Nadorff & Snyder, 2009). Still, some PSA success has been detailed by Keys, Morant, and Stroman (2008), who researched the effect of black youth-directed HIV/AIDS PSAs. These PSAs featured well known R & B musicians and youth-culture celebrities, and the celebrities themselves were determined to be the salient feature in issue awareness. Based on their findings, the researchers made a call for future action: “health communication experts must insert health messages in an entertainment context where celebrities are associated with urban street culture and youth popular culture. Black youth view these celebrities as influential” (Keys, Morant & Stroman, 2008, p. 199).

One example of a health communication event that occurred via several news media sources is the endorsement of child abuse prevention and the sports supplement Androstenedione by baseball player Mark McGwire. A team of researchers surveyed a variety of media consumers in order to understand the effect of McGwire’s stance on these two health products, which was circulated via numerous outlets, and the findings prove that his celebrity status affected awareness of these products (Brown, Basil & Bocarnea, 2003). For instance, “almost two-thirds of the respondents were aware of McGwire’s use of this supplement” (Brown et al., 2003, p. 54), and there was a significant association between personal identification with McGwire and awareness that child abuse is an important issue.

The results of yet another multi-placed campaign strengthen the conclusion that celebrities can improve issues awareness. The Heart Truth is an ongoing nonprofit campaign aiming to increase awareness of heart

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disease as a women’s health issue, and it utilizes branding as a core process in achieving its goals. In its institution, planners decided to use three placement strategies: “partnership development, media relations, and community action” (Wayman, Long, Ruoff, Temple & Taubenheim, 2008, p. 45). Various celebrities publicly endorsed the campaign in association with the partnership development strategy of the campaign, including former First Lady Laura Bush and major fashion designers who created red dresses (the campaign’s brand symbol) for the program. The fashion designers even enrolled other celebrities to model their creations in a televised fashion show supporting the cause (Long, Taubenheim, Wayman, Temple & Ruoff, 2008). Outcome measurements highlighted a 61 percent awareness of the red dress as a symbol for women’s heart disease, as well as a 27 percent increase in awareness of heart disease as a women’s issue over the course of the campaign period surveyed (Wayman et al., 2008; Long et al., 2008).

A final example of the ability of celebrities to help increase awareness of health issues is a community-based one. “Get Fit with the Grizzlies” was an elementary school-based program focused on nutrition and physical activities. The Memphis Grizzlies NBA team engaged with 4th and 5th grade students in local public schools to provide knowledge and tools to help reduce childhood obesity. Based on the results of a student survey, significant positive outcomes were determined, with increased knowledge of the discussed healthy behaviors being one of them (Irwin, Irwin, Miller, Somes & Richey, 2009).

Behavioral intention and action. Both behavioral intention and action are more difficult health “products” to achieve and measure. However, they have been witnessed in several celebrity-endorsed health communication campaigns. For instance, three of the campaigns discussed above found evidence of intention and behavior. In the Mark McGwire case, behavioral intention to take Androstenedione was significant for men alone (whether or not this is desirable is another issue), while both sexes “learned more from him about the importance of speaking out about child abuse” (Brown et al., 2003, p. 53). The Heart Truth campaign increased both intention and action in target populations. Based on one national survey, “60% of the women surveyed agreed that the Red Dress made them want to learn more about heart disease and 45% said it would prompt them to talk to their doctor and/or get a check-up” (Long et al., 2008, p. 23). In terms of actual behavioral change, information seeking about heart disease occurred in 20 percent of women after having seen or heard about the campaign. Prompted discussions about the disease with physicians and other women occurred in 11 and 6 percent of the respondents, respectively (Wayman et al., 2008). The “Get Fit with the Grizzlies” program resulted in increased behavioral changes, as well. In the same survey that measured the knowledge acquisition discussed above, changes in behaviors relating to healthy diets and adequate physical activity were measured to be significant (Irwin et al., 2009).

One other public health communication campaign is worth discussing in this section regarding behavioral change. In addition to PSAs, singular televised news events can serve to raise measurable awareness of and actions for health issues. In 2000, news media celebrity Katie Couric underwent a televised colonoscopy in order to promote cancer awareness and prevention following the death of her husband to colon cancer. The Katie Couric colonoscopy campaign produced, arguably, the most concrete, measurable effects of behavior change of any celebrity health endorsement to date. After correcting for possible confounding factors, researchers determined that the so-called Katie Couric “effect” resulted in significant colonoscopy increases in the U.S. for 9 months following the televised event (Cram et al., 2003). Further, “these findings suggest a celebrity spokesperson who does not have the specific disease he or she is promoting can have a substantial impact on public behavior related to that disease” (Cram et al., 2003, p. 1604).

Negative Outcomes

Even though the potential for celebrity endorsement to greatly increase health “product” purchase is large, so is the negative potential for the opposite to occur. For instance, if information perceived as unsavory by the public surfaces about a celebrity, his or her public health efforts may be squashed. In addition, celebrities usually constitute large promotional expenses, especially for non-commercial health entities with limited resources (Seitz et al., 2007). Congruency of the celebrity and the product can also be problematic. One commercial example of all three negative issues working at once is in the case of professional golfer Tiger Woods. Woods has recently undergone great public scrutiny regarding his personal character, which has rendered him incongruent with the aims of the corporations that pay him millions of
dollars to endorse their products. Several of these companies have dropped him as a sponsor due to fear of losing support from their key publics. Although this case is an extreme one, it clearly highlights why it is important to weigh the risks and benefits in using a celebrity endorser in a social marketing campaign.

The fact that celebrities have the option to choose to support health issues of their liking can also be problematic. As witnessed in the Mark McGwire example above, his personal endorsement of a steroid-like supplement increased the behavioral intention of target populations to use the drug. In a similar vein, Tanne (2000) gave an early warning that “increasing public awareness of common diseases is good, but few celebrities publicise the most obvious messages on disease prevention” (p. 1099). She goes on to explain that celebrity-chosen endorsements can mislead the public into taking non-recommended health actions, as well as hiding the complex nature of the diseases that they publicly discuss. In terms of cancer screening, one group of scholars surveyed Americans about celebrity involvement in their knowledge and behavioural intentions (Larson, Wolistin, Schwartz & Welch, 2005). They found that a large majority of respondents who had been exposed to celebrity endorsements felt the efforts had no effect on their personal health choices. The researchers concluded, “When it comes to communicating about complex decisions such as cancer screening, the goal should not be to persuade but to inform. Thus, we see no obvious role for celebrity endorsement of cancer screening” (Larson et al., 2005, p. 695).

Another recent study found that celebrity health endorsement can actually produce a boomerang effect in certain situations. Fauteux, McKelvie, and de Man (2008) researched the link between famous figures’ use of psychological health services and public perception of such actions. Their findings that opinions about seeking psychological support were more negative after exposure to celebrity cases of doing so suggest that some health issues are too stigmatized, and complex, to be “solved” by celebrity spokespersons. Yet another scenario in which celebrity endorsement produced poor outcomes occurred in Australia. A famous Australian athlete was paid a significant sum of money to promote a pharmaceutical company’s anti-smoking product by publicizing his efforts to quit the habit, but he failed to do so. A considerable media backlash for the company ensued for a year over the ethics of paying so much for a failed outcome, presumably lowering its credibility in further public health efforts (Chapman & Leask, 2001). Further, an Irish survey polling perception about celebrity endorsement of public awareness of poverty posits another potential negative scenario. Respondents perceived that the endorsement communication acts of celebrities were mere attempts at improving personal public relations rather than a genuine concern over the issue (Samman, McAlulife & MacLachlan, 2009). Celebrities’ personal attributes, like knowledge, moderated these perceptions about the beneficial nature of anti-poverty endorsement. Clearly, congruence is a major issue when developing a social marketing campaign.

Conclusion

Celebrities are clearly used as both promoters and placements to sell social marketing products in health communication campaigns. Utilizing the four P’s of social marketing theory as a program guide can lead to both positive and negative outcomes, regardless of the health “product” or the type of celebrity involved. Celebrities have been used to successfully raise awareness, behavioral intentions, and behavioral actions for health issues, but it is critical to remain mindful of measurement issues that may lessen the significance of these findings. In many cases, such as The Heart Truth campaign, celebrities are not the only aspect of issue promotion. Therefore, better measures for identifying the singular impact of celebrity endorsement should be developed in order to determine their true value. In addition to measurement concerns, a slew of potential negative outcomes have been demonstrated. Furthermore, there is growing evidence highlighting less-visible unintended effects. For example, Cuneen and Spencer (2003) found issues of gender norm reproduction in American “Got Milk?” celebrity advertisements, which may outweigh the positive outcomes of the health messages.

Concerning future research, it is recommended that scholars continue to evaluate the use and effect of celebrity endorsements in health communication efforts. Future studies should also seek to define specific categories of endorsement-types (i.e. personal choice, requested sponsorship, etc.). In this quest, researchers must also, then, delineate between positive and negative outcomes. The creation of a standardized list of potential effects, both desired and undesired, will allow for a more accurate measurement of these outcomes. Specifically,
scholars need to create a lens of study through which more unintended effects are observable. A subset of moderating factors should be determined, as well. For example, this analysis points toward the importance of congruency between celebrity and health product, but it is likely that other factors also play a vital role in target population responses to campaigns.

Finally, this review of celebrity endorsed health messages is not without its limitations. Primarily, it is by no means a comprehensive analysis. Making this task nearly impossible is that no singular database or journal for celebrity endorsement studies exists. In fact, celebrity endorsement research is published in myriad academic genres, ranging from marketing to medicine to communication. Additionally, published articles often use celebrity names as key search words rather than the actual term celebrity. A second limitation of this analysis is its constraint to primarily U.S. and other Western studies. In order to further expand the knowledge base of the utility of celebrity endorsement in health communication, a more global comparison of case studies should be undertaken. Finally, it is the belief of the author that celebrity endorsement can be powerfully positive. Although an objective stance was taken in the author that celebrity endorsement can be powerfully positive. Although an objective stance was taken in the analysis, it is possible that personal bias affected the interpretation. Regardless, if this bias produces scholarly inquiry into the subject, then the goal of furthering knowledge has been achieved.

References


‘Sugar Free’ versus ‘Good for Your Health’: Which is Better? The Effects of Food Advertising Claims on Communication Effectiveness

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This study seeks to discover which of the most widely used health and nutrition claims produce the most effective communication (attitude toward the ad, attitude toward the brand and purchase intentions) among non-Hispanic whites. Due to mounting obesity rates, it is crucial to find a way to positively influence consumers’ health. Also, helping society with its problems helps build a better name and reputation for a brand. Furthermore, this study will contribute to the ongoing debate among researchers about the effectiveness of food advertising claims (Kim, Cheong, & Zheng, 2009).

To test which of the three most widely used health/nutritional food advertising claim produces better communication effectiveness, a post-test only experimental design will be implemented. Three frameworks will be used in the development of research questions and hypotheses: the dual-mediation, the independent influence hypotheses (MacKenzie, Lutz, & Belch, 1986) and the economics of information theory (Nelson, 1974).

This study will manipulate four print cereal advertisements and use a non-probability sample of 200 people between the ages of 18 and 54. It is expected that more detailed food advertising claims will produce better attitude toward the ad, which will in turn influence attitude toward the brand more positively, therefore increasing purchase intentions of the product advertised. The results of this study will help expand on the body of knowledge that is present in terms of food advertising. More importantly, it will provide more current analysis of health and nutrition food advertising effectiveness, which has been found to be dated.

References available upon request.
Computer Games to Prevent Gender Violence

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This article examines the effects of a gender violence computer game designed to reduce violent attitudes towards women and decrease tolerance of abuse among men. The video game, Breakthrough, designed by the Emergent media Center of Champlain College in Vermont for the United Nations Population Fund to reduce gender violence by educating boys and men worldwide through an interactive, and entertaining format. The current research study employed focus groups with male bystanders of abuse to study the usability, and self-reported attitude changes of men who used the computer game. Men were probed on attitudes towards abuse both before and after interacting with the game, using the Persuasive Health Message (PHM) framework on perceived severity, perceived susceptibility, perceived self-efficacy, and perceived response-efficacy for intervening in abusive situations. Results were also gathered on usability characteristics such as likeability, navigability, identification with characters, clarity of messages, etc. Discussion is presented on strategies to improve the gender violence game, to adapt it for specific sub-audiences, and to increase dissemination in a domestic context.

References available upon request.
College Student Exposure to Nature: The Relationship to Knowledge and Attitudes Towards the Environment

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Environmental health issues remain controversial even though our natural environment is integral to physical, social and emotional well being. And, there has been a steady decline in interaction with nature within all age groups, especially among youth. The resulting phenomenon, known as nature deficit disorder, is receiving more attention from researchers and educators. In addition to potentially negative personal health effects, increased detachment from nature has the potential to dramatically impact both personal and collective decisions related to environmental issues, such as recycling or support for environmental legislation.

College students from multiple campus sites will complete a survey that measures previous and current exposure to nature as well as environmental knowledge and attitudes. In addition, self-ratings of weight and general health will be assessed. It is expected that there will be strong correlations between exposure to nature, environmental knowledge and attitudes towards the environment.

References available upon request.
Adapting Electronic Health Record (EHR) Technology to Physician Workflow: A Time and Motion and Observational Analysis

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Healthcare information technology (HIT) has the potential to influence patient health outcomes and decrease costs of healthcare. However, HIT has not consistently demonstrated increases in healthcare outcomes nor decreases in costs. Adapting HIT to the physician’s workflow is one of the key conditions of successful implementations. The aim of this study was to observe and document changes to an electronic health record system (EHR) in order to identify how and if adaptations to workflow do occur and what the effect is on effectiveness and efficiency of healthcare at a medium sized ambulatory visit. A second finding is that clinicians (physicians and mid-levels) workflow did not change unless the physician initiated the change.

Introduction

Healthcare information technology (HIT) has the potential to influence patient health outcomes (effectiveness) and decrease costs (efficiency) of healthcare (Aspden, Corrigan, Wolcott, & Erickson, 2004). Systematic reviews of HIT have identified benefits such as (a) decreased medication errors (Kauhal, Shojania, & Bates, 2003; Wolfstadt, et al., 2008), (b) increased compliance to care guidelines (Kauhal, Shojania, & Bates), and (c) enhanced monitoring (Chaudhry, et al., 2006). However, implementing a new technology does not necessarily equal increases in effectiveness and efficiency.

Research has identified problems with HIT such as (a) increased time to complete work and created more work (Ash, et al., 2007; Esami, Abu-Hanna, & de Keizer, 2007; Poissant, et al., 2005), (b) unclear if care of patients is increased (Aarts, Ash, & Berg, 2007; Crosson, et al., 2007), (c) retrieval of information difficult (Ash, Berg, & Coiera, 2004), and (d) communication and coordination processes interrupted (Ash, et al., 2007; Ash, Berg, & Coiera, 2004). Implementation research continues to find disparate outcomes in terms of both effectiveness and efficiency outcomes. Although some factors of successful implementation have been identified such as site selection, implementation strategies, and training (Fullerton, et al., 2006), workflow adaptation process and the successful or unsuccessful implementations of HIT needs further study (Ash, et al., 2007; Crosson, et al., 2007; Kaushal, Shojania, & Bates, 2003; Unertl, Novak, Johnson, & Lorenzi, 2010).

In 2004, Mark Leavitt (national medical director of HIMMS) stated that 50% of EHR implementations fail. That means within a year, the clinicians that have spent up to $50,000 for the software are no longer using the system. Barley (1996) suggests that the productivity paradox (as many succeed as fail) should be understood as a replicated finding. Barley states that we must analyze the process of change as it occurs.

How technology influences and is influenced in organizational change has been studied at least since 1958s when Leavitt and Whisler (1958) laid out an argument to be prepared in business for changes based on new technology. In general research the area of new technology and organizational change falls into three categories, (a) technology determines organizational change (determinism), (b) organizational members create and make sense out of new technology (social construction), and (c) both technology and organizational structures are influenced and influence organizational members and vice versa (structuration) (see Tobler, 2008 for summary). The criticism of both the deterministic and social construction view is that it does not take into account the dynamic process of change that occurs in the implementation process. Understanding the workflow adaptation process may provide an explanation to the successful implementation of HIT and electronic health records (EHR). In order to address the potential for improving, stabilizing or worsening clinician’s workflow as they adapt to a new EHR, this study will review the use of EHR research, EHR...
implementation and workflow change research and then describe a preliminary case study analysis of the changes to workflow.

Electronic Health Records

In general the belief is that implementing a robust EHR will improve both the efficiency and effectiveness of healthcare. However, several problems exist in the adoption rates of EHRs in the United States. Although EHRs have existed since the 1970s, only 17% to 29% of ambulatory physicians use an EHR (Blumenthal, DesRoches & Voubister, 2008). Abrams and Carr (2005) suggest that adoption rates are low because the software (a) is expensive, (b) does not provide enough benefit, and (c) the risk of failure is high. One problem is that the EHR often increases the time to complete the patient record for clinicians (Pizziferri, et al., 2005; Poissant, Pereira, Tamblyn, & Kawasumi, 2005; Tobler, 2008). In addition some studies that compare paper charts to EHRs show no differences in healthcare outcomes (Crosson, et al., 2007; Linder, et al., 2007; Zhou et al., 2009).

A second problem emerges once an EMR is purchased because around 4% of clinicians use features the advanced features such as electronic lab orders and medications, electronic images returned to chart, medication interactions and guideline reminders that could change medical care (DesRoches, et al., 2008). The critical component of a robust system is the clinical decision support tools. Most of the 17% to 29% of clinicians have a basic EHR system. A basic system contains patient demographics, problem lists, medication lists, clinical notes, and viewing of labs and images (DesRoches, et al.).

A third problem is that the changes in workflow can be to improve, stabilize or decrease efficiency and effective care. For example the change in workflow may change essential communication patterns and introduce new types of errors (Aarts, Ash & Berg, 2007). Another example in CPOE research is when the nurse receives the order. Under the paper system, the clinician typically hands the order to the nurse. This provides an opportunity for clarification or additional information to be exchanged. When the order is entered electronically, the order may come to the nurse after the pharmacy has issued a medication and the clinician is not around for clarification. The opportunity to share information and modify the request is now delayed or does not happen. Unintended consequences are issues introduced by the change in workflow as health workers adapt to the new technology. Understanding how the system is implemented and adapted to the clinician workflow is essential to developing effective use of EHRs.

Workflow

Adapting the technology to the healthcare profession is important. In considering increases to effectiveness and efficiency, implementation of information technologies “will not cause the desired changes without rethinking the way of managing best practice biomedical knowledge and care delivery processes” (Stefanelli, 2002, p. 39). Research from a wide range of health information technology implementations indicates that workflow analysis and adapting the technology to physicians work is a critical component in effective and efficient use of the new technology (see examples of EHR and workflow such as Crosson, et al., 2007; Eccles, et al., 2002; Hysong, et al., 2009; Palchuk, et al., 2010; Pizziferri, et al., 2005; Singh, et al., 2008). All of these studies identify workflow and adaptation to the workflow as an important element of successful implementation of new HIT.

When systems were adapted to clinicians, the quality of care increased. One example is a study of alerts where the system was changed so that only high-severity alerts interrupt the clinician (Shah, et al., 2006). Clinicians without adaptations report too many interruptions as a problem with medication alerts (Ash, Aarts & Berg, 2007; Tobler, 2008). By reducing the number of interruptive alerts to only those known as severe, clinicians were more likely to accept the medication interaction alert and change the medication. Another study by Orzano and colleagues identified a statistically significant increase in diabetes care targets when practices used “identification and tracking systems” (2007, p. 250).

In the implementation of a CPOE, researchers found that once the CPOE was modified for “clarity, specificity and efficiency”, the intensive care unit saw increased patient care and use of order sets (Ali, et al., 2005, p. 110).

Part of the problem with workflow analysis recommendations and adapting to the physician workflow is that the term “workflow” is defined differently or not defined at all in some cases (Unertl, et al., 2010). Unertl and colleagues reviewed 127 articles and found that a wide range of definitions for workflow existed which makes it difficult to take conclusions from one study context to another. In workflow analysis, the context must be described in detail and should include prior to the change descriptions as well as post implementation changes to workflow (Unertl, et al.). The research must also
identify both the normal routines and what happens in the case of the unexpected. In order to understand the process of change to workflow, the following aim guides this study. Aim 1: How does changing EHRs influence how clinicians do their work? This aim includes a time analysis and an observational analysis.

Methods

This study utilizes a mix-method design with both a quasi-experimental and qualitative-observational components. No patient identifiable data were collected during the observations and interviews. Data is aggregated for this report. Data was collected on clinicians who had volunteered to be observed and timed. Fourteen clinicians were observed at least once. Twelve clinicians were observed prior and post at two. An additional follow up observation is planned for at six months post implementation. Comparison data was analyzed by individual clinicians, by specialty and overall completion rates for the physician organization.

Site

One ambulatory, multi-specialty group was selected based on changing from one EHR to a new EHR. From 1995 to 2007 the group was primarily an obstetrics and gynecology (OB/GYN) practice with seven physicians, five mid-level practitioners, 25 clinical staff and 15 administrative staff. Using Rogers’ categorization system (2003), the clinicians at the initial OB/GYN practice are considered innovators and early adopters of EHR technology. The group adopted the first EHR in 1996 and used that system until 2001. One of the physicians was part of a company that developed an EHR from 1996 to 2001. Between 2001 and 2002, the group attempted to integrate two EHRs. Both implementations failed. At the end of 2002, the fifth and current EHR program was implemented. At six months, the group nearly disbanded the implementation. With a change in physician lead implementer, the EHR was adapted and used until August 2011. In 2007, the OB/GYN group started a multi-specialty clinic in conjunction with the local hospital to create an integrated healthcare system. The former system had been adapted and modified to meet clinicians’ workflow. A new EHR was purchased so that the ambulatory group and the hospital group would have the same EHR. Both the ambulatory group and the hospital group had to move from an existing system to the new EHR. In fall of 2011, the group shifted to a new EHR that will make integration with the local hospital seamless.

Participants

The multi-specialty practice has 56 physicians and mid-levels at 12 locations with a total of 14 specialties. This multi-specialty group provides a unique opportunity to understand a medium-sized, nonacademic ambulatory setting with a wide range of technology expertise as they adapt a new EHR. In order to answer the question on how workflow was adapted, clinicians were observed at two different times. Fifteen clinicians volunteered to be observed prior and two times after implementation to the new EHR. Institutional review was completed at Utah Valley University. Eight of the observed were physicians and seven were mid-level clinicians. Nine were obstetrics/gynecology specialty. Six were family practice, internal medicine or pediatric specialties. All clinicians and medical assistants that were observed signed a consent form. All observed patients signed a consent to be observed.

Procedure

For Aim 1, workflow observations and time of office visits were used to compare the change in EHR and the impact on workflow. The research compares one month prior to change in EHR to post change in EHR at 2 months. Each clinician was followed by one of the researchers. The researchers used a time notation computer program to note when the clinician entered the exam room and left the exam room at the end of the visit. The patient exam provided a stable observation time. The exam is rarely interrupted by colleagues. Observational notes were taken on use of the EHR. Observation notes were coded for valence (positive, negative, or neutral) comments or observations and for theme (efficiency, useful to healthcare, other) and types of problems (printing). The overall workflow pattern was noted at each observation. Change in workflow was noted.

Results and Analysis

Aim 1. Workflow and Time Analysis

Each clinician that was observed in July 2011 and October 2011 is reported (n=12). After each observation, a general workflow pattern was noted. Researchers noted what the clinician typically did prior to entering the exam room, during the exam and after the exam. For example, some clinician’s liked to review the patient note prior to entering the room, and used a scribe during the exam to enter information, waited until after the scribe had completed the chart and then the clinician reviewed the patient chart and added any additional information. Patient exam workflows fell into 3
broad patterns (a) use of computer in room to enter
and review information (n = 8), (b) only focus on
patient during exam (n = 4), and (c) use of scribe to
enter information into the EHR and focus on patient
(n = 3). All clinicians observed used the same overall
workflow at pre and two months post
implementation. One clinician was planning to
change to using a scribe during the exam. However,
this was not observed (see Table 1 for summary of
general patient exam workflow patterns).

Table 1. Workflow pattern by clinician.

<table>
<thead>
<tr>
<th>Clinician</th>
<th>Specialty</th>
<th>Workflow</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. 1</td>
<td>OB/GYN</td>
<td>Scribe</td>
<td>Reviews chart prior to entering room. Scribe completes note and then Dr. reviews, edits and signs.</td>
</tr>
<tr>
<td>Midlevel 2</td>
<td>OB/GYN</td>
<td>Technology in exam</td>
<td>Uses laptop or in room computer to enter information as patient is seen.</td>
</tr>
<tr>
<td>Midlevel 3</td>
<td>OB/GYN</td>
<td>NO technology in exam</td>
<td>Reviews chart prior to entering room. Takes a few notes on paper if necessary. Enters exam after leaving room.</td>
</tr>
<tr>
<td>Midlevel 4</td>
<td>OB/GYN</td>
<td>No technology in exam</td>
<td>Enters as much as possible prior to exam. Reviews chart before going into the room.</td>
</tr>
<tr>
<td>Dr. 5</td>
<td>Ped</td>
<td>Technology in exam</td>
<td>Reviews chart prior to entering room. Goes back and forth between entering information and patient.</td>
</tr>
<tr>
<td>Midlevel 6</td>
<td>Internal Med</td>
<td>Technology in exam</td>
<td>Reviews chart prior to entering room. Prints off results to go over with patient and leaves paper results with patient. Enters some during the exam.</td>
</tr>
<tr>
<td>Midlevel 7</td>
<td>OB/GYN</td>
<td>NO technology in exam</td>
<td>Reviews chart prior to entering room. Goes into room and sees pt and then types in chart after exam.</td>
</tr>
<tr>
<td>Dr. 8</td>
<td>OB/GYN</td>
<td>Scribe</td>
<td>Reviews chart prior to entering room. Scribe completes note and then Dr. reviews, edits and signs.</td>
</tr>
<tr>
<td>Midlevel 9</td>
<td>Internal Med</td>
<td>Technology in exam</td>
<td>Reviews chart prior to entering room. Adds information to chart during exam. Completes chart after exam.</td>
</tr>
<tr>
<td>Dr. 10</td>
<td>OB/GYN</td>
<td>Technology in exam</td>
<td>Reviews chart prior to entering room. When possible, she enters information prior to exam. Enters information during the exam. Tries to sign charts as she goes.</td>
</tr>
<tr>
<td>Dr. 11</td>
<td>Family</td>
<td>Technology in exam</td>
<td>Reviews chart prior to entering room. Enters most during exam. Uses voice system to enter additional information.</td>
</tr>
<tr>
<td>Dr. 12</td>
<td>Family</td>
<td>Technology in</td>
<td>Uses a flag system in hallway to know which room and what and who is needed. Reviews chart prior to entering room. Enters information</td>
</tr>
<tr>
<td>Dr. 13</td>
<td>OB/GYN</td>
<td>Scribe</td>
<td>Reviews chart prior to entering room. Scribe completes note. Dr. sometimes enters information during exam and prior as well as scribe. After exam, Dr. reviews, edits and signs.</td>
</tr>
<tr>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Dr. 14</td>
<td>Family</td>
<td>Technology in exam</td>
<td>Reviews chart prior to entering room. Tries to only enter meds and orders while in exam room. The rest he completes after exam.</td>
</tr>
<tr>
<td>Midlevel 15</td>
<td>OB/GYN</td>
<td>NO technology in exam</td>
<td>Reviews chart prior if there is time. Does not put in information in exam. Often sees two or three patients prior to entering information.</td>
</tr>
</tbody>
</table>
The next analysis was how long the patient exam took. Time was measured as time spent in the exam room. This time score provided a method so clinicians could be compared to themselves and to other clinicians. In July, the number of patient exams observed ranged from 1 to 14, with a mean of 7.58 and standard deviation of 4.502. In October, the number of patient exams observed ranged from 3 to 13 with a mean of 7.0 and standard deviation of 3.33. July exam time ranged from 5 minutes and 56 seconds to 19 minutes and 7 seconds. The mean was 11 minutes and 56 seconds with a standard deviation of 4 minutes and 16 seconds. October exam time ranged from 8 minutes and 33 seconds to 32 minutes and 28 seconds. The mean was 15 minutes and 6 seconds with a standard deviation of 6 minutes and 50 seconds. In order to identify any increase in time spent in the exam room, time 1 was subtracted from time 2. The time difference ranged from negative 4 minutes and 24 seconds (faster at time 2) to 13 minutes and 21 seconds. The mean difference was 3 minutes and 9 seconds with a standard deviation of 4 minutes and 39 seconds (see Table 2).

Table 2. Number of patients observed and exam time and time difference.

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Exams 1</td>
<td>12</td>
<td>13-1</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>Exam Time 1</td>
<td>12</td>
<td>00:13:11</td>
<td>00:05:56</td>
<td>00:19:43</td>
</tr>
<tr>
<td>Exam Time 2</td>
<td>12</td>
<td>00:23:55</td>
<td>00:08:33</td>
<td>00:32:28</td>
</tr>
<tr>
<td>Time Difference</td>
<td>12</td>
<td>00:17:45</td>
<td>00:04:24</td>
<td>00:13:57</td>
</tr>
</tbody>
</table>

Table 3. Positive, negative, and neutral comments.

<table>
<thead>
<tr>
<th>Valence</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>185</td>
<td>52.71%</td>
</tr>
<tr>
<td>Positive</td>
<td>74</td>
<td>21.08%</td>
</tr>
<tr>
<td>Neutral</td>
<td>92</td>
<td>26.21%</td>
</tr>
</tbody>
</table>

The thought units were coded by theme. On efficiency, 306 (87.18%) comments were made. An example of an efficiency comment was “finding reports are difficult.” On health effectiveness, 21 (5.98%) comments were made. Health effectiveness comments included “It is nice to enter a picture in the chart.” In the other category, 24 (6.84%) comments were made (see Table 4). Other comments included such statements as “dictates assessment and plan.” These were typically comments made by the research on the overall workflow.

Table 4. Theme units.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
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<td>306</td>
<td>87.18%</td>
</tr>
<tr>
<td>Health Effectiveness</td>
<td>21</td>
<td>5.98%</td>
</tr>
<tr>
<td>Other</td>
<td>24</td>
<td>6.84%</td>
</tr>
</tbody>
</table>

Discussion

The thought units were separated into thought units. 351 thought units were coded. During observations, researchers noted any comments made about the EHR. The comments were categorized into two broad categories, valence (positive, negative or neutral), and theme (effectiveness, efficiency, other). These categories were based on Tobler’s (2007) prior research that identified the common categories of efficiency and effectiveness as the two key issues for clinicians. One hundred eighty five comments were negative (52.71%). An example of a negative comment was “hard to find information.” Seventy four comments were positive (21.08%). A positive comment was “can enter a picture into the chart.” Ninety two comments were neutral (26.21%) (see Table 3).

An analysis of comment data was completed. Each set of observation notes was separated into thought units. 351 thought units were coded. During observations, researchers noted any comments made about the EHR. The comments were categorized into two broad categories, valence (positive, negative or neutral), and theme (effectiveness, efficiency, other). These categories were based on Tobler’s (2007) prior research that identified the common categories of efficiency and effectiveness as the two key issues for clinicians. One hundred eighty five comments were negative (52.71%). An example of a negative comment was “hard to find information.” Seventy four comments were positive (21.08%). A positive comment was “can enter a picture into the chart.” Ninety two comments were neutral (26.21%) (see Table 3).

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Discussion

This study is a preliminary report of a study of workflow change and change to a new EHR. Adapting workflow has not been attempted at this point. The organizations chose not to adapt the EHR and to take a standard implementation so that both ambulatory and in-patient clinicians could have the new EHR implemented in a timely manner. Over the next six months, adaptations to the system are planned. However, preliminary analysis does provide interesting findings.

The change to workflow shows that clinicians remain stable in their general approach to seeing and documenting patients. All the clinicians were using a robust EHR prior to changing systems. It would be expected that the general workflow would remain the same. However, the time to complete the patient exam has increased by three minutes. Clinicians are expected to be seeing the same number of patients as on the old system. This means that the overall time to do charts has increased by 45 minutes (15 patients) to 120 minutes (40 patients). This time will probably decrease as clinicians use the system. However, it does seem that some adaptations to the system are needed to help decrease the amount of time it takes to see patients under this system.
The comment data indicates that most clinicians’ statements are negative and that efficiency is the primary concern. These findings are similar to what Tobler (2008) found when following clinicians for a year. The first set of comments was about efficiency as well. As time passed, clinicians focused more on how to use the system for better care or problems to providing care.

Overall this initial report indicates that organizational groups (clinician as head of group tend to retain general workflow patterns despite a change in system. In general, the time to do the work has increased and the overall attitude is negative. Understanding the process of change should include a typical phase where organizational members attempt to fit the new technology into the existing workflow. Further research in this study will indicate further stages of change.

References


Organizational Culture and Innovation: Insights from Managing Change

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Beginning in 2003, the University of Utah Community Clinics (CC), a network of 10 primary care ambulatory clinics, implemented Care by Design™ (CBD), an innovative primary care delivery model. CBD is built upon principles similar to those found within the Patient-Centered Medical Home (PCMH) model. The adoption of the CBD model has been variable across the CCs. In this project we aim to understand the factors that impact the adoption of innovations. We focus on organizational culture as one characteristic that may impact adoption of innovations in care delivery.

Introduction

A Patient Centered Medical Home (PCMH) is a primary care medical practice that offers personal, accessible, coordinated, comprehensive, and ongoing care to patients: the characteristics of health care most likely to improve quality, enhance health, and reduce cost (Starfield, Shi and Macinko 2005; Nutting et al. 2009; Wagner et al. 2001). PCMH is a team based health care delivery model led by a physician who provides comprehensive and continuous medical care to patients with the goal of obtaining quality health outcomes (Patient Centered Primary Care Collaborative website). There is growing evidence that PCMHs facilitate better access to health care, increase patient satisfaction with care, and improve quality of care (Backer 2009; Sia et al. 2004; Reid et al. 2010). Care coordination is an essential component of the PCMH that requires additional resources such as appropriately trained staff to provide care through team-based models. Redesigning primary care to incorporate these initiatives will continue to be on the forefront of practice re-design in coming years.

The University of Utah Community Clinics™ (CC) care delivery model, although implemented prior to the current wide-spread use of the PCMH terminology, includes many of the components of the PCMH model. This model, called Care by Design™ (CBD), is built around three organizing principles: appropriate access, care teams, and planned care. Our implementation of CBD, begun in 2003, was accomplished in stages, first with appropriate access, then with care teams, and most recently with planned care. Implementing these principles required many complex and interrelated changes. Throughout implementation we have assessed quality and performance outcomes and measured the extent of implementation in individual clinics. Initial quantitative analysis suggests that the changes implemented through the CBD model have already had an impact on a number of quality and performance measures. However, full adoption of CBD has been variable. The purpose of this study is to understand the factors that are related to the extent of adoption of the model. This is important so that the CC can work to more fully implement the model and continue to improve patient care and clinic performance.

The Role of Culture in Change

Organizational culture is a term used to describe the values and beliefs held in common by members of an organization. It is stable, socially constructed, and subconscious (Helfrich, Li, Mohr, et al 2007). Some argue that organizational culture can be a barrier to implementing innovation (Ostroff, Kinicki, and Tamkins 2003). The Competing Values Framework (Quinn and Rohrbaugh 1981) has been widely used in health services research to assess organizational culture (Helfrich, Li, Mohr, et al 2007). Research using this framework has identified organizational culture as an important contributor to differences in organizations’ performance on a number of dimensions.

The Competing Values Framework (CVF) suggests that organizations can be characterized along two dimensions. These dimensions represent alternative approaches that organizations can use to resolve challenges in their everyday functioning and thus are
viewed as “competing.” The first dimension along which values may compete is the degree to which an organization emphasizes centralization and control over organizational processes versus decentralization and flexibility. The second dimension of competing values is the degree to which the organization is oriented toward its own internal environment and processes versus the external environment and relationships with outside entities. Combining these two dimensions creates four archetypes, referred to as hierarchical, rational, entrepreneurial (adhocracy), and family (clan) cultures.

A Hierarchical organization has a traditional approach to structure and control that flows from a strict chain of command. Hierarchies have respect for position and power. These organizations often have well-defined policies, processes and procedures. Hierarchical leaders are typically coordinators and organizers who keep a close eye on what is happening.

A Market organization also seeks control but does so by looking outside the organization. Market cultures are outward looking, are particularly driven by results and are often very competitive. Leaders in market cultures are often hard-driving competitors who seek to deliver what the market demands.

A Family or Clan organization has less focus on structure and control and a greater concern for flexibility. Rather than strict rules and procedures, people are driven through vision, shared goals, outputs and outcomes. In contrast to Hierarchies, Clans often have flat organizations and people and teams act more autonomously. Such an organization has an inward focus and a sense of family; people work well together, are strongly driven by loyalty to one another and the shared cause. Rules, although not necessarily documented, do exist and are often communicated and inculcated socially. Clan leaders act in a facilitative, supportive way and may take on a parental role.

An Adhocracy or Entrepreneurial organization has even greater independence and flexibility than the Clan, which is necessary in a rapidly changing business climate. Speed and adaptability are viewed as essential in responding to new challenges. Such an organization is likely to experiment rather than commit to a long-term plan. Leaders in an Adhocracy are visionary, innovative entrepreneurs who take calculated risks to make significant gains (Deshpande, Farley & Webster 1993).

Following the competing values framework, Cameron and Quinn (1999) developed the Organizational Culture Assessment Instrument (OCAI). It has been shown to be a useful tool in understanding work environments. The OCAI questionnaire is structured into 6 categories: organizational character, managers and leadership, organizational cohesion, management of employees, organizational emphases, and criteria for success. Descriptions of four organizations (A, B, C, and D) are provided representing the four organizational archetypes: Hierarchical, Market or Rational, Family or Clan, and Entrepreneurial (Figure1). Respondents are asked to distribute 100 points among the four archetypes in each of the six categories. Responses are scored by summing the points allocated to organization A, B, C and D across the six categories.

Methods

We administered the OCAI as part of a larger survey of CC providers, staff, and senior leadership. The survey was distributed at provider and staff meetings at each clinic and at CCs senior leadership meetings. In addition, clinic managers completed a Clinic Characterization Audit (CCA) which provided data on the clinic environment including number of patients, clinic visits, staff, and providers at each site as well as presence of key personnel such as RNs and specialists.

For analyses OCAI scores were calculated for each of the four organizational types as reported by providers and staff from each clinic. Mean scores and standard deviations for the four organizational archetypes are presented in Table 1. Information provided by clinic managers in the CCA are presented in Table 2.

We compared scores on the four organizational archetypes for each clinic using the Student’s t-test. A p-value ≤0.05 was considered statistically significant. To explore relationships between the variables included in the CCA and the organizational culture scores of the clinics we used Spearman’s rank correlation. All analyses were performed using SPSS (v.17.0; SPSS, Chicago, IL). The study was approved by the University of Utah institutional review board.

Results

Study Respondents

Completed surveys were received from 138 respondents (75% response rate). Each of the clinics is represented as follows: Centerville (7%), Greenwood (11%), Madsen (11%), Parkway (9%), Redstone (7%), Redwood (17%), South Jordan (8%), Stansbury (8%), Sugarhouse (6%), and Westridge (9%). Responses from Senior Leadership represented 7% of the returned surveys. Of the respondents, 21% were providers, 72% were staff members, and 7% were senior leaders. Of the survey responders, 9% (n=13) had worked for the CCs for less than one year, 65% (n=52) had worked for CC between two and eight years, and 26% (n=35) had worked for CC for more than eight years. Employment tenure for this latter group spanned the time before CBD implementation began. No other demographic variables were collected.
Organizational Culture

To determine which of the four organizational types dominated the culture profile for each of the clinics, we compared the OCAI scores across the four organizational types for each clinic. As shown in Table 1, clinics can be grouped together based upon the organizational type that dominates their culture profile.

The Centerville, Redstone, and South Jordan clinics identified themselves as significantly more hierarchical than any of the other archetypes (p-values < 0.01). The Madsen, Parkway, and Westridge clinics and Senior Leadership rated themselves as significantly more a Family or Clan culture than any other archetype (p < 0.01). The Redwood and Stansbury clinics were perceived by respondents as similar to both Family/Clan and Hierarchical culture types significantly more than the other two archetypes (p < 0.01). Of note, the Greenwood and Sugarhouse clinics had fairly balanced culture profiles with no significant differences across scores for the four culture archetypes. The culture profiles for all of the clinics and senior leadership are portrayed in Figure 1.

Table 1: OCAI Scores for CVF Organizational Types*

<table>
<thead>
<tr>
<th>Community Clinic (# respondents/ clinic)</th>
<th>Family/Clan</th>
<th>Entrepreneurial</th>
<th>Market/Rational</th>
<th>Hierarchical</th>
<th>p-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Centerville (10)</td>
<td>28.8</td>
<td>17.2</td>
<td>11.9</td>
<td>8.3</td>
<td>23.5</td>
</tr>
<tr>
<td>Greenwood (16)</td>
<td>25.5</td>
<td>15.7</td>
<td>18.4</td>
<td>10.0</td>
<td>29.4</td>
</tr>
<tr>
<td>Madsen (16)</td>
<td>17.3</td>
<td>10.0</td>
<td>14.8</td>
<td>9.7</td>
<td>18.4</td>
</tr>
<tr>
<td>Parkway (13)</td>
<td>24.7</td>
<td>18.4</td>
<td>10.1</td>
<td>11.2</td>
<td>16.5</td>
</tr>
<tr>
<td>Redstone (10)</td>
<td>19.2</td>
<td>10.2</td>
<td>10.2</td>
<td>7.8</td>
<td>33.7</td>
</tr>
<tr>
<td>Redwood (25)</td>
<td>28.8</td>
<td>15.4</td>
<td>14.2</td>
<td>9.2</td>
<td>22.7</td>
</tr>
<tr>
<td>South Jordan (11)</td>
<td>22.1</td>
<td>12.1</td>
<td>15.5</td>
<td>9.2</td>
<td>27.5</td>
</tr>
<tr>
<td>Stansbury (11)</td>
<td>25.2</td>
<td>13.9</td>
<td>14.5</td>
<td>8.8</td>
<td>31.1</td>
</tr>
<tr>
<td>Sugarhouse (9)</td>
<td>32.1</td>
<td>20.9</td>
<td>15.4</td>
<td>10.0</td>
<td>21.5</td>
</tr>
<tr>
<td>Westridge (13)</td>
<td>23.4</td>
<td>9.5</td>
<td>17.6</td>
<td>5.7</td>
<td>24.3</td>
</tr>
<tr>
<td>Senior Leadership (10)</td>
<td>11.3</td>
<td>9.1</td>
<td>28.5</td>
<td>8.5</td>
<td>20.3</td>
</tr>
</tbody>
</table>

*OCAI scores for each organizational type range from 0-100 and are calculated by summing the points allocated to each organizational type over the six questionnaire categories: organizational character, managers and leadership, organizational cohesion, management of employees, organizational emphases, and criteria for success.
The Relation of Clinic Characteristics to Culture Profile

Information about the environment of each clinic was collected from clinic managers using our Clinic Characterization Audit (CCA). Table 2 outlines the descriptive information for all clinics.

Given that the clinic cultures were perceived by respondents as different, we explored the relationship of culture types and the environment of each clinic as represented by information from the CCA. Although we do not have a priori hypotheses about the relationship of culture to structural features, we anticipated that the perceived culture of the clinic might be related to size of clinic as represented by number of patients, number of visits, and number of staff, as well as to the length of time the clinic had been in existence and the presence of particular types of providers (e.g., specialists, medical students). We found very few significant correlations. Scores on the hierarchical organization type were negatively correlated with “number of years clinic has been in existence” (p=0.035; ρ= -0.669) and highly positively correlated with the number of “Full-time Equivalent MDs” (p=0.002; ρ= 0.838). A positive correlation of hierarchical type with “total Full-time Equivalent MAs” approached significance (p=0.11). Although no other correlations were significant, Family/Clan scores approached significance for a positive correlation with “number of years clinic has been in existence” (p=0.12) and Market/Rational scores approached significance for a positive correlation with “number of patients seen per week” (p=0.12).

These correlations make intuitive sense in that, clinics that have more physician providers and more medical assistants may have more clearly defined chains of command and more formalized roles and responsibilities for staff. On the other hand, clinics that have a longer history of operation may have less need for centralized control relying more on learned roles and socialization of providers and staff. The longer a clinic has been in existence the stronger may be the feeling of family among the providers and staff.

Because we ran a large number of correlations, it is possible that the few significant ones are due to chance. Thus, these identified relationships deserve further analysis. We also collected information about team development and burnout and plan to examine correlations of these data with the clinic culture data. Additionally, we collected a large amount of qualitative data through personal interviews with providers and staff and focus groups with patients. Our analyses of these data may provide additional perspective on the relationship of factors in the clinics’ environments and their culture profiles.

Table 2: Clinic Characterization Audit Summary Statistics for the Community Clinics

| Characteristic | Community Clinics
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>#Years clinic has been in existence</td>
<td>16.2 (5-26)</td>
</tr>
<tr>
<td>Residency training clinics</td>
<td>60%</td>
</tr>
<tr>
<td>Clinic provider precept medical students</td>
<td>90%</td>
</tr>
<tr>
<td># Patients Visits per Week</td>
<td>529.5 (200-950)</td>
</tr>
<tr>
<td># Specialists (number of individuals)</td>
<td>7.4 (0-37)</td>
</tr>
<tr>
<td># Specialized Medical Assistants (ex labs; X-ray)</td>
<td>4 (0-10)</td>
</tr>
<tr>
<td># Full-Time Equivalents</td>
<td></td>
</tr>
<tr>
<td>Physician Assistants</td>
<td>0.5 (0-2)</td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td>0.1 (0-1)</td>
</tr>
<tr>
<td>Doctors of Optometry</td>
<td>0.39 (0-2)</td>
</tr>
<tr>
<td>Register Nurse</td>
<td>0.70 (0-3)</td>
</tr>
<tr>
<td>Medical Assistant</td>
<td>7.7 (0-23)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Providers</th>
<th>% Clinics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Primary Care providers at clinic:</td>
<td>100%</td>
</tr>
<tr>
<td>Family Medicine</td>
<td></td>
</tr>
<tr>
<td>Internal Medicine (IM)</td>
<td>50%</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>30%</td>
</tr>
<tr>
<td>Obstetrics/Gynecology</td>
<td>30%</td>
</tr>
<tr>
<td>IM/ Pediatrics</td>
<td>30%</td>
</tr>
<tr>
<td>Care Managers</td>
<td>20%</td>
</tr>
<tr>
<td>Clinic Managers dedicated to individual clinic</td>
<td>80%</td>
</tr>
</tbody>
</table>

Discussion

Full implementation of our CBD delivery model requires a variety of changes including processes that centralize appointment scheduling and response to messages, utilize the functionality of our electronic medical record, and involve teams in the delivery of care. The model is a comprehensive integrated model of and components of the model are interdependent.

We have observed variance across our clinics with regard to the level of implementation of CBD. With this project we hoped to discover factors that could shed light upon this variance. As demonstrated in the analyses presented in this paper, organizational culture may be one of those factors.

We found significant differences among clinics with regard to the organizational archetype providers and staff perceived that the clinics most resemble. The differences resonate with clinic leadership’s knowledge about and observations of
individual clinics providing consensual validation for our findings. The next steps in our analyses are to examine the relationship between organizational culture and extent of implementation of CBD and between organizational culture and clinic performance. Variables we plan to assess include quality outcomes (health care, health status, and satisfaction), financial and productivity outcomes, and cost of care to patients and payers.

The differences identified in our analysis of clinic culture provide important insights for management as they encourage fuller implementation of CBD. Clinics with a market oriented culture are likely to respond to information about patients’ positive perspectives of and responses to CBD. They may be motivated to use the CBD model because of the competitive advantage that it offers. Clinics with a family/clan culture may be responsive to appeals that emphasize the benefits of redesign for staff members in achieving their individual potential. Management may build upon the identification of providers and staff to their individual clinics rather than to the larger CC organization. The clinics with a hierarchical culture may be more responsive to the establishment of clear processes and procedures for providers and staff to follow as they implement components of CBD.

A particularly important insight from these analyses comes from the recognition that the culture of the senior leadership group is substantially different from the cultures of the individual clinics. The differences suggest that management should be particularly sensitive to the similarities and differences among clinics and devise communications strategies accordingly.

Finally, our analyses reveal some important strategic issues. Research suggests that primary care practices often have a clan culture (Hann et al. 2007). However, an exclusive inward focus may no longer be appropriate. In these days of patient-centered care and in the context of the rapidly changing health care environment, a more market based, externally focused and in the context of the rapidly changing health care environment, a more market based, externally focused and in the context of the rapidly changing health care environment, a more market based, externally focused

References


Figure 1: Competing Values Framework for Organizational Culture (Cameron and Quinn 1999)

<table>
<thead>
<tr>
<th>Flexibility and Discretion</th>
<th>Stability and Control</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Family / Clan Culture</strong></td>
<td><strong>The Adhocracy Culture</strong></td>
</tr>
<tr>
<td>Quality Strategies:</td>
<td>Quality Strategies:</td>
</tr>
<tr>
<td>- Empowerment</td>
<td>- Surprise and delight</td>
</tr>
<tr>
<td>- Teambuilding</td>
<td>- Create new standards</td>
</tr>
<tr>
<td>- Employee involvement</td>
<td>- Anticipate needs</td>
</tr>
<tr>
<td>- Human resources development</td>
<td>- Continuous improvement</td>
</tr>
<tr>
<td>- Open communication</td>
<td>- Creative solution finding</td>
</tr>
<tr>
<td><strong>The Hierarchy Culture</strong></td>
<td><strong>The Market Culture</strong></td>
</tr>
<tr>
<td>Quality Strategies:</td>
<td>Quality Strategies:</td>
</tr>
<tr>
<td>- Error detection</td>
<td>- Measuring customer preferences</td>
</tr>
<tr>
<td>- Measurement</td>
<td>- Improving productivity</td>
</tr>
<tr>
<td>- Process control</td>
<td>- Creating partnerships</td>
</tr>
<tr>
<td>- Systematic problem solving</td>
<td>- Enhancing competitiveness</td>
</tr>
<tr>
<td>- Applying quality tools</td>
<td>- Involving customer and suppliers</td>
</tr>
</tbody>
</table>
Figure 2: The Organizational Culture of Community Clinics Assessed with the OCAI

Legend
- Centerville
- Greenwood
- Madison
- Parkway
- Redstone
- Redwood
- South Jordan
- Stansbury
- Sugarhouse
- Westridge
- Senior Leadership

110| 2012 AMHCR Conference Proceedings
Is Saying Sorry Good Enough? 
Examining the Typologies of Apology in Organizational Response during Health Crises

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Jun-Qi Loh, Undergraduate student, Nanyang Technological University
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Health organizations facing crises are increasingly pressured to apologize to their stakeholders to maintain a good image and diffuse the anger and hostility directed at them (Hearit, 1994). Research has found that apology is the most effective crisis strategy (Kim, Avery, & Lariscy, 2009). Currently, there is a lack of research on the types of apology used and how stakeholders receive them. Through the Attribution and Apology Model developed by the authors, this study aims to examine public response to the types of apologies offered post-health crises against the levels of responsibility. An experiment was conducted (N=385) to ascertain stakeholders’ impression of the organization post-apology (trustworthiness, credibility, dependability, likability, empathy). Acceptance of apology covers traits such as stakeholders’ willingness to forgive, perceived openness, injustice and remorse.

Introduction
Health crises have the ability to severely impact an organization’s reputation, affect its performance and generate negative outcomes (Coombs, 2007). Thus, it is necessary to examine how organizations can engage in crisis communication with stakeholders to negate the threat on its reputation and regain consumer confidence. Given the multitude of health crises today, health organizations are faced with pressure to maintain a good image and diffuse some of the anger and hostility directed at them (Hearit, 1994). Research has found apology to be the most effective crisis strategy (Kim, Avery, & Lariscy, 2009), and the effective apology is often accompanied by affirmative statements such as those accepting responsibility (Pace, Fediuk, & Botero, 2010) and corrective action (Blaney, Benoit, & Brazeal, 2002).

This study aims to examine different apology types offered and how stakeholders view these apologies and the organization; generating insights in helping health organizations shape their responses to repair their image.

Literature Review
Apology in crisis theories
Two dominant theories of Situational Crisis Communication Theory (SCCT) and Image Repair (IR) theory have guided the development of organizational strategies in response to crises. IR theory contends that an organization’s reputation and credibility depends on its image perceived by stakeholders, requiring effort to repair once under threat (Benoit & Pang, 2008. SCCT suggests that organizations need to accept responsibility for the crisis to reduce reputational damage incurred (Coombs, 2007). Both theories recommend apology as the last tactic in an organization’s crisis response strategy to be used when all other strategies have failed. However, Pang and Cameron (2011) classified it as the most accommodative act the apologist can assume when an organization deals with a crisis.

Apology can help assuage stakeholders
Bradford and Garrett (1995) found that the preferred message strategy desired by stakeholders is apology. They suggested that corporate executives should focus on how to respond instead of deciding on whether
Furthermore, the importance of choosing a communicative response option that matches the situational characteristics was emphasized. In a bid to protect the organization’s image, corporate executives should align their communicative responses according to the severity of the crisis.

**Conceptual Framework**

**What constitutes a good apology?**

In what has been termed the “age of apology” (Brooks, 1999, pp. 3-12), apologies from organizations are now expected by stakeholders, especially when they are affected by the crisis situation. To apologize and admit guilt is to assume responsibility and culpability (Hearit & Borden, 2006). Hearit and Borden (2006) argued that for apology to be effective, the manner and content should be appropriate.

The idea of ‘Manner’ pertains to how the apology is carried out by the apologist with five key components identified. The components are truthfulness, sincerity, delivering the apology voluntarily, addressing all stakeholders, and delivering the message on a platform that all stakeholders have access to.

In the ‘Content’ of apology, nine key components were identified. Firstly, the apologist should explicitly acknowledge the wrongdoing and the apology should encompass an expression of regret, seek forgiveness and hope for reconciliation. The apologist should also identify with injured stakeholders, with the message containing a full disclosure of all information, addressing the expectations of stakeholders. It is also suggested that the apologist should communicate willingness to engage in corrective action and offer appropriate compensation in the apology.

Following Hearit and Borden’s (2006) idea of manner and content for effective apology statements, this study adapted exemplars from various real-life crisis incidents to formulate five levels of apology statements ranging from a pseudo-apology (level 1) to a profound apology (level 5).

**Attribution and Apology**

SCCT was developed to articulate the connection between crisis types and crisis response strategies. The central assumption is that the situation shapes what will be seen as an effective response. Hence, the crisis situation guides the selection of appropriate crisis responses (Coombs, 2010, p.482).

Weiner’s (1986) Attribution Theory has been used to understand how crisis affects organizational reputation. It follows that the greater the stakeholder attributions of organizational responsibility for a crisis, the greater the threat to the organization’s image.

This study develops three levels of attributions of organizational crisis responsibility adapted from Weiner’s (1986) Attribution Theory and SCCT research, which posits that there are three types of crises based on the attributions of organization crisis responsibility each generates. The three levels of attribution of organizational crisis are low (level 1), modest (level 2), and high (level 3). SCCT holds that the stronger the attributions of organizational crisis responsibility, the more accommodative the crisis strategies used should be (Coombs, 2010).

**Development of the Attribution and Apology Model**

Based on the concept of attribution of responsibility and setting it against the context of apology, we developed the Attribution and Apology Model to examine organizational responses (see Figure 1). As shown in Figure 1, the model has two focal components visually shown as the X and Y axes. Along the Y-axis, the strength of apology is placed along a continuum that is juxtaposed against the continuum of levels of attribution of responsibility (X-axis). The apology strength is categorized into five degrees of apology, which were developed drawing insights from Hearit and Borden (2006) and Hargie et al. (2010), as well as parallel exemplars of real-life public apologies.

Along the X-axis, attribution of responsibility is based on Coombs’ SCCT classification of low, modest and strong attributions (Coombs, 2010).
Method and Findings

Experimental Design

A between subjects factor design (apology x attribution of responsibility) was utilized for this study. The levels of apology statements were subjected to expert checks, where experienced Public Relations practitioners provided feedback on variables such as scenario realism, conformity to apology typologies and acceptance of responsibility.

As a scenario-based stimulus to mimic a real life health crisis was needed, a fictitious organization was created for the purpose of this experiment. In this fictitious situation, Tevana Pharmaceutical is a leading manufacturer of medicinal supplements in the health industry. Its newly developed drug, Nitrax, used to treat heart disease, causes a number of patients to develop conjunctivitis upon consumption.

A sample of 385 respondents (N=385) consisting of undergraduate and graduate students from a large research-intensive university were each shown a news clip that reported on the fictitious crisis. The three levels of responsibility attribution and the five degrees of apology accounted for 15 unique conditions. The level of responsibility attribution was manipulated via the factors of the company’s actions after consumers fell ill (pro-active vs. passive) and its relationship with its overseas manufacturer (kept unaware of production fault by overseas manufacturer vs. knowingly engaged a manufacturer with unhygienic production practices). To ensure the scenarios were realistic, the news clips were modeled after a local television broadcaster’s news program.

Participants were briefed prior to watching the news clip twice. After the video screening, a questionnaire was administered to measure the participants’ perceptions of the organization’s reputation, the acceptance of the organization’s apology and the overall impression on the handling of the crisis by the organization.

Data has been collected and is currently being analyzed. The results and findings will be presented at the AMHCR conference.

We will also discuss implications for organizations in the health sector on how to recover from crises through the use of apology.

References


Hargie, O., Stapleton, H., Tourish, D. (2010). Interpretations of CEO public apologies for thebanking crisis: attributions of blame and avoidance of responsibility. Published by SAGE.


The Effect of Corporate Reputation on Health Insurance Choices in a Public-Policy-Shaped Environment of Premium Equality

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Martina Littich, Ludwig-Maximilians-Universität in Munich
Manfred Schwaiger, Ludwig-Maximilians-Universität in Munich

Purpose:
Legislation put into effect in 2009 has dramatically altered the health insurance system in Germany by introducing premium equality in order to foster new competition between the German statutory health insurance (SHI) funds based on quality rather than price. Our research sets out to determine the factors that influence the choice of SHI in Germany in this new environment of premium equality. Prior research has identified price as the most distinguishing and important criterion when compared with other product attributes such as benefit details or services. With price missing we propose, that, aside from benefit details which should gain importance, the reputation of a SHI fund can have a major impact on its choice because it serves as a signal for the quality of products. By means of extensive desk research and an expert interview, we identified five product related attributes that have a major effect on SHI choices on the German market: Elective Tariffs, Bonus Programs, Complementary Insurance, Service Package, and Voluntary Coverage. To test the effects of a SHI fund’s corporate reputation, we included real SHI fund brands of the four biggest funds in terms of coverage of German SHI insurants: AOK, Barmer GEK, TK and DAK.

Methods:
In order to answer our research questions and to test our hypotheses, we rely on the approach of choice-based conjoint analysis (CBCA) together with a Hierarchical Bayes model to estimate part-worth utilities (PWUs) on an individual level. After some demographics and the actual conjoint experiment, the SHI fund’s reputation was assessed using the corporate reputation scale of Schwaiger (2004), followed by questions about participant’s current SHI funds as well as health status. In total, 250 SHI insurants responded to our online-questionnaire.

Results & Conclusion:
All included attributes and levels showed significant influence on choice behavior. Hence, the choice of SHI also depends significantly on the SHI brand: whereas the value of the healthcare package is enhanced when the provider is TK, it is reduced when DAK is the provider. This finding is consistent with the reputational assessments of the SHI funds in our sample. The respondents assign significantly higher values for reputation to TK (59.35%) and the lowest reputation to DAK (47.64%). Individual PWUs for the different SHI brands and the corresponding reputational assessments of each individual respondent are significantly correlated ($r_{AOK} = .227$, $r_{BarmerGEK} = .247$, $r_{DAK} = .194$, $r_{TK} = .285$, $p < .01$). We also used the individual PWUs to quantify the relative attribute importance. Brand, with an average importance of about 15.0%, ranks third behind Voluntary Coverage (35.89%) and Elective Tariffs (19.55%). Looking at demographic factors and the current health situation of the respondents revealed elective tariffs being more important for male persons and healthier participants ($M_{female} = 18.0$, $M_{male} = 22.2$, $p < .01$; $M_{healthy} = 19.0$, $M_{unhealthy} = 21.6$, $p < .05$). The importance of brand is correlated with age ($r = .209$, $p < .01$). Moreover, the brand is more important for the less educated share of respondents ($M_{high} = 14.3$, $M_{low} = 17.0$, $p < .05$).

The high importance of voluntary coverage leads to the assumption that the former search for ‘the same coverage for a better price’ is replaced by the search for ‘more coverage for the same price’. A SHI fund’s marketing communications and public relations should also place substantial emphasis on corporate reputation management, because customers rely on the brand as a signal of quality when they choose a SHI fund. The German public policy strategy of 2009, which aims to encourage quality-
based competition between SHI funds, has shown its first successes. The recent reform is more effective than earlier modifications of the German SHI market. Our study shows that, in the new environment of premium equality, customers indeed base their SHI choice decisions on the new features that emerged due to intensified competition.

References available upon request.
An Experimental Examination of Consumer Attitudes, Behavioral Intentions and Information Search Behavior after Viewing a Predictive Genetic Test Direct-to-Consumer Advertisement

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Sharavanan Ramakrishnan, Medical Marketing Economics, LLC
Matthew Perri III, University of Georgia

Predictive genetic tests (PGT) have greatly increased in number available and overall sales. Thus, much like their pharmaceutical peers, companies offering PGTs have increasingly used direct-to-consumer advertising as part of their promotional strategy, especially since many PGTs are available without a prescription or physician order. Given the lack of empirical research examining the effects of PGT-DTC, this research sought to examine consumer attitudes, intentions and behavior in response to a PGT-DTC ad with and without a prescription requirement. Overall, consumers hold favorable attitudes to PGT-DTC ads, but did not intend to engage in physician discussion, take the test or perform information search behavior. The effect of a prescription requirement was not significant, as no differences were seen with the attitude and behavioral intention dependent variables. Thus, at this still relatively young point in the PGT cycle, consumers still seem to be skeptical about the value of predictive genetic tests.

Introduction
With the completion of the Human Genome Project in 2003, a new age of diagnostic tests evolved. Predictive genetic tests (PGTs), or DNA-based tests that can either predict the development of a gene alteration disease (e.g., Huntington’s disease) or quantify the susceptibility to numerous other common health conditions, have greatly increased in number and attention in the last decade (Gollust, Hull and Wilfond 2002; Tracy 2007; Lachance et al. 2010; McBride, Wade and Kaphingst 2010). In fact, a recent study showed the number of websites selling genetic tests has tripled since 2003, including multiple new companies launching products (Liu and Pearson 2008). Currently, most PGTs are available for purchase directly or via the Internet, just as other traditional consumer goods. Thus, as with most all consumer goods and even prescription medications, increasing numbers of biotech companies offering PGTs use direct-to-consumer (DTC) advertising as part of their promotional strategy. Myriad Genetics (www.myriad.com), a molecular diagnostic company, launched the first DTC advertising campaign for a predictive genetic test (PGT) for breast cancer (BRCA I & BRCA II) to a broad consumer audience in October 2003 (Tsao 2004) and has continued this strategy, including a recent television heavy campaign in specific markets. While the effects on consumer response of DTC prescription advertising has been highly evaluated and analyzed, those same response characteristics have not been evaluated to that extent with PGT-DTC advertising.

Given the possible implications of these tests, one might think their use has strict guidelines and is restricted to obtaining through a physician order or prescription. However, other than the Genetic Information Nondiscrimination Act (GINA) of 2008 prohibiting discrimination by employers and health insurers based on genetic information, there are currently no guidelines restricting the sale or use of predictive genetic tests to being obtained through a physician (http://www.eeoc.gov/laws/statutes/gina.cfm). Further, while the Clinical Laboratories Improvement Amendments (CLIA) of 1988 requires quality laboratory testing, it does not allow for regulation or oversight of a test’s safety or effectiveness, i.e. clinical validity (Javitt and Hudson 2006; Hudson 2007). Only PGTs labeled as a kit fall under FDA regulation as an “in vitro diagnostic device,” but most PGTs are not labeled in this manner (Liu and Pearson 2008). From an advertising perspective, unlike prescription medications, PGTs are regulated by the Federal Trade Commission (FTC) and not the Food and Drug
Questions are presented below: in response to a PGT behavior. Intentions and information search behavior of a prescription requirement on consumer attitudes, void, this study experimentally investigated the impact PGTs has been conducted. As a start toward filling this examined consumer response to DTC advertising of Edwards 2008); however, little empirical research McBride, Wade and Kaphingst 2010; Berg and Fryer option) directly to consumers (Bloss et. al. 2010; McBride, Wade and Kaphingst 2010; Berg and Frer-Ewaters 2008); however, little empirical research examining consumer response to DTC advertising of PGTs has been conducted. As a start toward filling this void, this study experimentally investigated the impact of a prescription requirement on consumer attitudes, behavioral intentions and information search behavior in response to a PGT-DTC ad. The specific research questions are presented below:

1) Do consumers’ attitudes differ in response to a PGT-DTC ad with a prescription requirement compared to no prescription requirement, specifically with:
   a) Attitudes toward the advertisement?
   b) Attitudes toward the brand PGT test?
   c) Attitudes toward the company advertising the PGT?
   d) Attitudes toward a prescription requirement in general?

2) Do consumers’ behavioral intentions differ in response to a PGT-DTC ad with a prescription requirement compared to no prescription requirement, specifically with:
   a) Test inquiry intent?
   b) Information search intent?
   c) Intention to take the test?

3) Does consumers’ information search behavior differ in response to a PGT-DTC ad with a prescription requirement compared to no prescription requirement?

Methods
A single factor, between subjects design with the presence or absence of a prescription requirement as the experimental variable was used to evaluate consumers’ attitudes, intentions and behavior in response to a predictive genetic test DTC advertisement. The quantitative, cross-sectional survey used Qualtrics online software (www.qualtrics.com) and consumer panel, all above 18 years of age, to administer the survey. A fictitious genetic test (RTF®) for multiple health conditions (Alzheimer’s disease, rheumatoid arthritis, colon, lung and pancreatic cancer) was chosen for this study to ensure sufficient respondents with a family history of disease. Further, these conditions have genetic tests currently available in the marketplace. The ad stimulus mirrored existing PGT print ads in the marketplace and was based off Myriad’s BRCA PGT print advertisement. The subjects were asked three introductory demographic questions, viewed the ad stimulus, explained the presence or absence of a prescription requirement for the advertised test and then responded to the pre-tested, self-administered questionnaire.

The operational definitions of the variables examined in this study include:

*Attitude Toward the Ad (A<sub>AD</sub>):* “predisposition to respond in a favorable or unfavorable manner to a particular advertising stimulus during a particular exposure occasion” (MacKenzie, 1986).
Attitude Toward the Brand (A\textsubscript{B}): predisposition to respond in a favorable or unfavorable manner to a brand within a PGT-DTC ad.

Attitude Toward the Company (A\textsubscript{C}): predisposition to respond in a favorable or unfavorable manner to a particular biotechnical company within a PGT-DTC ad.

These dependent variables (Attitude toward the 1-Ad, 2-Brand and 3-Company) were measured using a three-item, seven-point semantic differential scale for each variable. These scales have also shown high internal consistency numbers (MacKenzie, 1986; Muehling, 1988). For each dependent variable scale, scores ranged from one to seven with four as a neutral option and higher numbers representing more positive attitudes. Items within the scale were also negatively worded (and reversed scored for analysis) to increase scale validity.

Attitude Toward a Prescription Requirement (A\textsubscript{P}): predisposition to respond in a favorable or unfavorable manner to a prescription requirement for the PGT within the ad. This was measured using a four-item, seven-point semantic differential scale adapted from the above attitude scales.

Test Inquiry Intent (TII): the likelihood consumers will inquire about the advertised test during their next physician visit.

Information Search Intent (ISI): the likelihood the consumer will seek more information about the advertised test during the next week.

Intention to take the test (ITT): the likelihood the consumer will take the advertised test within the next three months.

The preceding three intent constructs were measured using a three-item, seven-point semantic differential scale (e.g., 1 = “Unlikely,” 7 = “Likely”) adapted to the specific construct from the scale developed by Mackenzie, Lutz and Belch (1986).

Information Search Behavior (ISB): the consumers’ actual search for information by clicking on a provided link at the end of the survey. It was assessed with a one-item, dichotomous choice option (yes/no) coded as 1 = “look for more information now” and 2 = “do not look for more information now”. This single item ISB measurement scale has been used in prior DTC research and demonstrated equivalence to multiple item measures (Bergkvist and Rossiter, 2007; Rollins, 2010).

SAS Version 9.1 was used for data analysis. Descriptive statistics and T-tests were examined to assess differences in the dependent variables based on whether or not a prescription was required for the advertised genetic test. The behavior measure was analyzed using descriptive statistics and chi-square techniques. A minimum sample size of 198 subjects, or 99 subjects per group, was determined with power set at 0.8, an a priori alpha level of 0.05 and, based on lack of previous research examining this phenomenon, a medium effect size ($f = 0.40$) (Cohen, 1988).

Results

Two-hundred and six (206) surveys were completed within five hours of deployment to 600 randomly selected panel participants for a response rate of at minimum 34.3% (206/600), with 106 in the prescription requirement group and 100 in the non-prescription group. Respondent demographics are detailed in Table 1. Only 8.3% of respondents had ever seen an advertisement for a predictive genetic test, with only 4.9% having talked to their physician about an advertised PGT. The majority of respondents were female (71.8%) and Caucasian (76.7%), while 43% of participants had completed at least a four year college degree. Comparison with the US census data (2000) showed the age, race and income breakdown of the participants were representative of the US population. However, the current study participants’ education level was higher than the general US population. (US Census Bureau 2000 = 24%; respondent group = 43%). Further, the various scale reliabilities (coefficient alpha) ranged from 0.84 (attitudes about a prescription requirement scale) to 0.96 (intent to search for information).

Consumer Attitudes and Intentions

The response means and standard deviations of the attitude and behavioral intentions measures are listed in Table 2. Examining the 206 respondents overall, respondents exhibited moderately positive (seven-point scale with higher numbers equaling a more positive response) attitudes toward the advertisement (5.35 ± 1.27), brand (4.95 ± 1.12) and company (4.82 ± 1.08). Also, respondents were somewhat positive in their views towards a prescription requirement for PGTs (4.58 ± 1.62). Further, given the possible prescription requirement, respondents were asked about their attitudes regarding physicians and predictive genetic testing using a 7-point Likert-type scale (Table 3). Consumers somewhat agreed physicians needed more information (4.75 ± 1.38), experience (4.77 ± 1.44) and knowledge (5.04 ± 1.28) regarding genetic tests to determine if the tests were
right for them. In terms of behavioral intentions, respondents were neutral in their intent to discuss the PGT with their physician (4.15 ± 1.90) or search for more information about the test (4.18 ± 2.04). Also, respondents were somewhat negative in their desire to take the advertised test (3.00 ± 1.86).

The two experimental groups were then compared via independent samples t-tests. In comparisons of every attitude (Attitude toward the 1-Ad, 2-Brand, 3-Company and 4-Prescription Requirement) and behavioral intention (Test Inquiry Intent, Information Search Intent and Intent to take the Test) measure between the prescription requirement group and the no prescription requirement group was not statistically significant after Bonferroni correction for multiple comparisons (lowest p-value = 0.048).

**Consumer Response to Pre-defined Behavior Measure**

Next, for the behavior measure, 35 of the overall 206 (17%) respondents performed the pre-defined information search behavior as describe above. This behavioral measure was then further analyzed based on the presence or absence of a prescription requirement and respondents’ self-reported past behavior with advertised genetic tests. Two-by-two cross-tabulation tables were constructed and chi-square analyses run to determine significant differences, if any.

First in terms of the prescription requirement, no significant difference was observed, with an almost exact correlation between the numbers within the cross-tabulation of the two experimental groups and those performing the behavior measure (chi-square = 0.00; p-value = 0.997). However, when examined against the respondents’ self-reported past behavior (question = have you ever talked to your doctor about a genetic test you had seen or heard advertised?), a significant difference was seen (chi-square = 20.941; p-value < 0.001). For those performing the pre-defined behavior measure, significantly more respondents had not ever talked to their physician about a genetic test they had seen or heard advertised.

**Discussion**

Overall, consumers expressed positive attitudes toward the advertisement, brand and company while expressing neutral intentions to discuss the advertised test with their physician, search for more information and negative intent to take the advertised test. Following previously described behavioral intention theory, consumers’ low levels of behavioral intentions subsequently correlated with low levels of consumers performing the pre-defined information search behavior. Given the relative infancy of predictive genetic testing, in particularly DTC advertising of PGTs, these overall results show that while consumers may be able to process the advertisement and form positive attitudes around the advertisement and its components, they are not yet ready to act in the form of discussing the test with their physician, searching for more information or taking the actual test. It is quite possible there is a certain level of skepticism amongst consumers toward genetic testing, especially given its newness.

In terms of whether or not the prescription requirement altered consumer attitudes, intentions or behavior, no significant differences were seen when comparing the two groups (prescription requirement and no prescription requirement). The lack of statistical significance in this case is significant given the increasing PGT presence. One might think a prescription requirement might alter the responses in either a more positive or negative slant. For example, it could have possibly decreased consumer intentions to talk to their physician or even take the test given the extra step introduced in the obtaining process or general consumer skepticism regarding the results and who would have access to them. Also, it could have rendered even more positive attitudes and greater behavioral intentions through a built-in added credibility when going through a physician intermediary. This was not the case, however, as the prescription requirement had no effect on any measure, lending to the belief consumers are immune to a prescription requirement impacting their decision making or just the relative youth of PGTs in the marketplace causing hesitation in consumers’ minds. Also, from a biotech companies’ perspective, these results show it is not necessary to include physician involvement for the PGT, as this does not alter consumer attitudes or response.

In contrast, however, while the overall behavioral intention results suggest otherwise, it is still plausible the increased PGT presence and PGT-DTC may lead to consumers seeking more information from their doctors to help them decide whether a test is appropriate for them. Consumer attitudes regarding the physician and PGTs show a concern over the level of information, experience and knowledge physicians have on PGTs to this point. While consumers are not in the best position to determine a physician’s knowledge base on a given topic, these results show the medical community, and medical education in particular, should consider evaluating the depth to which genetics and, specifically, PGTs are covered in curriculums and training. Thus, the message to biotech companies is not yet clear: it may or may not be
necessary to include physician involvement for their PGTs.

For the pre-defined behavior measure, only a small percentage (17%) actually performed the information search behavior. One possible explanation is the newness (only 8.3% of the sample had previously viewed a PGT DTC ad) and nature of predictive genetic testing. As these tests are not currently commonplace within the healthcare industry, consumers may not see these tests as anything they should spend their personal time researching, but possibly leave the discussion to their next physician visit.

This study was limited by use of a forced exposure to the ad stimulus. Hence, the ecological validity of the study findings should be interpreted in light of the fact that experimental settings deviated from natural ad exposure and could have influenced consumers to respond differently than usual. In addition, the current sample had an education level much higher than the general consumer. Although we measured consumer information seeking behavior, this measurement was made based on one binary response question. In the future, researchers should direct consumers to websites that provide more information about PGTs and use more advanced web tracking methods to provide increased validity to conclusions about behavior. Further, this research does not uncover the specific information that consumers would like to see in PGT ads to make informed decisions. A promising line of research may be to understand what information consumers seek in advertisements of genetic tests and individual characteristics or factors that influence them to search for more information.

Conclusion

Consumers reported somewhat positive attitudes but did not intend to talk with their doctor and seek more information about PGTs after DTC advertisement exposure. At this point in the evolution of PGTs, consumers did not seem ready to engage in active information search. While a controversial subject within the medical community, the presence or absence of a prescription requirement had no significance on consumers’ thoughts regarding the PGT-DTC ad. Future research could identify the underlying consumer skepticisms toward PGTs and their advertising, and the role to be played by physicians in directing the demand for PGTs. This information will also be useful for PGT marketers and policy makers in designing marketing plans and public policy.

<table>
<thead>
<tr>
<th>Table 1 – Respondent Demographics</th>
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<tbody>
<tr>
<td>Variable</td>
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<tr>
<td>Gender</td>
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<td>Education Level</td>
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<td>Age</td>
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### Table 2 – Attitude & Behavioral Intention Measures

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean ± Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude Toward the Ad</td>
<td>5.35 ± 1.27</td>
</tr>
<tr>
<td>Attitude Toward the Brand</td>
<td>4.95 ± 1.12</td>
</tr>
<tr>
<td>Attitude Toward the Company</td>
<td>4.82 ± 1.08</td>
</tr>
<tr>
<td>Attitude Toward a Prescription Requirement</td>
<td>4.58 ± 1.62</td>
</tr>
<tr>
<td>Intent to talk with physician (TII)</td>
<td>4.15 ± 1.90</td>
</tr>
<tr>
<td>Information search intent (ISI)</td>
<td>4.18 ± 2.04</td>
</tr>
<tr>
<td>Intent to take the advertised test (ITT)</td>
<td>3.00 ± 1.86</td>
</tr>
</tbody>
</table>

### Table 3 – Consumer Attitudes toward Physician Involvement in PGTs

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean ± Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think that needing a prescription for a genetic test means:</td>
<td></td>
</tr>
<tr>
<td>Doctors will decide if I need a test, not me, and this could be bad</td>
<td>4.25 ± 1.70</td>
</tr>
<tr>
<td>Doctors will need a lot more information on genetic tests to decide if the tests are right for me</td>
<td>4.75 ± 1.38</td>
</tr>
<tr>
<td>Doctors will need a lot more experience with genetic tests to decide if the tests are right for me</td>
<td>4.77 ± 1.44</td>
</tr>
</tbody>
</table>
Doctors will need to learn more about genetic tests to decide if the tests are right for me.

References
Atrial fibrillation (afib) is a heart condition that causes the organ to beat irregularly and out of rhythm (AHA, “Atrial Fibrillation,” n.d.). As a result of this inconsistent rhythm, blood may pool in the heart and form a clot that ultimately leads to stroke when it travels to the brain (NINDS, 2007). Warfarin is one treatment option for this condition. An agent that makes blood less likely to clot, warfarin use can reduce the chance of a stroke in patients but it also increases risk of internal bleeds (U.S. Department of Health and Human Services [HHS], 2008). The balance between the drug’s risk and benefit must be determined by patients and providers, taking into account patient health and risk profiles and patient preferences and lifestyle factors. Some research suggests that patients may be more willing to accept the risk of a bleed due to warfarin use than risk having a stroke without the medication. Providers, on the other hand, may be more willing to risk strokes in some of their patients than bleeds (Devereaux, et al., 2001). The result of these concerns is warfarin prescription rates below those consistent with guidelines and potential discordance between patient preferences and provider recommendations. This discordance is particularly problematic in an older patient population, such as the typical afib patient demographic, that might be more likely than younger patients to defer to a provider’s recommendation without engaging in shared decision making. The recognition of underutilization of warfarin and the desire to activate afib patients to discuss their preferences for therapy prompted a multidisciplinary team of researchers to develop a communication product targeted at patients. The team used a direct-to-consumer marketing approach to learn about the intended audience’s experience with the health condition, employed theory and market research to develop a DVD script intended to encourage atrial fibrillation patients within the Veterans Affairs medical system to discuss their treatment preferences with their providers, and tested the acceptability of the product with patients. This paper reports on the formative research process, incorporation of the formative research into a DVD script product, and results of script testing.

Strokes and Atrial Fibrillation

Stroke is the third most common cause of death in the country, with 780,000 people in the United States experiencing strokes in 2005 and 150,100 dying from stroke (American Heart Association [AHA], 2008). A significant cause of disability (Centers for Disease Control and Prevention [CDC], 2007), stroke also has economic impacts on the country, costing $65.5 billion in 2008 (American Stroke Association, n.d.). Atrial fibrillation increases stroke risk by five times (Wolf, Abbott, & Kannel, 1991). Approximately one percent of the population has atrial fibrillation, with the condition being more common in older people (Waktare, 2002). Afib contributes to roughly one quarter of strokes seen in people older than 80
(National Institute of Neurological Disorders and Stroke, 2007). However, warfarin (also known by the brand name Coumadin) can lower risk of stroke by about 68 percent (AHA, “Atrial fibrillation,” n.d.). Caro’s (2004) review of secondary data including Medicare records suggested 28,000 strokes could be prevented annually, preventing deaths, preserving quality of life, and potentially saving billions of dollars if 50 percent of patients with atrial fibrillations not currently taking an anticoagulation medication (or not taking it optimally) were placed on the appropriate warfarin regimen. A Canadian study found that the majority of afib patients admitted to a hospital with stroke had not been taking warfarin, or not taking the drug at the therapeutic range (Gladstone, et al., 2009).

Warfarin interrupts the body’s vitamin K processing that helps the blood coagulate (Higdon, 2004). The narrow therapeutic window of warfarin treatment and the frequent testing to determine if a patient’s blood levels are within the therapeutic range represent two barriers to the drug’s prescription (Walker & Bennett, 2008). Warfarin is not without risks and inconveniences. The biggest risk is a bleed because the warfarin user’s blood lacks normal clotting ability (Medline, 2007). Providers weigh the risks of a patient having a stroke if not on warfarin with the risks of the patient having a bleed if he or she takes warfarin (Merli & Weitz, 2004). Patients’ inconveniences related to taking the drug include lifestyle and diet modifications, such as avoiding inconsistent intake of foods with vitamin K, and regular blood testing to ensure that the drug dose is correct (HHS, n.d.). Despite the risks and inconveniences of warfarin, research suggests that atrial fibrillation patients may be more willing to accept the risk of a bleed in order to lower their risks of a stroke than are their providers (Devereaux, et al., 2001). And one survey of warfarin patients found that 89 percent said the drug represents little or no limitation to everyday life (Barcellona, et al., 2000, p. 50). However, another study of family physicians revealed that more doctors would feel responsible for a stroke in a patient not on warfarin than a bleed in one on warfarin, although physicians with former patients who experienced brain bleeds felt more responsible for that outcome (Gattellari, et al., 2007).

It is important to note that these findings are not contradictory; rather they suggest that providers’ decisions concerning whether to prescribe warfarin may be based on more than just clinical guidelines. Alternatives to warfarin exist for afib treatment. Among them are aspirin and direct thrombin inhibitors. Aspirin may be an appropriate medication for some patients but research indicates that it may be less effective in preventing stroke. Direct thrombin inhibitors require less monitoring and lifestyle changes than warfarin. However, concerns over reduced effectiveness from medication nonadherence may be greater with these new therapies than with warfarin (Phillips, 2010). In addition, the lack of regular monitoring needed for the newer medications limit opportunities for providers to evaluate how well the medication is working for the patient, both in terms of physiological effects and quality of life issues. Given these trade-offs, warfarin is expected to remain an appropriate medical option for some patients.

Determining who is a good candidate for warfarin is not a simple task – many patient characteristics and risk factors contribute to the decision – but guidelines exist to help healthcare providers determine which patients are appropriate candidates for it based on risk factors and other characteristics (e.g. Singer, et al., 2008; Wyse, 2007). Despite guidelines favoring warfarin in treating afib in a majority of patients, warfarin remained underutilized at the time of this study (Walker & Bennett, 2008).

Patient Knowledge about and Preferences for Treatment Therapies

The complicated management and precision needed to confer effective, safe use of warfarin makes it critical that patients understand the risks and benefits of the therapy. Research points to some deficits in patient knowledge (e.g. Fuller, Dudley & Blacktop, 2004). Lane and colleagues (2006) found that about half of afib study participants reported that their condition was a serious one and fewer than half understood the diet and lifestyle restrictions important to keeping their INR levels in the correct range. Lip, et al. (2007) who found that 97% of patient participants on vitamin K antagonists (VKA)
said they knew why they were prescribed it or what the medications did (e.g. prevent clots and thin the blood) but only 7% of the participants made the specific connection to reducing stroke risk. Dantas, et al. (2004) found that younger patients knew more about the risks and benefits of warfarin; however, only a minority of participants could name specific risks, benefits and lifestyle impacts of the drug they were prescribed. Patients with lower literacy skills may have difficulties understanding the warfarin doses their providers prescribe (Schillinger, et al., 2006). Among low literate patients, Fang, et al. (2006) found that warfarin patients with lower health literacy were more likely to provide incorrect answers to questions designed to assess their warfarin and afib knowledge, including questions about anticoagulation safety, what afib is and its association with stroke. Among low health literate afib/warfarin patients, 60% said the doctor had not informed them that they had the condition, whereas only 9.7% of high health literate patients reported that the providers had not told them. However, health literacy did not seem to be correlated with self-reported lack of adherence.

Providers’ Barriers to Prescribing Warfarin

Provider concerns about prescribing warfarin therapy include the narrow INR window, infrastructure availability for monitoring blood, and the necessity of monitoring for interactions from other drugs, food and alcohol (Lane & Lip, 2008). Factoring into providers’ perception of candidates for warfarin are the patient’s age, history of bleeds or falls, expected compliance with the regime (Bungard, et al., 2000; Gattellari, et al., 2008), sex, stroke history, and presence of other health conditions such as hypertension and diabetes were predictors of warfarin prescription (Walker & Bennett, 2008). Choudhry, et al. (2006) found that patients prescribed warfarin after their atrial fibrillation diagnoses tended to be younger and at higher stroke risk.

Older patients may be less likely than younger patients to question their providers or to take an active role in medical decision making (Swenson, et al., 2004; Thompson, Robinson & Beisecker, 2004); even though Murray and colleagues (2007) found that most providers prefer a more shared decision making approach with their patients. Specifically in the area of afib treatment, one study indicated that almost one-quarter of afib patients desired more information about afib medications during their initial clinical visit; however, most did not seek that information (Lip, et al., 2007). By directly targeting health care providers, the video could help patients learn about options, how to talk to their providers about their wishes, and how to ask questions, thereby possibly reducing this difference between patients and provider.

Patients’ wishes, clinical guidelines, and providers’ decisions regarding anticoagulation therapy do not always coincide. Protheroe, et al. (2000) noted that 61% of participants in their study preferred warfarin based on a decision analysis employed, whereas the guideline recommendations called for 92% of them to be prescribed it and, based on absolute risk, 72% would be recommended the drug. On the other hand, 87% of the patients whose decision analysis indicated a preference not to be on warfarin were candidates for the drug based on guidelines, and nearly half of the 38 patients were actually taking warfarin at the time their decision aid indicated they preferred another type of treatment. This is not to say that the patients were unhappy with their treatment. Instead, it suggests that their preferences for risks, benefits, and lifestyle changes may have been inconsistent with their therapy.

Project Background

The project team was comprised of VA investigators with expertise in geriatric medicine, nursing, medical anthropology, and pharmacy administration, and investigators from an affiliated university’s communication college. Previous work by the team included interviews with atrial fibrillation patients seeking treatment at a VA medical center. The patient participants answered questions related to their knowledge about atrial fibrillation, the condition’s treatment options, and the patients’ preferences for making health decisions with their providers. Three themes from the interviews emerged. First, most of the veterans stated that they were content to defer treatment decisions to provider. Second, the veterans conveyed that warfarin helped them return to a normal life, despite
some lifestyle changes. Third, they indicated that they had faith in warfarin to prevent stroke and described the decision to take warfarin as one based on fear of consequences (stroke) and death. Knowledge about atrial fibrillation and warfarin varied. Nearly every patient mentioned the association between rat poison and warfarin. They reported hearing “war stories” about other patients being on “rat poison” and having a bad outcome. The interviewees implied that the link likely influenced some people’s negative opinions about the drug.

These themes would be incorporated into script development and testing in the phase of research herein described. The project was envisioned based on principles of direct-to-consumer marketing and the message approach was consistent with Bandura’s work in social learning and modeling that postulated that people may be better able to process and act on behavior-oriented messages if they are given opportunities to rehearse that behavior in their minds. For example, Maibach and Flora (1993) developed videos of characters making AIDS prevention decisions. Participants’ own self-efficacy to take steps to reduce their chances of acquiring the disease increased as a result of watching the video and cognitively rehearsing the characters’ activities. Afib patients who ordinarily may not take an active role in medical decision-making may be more apt to participate in afib treatment if they see it endorsed and practiced by our character vets, with good outcomes. The interactions between veteran and provider characters could conceivably normalize the shared decision making practice in patient viewers’ minds.

The script testing was designed to illicit feedback about the style and accuracy of messaging presented in the script and corresponded with three study research questions.

1. How consistent was the script’s description of diagnosis and medical management of atrial fibrillation with patients’ own experience with the condition?
2. How relatable were the script’s characters and settings to actual patients?
3. How likely were patients viewing a DVD based on the script to be activated to ask questions and express their values for treatment?

Methods
Script Development
Based on the patient interviews, the communications specialists collaborated to identify an approach for the script that addressed the major themes and incorporated audience statistics. Among the target age group of 60 years and older, classic movie and golf channels were the most popular so classic programming and golf themes were incorporated into the script. The golf concept worked well not only because it mirrored an audience interest but it represented a “normal life” activity, reiterating that atrial fibrillation patients do not have to be hampered by the condition. A second major theme from the patient interviews and the larger patient-provider communication literature is that older patients are more willing to accept a patriarchal approach to medical decision making, preferring to defer to the “experts” instead of actively participating in clinical visits so three medical professionals were included in the script.

The script included three veteran patients, approximately 65 years old, with atrial fibrillation: Sam, a black male; Herb, a white male; and Liz, a Latina. Throughout the script, the characters describe how the medical condition and available therapy choices of warfarin, aspirin, or no medication. They are depicted in scenes with VA provider—a physician, nurse practitioner, and pharmacist—in which they ask common questions and receive answers from these experts. Together, the three of them explain that they were scared, confused and overwhelmed with their atrial fibrillation diagnoses at first and didn’t know what to do or ask. Now, the three patients are informed and empowered, and want to give new patients advice. Themes included highlighting the patients’ ability to maintain normalcy in life; relating characters’ stories to the targeted patients’ situations; presenting health care professionals as trusted authorities; involving patients in health care decision making; and addressing myths and popular sentiment about the drug.

In one example of script dialogue based on research findings, a character talks to his physician,
and the latter explains what afib is, how it was diagnosed and how it might lead to a stroke. The team thought it was important to describe the diagnosis and define the term “atrial fibrillation” because literature indicates that significant numbers of afib patients don’t recognize their condition by its name when asked. Team members thought patients might better relate the video’s content to their condition if they were shown the EKG detection and the colloquial definition “irregular heartbeat.”

A second character talks to her nurse practitioner about treatment options, including no treatment, aspirin or warfarin. A final character discusses with his pharmacist the risks and benefits of each option. All three interactions with providers show the patients actively seeking information about the condition and treatments by asking their providers. The providers stress that they can provide expertise about the science of atrial fibrillation treatment options but the patients have the final decision and must consider individual lifestyles and preferences. In addition to educational value in the script, the major goal is to show patients that they can ask their providers about treatments. Diverse characters that veterans can identify with may serve an informal social modeling function, as veterans observe processes of actors asking questions and participating in decision making and receiving positive feedback from the providers.

Based on the intention to encourage atrial fibrillation patients to initiate treatment discussions with their providers, the script writer incorporated several black and white movie (or classic television programs like Marcus Welby, MD) clips. Clips demonstrate concepts such as a provider explaining to a patient that he or she will have to make some lifestyle changes and a provider encouraging a patient to participate in treatment decisions. These clips reinforce the script’s message that patients should ask questions of their providers and make sure the provider understands the patients’ treatment preferences.

The script’s scenes were represented by two dimensional graphics on PowerPoint slides. Audio clips of volunteers reading the characters’ lines were added to their corresponding. Audio was added in effort to approximate the conversational tone in the eventual DVD and to compensate for any vision or literacy deficiencies in our research participants.

Script Testing
Three male VA afib patients from the first phase of the study were interviewed again. These participants were selected from the original group based on availability and willingness to participate. Two patients were currently taking warfarin for afib; one patient was no longer taking the drug because of other medical issues. Patients were compensated $20 for their time and contribution to the project and were consented according to disclaimers approved by a university Institutional Review Board.

Interviews were conducted at the VA medical center campus where the men received afib treatment. Each participant watched the script presentation and answered questions about their impressions and opinions. Questions fell into the categories of general impressions, perceived credibility, script content, script style, and dissemination. Following the focus group and interviews, one author transcribed the audio recordings and another team member verified the transcripts for accuracy. Three research team members individually summarized the transcripts’ important points, and then met to discuss key findings. Major summary categories included content, style, dissemination, and a list of action-oriented questions the team needed to answer before proceeding with the project.

Results
Although patients may have different stories of how their conditions were diagnosed, all three reported that the processes of diagnosis and management of atrial fibrillation with warfarin were represented in the script. They stressed the normalcy of life that was achievable through the therapy, which was one of the objectives of the script development. Interviewed patients reported that they would pay attention to the video because it presented information about a condition they had. Patients described “identifying” with the video in terms of the health condition discussed, not the actual characters or the setting. The fact that information presented in the video might save one’s life was cited as a reason to pay attention to the video.
Patients reported that the video was simple, easy to understand, written in vets' language and used a direct approach. They reported that they liked the golf setting. The interviewees seemed mostly pleased that the characters depicted were in good health. Two didn’t play golf but said they watched it on TV. Golf was cited as a “universal pastime” and a sport that both sexes played. However, the patients speculated that the manner in which characters were portrayed in the actual video might affect how well veterans would relate to the characters. While the sport itself was described positively, patients expressed concern that the characters might be presented as enjoying a “country club” lifestyle, with more wealth and privilege than many veterans may have in their lives.

The patients were asked what they perceived to be the script’s purpose. None of them mentioned that it was to encourage making decisions with providers about treatment, as is the researchers’ purpose, although one said it would encourage communication with healthcare providers. The patients’ answers implied a more educational, informational purpose to the script. For example, one participant described the purpose as, “To inform the patient of what’s going on, what’s wrong, how it can be fixed, and we’re there to help you so let’s work together on it.”

All interviewed patients explained the circumstances of their own afib diagnoses. The experiences were vastly different but had in common the report that providers did not tell them much about afib at the time of first diagnosis. They said they thought the video would be helpful as an informational tool, and that it might calm patients after diagnosis by showing that they can live normal lives with afib. A participant said that many veterans do not feel comfortable asking questions of providers, but the video may tell them it is okay to ask questions, and in doing so, encourage communication. The intended video format appealed to an interviewee who explained that he remembered information presented orally better than print information.

All three talked about people having misinformation about the diet and activity restrictions for warfarin patients. They stressed consistency, moderation, and having good communication with providers about individual circumstances and wanted to see the video expand on the vitamin K issues. Veterans suggested that the script should stress that afib is a serious condition but it can be managed, and to assure people that they can live a normal life on warfarin. The interviewed patients wanted to see more explanation in the video about INR (one veteran thought we should discuss the levels or numbers of desired INR, etc.). It must be noted that interviewees responded with these answers to questions such as “What did you like best/least about the video script” and “What, if anything, would you change?” The interviewees’ suggestions mostly followed or were followed by positive statements about the script so interpreting from the comments what would be the perfect script would be difficult.

Discussion and Conclusion

Overall, the interviews provided the research team with information about who should see the video, at what point in their diagnostic and treatment journey the patients would benefit from the video, how the video could be disseminated, and what benefit the video might provide. The interviews addressed the research questions by pointing out that the information about the condition matched their own experience managing it; that the connection with characters as similar to themselves was not as important as was the connection to the health condition; and that they believe they would have benefited from the video at the time of their diagnosis because it would have given them some information with which to have discussions with their health care providers. Veterans liked that the video was VA-specific and showed veterans talking to other veterans about their health conditions. Patients said this style mimicked the way veterans actually talked with each other about health in the clinic waiting rooms and in other settings. Almost all participants saw utility in the video at initial diagnosis. Patients reported that they were not given much information about atrial fibrillation when they were first diagnosed, even though they had some questions. Some thought the video’s purpose would be to encourage communication between the provider and
patient, whereas others thought the video was a patient education tool.

After the findings were summarized, the team held meetings after the research ended to discuss research findings and video possibilities. For example, the team revisited the golf setting in light of the participants’ comments about the activity versus the lifestyle of golf. In addition to the audience research described earlier in this paper, the golf theme was a strategic filming decision. Our telecommunication expert explained that the natural light and lack of need for character “extras” would be cost efficient for our project, which will have limited production funds. Despite the conflict about the golf theme, the team decided that the setting might work for newly diagnosed patients who did not play golf, provided the characters were not shown as wealthy, country club members. Several thoughts contributed to this decision: 1) patients pointed out that we would have to present a variety of activities to cover every patient’s mobility and interests. The simplicity of the video would suffer as a result; 2) patients said the video would grab their attention because characters were talking about a condition they have, and that what the characters were doing at the time wasn’t as relevant, 3) the second video opened up opportunities to incorporate other suggestions such as family outings and spouses in conversation. For example, one idea was a Veterans Day picnic with the three patient characters and their families.

Limitations
Despite the positive aspects of the projects, limitations exist. First, the interviewed afib patients were already on warfarin. An underlying idea of the project was to encourage non-warfarin patients, and possibly ones who resisted taking the drug to inquire about options so our use of patients who were on a warfarin regimen did not address one of the project’s chief concerns. Second, the patients interviewed were relatively highly educated. Another limitation was the sample size of the patient interviews. The study was limited in research scope by VA research protocol. Instead of conducting sessions until saturation was reached, fix numbers of sessions were planned.

A fourth project limitation related to the patient interviews was that the participants were asked to evaluate a product based on their memory of where they were at diagnosis, which was many years before in some cases. At diagnosis, afib patients may experience emotions and have questions that are very different from those they will have many years later. An example of the potential bias this situation offers is that the interviewed patients focus on the dietary restrictions with warfarin and the participants’ suggestion that details like the desired INR blood level range be added to the video. Perhaps the interviewed patients would have wanted that information at initial diagnosis, or perhaps those mentions reflect their daily warfarin management information needs.

Implications
This study explored a novel approach to adapt a tactic that is commonly and effectively employed for marketing tangible products to instead encourage a behavior. The approach required involvement from both clinicians and communications experts in order to present complicated medical information in a format that is consistent with communication theory and research. Inasmuch, the study illustrates the value of multidisciplinary teams in health behavior research in addition to the actual findings related to the research questions. Future communication projects focused on behavior change should endeavor to involve such diverse team members in order to accurately describe the medical science while also reaching the target audience with a message that will resonate with that audience.

References


Barcelo


Consumer Vulnerability in the Context of Direct-to-Consumer Prescription Drug Advertising

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Direct-to-consumer advertising (DTCA) of prescription drugs is a controversial practice where pros and cons have been documented by research. Past research has advocated considering DTCA from the consumer perspective, especially its effects on vulnerable consumers. This paper provides a review of prior research and examines consumer vulnerability in the context of DTCA.

Since Direct-to-Consumer prescription drug advertising (DTCA) was legalized by the Food and Drug Administration in the US in 1997, the issue has remained controversial and garnered much attention from practitioners and academicians. As the debate continues, total spending on DTCA keeps increasing. In 2009, DTCA reached $4.3 billion compared to $1.8 billion in 1999 (Kaiser Family Foundation 2010). Prescription drug sales also increased to an estimated $300 billion in 2009, an increase of 5.1% over 2008. Similarly, prescription drug prices increased as well. Data suggest that prices have risen from an average price of $38.43 in 1998 to $71.69 in 2008.

Frosch et al. (2010) pointed out a potential harm of DTCA in which an inappropriate request was made and doctors were incapable or unwilling to correct patient’s perceptions. In their findings, the majority of ad content exceeds the eighth-grade reading level recommended for the general public potentially exacerbating health inequities. Additionally, Myers et al. (2011) argued that “there are significant differences in individual attitudes and traits that can make people more likely to acquire prescription drugs through (un)regulated channels. Because it is likely that vulnerable populations will differ across the usage and benefits of specific drug categories, policy makers should propose rules that ensure that the advertisements are clear and neutral, not only for the average consumer but also for the potential users most prone to abuse” (p. 116). This study shares a similar concern and is an attempt to shed some light on the effects of DTCA on vulnerability.

**Consumer Vulnerability**

Baker et al. (2005) defined consumer vulnerability as “a state of powerlessness that arises from an imbalance in marketplace interactions or from the consumption of marketing messages and products. It occurs when control is not in an individual’s hands, creating a dependence on external factors (e.g., marketers) to create fairness in the marketplace. The actual vulnerability arises from the interaction of individual states, individual characteristics, and external conditions within a context where consumption goals may be hindered and the experience affects personal and social perceptions of self.”

“The explosion in DTC drug advertising is fueling the trend toward better-informed consumers” (Wilkes et al, 2000). Argument for DTCA is the information in the ads has an educational benefit. This view considers only ordinary or normal consumers giving little attention to vulnerable consumers. Vulnerable consumers are those who may be susceptible or disadvantaged. “Vulnerable consumers fail to understand their own preferences and/or lack the knowledge, skills, or freedom to act on them” (Ringold 2005, p. 202).

Rittenburg and Parthasarathy (1997) categorize consumers into three categories 1) sophisticated, 2) at-risk, and 3) vulnerable. “Sophisticated consumers are defined as those who have been exposed, to many advertising and selling approaches and have attained cognitive abilities adequate for defense against marketing techniques. At-risk consumers have the cognitive abilities and defense mechanisms to qualify as sophisticated but have other disadvantages such as addictions or compulsive behavior. Vulnerable consumers are those who may not fully understand the implications of marketing messages.” At risk consumers are those that have addictions or situations that could make them vulnerable. For this paper both at-risk consumers and vulnerable consumers will be classified as vulnerable. In order to assess consumer vulnerability, consumer knowledge and decision making capabilities must be considered.

Consumers exposed to DTCA are receiving information and fitting that information in to their needs and developing wants (preference for one product/brand over another). A sophisticated consumer would know to shop (compare items), be able to determine quality and price differences, know their legal rights, have knowledge of the product and product characteristics, and have the resourced to purchase the items. Marketers on the other hand have a position of power in the exchange of information. They have more knowledge of the product than the consumer and many understand the consumer more than the consumers understand themselves. This creates an
imbalance of power and provides an opportunity for the marketer to take advantage of the consumer but also creates a special responsibility to the consumer. In addition the consumer is processing information that is technical and may require an informed doctor to interpret.

Laczniak and Murphy (1993) differentiate between products harmful, due to abuse, and products inherently harmful. Inherently harmful products are dangerous no matter how used. Products that are harmful due to abuse are those that only occur with abuse or misuse. It can be argued that DTCA products are potentially harmful due to abuse or misuse. According to the U.S. Drug Enforcement Agency, prescription drug abuse has increased 80% since 2000 to nearly 7 million Americans, more than the number who abuse cocaine, heroin, hallucinogens, ecstasy and inhalants combined (U.S. Drug Enforcement Agency 2009).

In the intricate and continuing public policy debates stemming from the rapid growth of DTCA, we believe our inquiry will add a different perspective and open a dialogue to address this concern. If the intent of DTCA policy is to increase awareness and promote consumer wellbeing, it is important that regulatory changes be guided by further studies that comprehensively address all concerns.

References
A Dangerous Neighbor: The News Frames of the Radiation Effects from the Fukushima Nuclear Accident

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This paper examined how U.S. newspapers conveyed radiation-related health information in coverage of the Fukushima nuclear accident. News articles from The New York Times, The Wall Street Journal and USA Today were used in this study. A quantitative content analysis of 277 news articles and a qualitative framing analysis of 60 news articles were conducted. Comparing the findings of prior studies on nuclear accidents, the news articles reporting the Fukushima accident were more likely to provide quantitative and factual information. Also, significant differences of overall tone were observed between articles addressing historical accidents and those reporting the Fukushima accident. Additionally, our framing analysis revealed four major frames: the negligible risks frame, the predictable immediate risks frame, the hidden danger frame, and the open questions frame. Finally, limitations of this research and potential areas for further inquiry were discussed.

Introduction

In the months since the string of disasters including a massive earthquake, tsunami, and nuclear disaster in Japan, the problem of the Fukushima power plant remains an unsolved and ongoing event. International media have reported updates on the status, and the anticipated effects and consequences of the accident. The Fukushima accident seems to be considered as not only a domestic concern but also an international issue.

Traditionally, disaster stories have been regarded as having an inherent appeal (Wilkins & Patterson, 1987). Also, risks of technologies have been treated as newsworthy enough to attract public attention (Nelkin, 1989). Of several areas of science-based-technologies, a nuclear-related problem has the potential for significant impact on a variety of domains including political, economic, environmental, and public health (Klaidman, 1991). Considering its characteristics as a disaster and technological hazards, the abundance of media attention on the Fukushima accident may be warranted.

There have been a series of nuclear accidents in the world, such as the Windscale reactor accident in the UK in 1957, the Three Mile Island accident in the US in 1979, and the Chernobyl nuclear accident in the Ukraine in 1986. As the case of the Chernobyl accident suggested, heightened threats to public health from the accident were one of the main concerns in distant and adjacent countries as well as the country in which the accident occurred. The Three Mile Island Task Force has noted in its report that, “Perhaps the most important information the public needs to know during a nuclear accident is how much radiation, if any, is escaping from the plant and whether the radiation poses a hazard to health” (Nelkin, 1991, p. 215). The concern for the public has been reflected in the media coverage.

To some extent understanding nuclear-related issues (e.g., effects of radiation on public health) requires knowledge about technology/science or health. However, it may not be easy for the general public to obtain direct experience or have sufficient knowledge of a complicated subject, such as radioactive contamination (Ader, 1995). Communication scholars argue that the general public relies on the mass media for gaining information when an issue is more complex and accessible information sources are limited (Ball-Rokeach & DeFluer, 1976). Thus, individuals may be more likely to rely on news media when they assess
current or potential risks related to such a complicated international issue that they have limited knowledge and resources for gathering information.

Previous studies support this assumption that news media have played a role as a credible, primary information source to the public regarding health and technology (Allan, 2002; Hesse et al., 2005; Hofstetter, Schultz, & Mulvihill, 1992). Results from an opinion poll conducted after the Chernobyl accident show that a majority of people (80%) reported they received their information about health countermeasures from the media, whereas only 3% of respondents used formal information sources (Schneider, 1986, recited from Otway et al., 1988). Gregory (1989) stated the role of media is “interpreting scientific findings for the public, providing key information, selective summaries and overall assessments of the quality and relevance of the study” (p. 2-3). It may be reasonable to assume that individuals’ attitudes, opinions, or behavioral actions toward nuclear-related problems and risk would be influenced by how issues are presented in the news coverage (Friedman, Gorney, & Egolf, 1992).

A handful of studies have investigated framing of nuclear-related issues in the news media (e.g., Rubin, 1987; Stephens & Edison, 1982; Wilkins & Patterson, 1987). Yet, despite the increased public concerns about threats to public health, we still don’t know much about how news media present the “invisible hazards” of a nuclear accident in the context of public health. The present study seeks to help fill this gap in existing literature. Drawing upon framing theory in risk communication literature, we investigated how the U.S. media have handled the communication of information on the effects of the Fukushima nuclear accident on public health. In addition, we compared the patterns of U.S. news reports on the Fukushima accident with findings of previous research on news reports of nuclear-related issues, such as the Three Mile Island accident or the Chernobyl accident. In the next section, the literature review on framing theory and media coverage of historical nuclear accidents are discussed.

**Literature Review**

**News coverage on historical nuclear accidents**

Researchers have suggested major considerations to evaluate news coverage of nuclear-related issues. For instance, the Public’s Right to Information Task Force (1979) assessed the performance of various news media including wire services, broadcast networks, radio stations, and national and local newspapers regarding coverage of the Three Mile Island accident. Criteria examined in the report included the amount of coverage, the sources of information being used by the media, and how much background or contextual information was presented to help audiences understand the event. They concluded that the news media might cause audiences to underestimate the significance of the accident and the potential health hazards of radioactivity because insufficient information was provided.

**Factual information about hazards and risks**

One of the criteria for assessing media reporting is whether or not the news report provides factual scientific information about radiation risks to the audience. Ryan, Dunwoody, & Tankard (1991) employed this criterion in their investigation of print media coverage of the Robert E. Ginna nuclear power plant accident in the U.S in 1982. Their findings are in line with those of the Three Mile Island Task Force report (1979) indicating lack of some critical information about estimates of health hazards. Although small amounts of radioactive steam were released from the nuclear plant during the accident, Ginna accident-related news stories tended to provide nonnumerical and general information only, without offering quantitative risk estimates or supplemental risk information.

A study of European news media coverage of the Chernobyl accident found that while news articles tended to use a variety of radiation measurement units and time units of radiation exposures (e.g., per second, hour, day), explanatory information regarding how those raw numbers related to health effects was rarely given to the audience (Otway et al., 1988). Another study of U.S. newspaper and television network news coverage of the Chernobyl nuclear accident assessed the quality of risk information, and compared their findings with those of the Three Mile Island Task Force (Friedman,
Their analysis revealed that although about half of the news coverage on the Chernobyl accident contained radiation-related information, the information on radiation level in the news was still neither specific nor easy to understand because of a lack of explanation of technical jargon.

It appears that news media, to some extent, have attempted to help people assess health risks associated with nuclear accidents (Nelkin, 1989), but failed to deliver to the audience sufficient information regarding health risks. Exploring the extent to which media coverage has improved to provide accurate hazard identification and scientific evidence and to help audiences' interpretability of technical concepts still warrant an empirical investigation.

**Tone of voice: Alarming vs. Reassuring**

Sensationalism is another concern of news reporting on risk communication. News media have been accused of sensationalism and exaggeration of risk reporting (Wahlberg & Sjöberg, 2000), thereby exaggerating the risk situations and unnecessarily heightening the level of the fear among audiences (Dunwoody & Peters, 1992).

Stephens & Edison (1982) examined sensationalism of news media coverage of the Three Mile Island accident. They investigated whether the tone of media coverage was alarming or reassuring, and suggested that the tone of discourse was different depending on the topic. Press coverage regarding health and safety issues during the accident was predominantly reassuring, whereas news stories of nuclear energy (e.g., future of nuclear power, evacuation preparedness) issues tended to be negative rather than positive. Although the news media had reported a high probability of meltdown, the news articles appeared to be reassuring rather than alarming about the threat of danger, possibility of radiation exposure, or a need for an evacuation of the immediate area. Research by Friedman et al. (1987) reached similar conclusions as Stephens & Edison (1982)'s study. The investigators concluded that reassurance was more dominant in news coverage of the Chernobyl nuclear accident when dealing with radiation risks for U.S. citizens and Europeans. As the above findings suggest, concerns on tone of voice have been recurring in the nuclear-related news coverage.

**Framing theory**

The framing process of news media can be characterized as selection, exclusion, and salience (Gitlin, 1980). According to Entman (1993), framing is “to select some aspects of a perceived reality and making them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described” (p. 52). Furthermore, news frames guide not only what and how a specific issue is packaged, organized, and presented to audience, but also how media audiences perceive and understand that topic (Altheide, 1997).

A great deal of research consistently shows that news frames have a significant impact on individuals’ perception and attitudes toward the issues (e.g., perceived importance of the issue) and behavioral decision-making (e.g., Iyengar, 1991; Kahneman, 1984; Schneider et al., 2001). Through the process of highlighting or omitting certain information, mass media can make an issue and its related information more or less noticeable and meaningful to the audience. Some critical communication scholars pointed out that as a result, audiences, particularly those who are less informed, are more likely to accept or agree with the dominant meanings presented in media, rather than to interpret and create their own meanings (Entman, 1993).

Regarding nuclear-related issues, Nelkin (1989) claimed that media coverage of the Three Mile Island accident influenced U.S. citizens’ perception on nuclear power by emphasizing concerns on nuclear safety.

Given the significant effects of news frames, framing has been a widely used research approach in communication studies dealing with a variety of issues including politics (e.g., Gitlin, 1980; Iyengar, 1991), public health (e.g., Nelkin, 1991; Rothman & Salovey, 1997), environmental disputes (e.g., Griffin & Dunwoody, 1997), biotechnology (e.g., Marks, Kalaitzandonakes, Wilkins, & Zakharova, 2007), and natural disasters (e.g., Dynes & Rodriguez, 2007).
Researchers note that news frames can be analyzed using two approaches: the inductive and deductive approach. The inductive approach allows for all possible themes to emerge from a news story by analyzing it with open view. On the contrary, studies taking a deductive approach attempt to verify the presence and occurrence of frames in news stories based on predefined and operationalized frames (Vreese, 2005; Semetko & Valkenburg, 2000). In our analysis of the data, we attempted to identify possible frames used in the news coverage of the Fukushima accident by taking an inductive approach.

Research Questions

One of the purposes of the present study is to compare the patterns of U.S. news reports on the Fukushima accident with findings of prior research on news reports of historical nuclear accidents. Based on the literature on risk communication, a set of research questions are proposed as follows:

RQ1: What kind of information did the media provide on the effects of radiation from the Fukushima nuclear accident? Are there differences between the media coverage of the Fukushima nuclear accident and those of historical nuclear accidents in terms of the amount of factual and explanatory information?

RQ2: What was the tone of the news coverage of the radiation effects? Was the tone of the stories predominantly alarming, neutral, or predominantly reassuring? Were there differences in tone between the media coverage of the Fukushima nuclear accident and those of historical nuclear accidents?

Another main question of this study was how U.S. news media have framed the effects of radiation from the Fukushima nuclear accident. By employing an inductive approach, we will attempt to identify what frames were used in the news coverage of the Fukushima accident. Thus, the following research question is posed:

RQ3. What was the dominant framing of the radiation effects from the Fukushima nuclear accident in U.S. news reports?

Research Methods

Sample selection

To address the proposed research questions, this study conducted both quantitative and qualitative content analyses. Three major newspapers were selected based on their influence, geographical coverage, and daily circulation: The Wall Street Journal, USA Today, and The New York Times (Audit Bureau of Circulations, 2011). The three newspapers are considered to have space and resources to offer various perspectives and in-depth information in widespread circulation. The dataset of this study covered the seven months after the Fukushima accident, starting from March 14 to October 11, 2011. The time period was chosen to include news coverage of the accident as it took place and as it evolved until this study was conducted.

The news articles from The Wall Street Journal, USA Today, and The New York Times were accessed through ProQuest, Lexis-Nexis online database, and Newsbank World access, respectively. All news stories containing the search terms ‘Fukushima’ and ‘radiation’ or ‘radioactivity’ were collected. After excluding irrelevant articles (e.g., news stories reporting the process of recovery) and duplicates, the final samples yielded 277 news stories. During the 7-month time period, The New York Times printed the most stories (148 stories), followed by The Wall Street Journal (115 stories) and USA Today (14 stories). As shown in Figure 1, although there were monthly variations in the coverage for the seven months, the appearance of news articles dealing with the Fukushima accident tended to decrease beginning in March 2011.
To make the comparison of patterns between news reporting of the Fukushima accident and those of historical nuclear accidents, we analyzed all of the articles. To qualitatively explore news frames employed in news stories, we selected 120 news articles in which radiation-related health effects of the accident were of primary concern among the 277 news articles. We used a systematic stratified sampling method to draw 50% of the articles (n = 60) from the total (n = 120), which seems to be an appropriate sample size for in-depth analysis of news stories. Thus, findings from qualitative analysis of the news stories in this study were based on 60 news articles. The total sample consisted of 26 articles from The New York Times, 31 articles from The Wall Street Journal and three articles from USA Today.

**Measures**

A coding instrument was developed to code each news story. The primary topics covered by the instrument included: types of information the news article provide (cognitive vs. affective), valence of news stories, and types of media frame. The unit of analysis is each individual news story. The detailed coding scheme is shown in Table 1.

### Figure 1. Trend in the number of articles on Fukushima accident radiation effects

![Trend graph showing decrease in articles](image)

### Table 1. Coding topics and coding key

**A. Type of information the news article provides:** A news article with any numerical information about containment effects of radiation was coded as cognitive information, while a news article without numerical risk statements was coded as affective information.

News articles with cognitive information was categorized into ‘cognitive information with a reference’ and ‘cognitive information without a reference’ based on the existence of the sentence(s) following for helping interpretation of the numerical radiation risk statement(s).

For example, if a news article reported “The Japanese government has estimated 1,600 nuclear workers will be exposed to high levels of radiation. It says the workers will be subject to more than 50 millisieverts of radiation, which is defined as a high level,” this was coded as “cognitive information with a reference.”

**B. Valence of news story:** The overall tone of media coverage was identified and coded as alarming, reassuring, or neutral based on linguistic characteristics. Positive statements that said that the potential risk of radiation was decreasing were coded as reassuring, while negative statements that the risk of radiation was increasing were coded as alarming. If neither type of statement appeared in the news article, it was coded as neutral.

For instance, a news article saying “Radiation threats to Japan’s food chain are multiplying as cesium emissions from the crippled Fukushima Dai-ichi nuclear power plant spread” was be coded as alarming.
Quantitative coding procedure and reliability

Two graduate students, trained in quantitative content analysis, independently coded all the news stories. After a series of training sessions, the coding process was implemented. The unit of analysis was each individual news story. To estimate inter-coder reliability, 10 percent of the total sample was randomly selected and double-coded by the two coders. Inter-coder reliability was calculated using a Cohen’s Kappa coefficient. The overall inter-coder agreement was 0.88. The level of agreement for subjective items, such as tone of news articles, was 0.82, and a reliability of objective items, such as presence of quantitative risk statements and mentions of former nuclear accidents, was 0.97. Thus, intercoder reliability was deemed sufficient (Baxter & Babbie, 2004). Disagreements between the two coders were resolved through discussion and mutual agreement.

Results

RQ1 asked how much and what kind of information the U.S. newspapers provided regarding the effects of radiation released from the Fukushima nuclear accident compared to those of historical nuclear accidents in terms of the amount of factual and explanatory information. The results showed that about half the news stories (48%) in this analysis included quantitative risk estimates about radiation fallout from the wrecked Fukushima nuclear plant, while 52% of the news stories were identified as merely qualitative statements without quantitative risk measures. Compared to the findings of prior studies on nuclear accidents, the news articles reporting the Fukushima accident were more likely to contain numerical radiation levels and effects. In a research study of U.S. newspaper coverage of the accident at Chernobyl, numerical radiation risk information appeared in 28.3% of the news articles (Friedman et al., 1987). Another study of media coverage of the Robert E. Ginna nuclear accident found that only 23% of news stories contained numerical radiation risk information (Ryan et al., 1991).

Out of the 133 news articles reporting numerical radiation levels or effects, most of the articles (85%) provided background of normal levels to help the audience interpret the given information in the news stories. For example, if a news article reported detecting 500 becquerels per kilogram of radioactive cesium in crops around the accident area, it explained that “rice with up to 500 becquerels per kilogram of radioactive cesium is considered safe for consumption” in the following sentence. Fifteen percent of the articles were found not to deliver any additional information for evaluating factual radiation risks (see Table 2).

Table 2. Types of risk information in articles

<table>
<thead>
<tr>
<th>Specificity of risk information</th>
<th>Articles n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Of the 277 news articles, news articles contains...</td>
<td></td>
</tr>
<tr>
<td>Numerical radiation risk information</td>
<td>133 (48.0%)</td>
</tr>
<tr>
<td>Affective information</td>
<td>144 (52.0%)</td>
</tr>
<tr>
<td>Of the 133 news articles containing numerical radiation risk information, news articles has...</td>
<td></td>
</tr>
<tr>
<td>Sentence(s) following reference for helping interpretation</td>
<td>113 (85.0%)</td>
</tr>
<tr>
<td>No sentence following reference</td>
<td>20 (15.0%)</td>
</tr>
</tbody>
</table>

RQ2 asked about the valence of the news coverage reporting radiation released by the Fukushima accident. Of the 277 news articles in this analysis, 54.5% were categorized into predominantly alarming reports and only 20.6% were reassuring reports. That is, more than half of the news stories
emphasized the high risk of radiation to individuals rather than little or low risk of radiation. The present results appeared to differ from previous studies on news coverage of the Three Mile Island and Chernobyl accidents, which indicated that reassuring statements concerning radiation levels were more prevalent than alarming (Friedman et al., 1987; Stephens & Edison, 1982). As shown in Table 3, alarming statements were more dominant in headlines of news articles (57.8%). Thirty three percent of headlines were found to be reassuring, while neutral statements were found in 9% of headlines. The results indicated that headlines tended to hold a clear position as either alarming or reassuring rather than neutral regarding the radiation levels or effects.

Table 3. Tone of news articles and headline regarding radiation risk (n = 277)

<table>
<thead>
<tr>
<th>Tone of article</th>
<th>Japan (n = 230)</th>
<th>U.S. (n = 86)</th>
<th>Countries other than Japan or the U.S. (n = 56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarming</td>
<td>135 (58.7%)</td>
<td>37 (43.0%)</td>
<td>29 (51.8%)</td>
</tr>
<tr>
<td>Neutral</td>
<td>41 (17.8%)</td>
<td>28 (32.6%)</td>
<td>15 (26.8%)</td>
</tr>
<tr>
<td>Reassuring</td>
<td>54 (23.5%)</td>
<td>21 (24.4%)</td>
<td>12 (21.4%)</td>
</tr>
</tbody>
</table>

Of the 277 news articles, 31% (86 articles) discussed radiation effects of the Fukushima accident in relation to the U.S., and 20.2% (56 articles) reported radiation risks to countries other than Japan and the U.S., mainly neighboring countries such as China, Korea, or Russia. As Table 4 indicates, reporting of radiation risk for Japan or other countries tended to be predominantly alarming, while radiation risk to the U.S. was more likely to be reported in neutral (32.6%) or reassuring tones (24.4%) than alarming (43.0%).

Table 4. Radiation risk for U.S. or other countries reported in articles

RQ3 asked about the dominant frames of health effects from radiation and radioactive materials in the U.S. news coverage of the Fukushima accident. From the qualitative frame analysis of the 60 newspaper articles, four major frames were identified: negligible risk frame, predictable immediate risk frame, hidden danger frame, and open question frame. We labeled the articles as negligible risk frame when the health consequences of radiation were presented as insignificant or statistically negligible. We defined the news articles as the predictable immediate risk frame when they stated that there were immediate, direct health consequences of radiation that could be predicted, and that people should be aware of them. The hidden danger frame was identified when the news articles indicated the potential and invisible health consequences that could be worrisome in the long term. We labeled the news articles as the open question frame when they indicated that there was no final conclusion about certain radiation-related health issues.

Negligible risk frame
The most common frame in the news coverage was the negligible risk frame (n = 18). Typically, the articles using this frame treated the radiation as “little risk” suggesting that it “won't immediately affect the human body” and characterizing it as “unthreatening to human health.” The negligible risk frame appeared frequently during the first month after the Fukushima disaster, particularly in The Wall Street Journal.

Newspaper articles contained statements from various countries in response to radiation-related health risks. An article in The New York Times provided the following arguments from Mr. Fukuyama, the deputy chief cabinet secretary in Japan: “although the readings were above levels deemed normal, they posed no immediate health risks.” When reporting the level of iodine-131 found in Pennsylvania rainwater, one Wall Street Journal article addressed the U.S. government’s statement that levels were “well below any that pose a health risk.” Apart from the responses of the United States and Japan, The New York Times quoted Sergei Kiriyenko, the head of the Russian federal atomic energy agency, as saying, “Even in the worst-case scenario for the plant in Japan, and for the weather conditions, there is no threat to the Russian Far East.”

In several articles, the radiation-related health risks were mentioned with reference to historical nuclear accidents. For example, while reporting the radiation-related cancer risks outside Japan, one news story from USA Today quoted Eric Hall, a radiation biologist at Columbia University:

“These are just tiny, tiny amounts. We had no problem in the United States even from Chernobyl (the 1986 nuclear disaster), which was a much bigger accident.”

Notably, even in this negligible risk framed news article, the headlines were often alarming, but the body text framed the radiation-related health effects as insignificant and harmless. A typical example was an article headlined “Radiation Detected in U.S.” from The Wall Street Journal. In the article, the reporters stated that, “State officials say there is no public-health risk” because “The levels that we're detecting are extremely, extremely low.”

Another important frame that emerged from the qualitative framing analysis was the predictable immediate risks frame (n = 17). This frame was commonly used during the first month of coverage, both in The Wall Street Journal and The New York Times. This frame emphasized the possibility of the immediate risk for either the general public or nuclear workers in the Fukushima power plant.

According to some articles, the public would face immediate health risks caused by radiation after the Fukushima accident and quick actions would be necessary. The following words appeared multiple times: “warn,” “urgent,” or “contamination.” Articles using this immediate risk frame indicated that specific actions should be taken when facing a dangerous situation such as the Fukushima accident. For example, The Wall Street Journal stated the following in referring to the Chief Cabinet Secretary’s “stark” warnings to the public: “Please do not go outside. Please stay indoors. Please close windows and make your homes airtight. Don’t turn on ventilators. Please hang on your laundry indoors.”

In addition to radiation-related health threats to the general public, the U.S. media coverage of the Fukushima accident dealt with the direct threats to nuclear workers’ health. Newspaper articles framed workers’ health issues by focusing extensive attention on risky working conditions inside the reactors. For example, one article from The New York Times said that workers were in places that were “contaminated by radioactive isotopes,” and a Wall Street Journal article reported that “potentially thousands of workers ingested radioactive particles.” An example from The New York Times featured a typical description of the Fukushima workers’ pain and suffering:

“They breathe through uncomfortable respirators or carry heavy oxygen tanks on their backs. They wear white, full-body jumpsuits with snug-fitting hoods that provide scant protection from the invisible radiation sleeting through their bodies.”

Although many articles mentioned that workers were making a “necessary sacrifice,” an article from USA Today praised workers’ passion for “self-sacrifice” and included the following statements.
from someone who once worked in Fukushima’s reactors: “I sincerely honor those fighters who are risking their lives at the battlefield.” In this case, the degree of danger within the working environment was judged as life-threatening. In covering the health outcomes caused by exposure to the workplace radiation, The Wall Street Journal noted that “three workers were hospitalized after wading unknowingly in radioactive water,” framing radiation-related health effects as immediate and dangerous. In sum, by highlighting workers’ working conditions and radiation damage to the body, newspapers conveyed an idea to their readers that nuclear radiation may cause serious health consequences in the short term.

Hidden danger frame

The third frame that emerged in the analysis was the hidden danger frame (n = 12), which involved the presentation of radiation-related health effects as potential, invisible long-term consequences. Gamson & Modigliani (1989) argued that the “hidden danger” theme is commonly used in nuclear-power-related media coverage, and it often describes radiation effects as “invisible and delayed” (p.24). Following Gamson & Modigliani (1989)’s frame, we assigned the “hidden danger” news frame to the articles concerning any kind of possible long-term health risks of radiation.

Typically, articles in this frame delivered a basic assumption that a radiation leak from a nuclear accident may threaten public health over decades. For example, the following sub-headline ran in a Wall Street Journal article: “Radioactivity Level Seen as Harmful to Infants in Long Term.” The article contained the following passage in reference to an official announcement:

“Some Tokyo tap water could represent a long-term health risk to infants, officials said Wednesday, after tests done earlier this week at three Tokyo water plants showed levels of radioactive iodine-131 at one plant exceeded the government's threshold for consumption by infants.”

In this case, the news article implied the possibility of the radiation-related cancer risk, while suggesting a possible solution to the problem, reducing people’s chance of developing thyroid cancer by taking potassium iodide.

In addition, several articles mentioned the 1986 Chernobyl nuclear disaster in their headlines to reinforce the warning of long-term threats in Japan. For example, The Wall Street Journal ran an article headlined “Disaster in Japan: Chernobyl Survivors See Parallels in Crisis.” The article included statements from a former engineer at the Chernobyl power plant, “The physical, financial and psychological burdens that persist in the Ukraine offer an insight into what Japan could face even though twenty-five years had passed since the disaster.”

Open question frame

The U.S. media coverage of the Fukushima nuclear accident also framed radiation-related health issues as open discussions by drawing attention to divergent opinions and unknown facts regarding radiation and health effects (n = 13). This open question frame included three subthemes: controversy, lack of knowledge and unpredictable.
The first subtheme within the open question frame was controversy. This frame was mainly used for the presentation of disagreements or debates among parties of concern. Newspapers covered disagreements among various parties, such as the Japanese government versus experts. For example, an article in The New York Times described opposing opinions on contaminated beef in the following passage:

“If you eat it every day, it might be a problem,” Goshi Hosono, the minister in charge of the nuclear issue, said last week. “But if you eat just a little, there would be no big effect on your health. Experts, however, disagree on what the effects may be of exposure to radiation above the limits but at low doses.”

Another article included the following debate among researchers concerning the health risks of low-dose radiation exposure:

“Some researchers say it is reasonable to use data from high doses to calculate the risk of smaller and smaller doses. They argue that any exposure to radiation raises the risk of cancer, though probably by only a small amount in the case of small doses. But others say that estimating risk for doses near zero is nonsensical, and some believe there is a threshold dose, or limit below which there is no risk from exposure.”

The examples noted above indicated the complexity of radiation-related health issues. According to The New York Times, a member of the Japanese Senate noted that there is no simple answer to the question among the Japanese public: “Is it safe or is it dangerous?” This controversy subframe appeared to provide the audience with messages from different information sources. The news articles employing this frame indicated that the effects of lower radiation exposure remain somewhat unknown. Any statements regarding unclear and uncertain knowledge in radiation-related health or medical research were seen as reflecting this approach. For example, while pointing to the lack of reliable data, The New York Times stated the following in reference to some researchers: “There is a lack of hard data about the health effects of lower radiation doses delivered over extended periods.” Within this approach, most articles presented the debate over the long-term effect of low-dose radiation on human health.

The last supporting subtheme was unpredictable. Though articles using this frame were rare, they provided a different perspective in coverage of health effects caused by radiation. For example, an article in The New York Times explained that the unpredictable influence of radiation was due to “the prevailing winds over Japan,” which could carry radioactive particles in different directions. While covering the same issue, The Wall Street Journal provided a specific case, stating that “The Japanese government… exposed people unnecessarily” because “Before the changing weather, the radiation had been expected to drift over the Pacific Ocean, which would have posed less of a risk to public health, at least in the short term.” Obviously, the unpredictability approach is related to further muddying the picture of radiation issues, especially when there are already so many controversies and uncertainties.

Discussion

The aim of this study was to examine how U.S. news media conveyed radiation-related health information in coverage of the Fukushima nuclear accident. This study expanded the research scope of previous literature on risk communication by investigating coverage of the current nuclear accident. A comparative analysis between news coverage of historical nuclear accidents and that of Fukushima accident suggest that news reports about risk communication have evolved and improved. About a decade ago, news media stories often lacked quantitative information about radiation risks that would help their readers’ evaluation of health effects from nuclear accidents (Friedman et al. 1987; Ryan et al. 1991). In contrast, we found that nearly half of the news articles in our sample contained numerical radiation risk information, and most of the articles containing numerical information provided some references so that readers could understand the given numbers. One can infer from this shift that newspapers are expending a greater effort to equip readers with clear and comprehensible information.
Our findings are in line with those of Friedman et al. (1987) indicating news coverage of Chernobyl nuclear accident was more likely to include factual information compared to news reports of the Three Mile Island accident.

With regard to the valence of the news reporting on radiation risk evaluation, some differences were observed between news reports on historical nuclear accidents and those on the Fukushima accident. Previous studies suggest that the overall tone of U.S. news coverage of the Three Mile Island or Chernobyl accident tended to be reassuring rather than alarming. However, our results showed that news coverage of the Fukushima accident leaned toward the alarming or negative valence. That is, it appeared that the Fukushima accident news coverage depicted the situation in Japan as dangerous and reinforced this warning with factual scientific evidence.

When examining news frames that emerged from the coverage of the Fukushima accident, four major frames of radiation-related health effects were identified: negligible risk frame, predictable immediate risk frame, hidden danger frame, and open question frame. Of the four frames, negligible risk frame and predictable immediate risk frame were more common than the hidden danger or open question frames even though none of the four frames held absolute predominance in our analysis.

In those articles that framed the health effects of radiation as risks that could not be ignored, the risks were framed as either a short-term danger (predictable immediate risk frame) or a long-term one (hidden danger frame). The hidden danger frame presented radiation effects as concealed health hazards that could cause long-term problems. Previous studies concerning “coverage of both technological and natural hazards” suggested that there was “a lack of coverage of long-term issues” (Friedman et al. 1987, 319). Compared to those prior findings, news media dealing with the Fukushima accident seem to play a leading role in informing the general public about long-term health effects associated with the nuclear accident. However, we found that additional information about solutions to a given problem or issue, such as how to prevent the potential hazards of radiation exposure, was absent among news coverage. Considering the valence of the hidden danger and open question frames that tended to skew to the negative, news reports without suggestion about prevention or protection from the risks may lead to an increase in the fear of “invisible hazards” from the nuclear accident.

This study is limited by the time period of the evaluation. Although this study tried to cover a wide time frame from the occurrence of the accident, the Fukushima accident is still a prevalent issue in the news today with the situation changing daily. Future research could evaluate the media coverage as it has continued to evolve.

There are several interesting areas for future research on how the news media provide health information in a risk communication context such as this event. First, future studies could examine how other print media (e.g., magazines) or electronic media (e.g., news blogs on the Internet) communicate health content in situations analogous to the Fukushima accident. Studies could investigate whether other media frame the same issue in a similar manner or identify the differences between media types in this regard. Second, researchers could investigate how the domestic media and international media frame a particular disaster that has worldwide impact. How does news coverage in different countries play a role in portraying health risks? Are there any differences in the ways media in different countries present the same issue? Another suggestion for future study is to determine audience’s reaction and response to news coverage of health-related controversies. Empirical research is needed to assess how different news frames affect the audience’s cognitive as well as attitudinal responses.

References


The Influence of Branded Trash on Consumer Brand Attitudes

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Summary Abstract

“Perception is reality” is a common phrase used to suggest that an individual’s conscious experience is not of the real world itself, but rather of an internal, individual representation of that world as seen through the lens of the perceiver. There are likely to be a number of factors that impact an individual’s perceptions and contribute to the color of his or her perceptive lens, including contextual cues, personality, cognitive style, experience, etc. The intent of this research is to determine the effects of several easily manipulated contextual cues on individual perceptions. In addition, the study is designed to assess the effects of several cognitive orientations on perception, and the interactions between these cognitive states and context.

In this study, we are interested in the perceptive influence of identity salience, context, and framing on individual interpretation of a neutral message. We are also interested in how these contextual cues interact with chronic cognitive orientations such as regulatory focus and need for cognition. The study consists of two experiments, each containing three manipulated factors surrounding a neutral news story. The factors are as follows: 1) a specific identity is primed in the opening of the experiment – the participant is presented with an introduction describing them either as a typical college student or a job seeker in the first study or a sexually active young adult in the second study; 2) the framing of the title of the news story as either positive or negative (the story itself is neutral and identical in both cases); and 3) the context of the news story is indicated as a news focused media outlet (Wall Street Journal), a socially focused outlet (Yahoo) or a neutral outlet (USA Today).

The experiments are implemented in three stages. In Stage 1, subjects are presented with identity prime as introduction. In Stage 2, subjects are presented with the article with the frame and context manipulation (article in each condition is identical). In Stage 3, subjects complete a set of dependent variables including perceived vulnerability, perceptions of economic health, job market expectations, chronic regulatory focus, and a money-based allocation task. The identity prime in the experiments is introduced as follows:

As a college student (or job seeker in exp.1/or sexually active young adult in exp.2), you are exposed to a great deal of information, from classroom materials and lectures, to textbooks, newspapers, magazines, and a plethora of web-based content. On the following page, you will be presented with an article from an on-line source. Please read the article in its entirety – when you are finished reading, click continue to move on to the next section.

The article in the first experiment focused on ambiguous job market information – the information, as presented, could be interpreted as either positive or negative. The title of the article was manipulated to frame the information as either positive or negative. The article in the second experiment focused on information related to the CDC recommendation that both boys and girls aged 11-12 should receive the human papillomavirus (HPV) vaccination – again, the
interpretation of the information was ambiguous, and the title of the article was utilized to manipulate the valence.

Data collection for the first experiment is complete and analysis is underway. For the second experiment, data collection is expected to begin in March.

References available upon request.
From Prohibition to Legalization: Coverage of Marijuana in *The Washington Post*

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Marijuana has been a controversial subject of political debate in the United States for several decades. In 1937, the Marihuana Tax Act essentially made marijuana illegal at the federal level through the imposition of steep fees and fines. The issue of marijuana's legal status came up again in the 1950s and 1970s, but it wasn't until the 2000s that legalization of marijuana throughout the United States became a real possibility. In 2011, two U.S. congressmen introduced legislation to deregulate marijuana laws at the federal level and leave it up to individual states. Meanwhile, state after state has moved to legalize medical marijuana. This study examines media framing of marijuana in the Washington Post in the 1930s and 2000s. Connections and differences between frames are identified.

**Introduction**

Marijuana has been a controversial subject of political debate in the United States for about a century. Over the past several decades, there have been government efforts to tighten, loosen — and tighten again — restrictions on the sale and possession of marijuana at local and national levels. Most recently, members of Congress introduced legislation in 2011 to deregulate laws against marijuana at the federal level. The topic of legal medical marijuana has made its way into news coverage and political rhetoric in recent years. A review of the literature revealed that scholars have explored the topic of media framing of drugs, but not in great detail about marijuana and the ongoing political debate over this controversial plant.

The purpose of this study is to explore media framing of marijuana during key events in United States legal history. The researchers have identified two specific timeframes as the primary focus of this study — 1936-1937 and 2010-2011. In 1937, marijuana was made illegal at the federal level through the Marihuana Tax Act, which limited its distribution through the imposition of pricey fees and fines (Ferraiolo, 2007). Most states already had their own anti-marijuana laws by that time. Over the following decades, there were other events in U.S. history that centered on marijuana regulation. Most recently, in 2011, U.S. Congressmen Ron Paul and Barney Frank introduced legislation to deregulate marijuana laws at the federal level and give the power back to the states. Therefore, news coverage of marijuana in the *Washington Post* was analyzed for themes and frames before and during those two specified years.

**Marijuana Laws in U.S. History**

The issue became a topic of debate in local governments throughout the U.S. in the early 1900s and into the Prohibition Era of the 1920s (Bonnie & Whitebread, 1974). During that time, the plant had gained popularity as an “intoxicant” in a few regions of the country — transported by Mexicans and people from the West Indies to Americans in parts of the Southwest and along the Gulf coast (Bonnie & Whitebread, 1974, p. 44). Historians describe that time period as a time when marijuana was considered a local problem in those areas and did not really garner any national, legal attention until well into the 1930s (Bonnie & Whitebread, 1974).

But marijuana — also known for its scientific name “cannabis sativa” — was not always considered a problem or political issue (Gerber, 2004, p. 2). Instead, parts of the plant were used throughout American history in various ways, including: its stalk for the manufacture of “rope, canvas and paper;” its oil for “food and fuel;” and its leaves for medicinal purposes (Gerber, 2004, p. 2). In *Legalizing Marijuana: Drug Policy Reform and Prohibition Politics*, Rudolph J. Gerber (2004) goes back as far as the 17th Century and credits England’s Queen Victoria with influencing the American colonies’ interest in the plant, because she used it to treat her severe menstrual cramps (p. 2).
That widespread social and legal acceptance of marijuana in the U.S. eventually changed. According to Larry Sloman (1979), author of *Reefer Madness: The History of Marijuana in America,* “the act of smoking marijuana with the intention of effecting a change in the user’s consciousness first became defined as a social problem in the late 1910s and early 1920s” (p. 21). Sloman (1979) says marijuana lost its appeal as a “medical agent … before the turn of the century,” and “as a recreational drug, [it] was just beginning to be discovered by adventurous Americans” (p. 26). A popular cigarette filler in Mexico at that time, marijuana made its way over the border and into the Southwestern United States in the late 1800s (Sloman, 1979). There was also a presence in the South, which some say came from African slaves who were familiar with the plant for smoking purposes (Sloman, 1979).

Sloman (1979) states: “The first cities to perceive the use of marijuana as a problem were the Texas border towns, like El Paso,” which made marijuana illegal in 1917 (p. 29). Little by little, other cities and states started following suit. By 1937, most states in the U.S. had banned the possession and sale of marijuana – and it was not until that same year that it became illegal at the federal level. But, as Sloman (1979) explains, there had been some efforts to do so decades prior through the Harrison Act of 1914: “For a time, cannabis was included in the early drafts of that legislation; however, due to the vocal opposition of the pharmaceutical and medical professions, it was later dropped” (p. 36).

After the Harrison Act passed, there were still efforts to try to add marijuana to the list of illegal narcotics – and in 1929, the surgeon general at that time questioned the constitutionality of doing so (Sloman, 1979). Still, the general counsel for the Treasury Department “is credited with devising a solution to the constitutionality problem: a marijuana transfer tax,” which was mandated through the Marihuana Tax Act of 1937 (Ferraiolo, 2007, p. 153). The legislation “outlawed the nonmedical, untaxed possession or sale of marijuana” – imposing exorbitant fees and threatening expensive fines for non-compliance (Ferraiolo, 2007, p. 153). The imposition essentially outlawed marijuana at the federal level, and it was later “removed from the United States Pharmacopoeia in 1941 … thus ending its use as a medical treatment and eliminating any reason for medical research” (Ferraiola, 2007, p. 153).

In short, the combination of marijuana’s demotion from the list of medical treatments and the imposition of taxes and fines on its sale and possession made marijuana illegal throughout the United States by federal law. Meanwhile, the plant was criminalized at the state level across the country. It stayed that way until the early 1950s, when the penalties for illegal possession or sale of marijuana were increased to criminal charges and mandatory sentences (Ferraiola, 2007). In 1970, “Congress passed the Comprehensive Drug Abuse Prevention and Control Act, which brought all preceding antidrug legislation under one statute” (Ferraiola, 2007, p. 158). That legislation also established five levels, or “schedules,” of drugs based on their dangers and potential for abuse. It designated marijuana as a Schedule 1 drug, “the most restrictive category” but loosened the more severe penalties imposed back in the 1950s (Ferraiola, 2007, p. 158). In short, there were ongoing efforts to tighten restrictions and, in some ways, loosen them.

Similar to the early years of marijuana regulation, changes have recently begun to take place at the local and state levels. Little by little, municipalities, counties and states throughout the U.S. are considering and, in some cases, implementing deregulation of marijuana prohibition laws. Also similar to the early years of marijuana regulation, proposed changes have gotten to the federal level. Most recently, in 2011, U.S. Congressmen Ron Paul and Barney Frank introduced legislation that would give power back to the states and deregulate marijuana laws at the federal level.

**Framing Theory**

Every news story or idea has an angle. Depending on the type, the location from which the story originates, the attitudes of the author(s), and even the perceived attitudes of the readers, stories with similar topics can take on very diverse approaches. Understanding how these differences emerge, and in what contexts they appear, can help us learn about media effects on audiences, and even politics. This may lead to further understanding of how media information is both created and perceived. Framing theory can help to explain this concept further.

According to Baran (2009), framing theory is the “idea that people use sets of expectations to make sense of their social world and media contribute to those expectations” (p. 282). In doing so, the media use frames to...
explain ideas and stories. Rosenberry (2009) puts this into perspective by explaining: “a news frame can be thought of as a picture frame or a photographer ‘framing’ a shot. The camera viewfinder can capture only a portion of the scene, so the photographer has to decide what belongs in the scene and what does not” (p. 152). As Entman (2003) clarifies, frames are used for information to be elevated “in salience” (p. 53). According to Scheuferle (1999), “because frames have to be considered schemes for both presenting and comprehending news, two concepts of framing can be specified: media frames and individual frames” (p. 106). Media frames occur in the selection process. The media act as a gatekeeper in deciding both what types of information to disseminate, and how to render that information. Individual frames, on the other hand, are strictly defined by each person’s own set of values and ideals. Framing of marijuana in terms of its political effects on drug-related policies in the United States may reveal the values and ideals shared by people.

“The concept of media framing is important because it offers an alternative to the old ‘objectivity and bias’ paradigm, it helps us understand mass communication effects, and it offers valuable suggestions for communication practitioners” (Tankard, 2001, p. 96). In other words, when framing is understood on its many levels, it can be used to convey ideas and become a powerful tool in determining media effects, especially with social and political implications.

Past Studies

A review of past academic studies reveals a lack of media framing research specifically about marijuana’s policy history in the United States. There have, however, been several studies on media representations and implications on drug use and policy. Drug-related research on media framing and its effects generally lean toward a negative view of the issue. A study by Taylor (2008) of British mainstream media outlets cites Coomber et al. (2000) and explains this further: “Exaggeration, distortion, inaccuracy, sensationalism; each of these labels has been consistently applied to the reporting of drug related issues in the print and other media over the past 40 years” (p. 369).

Instead of the focus being on drug education and drug use reduction, Taylor (2008) found that the media’s approach to drugs is described as more of a “propaganda” technique. Taylor (2008) explains that this “indicates the importance of policy direction and subsequent marketing campaigns in the media, as well as simply news media reporting” (p. 372). He further examines the impact of “media imagery backed with specific policy direction(s)” (p. 375). Taylor’s (2008) study argues that imagery is “based on a half-formed image and discourse of drugs that is centered around notions of social exclusion, and the perception and management of risk that drugs represent to certain segments of society” (p. 375). This can be viewed as both beneficial and problematic to society and the policy issues that arise.

“The selection and omission of particular sources also contributes to the framing of an issue, with official sources, such as law enforcement, politicians and government figures often dominating drug stories in the news media” (Lancaster et al, 2010, p. 399). This does not often take into account other uses for marijuana, such as for medicinal purposes. According to Lancaster et al (2010), “It is suggested that the more strongly media push an issue the more likely it is that politicians and policymakers will take notice and that media coverage will influence policy decisions” (p.399). This can become a deciding factor in how and when policies about marijuana are made.

Another study conducted by Noto (2006) in Brazil looked at framing of drugs in print media. According to the study, “in newspapers and magazines alike, many articles discussed ‘drugs’ in general, using generic terms such as ‘dependency,’ ‘addiction,’ ‘toxic substances,’ and ‘drug dealing’” (p. 1266). The researchers found that “articles on marijuana and cocaine, also very frequent, focused mainly on smuggling and repression” (p. 1266). If this is the way in which marijuana is portrayed in newspapers, it would seem that it may be the primary view of the general population. This is consistent with the Lancaster (2010) study in that marijuana is generally portrayed in a negative light, and thus leads to negative implications for policy issues involving that drug.

This certainly does not mean that coverage of marijuana is consistent over time. For example, in Brazil, many articles dealing “mainly with therapeutic use and the decriminalization of marijuana” were observed (Noto, 2006, p. 1269). This may be a noteworthy idea, and “a sign of the changing views on the subject” (Noto, 2006, p. 1269). This notion is also evident in the United States with the legalization of medical marijuana in 1996. Nevertheless, a further look at framing of marijuana in U.S. newspapers in the past and in the present may shed light on how the marijuana debate is portrayed, and the implications it has
This study will explore the following research questions:

RQ1: How was marijuana framed in The Washington Post in 1936 and 1937?
RQ2: How is marijuana framed in The Washington Post between 2010 and 2011?
RQ3: What frames were present in coverage of marijuana during those two time periods of study?
RQ4: What frames were similar in coverage of marijuana between those two time periods of study?
RQ5: What frames were unique to the two time periods of study?

Method

Articles in this study were collected from a database of Washington Post archives. In selecting the articles, we identified the years of 1936, 1937, 2010 and 2011 as the focus of analysis. The years 1936 and 1937 were selected, because—as detailed in the literature review—marijuana was made illegal at the federal level in 1937. Since 1936 includes the months leading up to the legislation, articles from that year were included in the analysis. The years 2010 and 2011 were selected, because legislation was introduced in Congress in the summer of 2011 that would deregulate federal laws against marijuana and give power back to the states. Again, the year prior to introduction of said legislation was included in the analysis to capture the tone of discussion or debate about marijuana during those months.

This study uses a qualitative framing analysis methodology to examine the sample articles and address the proposed research questions. According to James Hertog and Douglas M. McLeod (2001), there are several approaches to this method of analysis and “such extreme conceptual openness is a blessing in that it allows for some of the most creative analysis of media in current scholarship” (p. 142). In short, qualitative framing analysis involves researchers familiarizing themselves with potential frames before approaching the specific articles in question (Hertog & McLeod, 2000). We read articles about marijuana and medical marijuana from the selected time periods and other years in between—to be familiar with frames that might be present. Then, a close reading of each article was conducted to reveal themes, tones and even verbiage associated with certain frames (Hertog & McLeod, 2000). In this study, such information was noted in the coding process, articles were split up into several related groups and analyzed again for identification of overarching frames.

A search of The Washington Post archives revealed 36 articles about “marihuana,” “marijuana” or “cannabis” printed in 1936 and 1937—and 166 articles using those same keywords printed in 2010 and, to date, in 2011. This yielded a total of 202 articles. Of those 202 articles, 39 were eliminated due to irrelevance of content to the area of study. For example, book reviews mentioning marijuana as a topic in the book were excluded. Police logs consisting of a simple list of offenses, times and locations were also excluded. Still, this study included all relevant articles, commentaries and other opinion pieces. The final sample size consisted of 163 articles. There was no limit or criteria set for length of articles.

The researchers developed coding sheets and a guide for qualitative coding of the articles. Coding sheets included details such as the title of the article, author, page number, section, type of articles, graphic elements, the story lead, main topic, secondary topics, framing, framing techniques and references to marijuana legislation. A search of the archives revealed 36 articles about “marihuana,” “marijuana” or “cannabis” printed in 1936 and 1937—and 166 articles using those same keywords printed in 2010 and, so far, in 2011. That is a total of 202 articles. Of those 202 articles, 39 were eliminated due to irrelevance of content to the area of study. The final sample consisted of 163 articles. The 1936 and 1937 articles were coded separately from the 2010 and 2011 articles by two coders. The articles were then categorized according to themes and other factors contributing to the frames. Once the dominant frames were identified, they were compared for similarities, differences and relationships between them.

Results: 1936-1937

Marijuana is Bad

The prevalent media frame evident throughout the news articles published during this time was the negative impact of marijuana on people and society. Articles that used this frame encompassed a variety of issues, such as marijuana being unhealthy, and various societal problems caused by the drug. The overall message conveyed by the articles was that marijuana was a dangerous and growing problem that must be limited and controlled quickly. Oftentimes, articles compared marijuana to other dangerous narcotics and alcohol. One example from November 23,
1936 described marijuana: “As a stimulant to crime, the drug is probably as important as cocaine, certainly far more so than opium or any of its derivatives, and narcotic-control agencies will be put to a severe test in rooting out the traffic” (Cutter, 1936, p. X13). There was also evidence that the government was actively fighting the problem. For example, an article from 1937 explained that, “Striking from Hawaii to Florida, and from Maine to Alaska, Treasury agents yesterday launched a sweeping campaign against violators of the narcotics, liquor tax, customs and counterfeiting laws, and last night arrested more than 300 men and women” (300 Arrested as U.S. Opens War on Dope, 1937).

Marijuana is Unhealthy

Included in the frame “marijuana is bad” was the implication that marijuana is unhealthy. In some cases, it appeared as though the effects of the drug were not completely clear. For instance, one article from Articles described marijuana as a harmful substance that changes users from respectable people to “rambling, incoherent” delinquents (Wentworth, 1936, p. X6). An article from March 1, 1936 quoted, “A youth, who said he was a former addict of the drug, appeared before the council and testified that inhalation of one of the cigarettes would produce a ‘cheap drunk’ of several days’ duration” (The Associated Press, 1936). Overall, marijuana was described in a negative light, as dangerous and unhealthy.

Marijuana is a Societal Problem

Also included in the frame “marijuana is bad” was the implication that marijuana was a significant societal problem. Many articles linked marijuana to crime, violence, foreigners, and minorities. There was also the implication that the government was fighting the marijuana problem. Newspaper coverage also emphasized that marijuana was everywhere, affecting everyone, including the upper class and children. One article summed up the general ideas expressed in many of the newspaper stories:

Marihuana is the plant that makes the reefer's reef and the reefer man rich...it's the plant that makes the reefer smoker imagine, sweetly, that he owns the Empire State Building at one puff and the second puff makes him want to kick his best friend on the chin (Hart, 1937, p. 13).

One article explained that marijuana use is linked to criminals and violence by saying that “The House Ways and Means Committee reported that although the substance has many industrial uses, it is being used 'by hardened criminals to steel them to commit violent crimes' and that unscrupulous persons peddle it to high school children” (Associated Press, 1937, p. 11). This “danger to children” viewpoint was shared by many of the articles. Also very prevalent was the idea that the government is fighting the problem, and that there is a call to action for more regulation. Overall, marijuana was framed in these articles as a very dangerous and an “evil” narcotic, comparable to other dangerous substances, such as alcohol, heroin and opium. It was also said to negatively impact everyone, including children. We found that most articles linked marijuana to crime and violence, as well as minorities and foreigners, and that there was a call for swift and strict regulation by the government.

Results, 2010-2011

Marijuana is Criminal

A prevalent media frame throughout news articles published between 2010 and 2011 was the criminalization of marijuana. Articles using this frame covered various topics including violence, government action, and marijuana as a national and foreign problem. Coverage of marijuana with this frame tended to point the finger at delinquents using, selling and smuggling the drug, often causing criminal acts and violence. For example, an article on June 14, 2011 explained that, “one man was arrested and two were being sought by police after a search for stolen property turned up four pounds of marijuana” (Buske, 2011, p. B5). Also among the articles were several crime reports that described various people who were arrested and charged for different crimes having some connection to marijuana. News articles also pointed out that government officials were fighting to end the sale and production of illegal marijuana, which was a growing and dangerous problem. An article from July 16, 2010 explained that “armed with 46 arrest warrants, more than 200 police and drug enforcement officers rounded up hundreds of thousands of dollars worth of narcotics in a citywide drug bust” (Lee, 2010, p. B6).

Marijuana was also connected to foreign problems. The most prevalent issue described in those articles was marijuana being smuggled into the United States from Mexico. Articles using this frame explained the difficulties
between drug smugglers and officials, as in the following example:

Traffickers have been caught hauling marijuana along the Texas border in fake versions of a Wal-Mart truck or FedEx van. They’ve employed sham school buses, dummy dump trucks and bogus ambulances. Law enforcement officials call them ‘cloners,’ and they are increasingly the vehicles of choice in conflict zones where the lines between the bad guys and the law are blurred by corruption (Booth, 2010, p. A10).

Another aspect of the “marijuana is criminal” frame was that everyone can and does get in trouble for having illegal marijuana, including the upper class. There were also several articles linking celebrities to possessing and/or selling illegal marijuana. In most cases, people received slap-on-the-wrist punishments, such as minor charges and small fines.

Marijuana is Political

A prevalent media frame throughout the news articles published between 2010 and 2011 was the political nature of marijuana. Articles using this frame covered a variety of aspects of marijuana strictly as a social and political issue. The overall theme in this category was that marijuana regulation is tricky, as the newspaper coverage repeatedly pointed to ambiguity in marijuana policy in the United States legal system. For example, much of the news coverage about marijuana regulation focused on individual states that were in various stages of adopting some sort of medical marijuana legalization: Maryland, Colorado, Montana and – especially – Washington D.C. On November 27, 2010, for instance, an article included statements like: “Physicians, pot shop owners and state regulators all say standards are needed but guidelines don’t exist” (Wyatt, 2010, p. A5). Overall, the tone of such articles was neutral in terms of perception of marijuana itself, but they were very clear that regulation of marijuana is uncertain, tricky, unchartered territory, difficult yet absolutely necessary. There was also an emphasis on the inconsistency in marijuana laws among various states.

Marijuana is Popular

Another prevalent media frame throughout the coverage in 2010 and 2011 was the popularity of marijuana in American society. Newspaper coverage emphasized the widespread use of marijuana, despite its status as an illegal drug in the U.S. The news writers approached marijuana as a humorous topic throughout much of the coverage – and, in many cases, marijuana was associated with celebrities. The writers also had a tendency to use puns in headlines and throughout the texts. A few of those headlines included: “A wrong address for some high priority mail” (Dvorak, P., 2010, B1) and “High on the Hill? Duuuude, different party” (Argetsinger, A., & Roberts, R., 2010, C2). In one example, the reporter described an incident in which a former federal prosecutor received a FedEx package full of marijuana. The article states:

Her husband … hacked his way through two boxes, layers of plastic wrap and sealing foam to find a layer of coffee grounds. ‘Coffee? It’s drugs!’ Sloan told her husband, before calling the cops to explain why there was 33 pounds – about $120,000 worth – of weed in her home. Online, someone who read a similar story joked that the only place he’d call if that amount of doob landed on his porch is Pizza Hut. … Sloan waited for police, who took pictures of the mound of weed and jokingly inquired why she called them instead of having a party (Dvorak, P., 2010, p. B1).

The idea of legalization of medical marijuana was also framed as popular, in that businesses and wealthy people were getting ready to seize the opportunity to make money through legal distribution. The newspaper articles made marijuana seem like something with strong business potential. For instance, on August 17, 2011, the newspaper ran an article about talk show host Montell Williams’ interest in opening medical marijuana dispensaries in Washington, D.C. (DeBonis, M., 2011, B5). The coverage also included references to such interests being competitive in nature.

Marijuana is Still Dangerous for Young People

Just as in the 1930s, marijuana was framed in these newspaper articles as dangerous for children and teenagers. Throughout the coverage, we identified certain types of articles that framed marijuana as posing a risk to youth. Another related substance, however, took the spotlight in these cautionary articles – synthetic marijuana. While some of the articles did refer to marijuana as a danger to children and teenagers – most of the coverage focused on the potentials risks associated with synthetic marijuana known
as K-2, Spice and Salvia. These are other herbs and chemicals sold over the counter – legally – that are marketed to young people as a legal alternative to marijuana. But the newspaper coverage focused on warnings about the health risks and dangers of synthetic marijuana. In some cases, marijuana’s effects were again downplayed when compared to those associated with its synthetic counterpart.

**Medical Marijuana is Good for You**

Medical marijuana was also portrayed in a very favorable light in many of the articles analyzed. In science and health articles about the plant, the tone was usually positive. In these articles, marijuana was described as a substance that could relieve pain, treat posttraumatic stress disorder, help people with insomnia and other problems. The people most frequently identified as a group who could benefit from the legalization of marijuana were the sick and elderly. Some articles made it a point to show that these people were, in many cases, already using marijuana in their treatment. For example, on May 25, 2010, an article described the plight of an 88-year-old woman who used marijuana to ease the pain from her arthritis: “Every night like clockwork, she lifts a pipe to her lips and smokes marijuana” (Sedensky, Matt, 2010, p. E2). Still, articles that focused on the health benefits of marijuana had a tendency to emphasize that there was an important difference between legalization of marijuana for medical purposes and for recreational use. The articles largely called for strict regulation of the substance.

**Discussion**

Proposed research questions in this study centered on exploring the presence of media frames in selected articles, identifying themes in both time periods and comparing themes between the time periods. Overall, the coverage exhibited very different media frames between the two time periods. In the 1930s, fear likely influenced the news coverage toward the overarching frame identified in this study: “marijuana is bad.” In 2010-2011, the coverage was more positive overall but did include some references to marijuana in a negative light – such as the frame of “marijuana is criminal.” That criminal depiction of marijuana was present in both time periods analyzed in this study, which supports previous research that found depictions of marijuana as typically negative in the media (Noto, 2006; Taylor, 2008). In the 1930s, the substance was framed as an epidemic of sorts, a societal problem that was affecting everyone from all social classes. The emphasis in those articles was on government efforts to combat this spreading problem. In 2010-2011, there was a similar frame, “marijuana is popular” – but instead of a sense of fear that this was affecting everyone like a plague, the more recent coverage skewed it as widespread in the sense that everyone is doing it so it can’t be so bad.

Further connections between the historic articles and those from the past two years were identified regarding the “marijuana is bad” frame. For example, the articles in 1936-1937 included many references to marijuana being a threat to young people – particularly children and teenagers. In 2010-2011, much of the coverage focused on positive aspects of marijuana, but a new substance known as synthetic marijuana started to take the spotlight as a harmful drug threatening this same demographic group. While the framing in these two time frames are about two different substances, the main idea is the same – unknown effects from a popular drug that can potentially harm youth. Similarly, in the 1930s, marijuana was referenced as being like alcohol in the sense that it impairs people and makes them do bad things. In the 2000s, marijuana was also compared to alcohol but with the opposite emphasis – that alcohol is legal and harmless, so marijuana should be considered even less dangerous, and, in turn, should be legalized. Enforcement of new laws was also in question. Similar to the coverage from 1936-1937 but on a much smaller scale, in some of the articles from 2010-2011, there was still some framing of marijuana as having unknown effects.

Though both time periods that were selected for analysis in this study centered on movements in Congress to either tighten laws on marijuana or loosen them, political frames were most present in the 2010-2011 coverage. Perhaps one of the most dominant frames throughout that time period, “marijuana is political!” appeared throughout the coverage in several kinds of articles – from crime stories to features. Pending legislation or proposed laws at local, state and federal levels proved hot topics in the newspaper during those two years – focusing on proposed loosened restrictions. In the 1930s, however, there was some mention of legislation but usually in the context of the government fighting a growing problem and needing federal regulations to get it under control. Still, the one completely unique frame found in 2010-2011 was that of “marijuana is good for you.” This frame, which described marijuana as having a legitimate medicinal purpose and as a substance that could ease pain for people who are suffering.
was not identified in any of the 1930s articles – but it was present throughout the coverage in 2010 and 2011.

**Limitations and Future Research**

Though the sample of articles used in this study included all relevant material published in the two designated time periods in question, the study was not without limitations. For instance, marijuana’s legal status in the United States has been an issue throughout history several times between 1936 and 2011. Proposed legislation and changes to enforcement arose again in the 1950s and in the 1970s (Ferraiola, 2007). Newspaper coverage during those decades was not included in this study, and future research in that area could add to the literature about media framing of marijuana over time. Additionally, the focus on just one newspaper, in this case, the Washington Post, presents a limited view of how marijuana was framed in the media during said time periods. Future research could explore themes present in other major newspapers, small-town newspapers, television news and online sources. Perhaps an international look at media framing of marijuana in other countries could also provide further insight – particularly in countries also debating the legality of marijuana.

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Cross-Cultural Frame Analysis of Obesity: Comparative Cause and Solution Framing of Obesity in Individualistic Culture and Collective Culture

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This study illustrated cultural differences in the way that newspapers portray obesity, associated with narrative style (episodic and thematic), framing of cause, framing of solution, gender, and age. This study found interesting results. (1) Both the U.S. newspaper and the South Korean newspaper were more likely to have thematically framed coverage of obesity. (2) Coverage from both the U.S. and South Korea was more likely to attribute responsibility to individuals than to society. (3) South Korea more strongly asked people to control themselves to lose their weight. (4) The South Korean newspaper was more likely than the U.S. newspaper to address women who are overweight or obese or at risk of becoming overweight or obese. (5) Both countries mostly addressed all ages’ health conditions related to obesity. Moreover, this study compared narrative style, frame of cause, and frame of solution related to gender in each country. In the Wall Street Journal, episodic-framed coverage was more likely to refer to society, whereas in the Chosun Ilb, coverage was more likely to refer to individual.

Introduction

Obesity is a growing health issue that is becoming increasingly important worldwide. In particular, since the 1980s, obesity has been one of the most significant health problems in the United States. Many scholars, institutions, organizations, and governments have sought to address its causes and solutions in the past several decades. WHO (2011) indicates that a common cause of obesity is increased intake of non-nutritious foods that have too many calories. Scholars and professionals have provided a list of additional factors that lead to people becoming obese, which are lifestyle, poverty, social isolation, environment, genetics, media, and so on (Robinson, 1998; Ludwig, 2007; Friedman, 2009). A discussion about personal responsibility or societal responsibility with regard to obesity has become controversial. Some scholars have argued that Americans tend to focus on personal responsibility rather than societal responsibility because of America’s deep roots in a strong, individualistic culture (Wallack, Dorfman, Jernigan, & Themba, 1991). Given that those who live in an individualistic culture place more value on personal freedom, they may assert that individuals have to take personal responsibility for their obesity. In contrast, those who live in a collectivist society are more likely to feel that this issue relates to “situational causal inference” (Krippel et al., 1999; Lieberman, Jarch, & Obayashio, 2005; Miyamoto & Kitayama, 2002; Norenzayan, Choi, & Nisbett, 2002). Naturally, this leads to one question: Are people from a collectivist culture more likely to blame society for obesity? To answer this question, this study analyzed news coverage of obesity from both the United States and South Korea.

News media outlets play a significant role in communicating a society’s values, or points of view. According to McCombs (2004), people carry a “second-hand reality” in their heads. Once journalists exposed to an event or issue, they select valuable attributes related to the events or issues. Then they deliver the reconstructed reality to public. He also argued that news media tell people what to think about and how to think about the issues or events (2004). Entman (1993) argued that journalists reorganize, select, omit, and deliver certain attributes of an issue, which influences the audience to understand and evaluate such issues in a particular way. Therefore, how news media frame obesity and how they portray responsibility for the obesity problem is important. Brownell et al. (2010) pointed out how views of personal responsibility contribute to changing policies, placing priority on legislation, improving the education system, or altering the aims of food industry marketing.

Therefore, this study explored U.S. and South Korean news articles on obesity in order to examine frames. To be specific, this study attempted to (a) identify the relationship between culture (individualistic/collectivistic) and portrayal of cause (individual/societal) with regard to obesity, (b) identify the relationship between culture (individualistic/collectivistic) and solutions (individual/societal) for obesity, (c) identify the relationship between culture (individualistic/collectivistic) and frames (episodic/thematic), (d) identify the relations between culture (individualistic/collectivistic) and gender (male/female), (e) identify the relations between culture (individualistic/collectivistic) and age groups (children/adolescent/young adults/middle adults/senior/all ages) and (f) identify the relationships causes (individual/societal) solutions (individual/societal),
narrative style (episodic/thematic), and age groups (children/adolescent/young adults/middle adults/senior/all ages) in relation to gender in South Korea and United States.

Background

Worldwide Health Problem: Obesity

Over the past three decades, the rates of obesity have drastically increased worldwide. The leading country that suffers from this issue is the United States. Statistically, Americans have been gaining weight since the 1970s. OECD (2010) said the United States had the fattest population of all member countries. According to their data, the rate of obesity in the United States reached about 31%, higher than that of any other country. They predicted that within 10 years, 75% of Americans will be overweight (OECD, 2010). In 1999–2002, 69% of men age 20 or older were overweight, and 62% of women age 20 or older were overweight (Wang & Beydoun, 2007). However, the obesity levels of women tended to be more extreme than that of men (6% vs. 3%, respectively) (Wang & Beydoun, 2007). In 2010, OECD reported that socioeconomic inequalities in women are smaller in South Korea than in other countries. Women with a low level of education tend to be 1.3 times more overweight than those who have a high level of education (OECD, 2010). When it comes to socioeconomic disparities in overweight in men, there were no differences between men of different education levels (OECD, 2010).

Obesity is a grave problem not only in the United States but also in South Korea. In general, Americans tend to assume that Asian food is healthy and not fatty, so Americans often adopt and follow an Asian diet to become healthy (“Healthy eating,” 2011). In 2001–2002, only 4.8% of Asian women were obese, while 34% of American women were obese (Wang & Beydoun, 2007). Americans often prefer to eat oriental food as a form of diet control (“Healthy eating,” 2011). The obesity rate in South Korea is considerably lower than that in the United States. South Korea was ranked 28 out of 29 in the list of countries most affected by obesity (OECD, 2010). However, since the 1990s, the obesity rate in South Korea has increased steadily. According to the 2009 Korean National Health and Nutrition Examination Survey (KNHNES), the rate of adult obesity was 26% in 1998 and 31% in 2010. OECD predicted that this rate will increase by another 5% within 10 years (The Korea Centers for Disease Control and Prevention, 2010). In other words, obesity has become one of the biggest health concerns in South Korea. In addition, socioeconomic inequalities were discovered (OECD, 2010); the rate of overweight women among the poorly educated is five times higher than that of women with more education (OECD, 2010).

Literature review

Definition of obesity in Asians and Caucasians

According to WHO (2011), the definition of obesity and overweight is “abnormal or excessive fat accumulation that presents a risk to health.” The body mass index (BMI) is employed to classify obesity or overweight, and BMI is calculated using the individual’s weight and height. Normal BMI ranges from 18.5 to 24.9, while the overweight BMI range is 25 or greater, and the range for obesity is a BMI of 30 or greater. Generally, this simple way to measure obesity or overweight is applied to Caucasian populations. However, since 1994, some scholars have argued that the current BMI cut-off points could not applied to all ethnic groups. Wang et al. (1994) compared BMI and body fat percentage (BF%; percentage of fat) across different ethnic groups, and found that the relationship between BMI and BF% of Asians living in New York is different from that of Caucasians. In 2000, Gallagher et al. discovered a significant difference when comparing a group of Japanese with Caucasians and African-Americans, namely that the Japanese had a lower BMI and higher BF% compared to the other two groups. In addition, Ko et al. (2001) and He, Tan, Li, and Kung (2001) have argued that the Chinese population living in Hong Kong has higher BF% levels at a lower BMI in comparison to Caucasians. The evidence provided by Deurenberg, Deurenberg-Yap, and Guricci (2002) supports the aforementioned findings. Deurenberg et al. explained that if one were to compare two people with the same body fat, one may have shorter legs and would subsequently have a higher BMI than the other, taller, individual (2002). Along similar lines, when comparing two people with the same BMI, the one with a large bodybuilder’s proportions would tend to reflect a lower BF% than the other individual with a smaller build (2002).

With regard to Koreans, Chung et al.’s findings (2005) support previous research suggesting that Asians have a higher BF% in comparison to Caucasians. Chung’s group analyzed particularly overweight premenopausal Korean women and concluded that their BF% was higher than that of Caucasians. In addition, the researchers made the interesting finding that the BF% of Korean women decreased with age, while that of Caucasian women increased with age. In other words, there is a greater incidence of overweight or obesity among younger women (< 40 years) than among older women (> 50 years) (Chung et al., 2005). These researchers concluded, therefore, that since there were differences in body composition or size of build between Asians and Caucasians, there was a need to redefine obesity for Asians and other ethnic groups (Deurenberg et al., 2002, and Chung et al., 2005).

Despite an announcement that Korea has the lowest rate of obesity among all OECD member countries, the Korean population is becoming increasingly concerned about the threat of obesity. In fact, according to the
National Youth Policy Institute (2009), Korean children and adolescents believe that they are considerably more overweight or obese than they really are. Even though some children and adolescents have a normal weight, three out of ten males and four of ten females consider themselves overweight or obese. Given that Korean obesity rate differs according to one’s age group, this study explores the differences among age and ethnic group in media framing.

Collectivist and individualist culture

Hofstede, Hofstede, and Minkov (2010) disentangled the influence of collectivist and individualist cultures from concepts of masculinity and femininity. According to them, collectivists are accustomed to depending on the group and to solving problems at the group level, while individualists are accustomed to being independent. Hofstede et al. created an “individualism index,” which indicated that most European countries were likely to be included in the ‘individualist’ category. On the other hand, most Asian countries are collectivist. In particular, the United States is one of the most individualistic countries, whereas South Korea is one of the most collectivist countries.

With regard to masculinity and femininity, one’s gender role has a strong influence on one’s behavior (Hofstede et al., 2010). In a masculine culture, “the standard pattern is that the father earns and the mother cares” (p.135) and “careers are compulsory for men, optional for women” (p. 170). In South Korea, many women stay at home and take care of their children, whereas men usually work in order to support their families. Sometimes, obesity among housewives is blamed on their “laziness” (Kim, 2010). In contrast, men who work are more likely to attribute their obesity to their work environment (Lee, 2010). According to the “masculinity index” provided by Hofstede et al. (2010), the United States ranked 17th-18th among 76 countries, which means that the United States is a highly masculine culture. Thus, this study established the link between gender differences and individualistic or collectivistic cultures.

RQ1. Are there cultural differences related to the ways news media cover obesity in relation to gender and age?

Who is responsible for health problems?

Entman (1993) asserts that framing is a process of “selection and salience.” Journalists influence perceived reality by selecting some attributes of issues or events and making them “more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described” (p.52). Entman (1993). Scholars suggest that media framing influences how people perceive an issue or event (Scheufele, 2000; Scheufele, 1999). In other words, the analysis of news framing provides insights into society’s values and perspectives.

Iyengar (1991) asserts that the types of frames used influence decision making and public opinion. Jeong (2007) suggests that different types of news stories influence individual perceptions as well, particularly control beliefs. She discovered three types of news coverage of obesity: a genetic frame, a behavioral responsibility frame, and a complex frame, which includes elements from both the genetic and behavioral responsibility frame. According to her survey results, news frames affect the opinion of those who already had beliefs that people have less control over obesity, which is a low level control belief. Those who have a low level of control belief are more likely to believe that they can control their own health problems, take right action, or prevent their health condition to avoid becoming ill after they are exposed to a behavioral and complex frame rather than a genetic responsibility frame (Jeong, 2007).

Some scholars have expanded the explanation of framing effect to, including the concepts of episodic and thematic frames. Iyengar (1991) noted the impact of episodic and thematic frames. He argued that episodic news focuses on event-oriented reports, provides individual examples, or illustrates situations, while thematic news presents more general and comprehensive evidence (Iyengar, 1991). Those who read thematically-framed news can understand the big picture or the background associated with the issues discussed by the media. He linked episodic and thematic frames to attribution of responsibility (Iyengar, 1991). With regard to terrorism, crime, or poverty, a series of experiments provided consistent evidence that individuals who watch episodically-framed television news tend toward individual responsibility or punitive measures, while those who watch thematically-framed news coverage are more likely to lean toward societal treatment responsibility (Iyengar, 1991).

Regarding health problems, Dorfman, Wallack, and Woodruff (2005) found that those who are exposed to thematic news coverage endorse societal responsibility for health problem more than those exposed to episodic news coverage. Major (2009) conducted experiments to examine how different types of news frames (episodic, thematic, loss, and gain) influenced the audience with regard to general health problems, lung cancer, and obesity. The gain frame provided positive messages and benefits when choosing a particular option whereas the loss frame focused on negative messages, undesirable consequences, costs, and risks when choosing a particular option (O’Keefe & Jensen, 2008). Participants were recruited from the South, West, and Southwest areas of the United States. The study supported Iyengar’s arguments. Specifically, thematic and loss frame coverage encouraged the consideration of societal factors, government, organization, policies, communities, or institutions rather than individual failure.
In other words, those exposed to news coverage that covers less access to fitness center, healthier foods (thematic frame) and describes the effects of lack of exercise (loss frame) were more likely to attribute responsibility to society (Major, 2009). Conversely, when considering only obesity, the study found significant results that those who read the news reporting that illustrated a police officer’s weight loss failure (episodic frame) and negative consequences (loss frame) were more likely to blame individual irresponsibility (Major, 2009). That is, episodic and loss framing lead participants to attribute responsibility to individual behavior (Major, 2009). However, there were no significant findings in the news coverage related to lung cancer.

Past studies have tested the effects of episodic and thematic frames in several issues and found, to some extent, consistent results. However, few studies have described how episodic and thematic frames in news coverage of obesity in newspapers vary across two different countries. In addition, little research has been conducted to analyze the relationship between thematic and episodic frames and gender.

RQ2. What are the relationships between framing of causes and solutions of obesity, narrative style (episodic/thematic), gender, and age in South Korea and the United States?

Methods

This research investigated cultural differences with regard to the ways news media cover obesity in relation to gender. In addition, this cross-cultural study explored the relationships between gender and type of frame (episodic/thematic) and cause and solution.

To answer the research questions, this study employed content analysis. In the case of the individualistic culture, the top circulation newspaper in the United States, the Wall Street Journal, was selected (Audit Bureau of Circulations, 2010). In the case of the collectivist culture, the top circulation newspaper in South Korea, Chosun Ilbo (http://www.chosun.com), was selected (Korea Audit Bureau of Circulations, 2011). News coverage from the Wall Street Journal was collected from Factiva.com, the online database; coverage from Chosun Ilbo was collected from Naver.com, one of the most popular Web search engines in South Korea. News coverage published in calendar year 2010 was studied. The keyword was “obesity.” There were 88 articles collected from the Wall Street Journal, 110 from Chosun Ilbo. However, some stories were irrelevant to the study and were excluded. As a result, the number of total sample is 114.

Coding Variables

Culture: If the news coverage came from a U.S. newspaper, it was coded (1) for individualistic culture, and if the news coverage came from a South Korean newspaper, it was coded (2) for collectivist culture.

Narrative style: If the coverage focused on events and described individual examples, it was coded (1) for episodic frame. If the coverage embraced general issues, provided group-level information or research results, it was coded (2) for thematic frame. If the coverage had both episodic and thematic frame elements, then stories in which more than 25% of the paragraphs contained episodic frame elements were coded as episodic.

Cause: If the coverage attributed responsibility to individuals, it was coded (1) for individual cause. This study adopted the typologies and categorization provided by Kim and Willis (2007). They categorized individual causes as unhealthy diet, sedentary lifestyle, genetic condition, and others. If the coverage attributed responsibility to societal factors such as government, organizations, or institutions, it was coded (2) for societal cause. Kim and Willis (2007) categorized societal causes as those related to policies or action of food industries, schools and education, socioeconomic factors, and others. If the coverage included both individual and societal causes evenly, it was coded (3), both. If the coverage attributed no responsibility, it was coded (0), N/A.

Solution: If the coverage provided personal solutions, including maintaining a healthy diet, physical activities, medical treatment, and others (Kim & Willis, 2007), it was coded (1) for individual solutions. If the news article dealt with societal solutions, including regulation of the food industry, changes in schools and education, socioeconomic changes, and others (Kim & Willis, 2007), it was coded (2) for societal solutions. If the coverage presented both individual and societal solutions evenly, it was coded (3), both. If the coverage provided no solution, it was coded (0), N/A.

Gender: If coverage mentioned a target group who were overweight or obese or had a chance to be overweight or obese, this study coded the gender of the target group. For example, if coverage reported that obesity among married women who stay at home is increasing, it was coded (2) female. Some coverage named researchers or obesity experts to help to explain what the obesity is, how to overcome the obesity or how many people are overweight or obese. This study did not code the gender of those people. If there were men in an article, it was coded (1), male. If there were women an article, it was coded (2), female. If men and women appeared evenly in the news coverage, it was coded (3), both. If one of the genders was more represented than the other gender, the dominant gender was coded. For example, if an article mentioned two women and one man, the coders coded this (2) female. If there were two women and two men in an article, it was coded (3) because both appeared evenly.

Age1-6: If coverage mentioned a target group who were overweight or obese or had a chance to be overweight
or obese, this study coded the age range of the target group. For example, if an article covered obesity of children, it coded as (1) yes under variable Age 1 (0-12 or children). Experts, specialists, and researchers were not coded. Age1 indicated 0-12 (children); focus on children or those age 0 to 12 years. If the target group included this age range, it was coded (1) Yes under Age1, otherwise (2) N/A. Similarly with other age variables: Age2 indicated 13-19 (adolescent); focus on those ages 13 to 19 years. Age3 indicated ages 20-24 (young adults). Age4 indicated 25-64 (middle adults). Age5 indicated 65+ (senior). Age6 indicated all ages—if an article had a target group or groups but did not indicate ages.

**Intercoder reliability**

Ten percent of the stories were randomly selected and double-coded for reliability check. Intercoder reliability varied from 0.713 to 1.000 for all variables using Scott’s pi and 0.976 using Holst’s formula.

**Results**

**Cultural differences related to narrative style, cause, solution, gender, and age**

RQ1 asked whether the way media portray obesity related to gender and age varies with culture. Chi-square tests and descriptive statistics were employed to answer this question. When comparing culture and narrative style (episodic/thematic), there were significant differences. U.S. articles were more likely than South Korean newspapers to use thematic frames (89% vs. 66%; see Table 1) The U.S. newspaper was more likely to use thematic frames than episodic frames (89% vs. 11%). The South Korean newspaper used 66% thematic frames and 34% episodic frames.

The relationship between culture and causes (individual/societal), also had significant differences. Chosun Ilbo was more likely than the WSJ to indicate individual causes (70% vs. 37%; see Table 1). Fifty-nine percent of U.S. articles did not mention causes of obesity; 37% attributed responsibility to individuals, and 5% blamed societal causes. On the other hand, the South Korean newspaper generally blamed individuals rather than society (70% vs. 2%); 28% of coverage from South Korea did not attribute causes of obesity.

In terms of the relationship between culture and solutions (individual/societal), significant differences were found as well see Table 1). Chosun Ilbo was more likely than the WSJ to suggest individual-level solutions (77% vs. 45%). The WSJ provided individual solutions a little more than societal solutions (45% vs. 31%), whereas to a great extent, Chosun Ilbo showed individual solutions rather than societal solutions (77% vs. 11%).

Regarding culture and gender, there were significant differences between the two variables. Most of the U.S. articles did not deal with a particular gender (90%; see Table 1). Only 5% and 6% of coverage mentioned men or women respectively. However, the South Korean newspaper was more likely to present women than men (30% vs. 9%); 28% of coverage from South Korea did not present one particular gender, and 34% mentioned both genders.

Regarding age groups, this study cannot use chi-square calculations since the age variable allows multiple responses. The age groups mentioned most often by the U.S. newspaper were in all ages and children 0-12 (53% and 32%; see Table 1). The least mentioned U.S. age group was young adults (3%). In the South Korean newspaper, all ages and middle adults appeared the most (33% and 27%). Chosun Ilbo did not mention the senior group. The Korean newspaper paid slightly more attention to children and adolescents than young adults (21%, 21%, and 15% respectively).

**U.S. newspaper and narrative style, cause, solution, gender, and age**

RQ2 analyzed differences between narrative style (episodic/thematic), cause (individual/societal), solution (individual/societal), gender, and age in U.S. and South Korea. When it comes to the narrative style and causes of obesity, there was significant difference. The U.S. newspaper used more thematic than episodic frames (89% vs. 11%). The episodic frame was more likely to associate with societal causes (29% vs. 2%; see Table 2). Seventy-one percent of episodic frames did not mention causes, nor did 57% of thematic frames. Thematic frames were more associated with individual causes than societal causes (42% vs. 2%). No coverage included individual causes and thematic frames together.

Regarding narrative style and solutions in U.S. news coverage (see Table 2), episodic frames were more likely than thematic frames to relate to societal solutions (86% vs. 25%). There was no coverage that included episodic and solution frames; 25% of thematic frames did not mention a solution for obesity, 51% of thematic frames were associated with solutions of individual level, and 25% of thematic frames were associated with solutions of societal level.

The combination of narrative style and gender produced no significant differences in the U.S. newspaper. Both episodic and thematic frames were more likely to mention both genders in coverage of obesity (71% vs. 46%); 44% of thematic frames and 14% of episodic frames did not mention a particular gender; 3% of thematic frames covered men and 7% of thematic frame covered women. As for cause and solution, significant differences were found in the U.S. newspaper see Table 2: 44% of coverage included individual causes without any solutions; 58% of coverage that did not suggest causes was more likely than coverage that included individual causes and societal causes to suggest individual solutions. Thirty percent of articles
included individual causes and individual solutions, while no articles included societal causes and individual solutions; 26% of coverage that blamed individual causes suggested societal solutions whereas 67% of coverage that blamed society or the environment provided societal solutions.

In terms of the relationships between genders, causes and solutions, there were no significant differences in the U.S. newspaper. Ninety percent of coverage that did not mention causes of obesity and 92% of coverage that included individual causes mentioned no genders. In addition, 73% of coverage that did not have any solutions, 93% of coverage that had individual solutions, and 95% of coverage that had societal solutions did not mention any genders.

South Korea and narrative style, cause, solution, gender, and age

There was no significant difference between narrative style and cause in the South Korean newspaper. Episodic frames were more likely associated with individual causes than societal causes (47% vs. 0%). Thematic frames were more likely associated with individual causes than societal causes as well (81% vs. 3%). No significant differences were found regarding the relationship between narrative style and solution in the South Korean newspaper. Eighty-two percent of episodic frames and 74% of thematic frame were related to individual solutions; only 19% of episodic frames and 7% of thematic frames were associated with societal solutions. A significant relationship was found between cause and solution (see Table 3): 85% of coverage that had individual causes was associated with individual solutions rather than societal solutions. Only one article included both societal cause and societal solutions. Among the coverage that did not blame anything, 62% provided individual solutions and 23% suggested societal solutions.

In terms of the relationship between genders, narrative style, causes, and solutions, there were no significant differences in the South Korean newspaper. Forty percent of episodic coverage and 70% of thematic coverage did not have a particular gender or provided both genders. Thirty-eight percent of epidemic frames were associated with women, while 19% of episodic frames were associated with men; 27% of thematic frames were related to women, while only 3% were related to men.

In terms of gender and causes, 22% of coverage that blamed individuals did not indicate gender; 34% of coverage that blamed individuals included both genders. However, individual causes were more associated with women than men (38% vs. 6%). And 70% of coverage that did not provide any causes did not include any gender or included both genders. The coverage that attributed responsibility to society was the only one that did not include any gender. Related to gender and solutions, the coverage that provided individual solutions was more likely to concern women rather than men or both genders (37%, 6%, and 34% respectively). The coverage that provided societal solution was more likely to associate with only men than women (20% vs. 0%).

Discussion and Conclusion

This study illustrated cultural differences in the way that newspapers portray obesity, associated with narrative style (episodic and thematic), framing of cause, framing of solution, gender and age. It was noteworthy to compare an individualistic culture (U.S.) and a collectivist culture (South Korea) when they cover obesity. First, both the U.S. newspaper and the South Korean newspaper were more likely to have thematically framed coverage of obesity. That is, when media cover obesity, both countries place emphasis on events or individual examples rather than general or collective information about obesity. The U.S. newspaper was more likely than the South Korean newspaper to use thematic frames rather than episodic frames. In other words, South Korean news was more likely than U.S. news to focus on describing personal situations.

Second, coverage from both the U.S. and South Korea was more likely to attribute responsibility to individuals than to society. In particular, to a great extent the South Korean newspaper was more likely to blame individuals than the U.S. newspaper was.

Third, both the U.S. and South Korean newspapers encourage people to lose weight on their own. However, South Korea more strongly asked people to control themselves to lose their weight. They urge people to not be lazy, exercise more, eat healthy food, or have a regular and temperate life. These results indicated that South Korea was more likely to consider obesity as an individual problem rather than a societal problem, while the U.S. approaches obesity as both an individual and a societal matter. Given that South Korea has a collectivist culture and the United States has an individualistic culture, the cultural characteristics may not correspond with the way they perceive the obesity. Presumably, in the U.S., obesity may be perceived as a disease so that the idea that some obese people may need help to lose weight may be reasonable. On the other hand, Korean may think that obesity is not a disease but an outcome of laziness.

Fourth, the South Korean newspaper was more likely than the U.S. newspaper to address women who are overweight or obese or at risk of becoming overweight or obese. The U.S. newspaper mostly did not mention a particular gender or mention both genders; it delivered a message about obesity toward the public or particular groups without mentioning gender. However, the South Korean newspaper covered women more than men.

Last, both countries mostly addressed all ages’ health conditions related to obesity. The U.S. newspaper
focused on children more than other age groups while the South Korean newspaper emphasized middle adults. The South Korean newspaper also paid attention to children and adolescents as much as middle adults. This finding may indicate that attention to the rate of obesity among children and adolescents is considerable. In addition, the distribution of media attention was relatively equal among age groups in South Korea, which means that concerns about obesity are relevant to all Koreans.

Furthermore, this study compared narrative style, frame of cause, and frame of solution related to gender in each country. There were interesting results. First, in the Wall Street Journal, episodic-framed coverage was more likely to refer to society in discussing causes and solutions, while thematic-framed coverage blamed individuals and referenced individuals in discussing solutions. In Chosun Ilbo, both episodic-framed and thematic-framed coverage was more likely to mention individual causes and individual solutions. Second, when the South Korean newspaper talked about obesity or overweight among women, it framed personal causes and solutions. When it wrote about obesity or overweight among men, it preferred to refer to societal solutions. The South Korean paper attributed blame for women’s obesity to personal causes to a greater extent than did U.S. newspapers. On the other hand, most U.S. articles that referenced individual causes did not mention one gender alone.

This study helped to understand two different cultures, individualistic and collectivistic, when they portray obesity. The results gave some implications about obesity to professionals such as advertisers, PR practitioners or journalists. It is worthwhile to improve campaign messages such as public service announcements in South Korea in order to change the perception of obesity. The public needs to recognize the idea that some obese people need medical treatment, people have to be protected by government law from obesity, or the food industry in South Korea has to keep its food healthy. In addition, when journalists cover obesity, they have to strike a balance in relation to gender. The South Korean newspaper mentioned women more frequently in relation to obesity. It has to balance between men and women. Another recommendation for journalists is that they need to study which gender is more obese in their country. Then they have to reference that gender more frequently to arouse their attention.

Although there were valuable finding in this study, there are limitations as well. The sample size is too small to generalize. Future research must collect coverage from other newspapers or television news. A 2 x 2 x 2 experiment may be used to measure effects of news coverage of obesity. Future research may also address how much news coverage influences willingness to overcome obesity or whether news coverage changes the perception of obesity. This study recommends three variables: narrative style (epidemic/thematic), frame of causes (individual/societal) and frame of solutions (individual/societal).

References
Deurenberg, P., Deurenberg, Y. M. Guricci, S. (2002). Asians are different from Caucasians and from each other in their body mass index/body fat per cent relationship. Obesity Review. 3, 141-146.


OECD (2010). Obesity and the Economics of Prevention: Fit not Fat. Retrieved from http://www.oecd.org/document/31/0,3343,en_2649_33929_45999775_1_1_1_37407,00.html#Executive_Summary


The Effect of Nursing Students’ Clinical Experiences on Probability of Graduation

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Dee Birnbaum, Rhodes College  
Linda Finch, University of Memphis  
Mark John Somers, New Jersey Institute of Technology

During their second semester of nursing school, students were surveyed about their reactions to their clinical experience. A survey instrument was developed, tested and validated. Probit analyses indicated there is a significant inverse relationship between positive experiences during clinical practica and the probability of graduating from nursing school.

Introduction

Nursing is an enigmatic case of an essential societal role that has experienced shortages for decades. Recent predictions suggest the gap between supply and demand in the U.S. will reach over one million nurses by 2020 (Allen 2008) Despite the recession and high unemployment rate, the latest report from the Bureau of Labor Statistics indicates a continued employment expansion in healthcare, with the addition of 313,000 jobs in the last year (www.bls.gov/news.release/empsit.nr0.htm, retrieved 11/26/11). Because registered nurses are the largest segment of the healthcare workforce (www.aacn.nche.edu/media-relations/fact-sheets/nursing-shortage, retrieved 11/26/11), the demand for nurses seems to be increasing as predicted.

Researchers who have been studying the most recent nursing shortage in the U.S. have voiced concern that one of the distinctive patterns of the current shortage, unlike those of the past, is this shortage seems to be fueling itself. Experts have suggested several ways this is occurring. First, the shortage of nurse educators is restricting the number of applicants accepted into nursing programs. According to the AACN’s report on 2010-2011 Enrollment and Graduation, U.S. nursing schools rejected 67,563 qualified applicants because of faculty shortages, facility deficiencies and budget constraints. Two-thirds of the schools surveyed cited faculty shortages as the main problem (www.aacn.nche.edu/media-relations/fact-sheets/nursing-shortage, retrieved 11/26/11). This, in turn, limits the number of graduates entering the profession and highlights the importance of accepting applicants who have a high potential to successfully complete the program. A further implication of this constraint is the imperative of designing a curriculum that combines classroom education with clinical experience to help graduates make a seamless transition from student to professional practitioner.

Second, researchers suggest the acute shortages are forcing nurses from the “baby boom” generation, who comprise a large proportion of practicing nurses, to retire early. With inadequate staffing, the nursing job has become too strenuous for older practitioners (Beurhaus, Donelan, Ulrich, Williams and Dittus 2005). According to the AACN, the average age of nurses employed in the U.S. is 46 years old (www.aacn.nche.edu/media-relations/fact-sheets/nursing-shortage, retrieved 11/20/11). While students’ clinical experiences are crucial for a smooth transition from novice to professional (Napthine 1996), researchers suggest that as students witness the shortage first-hand during their clinical experiences, students will be discouraged from completing their nursing education (Linon, Spencer & Walers 1981). Hart and Rotem (1994) specifically noted, in their study of nursing students' clinical experiences, students identified much more strongly with the nursing unit staff than with their clinical instructors, to the extent that students learned primarily through their relationship with nursing unit staff, not through their relationship with clinical instructors. Cahill’s (1996) qualitative study replicated these findings. With acute staffing shortages, what sort of role models can nurses be, and how much time do they have to establish relationships with students? Stewart, Dowell and Jackson’s (1995) survey of nurses in acute care settings indicates the lack of resources leaves nursing staff despondent and frustrated with little energy and motivation to mentor students.
The Study

This study examines the question of whether the current nursing shortage is fueling itself by causing an even greater shortage. The study focuses on the influence of student nurses’ clinicals on students’ propensity to complete the BSN degree. Specifically, this research addresses the question of whether students’ experiences, such as problems with staffing, quality of care and other issues they encounter in clinical settings, discourages students from completing their degrees. Researchers have suggested this is the case, but there is no established literature that specifically examines this question, although many studies point in this direction (cf. Andrews, Brodie, Wong and Thomas 2005).

To investigate this question, a measure was created to study the students’ perceptions and affective responses to their clinicals. Although there are a considerable number of qualitative studies of students’ reactions to their clinicals (cf. Hart et al. 1994), there is a dearth of validated, quantitative measures. Using existing studies, the researchers constructed and examined the dimensionality of a quantitative measure of students’ perceptions of the units on which they worked. Therefore, this study is comprised of two parts: 1) the development and validation of a quantitative measure of students’ perceptions of and reactions to their clinical placements; and 2) a direct test of the relationship between students’ reactions to their clinicals and the likelihood of graduation.

Method

Sample

Four cohorts of BSN students from a nursing school at a large university in the southern United States were sampled. Two of the researchers distributed and collected the surveys during classes each semester. The 263 students who decided to participate completed their surveys during class and handed them directly to the researchers. The investigators surveyed the students through all four semesters of their nursing program. The surveys of clinical experiences were collected early in the semester following the semester in which clinical experience took place to ensure that students were evaluating a clinical experience they had completed. Therefore, their second semester responses actually refer to their first semester clinicals. Most students completed two clinicals each semester. Eight-five of the subjects completed surveys regarding their clinical experience in their second semester of nursing school. Because there was a significant loss of subjects over time (only 33 of the 85 students filled out surveys about their clinicals in the third semester), this study focuses on the larger subsample of 85 students.

Measures

Clinical Experience

To formulate a measure of students’ perceptions of clinical experiences, statements were derived from students’ responses to interview questions and open-ended questions about clinicals published in the nursing literature (cf. Hart et al. 1994; Kleehammer, Hart and Keck 1990; Nolan 1998; Pearcey and Elliott 2004; Peirce 1991). In addition, in-depth interviews were conducted with a subsample of 37 students involved in the study. These interviews asked students about their clinical experiences in their first semester and then repeated the interview in their second semester. The researchers taped and transcribed these interviews and student responses from these interviews were also incorporated into the measure. Thirty-four statements derived from the responses students made most frequently in the nursing literature and in their interviews comprised the measure.

The statements focused on students’ perceptions, evaluations and affective reactions to their clinical experiences as opposed to focusing on tasks and roles. The statements were formatted in a Likert-type, five-point scale with anchors ranging from strongly disagree to strongly agree. Some of the items were reversed so that a positive reaction would result in a low number and vice versa. See Appendix I for a list of the statements and the format that was used. Table I contains the summary (frequencies) for each item in the measure.

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clin1_1</td>
<td>116</td>
<td>3.64</td>
<td>1.05</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_2</td>
<td>116</td>
<td>3.53</td>
<td>1.10</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_3</td>
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<td>1.15</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_4</td>
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<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_5</td>
<td>116</td>
<td>3.53</td>
<td>1.11</td>
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<td>5</td>
</tr>
<tr>
<td>Clin1_6</td>
<td>116</td>
<td>4.10</td>
<td>0.81</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_7</td>
<td>116</td>
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<td>1.06</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_8</td>
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<td>2.90</td>
<td>0.94</td>
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<td>5</td>
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<tr>
<td>Clin1_9</td>
<td>116</td>
<td>3.28</td>
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<td>5</td>
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<tr>
<td>Clin1_10</td>
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<td>3.96</td>
<td>0.83</td>
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<td>5</td>
</tr>
<tr>
<td>Clin1_11</td>
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<td>4.12</td>
<td>1.00</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_12</td>
<td>116</td>
<td>3.53</td>
<td>0.99</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_13</td>
<td>116</td>
<td>2.97</td>
<td>1.10</td>
<td>1</td>
<td>5</td>
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<tr>
<td>Clin1_14</td>
<td>116</td>
<td>3.36</td>
<td>1.07</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_15</td>
<td>116</td>
<td>3.14</td>
<td>1.13</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_16</td>
<td>116</td>
<td>3.27</td>
<td>0.97</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Clin1_17</td>
<td>116</td>
<td>3.38</td>
<td>1.04</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
A factor analysis of the items, using varimax rotation was conducted. After removing those items that double-loaded, another factor analysis was performed. The final results of the factor analysis are presented in Table II.

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Factor 1</td>
<td>1.15</td>
<td>1.37</td>
<td>1.32</td>
<td>1.23</td>
<td>1.06</td>
<td>1.32</td>
<td>1.14</td>
<td>1.33</td>
<td>1.36</td>
<td>1.38</td>
<td>0.95</td>
<td>1.15</td>
<td>1.34</td>
<td>0.78</td>
<td>0.74</td>
<td>0.76</td>
<td>0.74</td>
</tr>
<tr>
<td>Factor 2</td>
<td>1.02</td>
<td>0.88</td>
<td>1.01</td>
<td>1.11</td>
<td>1.15</td>
<td>1.10</td>
<td>1.05</td>
<td>1.13</td>
<td>0.85</td>
<td>0.99</td>
<td>0.95</td>
<td>1.02</td>
<td>1.02</td>
<td>0.94</td>
<td>0.87</td>
<td>1.20</td>
<td>1.27</td>
</tr>
<tr>
<td>Factor 3</td>
<td>0.62</td>
<td>0.05</td>
<td>0.45</td>
<td>-0.10</td>
<td>-0.07</td>
<td>0.18</td>
<td>-0.02</td>
<td>-0.07</td>
<td>-0.12</td>
<td>0.18</td>
<td>0.13</td>
<td>0.13</td>
<td>0.03</td>
<td>0.13</td>
<td>0.13</td>
<td>-0.01</td>
<td>0.03</td>
</tr>
<tr>
<td>Factor 4</td>
<td>0.65</td>
<td>-0.05</td>
<td>0.02</td>
<td>0.10</td>
<td>0.14</td>
<td>-0.22</td>
<td>-0.12</td>
<td>-0.14</td>
<td>-0.12</td>
<td>-0.12</td>
<td>-0.12</td>
<td>-0.12</td>
<td>-0.12</td>
<td>-0.12</td>
<td>-0.12</td>
<td>0.04</td>
<td>0.17</td>
</tr>
</tbody>
</table>

The remaining items formed four subscales with reliabilities ranging from \( \alpha=0.69 \) to \( \alpha=0.93 \). For a list of the four subscales, see Table III.

**Table III: Clinical Experience Subscales**

<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clin3</td>
<td>The staff was very helpful to me.</td>
</tr>
<tr>
<td>Clin4</td>
<td>The staff was very friendly to me.</td>
</tr>
<tr>
<td>Clin12</td>
<td>The atmosphere on this unit was highly professional.</td>
</tr>
<tr>
<td>Clin14</td>
<td>The atmosphere on this unit was very welcoming.</td>
</tr>
<tr>
<td>Clin15</td>
<td>I regarded the RNs on this unit as role models.</td>
</tr>
<tr>
<td>Clin16</td>
<td>I was extremely impressed with the care received.</td>
</tr>
<tr>
<td>Clin17</td>
<td>The RNs were negative about their nursing roles.</td>
</tr>
<tr>
<td>Clin21</td>
<td>The staff was too busy to help me very much.</td>
</tr>
<tr>
<td>Clin27</td>
<td>I felt that I was part of this unit.</td>
</tr>
<tr>
<td>Clin31</td>
<td>The unit environment was very supportive.</td>
</tr>
</tbody>
</table>

**Factor 1: Comfort with the Nursing Unit**

<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clin1</td>
<td>I felt comfortable in this clinical specialty.</td>
</tr>
<tr>
<td>Clin2</td>
<td>I enjoyed working in this clinical specialty.</td>
</tr>
<tr>
<td>Clin5</td>
<td>I did not like the work.</td>
</tr>
<tr>
<td>Clin6</td>
<td>I enjoyed working with the patients.</td>
</tr>
<tr>
<td>Clin10</td>
<td>I felt that I could handle the work in this specialty.</td>
</tr>
<tr>
<td>Clin19</td>
<td>I found the work very rewarding.</td>
</tr>
</tbody>
</table>

**Factor 2: Attitude Towards Specific Specialty**

<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clin17</td>
<td>I was constantly afraid of making a mistake.</td>
</tr>
<tr>
<td>Clin18</td>
<td>My experience made me question whether nursing is the right career for me.</td>
</tr>
<tr>
<td>Clin22</td>
<td>I often felt as though I were in the way.</td>
</tr>
</tbody>
</table>

**Factor 3: Discomfort in the Role**

<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clin7</td>
<td>I found that working on this unit was very stressful.</td>
</tr>
</tbody>
</table>

I often felt as though I were in the way.
**Factor 4: Helpfulness of Preceptors**

<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clin11</td>
<td>My preceptor was always willing to answer my questions.</td>
</tr>
<tr>
<td>Clin23</td>
<td>I never worried about harming a patient because my preceptor would not let me.</td>
</tr>
<tr>
<td>Clin26</td>
<td>I received a thorough orientation to the unit.</td>
</tr>
<tr>
<td>Clin30</td>
<td>I did not receive enough guidance from my preceptor.</td>
</tr>
</tbody>
</table>

**Student Reactions to the Clinical Unit**

<table>
<thead>
<tr>
<th>Item</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clin3</td>
<td>The staff was very helpful to me.</td>
</tr>
<tr>
<td>Clin4</td>
<td>The staff was very friendly to me.</td>
</tr>
<tr>
<td>Clin5</td>
<td>I did not like the work.</td>
</tr>
<tr>
<td>Clin6</td>
<td>I enjoyed working with the patients.</td>
</tr>
<tr>
<td>Clin7</td>
<td>I found that working on this unit was very stressful.</td>
</tr>
<tr>
<td>Clin12</td>
<td>The atmosphere on this unit was highly professional.</td>
</tr>
<tr>
<td>Clin16</td>
<td>I was extremely impressed with the care patients received.</td>
</tr>
<tr>
<td>Clin17</td>
<td>The RNs were negative about their nursing roles.</td>
</tr>
<tr>
<td>Clin18</td>
<td>My experience made me question whether nursing is the right career for me.</td>
</tr>
<tr>
<td>Clin19</td>
<td>I found the work very rewarding.</td>
</tr>
<tr>
<td>Clin20</td>
<td>The work was nothing like what I expected nursing to be.</td>
</tr>
<tr>
<td>Clin21</td>
<td>The staff was too busy to help me very much.</td>
</tr>
<tr>
<td>Clin29</td>
<td>I was not happy with the care patients received on this unit.</td>
</tr>
<tr>
<td>Clin31</td>
<td>The unit environment was very supportive.</td>
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<tr>
<td>Clin33</td>
<td>There was not enough staff on this unit.</td>
</tr>
</tbody>
</table>

**Graduation**

The Alumni Office of the university provided the researchers with lists of graduates at the end of each semester. The researchers compared the graduation lists with the lists of study participants to categorize each participant as one who graduated or one who did not graduate. Of the total sample, 167 students graduated while 96 did not. Of the 85 students who completed surveys about their clinical experiences in their second semester, 65 graduated while 20 did not.

**Results**

The hypothesis of the study was there would be a direct relationship between students’ reporting a positive clinical experience and the likelihood of graduation.

Contrary to the hypothesis, the probit analyses indicated a significant inverse relationship between positive reactions to clinical experience and the probability of graduation so that each unit of positive experience decreases the probability of graduation. The first probit analysis examined the relationship between the entire measure of clinical experience and graduation from nursing school. According to the results, the probability of graduation is reduced by 32.50, p<.01 for each unit of positive experience. Similar findings were reached for subscale 1, “Comfort with the Nursing Unit” (-34.43, p<.001), for subscale 3, “Comfort in the Nursing Role” (-35.56, p<.05) and for subscale 4, “Helpfulness of Preceptors” (-34.32, p<.01). The only subscale for which there was no significant relationship was subscale 2, “Attitude Toward Specific Specialty.” The results of the probit analyses are presented in Table IV.

<table>
<thead>
<tr>
<th>Probit regression</th>
<th>Number of obs = 71</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR chi2(1)</td>
<td>8.23</td>
</tr>
<tr>
<td>Prob &gt; chi2</td>
<td>0.00</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-32.50</td>
</tr>
<tr>
<td>Pseudo R2</td>
<td>0.11</td>
</tr>
</tbody>
</table>

**Table IV: Probit Results**

| Variable | dy/dx | Std Err | z     | P>|z|
|----------|-------|---------|-------|-----|
| ClinAll  | -1.16 | 0.44    | -2.64 | 0.01|
| _cons    | 4.82  | 1.56    | -3.14 | 0.001|

Marginal effects after probit

| Variable | dy/dx | Std Err | z     | P>|z|
|----------|-------|---------|-------|-----|
| ClinAll  | -0.3  | 0.11    | -2.82 | 0.01|

**Factor 1: Comfort with the Nursing Unit**

<table>
<thead>
<tr>
<th>Probit regression</th>
<th>Number of obs = 75</th>
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<tbody>
<tr>
<td>LR chi2(1)</td>
<td>6.20</td>
</tr>
<tr>
<td>Prob &gt; chi2</td>
<td>0.01</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-34.43</td>
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</table>

169| 2012 AMHCR Conference Proceedings
The results of the probit analyses were mostly unexpected and were opposite to the hypothesized relationship between students' reactions to clinical experiences and propensity to graduate. This contradicts the assumptions made by researchers studying the nursing shortage who assert that the shortage demoralizes nursing staff and discourages students from completing their studies. A feasible explanation for the findings is that many students who pursue a nursing career are attracted by the opportunities and job security afforded by nursing (cf. Somers, Finch & Birnbaum, 2010) and some studies have found this is the primary motivation toward a nursing career (cf. Rognstad 2002; Shattell, Moody, Hawkins & Creassia 2001). The shortage of staff in clinical practica might indicate that opportunities and job security are indeed available in nursing.

Unlike the other results, the finding that students' reactions toward a specific clinical specialty did not significantly affect graduation was not unexpected. Because students complete clinical practica in many different specialty areas, this variety probably reinforces the students’ expectations that they have many choices in work situations after graduation. Most probably, dislike of a particular specialty would affect choice of specialty after graduation (cf. Andrews et al. 2005).

With respect to the development of a quantitative measure of students’ reactions to their clinical practice, a potentially useful measure was
developed, comprised of four dimensions, each with high reliability.

**Conclusion**

This study has made two contributions to the nursing literature. First, it provides a quantitative measure of student nurses' reactions to their clinical experiences that can be used in future research. Second, it provides a rare study of the relationship between clinical experience and probability of graduation. Because nurses are in high demand and nursing schools are incapable of producing enough graduates to fill that demand, it is essential to explore all avenues that might increase graduation rates and to develop measures to facilitate this exploration.

**References**

Appendix I

Please print your name__________________________________________________________________

Please complete a separate survey for each of the clinical specialties that you rotated through last semester in your clinical practice.

Name of clinical specialty __________________________________________________________________

Circle the response on the scale that best reflects the extent to which you agree or disagree with each statement.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Not sure or “so-so”</th>
<th>Agree</th>
<th>Strongly Agree</th>
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</thead>
<tbody>
<tr>
<td>SD</td>
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<td>I felt comfortable in this clinical specialty.</td>
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<tr>
<td>I enjoyed working in this clinical specialty.</td>
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<td>The staff was very helpful to me.</td>
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<td>The staff was very friendly to me.</td>
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<td>I did not like the work.</td>
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<td>I enjoyed working with the patients.</td>
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<td>I found that working on this unit was very stressful.</td>
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<td>The work was very challenging.</td>
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<td>The work was very routine.</td>
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<td>I felt that I could handle the work in this specialty.</td>
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<td>My preceptor was always willing to answer my questions.</td>
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<td>The atmosphere on this unit was highly professional.</td>
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<td>I was constantly afraid of making a mistake.</td>
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<td>The atmosphere on this unit was very welcoming.</td>
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<td>I regarded the RNs on this unit as role models.</td>
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<td>I was extremely impressed with the care patients received.</td>
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<td>The RNs were negative about their nursing roles.</td>
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<td>My experience made me question whether nursing is the right career for me.</td>
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<td>The work was nothing like what I expected nursing to be.</td>
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<tr>
<td>The staff was too busy to help me very much.</td>
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</table>
I often felt as though I were in the way.

I never worried about harming a patient because my preceptor would not let me fail.

I felt as though I didn’t belong on this unit.

I had many opportunities to perform new nursing skills.

I received a thorough orientation to the unit.

I felt that I was part of this unit.

I was treated like a nurses’ aide, not like a student.

I was not happy with the care patients received on this unit.

I did not receive enough guidance from my preceptor.

The unit environment was very supportive.

I felt that I made a difference in my patients’ lives.

There was not enough staff on this unit.

I would seriously consider working on this unit when I graduate from nursing school.
Evaluating the Effect of Declining Lead Times on the Economic Performance of First, Second, and Third Market Entrants

Michael Poletti, Fayetteville State University
Beth Hogan, Fayetteville State University

This study examines the effect of innovation lead time, the construct believed to be the key determinant of launch order strategic value, on first mover advantage. Anecdotal evidence has suggested that innovation lead times are continuing to decrease as the result of new product development acceleration strategies. Conventional wisdom suggests that this decrease in first mover lead time has had an adverse effect on first mover advantages for product innovators. This retrospective review of new product announcements spanning twenty years investigates the effect that lead time has on first mover advantage. The study also compares the advantage first movers have over second, as well as, third market entrants.

Introduction

Product and service innovation is crucial to the survival and success of firms. Innovation enables first mover advantage by supporting the creation of isolating mechanisms such as proprietary technology, switching cost hurdles and resource preemption. The impact on competitors is to delay their competitive reaction. (Suarez and Lanzolla 2005, 2007). As a result, product innovators are more likely to enjoy extended periods of prosperity and profitability before competitors enter the market (Short and Payne 2008; Suarez and Lanzolla 2005, 2007, 2008).

On the other hand, rapid innovation by fast followers can serve as a contravening force. Innovative followers can reduce the lead time enjoyed by first movers by using technological advances to speed up the pace of change and facilitate transference of knowledge (Agarwal and Gort 2001; Langerak and Hultink 2005). In this way, fast followers can respond more quickly and can shorten innovation lead time. Innovation designed to speed up response to pioneering innovation appears to have been the more powerful force historically. In a study of 46 new product innovations introduced from 1887 to 1986, it was determined that the average first-mover lead time had decreased from almost 33 years at the turn of the century to 3.4 years by the 1980’s (Agarwal and Gort 2001). A follow-up study involving 95 new products also introduced prior to 1984 confirmed that first-mover lead times have declined, especially in the later periods (Vakratsas et al. 2003). Similarly, a 1975 – 1990 study involving three industries concluded that first-movers experienced negative abnormal stock returns when second and third movers entered the market (Lee at al. 2000).

There is little doubt that the financial markets view new product announcements by first movers very positively. (Poletti, Engelland, and Ling 2008) found that out of 423 new product announcements all but seven observations yielded positive abnormal three-day returns for first mover firms. Three had no effect and four actually lead to negative abnormal average returns for first movers. The gains averaged 1.26%, ranging from a low of -.30% to a high of 4.37%. The authors contend that the extent to which these returns are long-lasting depended largely upon the reactions of competitors. However, the results showed that on average first movers relinquished .62% of their initial gains following the announcement of entry by the first competitor.

The initial average abnormal returns garnered by first movers were also negatively impacted by the announcement of a third market entrant. The negative abnormal returns for first movers averaged .34 over the 1985-2004 time-frame. Similar to the findings regarding second mover entry, the extent to which initial gains were lost depended largely on the amount of lead-time and the comparative relative advertising intensity ratios of first and third movers.

These results indicate that a precipice exists in the FMA literature linking lead time to first mover advantage. To address the theoretical and empirical gap,
the objectives of this paper are twofold. First, this work examines the effect of lead time between first and second movers on the economic-based evaluation of first mover advantage. Second, the effect of lead time between first and third market entrants on the stock price-based evaluation of first mover advantage will be explored.

Background

A firm that is first to enter the market with a specific product or service is known as the pioneer or first-mover (Lieberman and Montgomery 1988). The next competitor to enter with a substantially similar offering is referred to as the second-mover, and subsequent market entrants are called third-movers or fourth-movers, etc., depending upon the order of launch. For decades, it has been assumed that first-movers initially enjoy short-term benefits since they operate as a monopoly before later entrants arrive. Second-movers also enjoy a period of reduced competition until a third-mover enters the market. These periods of reduced competition are called innovation lead time, and are defined as the elapsed time between the date of prior product entry and the date of competitive imitation (Lee et al. 2000).

First-Mover Advantage

Given the evidence provided in economic, management, and marketing literature, it seems logical that being first to market (pioneering) is an excellent strategy for a firm to employ (Alpert 1987; Carpenter and Nakamoto 1990; Robinson and Min 2002). The literature suggests that a negative relationship exists between order of market entry and market share (Kalyanaram et al., 1995; Vakratsas et al. 2003) and further research indicates that increased lead-times enhance first-mover market share advantages (Huff and Robinson 1994; Vakratsas et al. 2003). Consequently, first-movers should achieve higher market share than followers.

However, the literature reveals that first movers create the potential for garnering large benefits only to the extent that temporal strategic barriers can be activated and maintained over time. Entry barriers such as proprietary knowledge and patent protection, which initially allow the pioneer to operate as a pseudo-monopoly, afford greater value than barriers which may take time to activate, even if they have the potential to provide longer-term benefits. The effectiveness of entry barriers in deterring competitor entry and the length of time first-movers are able to earn monopoly-like profits depend largely on the first-mover’s ability to impede competitive reaction (Nelson and Winter 1982; D’Aveni 1994). First movers attempt to engage in product and market innovation strategies that increase structural barriers between themselves and subsequent followers. The higher the barriers, the longer the early-mover lead time becomes; the lower the barriers, the shorter the lead time.

Innovation lead time provides a window of opportunity for the first mover to solidify sustainable advantages which can be broadly characterized as either consumer-based (Huff and Robinson 1994) or producer-based advantages. Consumer-based advantages are discussed first. Carpenter and Nakamoto (1989) explained first-mover advantage in terms of the role of learning in consumer preference formation, and suggested that the process by which consumers learn about brands plays an important part in creating first-mover advantage. The first-mover may be able to influence how product attributes are valued, define the ideal attribute combination, and ultimately influence consumers’ preferences to the first-mover’s benefit. Further, it is possible that the first-mover can define a product category and thus become the “prototype” against which all later entrants are judged (Alpert 1987; Engelland and Alford 2000). First-movers can also profitably use this lead time to establish an even stronger brand name (Schmalensee 1982) and preempt later entrants with important line extensions (Robinson 1988).

In addition to these consumer-based advantages, there are also producer-based advantages, including economy of scale effects, asymmetric information about product quality and risk-averse buyers, experience effects, and reputational effects (Lieberman and Montgomery 1988; Robinson 1988; Suarez and Lanzolla 2007). Early-movers can lengthen innovation lead time through the establishment of technological leadership, preemption of scarce resources such as raw materials and distribution channels, and by building in buyer switching costs (Lieberman and Montgomery 1988). Such advantages serve to build strong entry barriers that increase the lead time between early-movers and the response of followers (Suarez and Lanzolla 2007). The lead time allows the early-mover to benefit by initially operating as a monopolist or semi-monopolist while establishing market position and learning curve economies. These actions may allow it to retain a dominant market share and higher profits than subsequent entrants would earn (Von Hippel 1984).
Innovation Lead Time

There has been a growing trend for firms to enter markets faster due to shorter product life cycles, faster product obsolescence, and intensified competition (Griffin 1993). Competitors seek to implement organizational and technological strategies that reduce the barriers erected by others, thus decreasing the longer lead times once enjoyed by early-movers. Advances in media and communication (Agarwal and Gort 2001), particularly the explosion of growth in technology fueled by computerization and the Internet, has lead to quicker dissemination of information, further eroding away the barriers to competitive entry. Both first-movers and fast followers have accelerated new product development through a broad variety of strategies, including lead user involvement, training and rewarding employees, increased supplier involvement, speeding activities and tasks, and a simplification of organization structure (Langerak and Hultink 2005). Consequently, there are a number of forces that tend to compress innovation lead times.

Since the late 1980’s, there appears to be a decline in the advantage of first moving, especially if lead times continue to decline. Research has questioned many of the theoretical advantages assumed to confer long-term advantages to first-movers (Lieberman and Montgomery 1998; Mellahi and Johnson 2000). Further, market share leadership for first-movers has been supported in only 10% of major product categories (Golder and Tellis 1993). More recent studies have suggested that being first to market does not necessarily ensure dominant market share or long-term rewards (Chen et al. 2002).

Conditions that modify the durability of first mover advantages have been identified in the literature by Coyne (1986) who found that the sources of competitive advantage will rapidly disappear if competitors are quickly able to imitate the attributes or cost advantages of the first mover’s offering. Lee et al. (2000), concurred, finding that first mover advantages were completely eroded by the sum effect of an early and late imitation across the long distance telecommunications, personal computer, and brewing industries. Other researchers have detected wide inter-industry variation in both the cost and time required for imitation (Lemin, Nelson, and Winter 1984. These authors also found industry differences in appropriability mechanisms, with lead time and learning curve advantages relatively important in many industries.

Move Timing Effects on First Mover Advantage

Move timing (lead time) represents the elapsed time between the date of a new product introduction and the date of each competitive imitation (Lee, et al. 2000). It has been suggested that first movers have the potential for garnering large benefits, however, the benefits will be realized only to the extent that temporal strategic barriers can be activated and maintained over time (Patterson 1993). Further, the author contends that the greatest benefits come from temporal barriers which confer singularity (one-time benefit) to the pioneering firm. In other words, entry barriers such as proprietary knowledge and patent protection, which initially allow the pioneer to operate as a pseudo-monopoly, afford greater value than barriers which take time to activate, yet have the potential to provide long term benefits. Correspondingly, unanticipated firm-specific events such as new product announcements, that have cash flow implications for the firm, should be manifested by an abnormal return to the firm’s stockholders during the period when the unanticipated event takes place (Chaney, Devinner, an Winer 1991). This premise has been buttressed through empirical research. In a cross-sectional industry study utilizing data gathered from 1975 to 1984, it was discovered that the aggregate impact of a new product announcement resulted in a 0.75 percent increase for the pioneering firm over a 3-day period (Chaney et al. 1991).

In theory, first mover advantages can be grouped into two main categories. The first category reflects the advantage that product pioneers can gain by securing a monopoly-like market position until competitors enter the market. The second category reflects the advantage of the potential impediments to market entry that have been identified in the literature (Lieberman and Montgomery 1988). Those impediments provide pioneers the opportunity to garner long-term advantages. Pioneering firms can potentially capitalize on experience/learning curve effects, which allow first movers to reduce costs through actual experience in activities like the manufacture of new products. Pioneers can also influence consumer preference formation and, in some industries, establish substantial switching costs.

The effectiveness of the aforementioned entry barriers in deterring competitor entry and the length of time first movers are able to earn monopoly-like profits
depend largely on the first mover's ability to impede competitive reaction (D’Aveni 1994). It follows that the value of those barriers enacted by first movers will vary, depending on the amount of lead time pioneers have to activate these mechanisms. For example, most would agree that a first mover would be more effective at influencing consumer preference formation if the product was the sole market option available to satisfy a particular need and if the pioneer had one year, rather than six weeks, of lead time. Therefore it is posited that:

H1: The shorter the lead time between the first mover and the first followers new product announcements, the greater the negative stock price realized by the first mover.

H2: The shorter the lead time between the first mover and the second followers new product announcements, the greater the negative impact on the first mover’s stock price.

Additionally, it is likely that shorter lead times for first movers over second followers would also result in greater negative impacts on first mover stock prices. Thus, it is proposed that:

H3: The shorter the lead time between the new product announcements of first movers and second followers, the greater the negative impact on the first mover’s stock price.

Findings

H1 posited that the more lead time between the first movers’ and the second movers’ new product announcements, the greater the positive stock return would be for the first mover. Regression analysis revealed that lead time was an extremely strong predictor of abnormal first mover returns (significance level .000, F statistic 232.472). It was a stronger predictor over the 1995-2004 period as compared to the 1985-1994 period with F statistics of 133.732 and 58.158, respectively. In addition, as average lead time declined from 369 days (1985-1994) to 266 days (1995-2004), average first mover stock value declined from 1.51% to .97% over the same time periods, a 36% decrease. These findings lend strong support for H1.

H2 Posited that the less lead time between the new product of first and second movers, the greater the negative impact on the first mover’s initial stock price gains. Regression analysis showed that lead time was a moderate predictor of average negative returns realized by first movers (significance level .070, F statistic 3.305) over the twenty year time frame. From 1985-1994 lead was a relatively weak indicator of greater negative stock returns of first movers (significance level .077, F statistic 3.165). However, lead time was a significant indicator of increased negative abnormal stock returns of first movers (significance level .016, F statistic 5.88) from 1995-2004. These findings lend support for H2.

H3 proposed that the less lead time between the new product of first and second movers, the greater the negative impact on the first mover’s stock price. The results support H3 (significance level .042, F statistic 4.215) over the twenty year time period from 1985-2004. In addition, negative abnormal returns for first movers increased from .32% (1985-1994) to .35% (1995-2004) as average lead ties between first and third mover announcements decreased from an average of 488 days (1985-1994) to 392 days (1995-2004).
Summary and Conclusions

One of the main goals of this research was to show that average lead time was a key component of first mover advantage. This study shows that there is strong evidence that lead time does have a substantial impact on the average abnormal returns which are realized by firms who are first to announce new products. Regression analysis showed that lead time was a strong predictor of average abnormal returns realized by first movers (significance level .000, F statistic 133.33) over the twenty year time-frame.

Another goal of the research was to show that less lead time by first movers over second entrants, the greater the negative impact on the first movers’ stock price when the first follower entered the market. Pearson Correlation Coefficients were significant at the .01% level at .596 .453 and .641 for the 1985-2004, 1985-1994, and 1995-2004 periods, respectively. Most impressive, as average lead times declined from 369 days (1985-1994) to 266 days (1995-2004) average abnormal pioneer returns declined from 1.51% to .97% over the same time period, a 36% decrease.

Finally, it appears likely that the negative average returns garnered by first movers when third entrants announced their imitation products over the twenty year time period were tied directly to corresponding lead times. Regression analysis showed that lead time between first and third market entrants was significantly linked to corresponding lead time. Regression analysis shows that lead time between announcements of first and third market entrants are effective predictors of these negative returns realized by first movers following third entrants’ announcements (.042 significance level, F statistic 4.215). Additionally, the Pearson Correlation Coefficient was -.162 which was significant at the .05 level. Although regression analysis shows that lead times are extremely strong predictors of negative average abnormal returns of first movers for the 1985-1994 time-frame (.016 significance F statistic 6.033) they appear to have little if any predictive ability of like returns for the 1995-2004 period (.816 significance level, F statistic .055).

Managerial Implications

It has been well documented that securing adequate lead time is a major factor in determining the rewards garnered by new product innovation. This study empirically bears out that lead time has a significant impact on the initial gains of first movers after a new product announcement, and the impending negative effects following the new product announcements of second and third market entrants.

From a strategic standpoint, first-movers are motivated to not only be first to market, but also build high enough barriers to competitive entry so as to delay second-movers or dissuade them from market entry entirely. Second-movers are motivated to develop product offerings that capture the opportunity left to them while making it difficult or undesirable for third-movers to enter and upset the established market dynamics.

If first-movers are to be successful under conditions of declining lead times, there is little room for error. Product launches must be front-loaded for maximum initial impact, and all launch elements must be ready and on target so that the launch is successful. This will require greater competence, sophistication, speed and dexterity on the part of the marketing function. More effective new product advertising, coupled with penetration pricing, may be needed to expedite the adoption process of the first-mover’s product offering. Further, first-movers can use tools such as conjoint analysis in product/service positioningsimulators and optimizers (Green and Krieger, 1993) allowing the pioneer to identify better marketing strategies faster in order to obtain a strong foothold, and making the order of entry and lead-time penalties larger.

In today’s highly dynamic environment, the impact of the traditional first mover advantage is undoubtedly shrinking as general strategic lead times are constricting (Heins, Pleshko, and Leach, 2004; Poletti et al. 2011). Barnes, Collier, and Lueng (2009) suggest that the first mover should encourage the development/creation/ownership of operant resources (defined as resources that are employed to act on operand resources and other operand resources). These resources are intangible and are human, organizational, and relational (Hunt 2004). This includes embedding operant resources through programs that: train employees in areas such as understanding the consumer’s perspective; empower employees to react to the dynamic relationship with the customer; and monopolize the control over scarce resources within the environment, including both physical and nonphysical types.

References


Mixed Methods in Health Services Research: Planning and Implementing Data Collection

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Mixed methods research is receiving increased attention because of its ability to shed light upon complex phenomena. Mixed methods research relies upon the collection and integration of both quantitative and qualitative data, combining the strengths of each to answer complex questions. We illustrate our use of a mixed methods research design in studying the transformation of the model of primary care delivery in the University of Utah Community Clinics.

Mixed Methods Research

The diversity of methods used in health services research is increasing. This diversity reflects the complexity of the problems in health care. It also signals a growing acceptance of qualitative research and necessitates the formation of interdisciplinary research teams to investigate complicated health issues.

Mixed methods research:

- Employs rigorous quantitative research assessing magnitude and frequency of constructs AND rigorous qualitative research exploring the meaning and understanding of constructs;
- Utilizes multiple methods;
- Intentionally integrates or combines these methods to draw on the strengths of each; and
- Frames the investigation within philosophical and theoretical positions (Creswell 2011).

Mixed methods research is typically conducted by a team of experts. The research question(s) determines the needed composition of the team. The way in which team members work together to conduct the research can differ. Rosenfield (1992) distinguishes among types of teams and suggests that a team may progress through these “levels” over time:

- Multidisciplinary – researchers work in parallel or sequentially from a disciplinary-specific base to address a common problem;
- Interdisciplinary – researchers work jointly but from disciplinary-specific bases to address a common problem; and
- Transdisciplinary – researchers work jointly using a shared conceptual framework drawing together disciplinary-specific theories, concepts, and approaches to address common problems.

The capacity of a mixed methods research team takes time to develop. The development process is organic and deserves attention in its own right. The team leader should help foster a broad perspective by team members of the utility of different methodologies. Team members should be sensitive not only to the specific role each member plays but also to how their roles are interrelated. As work progresses, team members gain an understanding of each other’s capacity and workload. Adjustments can be made to accommodate individual work styles and non-project demands. This shared understanding then fosters more effective data collection, analysis, integration, and interpretation. The best results occur when there is significant engagement by each team member in the majority of tasks related to the project. These elements have been essential to our team’s development, enabling us to work jointly to address common problems.

Application of Mixed Methods to Understanding Health Care Delivery Model Transformation

The purpose of our study was to document the process of practice transformation within an integrated network of university-owned, primary care practices at the University of Utah (i.e., the Community Clinics). The transformation was to what we call Care by Design™ (CBD), our version of what is now known more generally as the Patient Centered Medical Home (PCMH) model. In studying this transformation, our aims were to:

- Document and measure the transformation process and impact on quality of care delivery;
To address these aims, we designed a mixed methods study to assess the transformation process in the Community Clinics and the outcomes of the transformation for stakeholders. In our data collection and analysis, we intentionally used both qualitative and quantitative methods.

In this paper we describe our sources of data and some of the challenges we encountered with collection of each type of data. We also provide some examples of the ways in which our mixed methods informed each other and generated new insights.
Transformation Process
Experiences With Change

Archival Search

Clinic Characterization Audit

In-Clinic Observations

Employee Interviews

Leadership Interviews

Patient Focus Groups

Meeting minutes
Training materials

• Patient Satisfaction
  • Patient Satisfaction with the visit

• Team Development Instrument
• Maslach Burnout Inventory
• Organizational Culture Assessment Inventory
• Clinician Support for Patient Activation Measure

Patient Satisfaction

Employee Surveys

Transformation Process

Experiences With Change

Leadership Interviews

• Process and Experience
• Lessons Learned
• Adaptations and Innovations
• Culture and Values
• Success Metrics and Incentives

Archival Search

Clinic Characterization Audit

In-Clinic Observations

Employee Interviews

Leadership Interviews

Patient Focus Groups

Meeting minutes
Training materials

• Patient Satisfaction
  • Patient Satisfaction with the visit

• Team Development Instrument
• Maslach Burnout Inventory
• Organizational Culture Assessment Inventory
• Clinician Support for Patient Activation Measure
Assessing the Transformation Process

Figure 1 shows the data sources we used to assess the transformation process. We used the archival search, the clinic characterization audit, and the in-clinic observations to document the transformation process and describe the context in which it took place. We used employee interviews, employee surveys, patient satisfaction surveys, and patient focus groups to explore participants’ experiences with change. Finally, we conducted leadership interviews to identify key moments in the transformation as well as to explore leadership’s experience with leading and managing this change process.

Archival search of planning documents. We analyzed meeting minutes and other historical documents to gain perspective on the evolution of our care model over time. Some of the issues we encountered in accessing this information included changes in format (from detailed record of discussion to minimal agendas that identified only the person responsible for leading discussion of the topic) and gaps in records (monthly meeting minutes unavailable for certain time spans). Importantly, many decisions were made “off-line” so there was no documentation of ensuing discussions.

Clinic characterization audit (CCA). We gathered background information about each clinic including its size, patient volume, the composition of its care teams, the presence of specialists, and presence of ancillary services. We designed and distributed a web survey to all clinic managers to obtain this information. We faced challenges in following up with the clinic managers to obtain 100% completion. Where possible we triangulated with other objective data to validate the managers’ input. In some cases misunderstanding of questions led to non-comparable data (for example, to a question about number of different types of personnel, responses included both number of full time equivalents (FTEs) and body counts).

In-clinic observations. We conducted observations at each clinic to gather information about the “feeling” in the clinic. Data collection included touring the clinic and “hanging out” for 1-3 days to observe patient flow and care team interaction. We encountered challenges with regard to the uniformity of experience (i.e., on the day of our observations one clinic was hosting a group of family
medicines and residents; at another clinic a visiting scholar from China attended to observe our observation process. We also recognize that it was difficult to observe “everything” during a short observation visit.

Employee interviews. We conducted confidential in-person individual interviews with providers and staff (n=46) regarding their personal experience with implementing the new care model. We focused specifically on their experiences with care teams and their experimentation with local adaptations to the model. We faced challenges in scheduling these interviews in the context of busy clinics. Also, during the interview, some participants seemed less forthcoming in the interview and appeared rushed to “get back to work.” Although we presented the interviews as a time to provide confidential feedback to clinic leadership, not all participants took advantage of this opportunity.

Leadership interviews. We interviewed clinic leadership including medical directors, clinic managers, and senior leadership (n=40) regarding their personal experience with leading the care team roll out and managing the evolution of CBD. A particular challenge we faced with these interviews was “presentism,” that is, using today’s lens to reflect on the past. Additionally, each member’s unique role tended to impact their recollection of the transformation process.

Employee survey. We conducted an employee survey to assess trends in team development, employee burn out, and organizational culture. The survey was distributed during staff meetings at each clinic and resulted in a 75% response rate. Some of the challenges we encountered included obtaining licenses for standardized instruments and keeping the survey to a reasonable length. Additionally, identifying staff members’ main care team was challenging as some staff worked with multiple teams.

Patient satisfaction surveys. The Community Clinics conduct patient satisfaction surveys that are triggered by a clinic visit. A challenge we faced with these data was that the Community Clinics had recently switched from mail to e-delivery of the survey. We noticed our sample population change as the e-surveys appeared to be reaching patients with different demographics than those who typically responded to the mailed surveys. We also observed an over-representation of frequent users.

Patient focus groups. We conducted focus groups with patients to assess their perceptions of changes implemented and how those changes impact them. We encountered three challenges. First, recruiting patients was difficult as IRB rules constrained our ability to contact patients. Second, patients did not always notice changes made in the clinics and thus had a difficult time identifying changes and their impacts. Third, patients’ concerns sometimes went beyond the scope of research.

Assessing the Transformation’s Outcomes

The data sources used to assess the transformation outcomes are portrayed in Figure 2. We used data from our CBD Implementation Assessment tool to document the extent to which our new model of care had been implemented. We used data obtained for operational purposes to assess the impact of this implementation on quality as measured by patient, provider, and staff satisfaction and by measures of care processes and health status. We also used operations data to assess the costs to the clinics of providing this care, including provider productivity and clinic financial performance. Finally, we have obtained data from CMS and are obtaining data from Utah’s All Payer Claims Database and will use these data to assess overall cost of healthcare services, including direct costs to patients.

CBD Implementation. We used a combination of observations, chart reviews, and electronic medical record (EMR) data to assess the degree to which individual clinics have implemented CBD. We compiled these into an implementation assessment instrument that describes use of ERM tools such as Best Practice Alerts, templates for documenting patient histories, and After Visit Summaries, same day appointment availability, continuity of care with a patient’s primary care provider, providers’ use of pre-visit planning tools and processes, flow and functions of the care team, and efficiency of visits including wait times. These assessments are labor intensive and required extensive observer training to ensure high quality data.

Clinical data. The clinics collect a variety of clinical data for operations purposes to assess outcomes. Patient, provider, and staff satisfaction data are key measures of quality. In addition to the patient satisfaction data described above, we conducted provider and staff satisfaction surveys annually. A challenge we faced with these data is that they are aggregated to the clinic level so it was not possible to assess satisfaction at the care team level. We also collected performance data on a set of 23 clinical quality metrics for chronic and preventive care. These metrics are reported quarterly and include both process (frequency of testing of HbA1c) and outcome (HbA1c in control) measures. A challenge we faced with use of these measures was the need to de-identify all clinical data prior to sharing them with the research team.

Operational data. We assembled a variety of data on provider productivity, financial performance, and
characteristics of our patient population. These data are readily available as they are generated at least quarterly by clinics operations staff. In analyzing impacts, it is important to carefully match the timing of these data to the timing of the CBD implementation data collection in order to get meaningful results.

Cost and utilization. In order to assess cost and utilization of care we acquired data from CMS for all Utahans 65 and older and are obtaining data from Utah’s All Payer Claims Database (APCD) for Utahans under age 65. Acquiring these data required navigating layers of documentation, requests, and approvals for CMS and obtaining IRB and other database approvals for linking sources of data. As one of the first users of the APCD, we have assisted in building the infrastructure for that database. This required creating files linkable at the individual level and linking data from hospital discharges, ED visits, and vital statistics to create a comprehensive database. We continue to work closely with Utah Department of Health to translate APCD from a utility into a usable research database.

Insights From Mixed Methods

Triangulation among our various data sources yielded important insights that would not have been possible without the integration of findings from these different sources. As an example, one of our interests was to understand how care teams were being used in our clinics. CBD envisions a model in which 5 medical assistants (MA) support two providers, with one MA staying with a patient throughout the visit, documenting the patient’s medical history in templates in the EMR and scribing for the provider during the visit. During our personal interviews with providers and staff we discovered significant variation across clinics in how care teams personnel reported on the organizational culture of the clinic where they worked. Data from this survey suggested there were important differences across the clinics with regard to the extent to which they were internally or externally focused and the degree to which they were motivated by control versus flexibility. These data helped us understand the ways in which different clinics have implemented the care team concept.

Our mixed methods were also helpful throughout the project to fine tune data collection. Information gathered through our patient focus groups suggested questions for us to address in our provider and staff interviews. Observations and information collected in our Clinic Characterization Audit revealed issues on which to follow up in our provider and staff interviews. We plan to use data from the Clinic Characterization Audit in conjunction with the CMS and APCD data to help us understand cost and utilization patterns.

Discussion

We learned several lessons through the implementation of a mixed methods design for our project. Although members of our research team had been working together for several years, engagement in a mixed methods project enabled us to evolve organically into a truly interdisciplinary research team. We all now have a much better appreciation of each others’ strengths and expertise. We have learned how to effectively use multiple methods to address the same aims from different lenses. We are able to combine data from multiple methods intentionally to answer our questions. These developments have been useful in allowing us to grow as a research team, to be better prepared to explore the complexities involved in health services redesign, and to use triangulation to gain a fuller understanding of the transformation process.

References


Forming International Strategic Alliances in a Health Care Context: The Case of the U.S. and India

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This paper will focus on forming global strategic alliances between the developed markets (i.e., the U.S.) and the emerging markets (i.e., India). The paper will: 1) provide an overview of critical strategic and tactical dimensions for successful strategic alliances - the PRODEMSTRA Model (an alliance framework developed by the authors); 2) demonstrate the PRODEMSTRA model in forming strategic alliances between enterprises in the developed world and emerging world with a specific focus on U.S. and India in a health care context; and 3) offer managerial implications and future research directions.

Introduction  
As domestic markets continue to mature, international markets are now attractive growth targets for many firms that previously had not considered overseas opportunities. More and more, small to medium sized enterprises (SMEs in the U.S. and elsewhere), which constitute significant employment and profit generating organizations are venturing into, or at least considering, international markets as future prospects (Moen and Servais 2002). However, while larger firms, with their considerable global experience and clout are adept at many of the requirements for entering overseas markets, entry for SMEs into new and complex environments is often perceived as risky if not daunting (Etemad 2004). Faced with differing political and legal climates, disparate social and cultural norms and diverse levels of technological acceptance and product standards, international markets can represent confusing, if not intimidating business environments for the uninitiated (Kornoe, Kristensen and Houman 1999). In such environments, many SMEs find themselves in need of guidance.

For these and other reasons, models and methods that offer SMEs the means by which seemingly enigmatic international markets can be approached and analyzed have long been valued (Ohmae 1989). One well-known strategy for expanding overseas calls for firms to seek foreign market success by developing mutually beneficial relationships or partnerships with non-domestic counterparts who are indigenous to the markets of promise (Ali 1991; Badaracco 1991; Barrett 1992).

There are many different forms of partnerships from which any organization seeking entry or expansion into foreign markets may choose. Export/Import or Supplier/Buyer Partnerships are often the choice of the less venturesome, more risk adverse organizations. Here terms are offered under which one firm, typically the importer/buyer, has the exclusive right to distribute goods and/or services of the exporter/supplier. These agreements may be somewhat limiting as they tend to restrict the number of functions performed by either partner (e.g., product development, market research, promotion, pricing, etc.), and thus they can dampen the opportunity for strategic synergies within the partnership. Another option involves Trademark and/or Licensing Agreements where use of patent, copyrights, brands, logos or technologies is granted in exchange for monetary fees or royalties. These agreements, while at times highly successful (particularly for organizations with limited investment capital or those entering developing markets where risks are perceived to be too high to warrant significant direct investment), tend to also be somewhat limiting because they foster only a one-sided exchange of information, and thus again dampen long-term exploitation of each partners’ comparative strengths.

Still another option, Joint Ventures, involves firms entering into relationships with the objective of blending their respective organizations around specific projects. This option typically requires a significant initial (and often ongoing) capital investment, collective decision making (both strategic and tactical), and shared managerial control over all operations. However, the initial good intentions of joint venture partners can often lead to protracted negotiations and strained trusts. Still another option, similar to, yet distinct from joint ventures is the
Alliances, which have been touted for many reasons including its ability to help firms cut costs, accelerate their product's speed to market, build flexibility, monitor and neutralize competitors, and reduce risks by enabling firms to compete for business without committing enormous capital resources. Strategic alliances give firms access to the capabilities of other organizations but require less loss of individual identity than typical joint ventures because there is not a complete integration of the two organizations engaged in such alliances. Instead, a strategic alliance seeks to blend each partner’s strengths such that all parties benefit (for a comprehensive review of the full array of overseas partnership options and their pros and cons see - Hoffmann and Schlosser 2001).

Today, many universities are facing the same issues as SMEs, particularly smaller university departments that wish to connect with compatible universities abroad in an attempt to better their programs and expand their offerings. As student mobility increases, developed and developing countries alike are realizing the importance of international education (Lavakare 2011). Particular reasons to consider international partnerships, especially in the higher education arena, include the enhancement of academics and research that will occur by bringing the best minds together, regardless of location, as well as the international recognition that international collaboration will bring. The forces impelling this embrace of international partnerships can be grouped into two overarching themes: 1) growing recognition that academic internationalization is as much a process of outward engagement as internal restructuring, and 2) the increasing need for academic institutions to position themselves within emerging global systems of higher education (Sutton and Obst 2011).

Successful partnerships require special skills, considerations and efforts in order to assure the necessary cooperation needed to harness the respective potency of each partner (Whipple and Frankel 2000). It is most important to select partner institutions that can accommodate your institution’s needs and view potential activities with your institution as critical to accomplishing specific goals (Klahr 2011). Among the most important tasks in developing effective international partnerships is finding the best match for your institution. The question is: What constitutes the best match for your particular institution, and what are the expectations for the partnership (Klahr 2011)?

While work in the general area of partnership management and control has a respectable history, particularly for larger firms (Day 1995; Gabarro 1987; Tomlinson 1970), there remains a need for a parsimonious yet comprehensive model designed to systematically aid institutions in their search for potential international partners (Thorne and Wright 2004). What dimensions should an institution investigate in order to improve their chance of a good “fit” between itself and a promising overseas ally? What are the critical issues underlying each dimension and how should specific criteria be weighted when screening potential partners?

This paper attempts to address such questions from the perspective of strategic alliances for SMEs that have marginal experience with overseas partners. Later we will examine a case between a small university department that is seeking to form an international strategic alliance with an institution in India. The PRODEMSTA model is proposed and discussed as a method for examining overseas alliance feasibility for SMEs.

Figure 1 and 2 depict the model developed to guide the discussion in this paper. The model draws upon a wealth of past works (Badaracco 1991; Barrett 1992; Day 1995; Gabarro 1987; Harrell and Kiefer 1981; Moen and Servais 2002; Thorne and Wright 2004; Tomlinson 1970; Robson and Katsikeas 2005), and attempts to bring a
comprehensive perspective from previous research to aid SMEs in the screening and selection of overseas strategic alliance partners. The PRODEMSTA model seeks to provide guidelines for smaller and medium-sized firms, to systematically think through their international alliance options. Through a discussion of specific strategic and tactical dimensions, the model poses a series of issues related to examining the compatibility of any SME with that of an overseas counterpart. PRODEMSTA is systematic in that it seeks to “progressively” build a logical sequence of considerations related to analyzing the feasibility of one alliance option in light of others. All dimensions presented in the model require managerial assessment and evaluation, and lead ultimately to a graphic representation of results that clearly define the relative positions of alliance options. We begin with an overview of the model primary dimensions.

**Strategic Congruence**

When investigating what could potentially be a long-term, international relationship, SMEs are advised to first examine a set of strategic dimensions that help grasp the global, regional and country specific “environments” where potential allies exist and that affect the way potential partners operate. This is then followed by an examination of the “organizational cultures” of potential allies (see Figure 1). The overall objective is to identify the degree to which two (or more) potential partners have “strategic congruence.” The underlying premise is that any lasting relationship requires a congruence or “fit” of business opportunities, along with compatible missions, values and goals. The PRODEMSTA Model defines these dimensions as “strategic” because of they are associated with the realities of the environments in which an alliance will exist and with the long-term vision and long-range plans of potential allies.

As shown in Figure 1, strategic congruence is assessed along two sub-dimensions namely Alliance Environments (entailing Global Opportunities and Region/Country Opportunities) and Organizational Culture (entailing Company Mission and Objectives, Historical Performance, Competitive Position, and Market Orientation). Alliance environments are presented first because SMEs are advised to examine the larger macro-surroundings (global, regional and country specific) in which an alliance will exist, before proceeding to the micro-firm level analysis (labeled “organizational culture”) to assess the compatibility of specific allies.

When considering overseas alliance options, SMEs should identify “global opportunities” that may exist for growing their business. What are the macro-level trends, possibilities and challenges that exist in overseas markets and overseas sources of supply? Since the advent of “globalization” (considered by many to be represented by the fall of the Berlin Wall in 1989 – see Friedman 2005) the number of individuals engaged in some fashion with international commerce has expanded from around one billion to somewhere between three and four billion (Bornstein 2004). Today, eighty percent of consumers, world-wide, live outside the “developed world” and sixty-two percent of all workers are located in the “developing” or “underdeveloped world.” East Asia and particularly China is considered the most robust manufacturer in the world; South Asia and particularly India has grown as a premier back-office, information systems, global data-processing powerhouse in the world; and Latin America and particularly Brazil is considered the next “bread basket” and major supplier of world food (Czinkota, Ronkainen and Donath 2004; Rosensweig 1998). Over the last thirty years, all these regions have opened, to one degree or another, their markets to global trade and competition and have witnessed a significant growth in their middle-classes and commercial activities. The critical issue here for an SME considering an overseas alliance is – how clear is our understanding of global opportunities (and challenges) brought on by these trends in the world as a whole and in the regions noted, and what do these trends mean to our company’s strategic growth, if not overall survival? Knowing the world and its regions macro-level realities is the first step in finding good overseas partners.

Once this larger environment of global business has been grasped, firms seeking an overseas presence should next examine specific areas (“region or country opportunities”) of promise in more detail. This can be difficult for SMEs, particularly those with limited international experience, due to the complexities and turbulence that is often seen in overseas markets. An understandable tendency of SMEs is to only look at international markets or sourcing opportunities that are geographically or culturally near them (Buckley and Casson 1996), or to embrace opportunities that represent unsolicited inquiries for overseas (Cullen, Johnson and Sakano 2000). However, as noted globalization, over the last fifteen-plus years has lifted billions of people out of abject poverty and created significant numbers of middle-class consumers and business buyers in markets where once
none existed, and it has also created enormous opportunities for sourcing (Robson and Katsikeas 2005). Thus, ad-hoc analysis or the embrace of “serendipitous” international solicitations may result in spotty results or missed opportunities.

Analysis of regional/country options that span a broad range of markets can help SMEs focus their priorities and weigh the risks that inherently come with overseas alliances (Wood and Robertson 1999). A number of strategic considerations should guide such analysis including whether or not specific regions or specific countries - a) have the necessary demand, or sourcing facilities for an SME’s products or services (i.e., general market potential considerations including level of market development, product/service adaptation requirements, general level of competition, and sourcing quality and reliability), b) are open to an SME’s business at all (i.e.; legal issues including tariffs/taxes, non-tariff barriers, patent/copyright/trademark protection), c) are going to remain open to an SME’s business (i.e., political issues including stability, diplomatic relations and internal policies toward private business of foreign governments), d) are conducive to an SME’s entry (i.e., infrastructure issues including availability and sophistication of manufacturing, assemble, distribution and communication technologies), e) are evolving and thus have long-term potential (i.e., economic issues related to overall development and performance of a foreign market and levels of general production and consumption in a foreign market) and f) are internally harmonious (i.e., cultural issues including general level of cultural unity and differences in a foreign market).

The overriding objective of undertaking this analysis is to narrow down world-regions or countries to those that are most attractive to an SME in light of its specific competitive strengths (Harrel and Keifer 1981, Wood and Robertson 1999). Once the global, regional and country examination is complete, the stage is set for more detailed analysis focusing on the “organizational culture” of potential allies.

Analysis of “organizational culture,” (the second sub-dimension of strategic congruence – see Figure 1) assumes that within an identified region or country, the SME has identified a number of candidate allies. Such candidates could arrive on an SME’s list of possible partners from many sources (see Aharoni 1999) and could represent numerous options (market entry partners, manufacturing/assemble partners, etc.) The goal at this stage of analysis is to systematically select the ally or allies with the best strategic fit relative to the SME’s long-term plans.

In many respects, organizational culture defines the personality of a company. Organizational culture reflects what a firm believes in, values, and is willing to sacrifice in order to achieve its goals (Hunt, Wood, and Chonko 1989). In this context, examination of a potential allies’ organizational culture can provide a sense for where it have been, where it currently is, where it plans to be and if it can realistically get there. It also allows an SME to assess the degree to which a potent partner or partners are strategically compatible. Such compatibility is not a one-way street. Often organizations are required to make dramatic changes in their own cultures and subsequent policies if an alliance is to be successful and as such SMEs, particularly those uninitiated in the ways of foreign counterparts, need to assess their understanding of their own culture (as well as a potential partner’s) and their willingness to change, if such is required to blend successfully in an international alliance (Badaracco 1991).

Organizational culture in the PRODEMSTRA model begins with analysis of potential partners “mission and objectives” which reflect a firm’s ideology. Objectives are typically derived from mission statements that specify a firm’s shared values, principles and purpose for existing. Although many SMEs may not have articulated a mission statement themselves, it is important for them to assess the underlying standards, ethics and beliefs that a potential overseas partner holds dear and compare them to their own. For example, organizations may differ in terms of their work ethic, their moral values, their management beliefs, and the degree to which they are dogmatic or open to other standards.

A careful examination of a potential allies stated mission and objectives can provide understanding into the nature and extent the planning undertaking by them. It can lend insight into their degree of professionalism. Clearly articulated missions and objectives indicate the degree to which potential partners have thought about their business, attend to detail, focus on perceived competencies, embrace diversification, have entrepreneurial tendencies and are long-run versus short-run in orientation. The critical issues here for an SME seeking an overseas alliance include – how articulate and passionate are potential partners with respect to their mission and values, how well does my company’s “reason for being” match up with that of potential partners, and how compatible are our professional standards?
Strategic incongruence in these areas can derail an alliance from the beginning.

“Historical” examination of potential partners’ “performance” is the next factor to access. While missions and objectives provide a feel for compatibility of purpose, passion and professionalism between potential allies, historical performance provides evidence of such. In examining this component of strategic congruence, both quantitative and qualitative aspects of past performance should be considered. Quantitative factors such as historic production capacity, profitability, sales volume, market share, cash flow, capital reserves, employee turnover rates and related trends help delineate the future possibilities of a partner. Qualitative factors such as embrace and successful use of technology, research and development achievements, market entry methods, number of and performance in past alliances and management policies (for example, policies related to hiring, firing and promotions), help delineate an organization’s embedded culture (e.g., collective-authoritarian, aggressive-passive; leader-follower, traditional-modern) and the balance that exists within a company between risk aversion and risk taking. Like many of the dimensions proposed in the PRODEMSTRA model, the degree to which past performance is congruent between potential allies may be viewed as positive or negative, depending on intentions. An SME seeking to energize a risk adverse culture (one that has shied away from overseas markets) may gravitate towards a partner with a history of “going out on a limb.” On the other hand, a company seeking a status quo approach to business practices and new international initiatives might seek out a partner with a history that mirrors its own. The critical issues here for an SME include – does a potential ally’s historical performance match its stated mission and objectives, and does such performance lend itself to our company’s objectives overseas?

Strategic congruence from the organizational culture perspective should next be assessed through “competitive position” which addresses a series of issues including number of competitors in a given market, a potential partner’s share and growth rate in markets of interest and the efficiency/effectiveness of a potential partner’s marketing, manufacturing, distribution and communications. Competitiveness reflects contribution to margin on products and services, limitations or restrictions to business expansion, market power (particularly in channels of distribution) and future potential for all of these. Assessment of such factors lends insight into an ally’s reputation and ability to differentiate his or her operations vis-à-vis competitors in a given market, market niche or industry. An ally’s competitive position helps in the understanding of how their consumers or buyers perceive them, and how they perceive the substitutes available to them in a given market. Care should be given to analyzing these factors for local, national, regional or even global influence in which a strategic partner may be operating or considering operating. The critical issue here is – will my ally’s competitive position enhance or hinder my company’s ability to achieve its goals and succeed in overseas markets?

The ultimate factor to be examined when assessing a potential ally’s organizational culture for strategic congruence is “market orientation.” Common wisdom holds that any firm that increases its market orientation should improve its market performance. Indeed, this claim has been put forth by scholars and practitioners for more than 40 years (Levitt 1960). Market orientation is considered to be at the very heart of successful, modern marketing strategy (Jaworski and Kohli 1993). It represents an amalgam of a firm’s mission and objectives, historic performance, competitive position and is the sub-dimension of organization culture that reflects a desire to provide superior value to customers, buyers, partners and associates. It reflects the degree to which top management emphasizes and is committed to improving performance at all levels. Market orientation has been depicted as the drive of top management to build intra-firm connectedness (a culture) that sustains higher quality, and continually increases quality, and tie the realization of such directly to the reward systems within their company (Jaworski and Kohli 1993; Narver and Slater 1990). It entails the degree to which a firm focuses upon fulfilling needs, as opposed to sales, products or technologies.

The development of a market orientation within any firm, while primarily affected by top managements’ commitment to such, can also be affected by the larger environment in which a potential ally operates. For example, market orientation has been associated with the level of integration, the degree of regulations and public sector oversight, protectionist tendencies, level of national identity, language differences, local business traditions, and local approach to marketing education within the regions served by an organization. The central issues here are – does my potential ally’s organizational culture reflect an enthusiasm for creating value and improving upon such
value, and does this passion exist throughout their organization?

**Tactical Congruence**

Strategic congruence analysis requires an organization to assess the alliance environment as a whole (global, regional, country opportunities) and to assess the cultural compatibility or “fit” of potential allies from the perspective of their mission, objectives, historical performance, competitive position and market orientation. These assessments are designed to understand the long-term potential of potential partnerships. Assessment of tactical congruence is designed to understand the short-term, day-to-day workings of potential partnerships. If a potential partner or partners meet, or exceed the level of strategic congruence defined as acceptable by a firm’s decision makers, then those potential partners should be subjected to tactical congruence analysis (in some cases, potential allies that fall short on strategic congruence level, may also be examined for tactical congruence depending on the time-period in which an alliance might exist).

Tactical components of the PRODEMSTRA model (Figure 2) include those resources (human, technological and financial) and policies/practices (company structure, daily operating procedures) that determine the degree to which an on-going, day-by-day compatibility between allies is possible. Analysis of these dimensions is undertaken to assess the “tactical congruence” between the two or more partners with respect to their operational assets.

The first variable to be examined for tactical congruence focuses on the human element, or the intellectual and skill capacities of those who will be managing and directing an alliance once it is established. In order for two organizations to learn, create and grow by strengthening specialized capabilities, personnel from each must work closely and smoothly together and their respective human capital should be on a “life-long” learning track (Badaracco 1991). Therefore the experience, knowledge, flexibility, adaptability, language fluency, cultural awareness and commitment that people on each side of an alliance bring to the partnership table are very important. If a potential partner’s human assets are rich and nurtured (deep in number, broad in talent and continually being upgraded), this may compensate for any disparities or gaps that may exist in other tactical variables noted in the model. However, any SME who is new or somewhat novice in the international arena should be cautious when forming an alliance with a firm whose only tactical strength is its human resource pool. Like strategic considerations, there must be a balance of all tactical variables noted in Figure 2. The critical issues here from an SME include – does a potential ally have the human capital that understands and can respond to the marketplace, the channels of distribution, and the sales and negotiating methods in the overseas arena? Do they know the competition, exude customer service and have experience in overall business management methods? Can they do the work that is needed on a day-to-day basis and are their skills being upgraded to do the work that will be needed tomorrow?

Technology assets must also be identified in the pursuit of a viable ally. Human capital without the backup of technology will struggle to achieve success in today’s global business environment. SMEs, whose travel budget may not be as significant as those of larger firms, may be very dependent on technology to communicate (plan, manage and monitor) with an overseas ally. As such, there must be compatible and current technology available and operational between two or more firms in an international alliance (at a minimum e-mail, web sites, telephone and fax related to internal and external communication should be in place). Depending on the nature of the alliance, this component of tactical congruence should also focus on the degree of similarity in technologies related areas such as research and development, production (manufacturing and/or assembly), infrastructure, marketing, computers and information systems technology related to data management, reporting and tactical responses to everyday events. The rate at which a potential ally keeps up with newly developed technologies may also be important, again depending on the industry and market in which the alliance will operate. The critical issues here include – do my allies have access to the necessary technology required for business in the overseas market of interest, and are they embracing technology in the critical areas of their operations?

Tactical congruence with respect to the financial assets of a potential overseas alliance represents the degree which each partner has the “cash flow” ability to remain in business on a day-to-day basis, and meet the monetary requirements of a growing operation. Financial assets of potential allies can initially be examined on a general quantitative basis with an assessment of their financial reports (income statements, balance sheets, cash flow – retained earnings/equity leverage, etc.). An ally’s return of
investments (ROI), financial ratios, insurance availability, credit ratings, and government loans or other outstanding debt and overall profitability should also be investigated. For any SME, special care is advised in evaluating a potential ally’s financial reports because very often accounting practices and reporting requirements vary from country to country and may, in some cultures, be distorted in order to put forth a more favorable financial profile. For this reason, full use of due-diligence procedures, including the speaking directly with a potential ally’s suppliers, buyers, bankers, and other partners and associates to gain insights in the true financial “character” (both the bottom quantitative line, and the qualitative “trustworthiness”) is recommended. The critical issues here are – do my potential allies have the financial strength to meet the short-term requirements of our partnership, and are they financially trustworthy?

Organizational structure (the final dimension proposed in the tactical congruence side of the model), like other variables may be strength or a weakness when considering an international alliance. The key here is to assess the degree to which a potential ally is flexible or ridged in its established hierarchy and if it is capable of responding to opportunities and challenges in a timely manner due to it level of delegation of decision-making power. The best organizations, the most successful in today’s globalized, fasted paced business environment have moved from a “command and control” structure to a “command and connect” structure, one in which shared knowledge is the key to superior results and where individuals at all levels in an organization are encouraged and empowered to make tactical decisions in a timely manner (Friedman 2005). The critical issues here are – do my potential allies have an organizations structure and daily operating procedure in place to respond quickly to market demands and competitive moves?

Plotting Potential Partners

The end result of this kind of exercise should be a graphical depiction of alliance options along a two dimensional matrix. Figure 3 depicts the general guidelines for approaching any alliance that falls within a specific cell in the matrix. All potential partners should be identified and arrayed on the high-low continuum of strategic and tactical congruence.

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**Figure 3**

<table>
<thead>
<tr>
<th>Strategic Congruence</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consider if Strategic Congruence Can Be Improved</td>
<td>Invest / Grow</td>
<td>Tactical Congruence</td>
</tr>
<tr>
<td>Selectivity Strategies</td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Discontinue Consideration / Divest</td>
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</tbody>
</table>

The conceptual simplicity of presenting the combination of strategic and tactical congruence positions provides international planners with a parsimonious depiction of the options, and guidelines related to such options that they face. Potential alliances that fall within the Invest/Grow cell call for SME’s commitment to a strong partnership. Those falling into the Discontinue Consideration/Divest cell call for SMEs to eliminate such options from further deliberation or in the case where an existing alliance fall within this cell, to harvest what profits still remain possible in the partnership and withdraw from the relationship. Alliance options that fall in either the “high strategic congruence/low tactical congruence” or “low strategic congruence/high tactical congruence” cells should not be completely abandoned but should be monitored for future changes in either the long-term outlook of a partner’s environment, or the short-term, day-to-day situation of that exists within a partner’s operations. Finally those falling into the Selectivity Strategy cell call for SMEs consider moving forward with a potential alliance, or to maintain the current alliances with such partners, if no clearly superior options exist.

**The Case of Virginia Commonwealth University**

Having discussed the strategic and tactical dimensions of the PRODEMSTRA Model in detail, we now examine how they relate to a real world situation. Consider the case of the Department of Health Administration at Virginia Commonwealth University: our underlying
assumption at this point is that evaluation of global market opportunities based on concepts such as the “golden straight jacket” and “market opportunities” and “competitive strengths” has led the VCU Department of Health Administration to seek a strategic alliance with a university in India. There are, however, a set of challenges facing the VCU Department of Health Administration that need to be dealt with if this department and its global vision are to be realized, particularly the challenge of finding an Indian institution that is compatible in regards to the dimensions described by the PRODEMSTRA Model.

To deal with these challenges, we first present an overview of the VCU Department of Health Administration, and then look more carefully at the strategic and tactical dimensions of the department as well as the critical issues related to each dimension. Our goal in doing this is to ultimately determine what the VCU Department of Health Administration should be looking for in terms of an international strategic ally.

The VCU Department of Health Administration includes three major programs: the Master of Health Administration Program, the Doctor of Philosophy in Health Services Organization and Research Program, and the Professional Master of Science in Health Administration – Online Program. The Master of Health Administration Program (MHA) will constitute our primary focus. For those considering a graduate degree in health administration, there are ten primary reasons why they should choose the MHA Program at VCU (Reasons to Choose VCU 2010):

1) **Reputation** - As one of the oldest programs in the nation, the VCU MHA Program is continuously accredited by the Commission on Accreditation for Healthcare Management Education (CAHME) and consistently ranked by US News & World Report in the top five health management programs.

2) **Administrative Residency** - The VCU MHA Program offers the opportunity for a one-year, paid Administrative Residency to learn from a senior level health care executive who has a commitment to mentorship. Students are assisted with placement in residencies in a variety of health care settings and geographic locations.

3) **Cutting-Edge Curriculum** - The curriculum is carefully planned and frequently updated to reflect the rapidly changing health care industry. All courses are designed with application to the management of diverse health care settings and ownership types. Learning methods include case study, lecture, group projects, community projects, experiential learning and on-site assignments in Richmond’s health care organizations.

4) **100% Job Placement** - Most of the graduates are hired into a job where they did their administrative residency. This usually serves as an entry level placement for an early careerist.

5) **Outstanding Alumni/ae** - From mentors to preceptors, alumni/ae of the VCU MHA Program have a long record of engaging with and supporting current students and recent graduates. The program has more than 2000 alumni/ae representing every sector of American health care.

6) **Affordable Tuition** - Tuition and fees are lower than non-resident tuition for other top-ranked programs.

7) **Internationally Renowned Staff** - the departments full-time and part-time faculty members provide exceptional teaching while conducting nationally recognized and funded research programs.

8) **Great Location** – Richmond, capital of Virginia, affords VCU students the benefits of a thriving metropolitan city. The city’s intimate neighborhoods, quaint cafes and local markets, and beautiful setting along the James River are also within a 2-hour driving distance from the ocean, mountains and Washington, D.C. Further, Virginia was ranked as America’s top state for business by Forbes.com in 2009, and ranked second in 2010-2011. Richmond was ranked as one of the 20 best cities of its size for young professionals to live and work by Next Generation Consulting in June 2009.

9) **Student Life** - Students enjoy small class sizes and a strong support network comprised of faculty, staff, alumni/ae and fellow students. Outside of the classroom, students are heavily involved in community service projects, fundraising, recreational activities, and professional organizations.

10) **Professional Developing Coaching** - Through the three-course Executive Skills sequence, students conduct self-assessments to identify areas for development, explore relationships with external health care organizations, and develop skills necessary for health care leadership and change management. In addition, faculty and alumni/ae serve as resources to aid students in exploring career opportunities and in preparing for the residency selection process.

**Strategic Congruence Dimensions of the VCU Department of Health Administration**

The first strategic dimensions to consider are those that fall under the “alliance environment” These are a
The VCU Department of Health Administration has decided that India holds the most promising opportunities. VCU, as any organization in this same position, will need to continue to monitor the country closely to make sure there are not any changes within the country that might affect the proposed strategic alliance. Things to look for include signs of future instability within the country (political, economic, or social), possible changes in demand for the program, or lack of support for the proposed alliance (among students, staff, faculty and local community).

Once the alliance environment has been agreed upon, the VCU Department of Health Administration should look for an institution with a compatible mission and values. The mission of the VCU Department of Health Administration is: educating the next generation of health administrators and enhancing the skills of the present generation; preparing a new generation of health services researchers and educators; creating and disseminating basic and applied knowledge about the management, organization, financing, function, and performance of the health care system; and serving people in the public and private sectors of the health care system (Mission 2010).

The overall purpose of the Department of Health Administration is to provide educational programs and services related to the organization and administration of health services (History 2010). Compatibility of the overall missions of the potential partners sets the foundation for the entire partnership; VCU needs to look for an institution that will compliment its own goals and objectives in order to be successful.

The historical dimension provides the evidence as to how committed an organization is to its stated mission and objectives. For a successful partnership, VCU needs to look closely at institutions that already have a medical presence, or have a stated desire to improve or develop a health care administration program. Most importantly, VCU needs to look for institutions that have the same passion that VCU has about health care. At VCU, Education in health administration began in 1949 with the establishment of a graduate curriculum in hospital administration. These early efforts grew and developed into the Department of Health Administration, which was established in 1972. In addition to these educational programs, the Department of Health Administration has a major research program and is involved in a wide range of public service activities, including continuing studies for health services administrators and other health professionals (History 2010).

As one of the oldest programs in the nation, the VCU MHA Program has been continuously accredited by the Commission on Accreditation for Healthcare Management Education (CAHME) and consistently ranked by US New & World Report in the top five health management programs. The VCU Health System is one of the most comprehensive in the national and its physician-faculty, facilities and medical-care programs receive annual recognition from local, regional and national guides and reports on the best health care. Recent graduates earn average salaries between $55,000 to $65,000 per year (this varies with the size of the organization, ownership status, location, cost of living in the area, and scope of duties and responsibilities). Further, VCU is ranked by the Carnegie Foundation as one of the nation’s top research universities (Frequently Asked Questions 2010). In order to get the most out of a potential international alliance with another higher education institution, VCU should look for an institution that is as respected and recognized as itself.

The last strategic congruence dimension to examine is market orientation. The MHA Program curriculum is carefully planned and frequently updated to reflect the rapidly changing health care industry. The Department of Health Administration developed an online Master of Science in Health Administration Program so that health care professionals working full time can earn a Master of Science in Health Administration from anywhere in the U.S. at anytime in a matter of 22 months (Reasons to Choose VCU 2010). VCU has demonstrated commitment to listening to the customers’ needs and an ability to adapt the program to changing needs and environments. Any potential partner should demonstrate a similar enthusiasm for providing the best value to its customers.

**Tactical Congruence for VCU Department of Health Administration**

The first tactical congruence dimension that VCU needs to consider is human capital. The Department of Health Administration includes 13 full-time faculty, 2 administrative faculty, 7 adjunct faculty, 8 affiliate faculty,
and 4 administrative staff members as well as a network of over 2,000 alumni (Faculty and Staff 2010). Virginia Commonwealth University as a whole enrolls more than 32,000 students has 18,218 employees (combined total for VCU and VCU Health System Information) and has a network of over 131,000 alumni (Center for Institutional Effectiveness 2011).

The Department of Health Administration faculty engages in cutting edge research that informs the most pressing issues in health care organization and delivery. They complement scholarly activities in their own disciplines with collaborative multidisciplinary work across the MCV/VCU campuses. They participate in service activities and interact with Department alumni and other members of the state and national health care community. They continually improve their teaching skills through continuing education in pedagogical techniques and technology (Watts 2010). It is clear that VCU has an extensive network of individuals who support and complement the VCU Department of Health Administration in various ways. In order to form a successful international strategic alliance, VCU’s potential partners should have a similar support network as well as have individuals who are familiar with health administration.

The next dimension to consider is technological capital. The VCU Medical Center is a regional referral center for the state and is the region’s only Level I Trauma Center. It has multidisciplinary centers for cancer, cardiology, neurosurgery and transplantation and offers virtually every form of contemporary medical service ranging over 200 specialties (VCU Medical Center About Us 2011). Students in the MHA Program become familiar with the health care environment by working closely with individuals at MCV. In terms of a successful international partnership, VCU needs a partner who has the technological capital to both do business and to develop an excellent and competitive Health Administration Program. VCU needs a partner who has the equipment necessary to educate future health care administrators, and should give particular consideration to those with access to a medical facility and/or hospital.

The financial capital dimension is another important consideration. Virginia Commonwealth University boasts more than $255 million in sponsored research, bringing together faculty experts and student scholars to collaborate across multiple disciplines. In 2011, VCU had a $502 million Education and General Programs budget (Budget Basics 2011). Potential partners should have similar financial support in order to develop the very best MHA Program possible.

The final tactical dimensions that VCU needs to examine are the Company Structure and Daily Operating Procedures. VCU has a fairly typical university structure - the university is divided into schools, each headed by a dean. Each school is divided into departments, headed by a department chair. Deans, department chairs, faculty and staff are encouraged to present new ideas, cutting-edge research, and to look for possibilities to better the university. This type of environment is flexible and capable of quickly responding to market demands and competitive moves. For a successful partnership, VCU should look for an institution that was similarly capable of responding to opportunities and challenges in a timely manner.

Conclusions and Recommendations

After carefully considering the strategic and tactical dimensions and sub-dimensions of its own organization, and of its potential partners, all potential partners should be identified and arrayed on the high-low continuum of strategic and tactical congruence. In order to develop the graphical depiction of partnering possibilities, three things must be done: 1) The VCU Department of Health Administration needs to decide which of a model’s dimensions are most relevant to the alliance at hand. 2) VCU needs to develop its own system of quantifying those dimensions. This can be done in a number of ways; for example, each dimension can be scored on a scale where higher numbers represent a favorable situation and low scores represent a less favorable situation. 3) VCU needs to decide how each dimension (both strategic and tactical) will be weighted with respect to their relative importance when assessing potential allies. Such algorithms need to be developed on a case by case basis depending on an institution’s values, goals, and objectives.

Once the VCU Department of Health Administration graphs its potential partners, it will be much easier to assess which relationships should be developed. See Figure 4 for an example. In this example, the institution should consider developing a relationship with University A or B. After VCU does its due diligence, it should begin the relationship building process.
No model can claim to capture all aspects of every alliance or grasp every critical issue that an SME (or any firm) would or could encounter when entering into an overseas partnership. However, no matter what model is offered as a method to begin to think about alliance feasibility or promise, a systematic approach should be embraced.

The PRODEMSTRA model is offered in this spirit. In using it, SME management, whether entering the international arena for the first time or wanting to improve their existing alliances, should examine those dimensions and sub-dimensions of an alliance that will influence both their long-term (strategic) and short-term (tactical) needs. Likewise, in all cases, users of any model proposed to assess international alliances should approach the task from both a qualitative standpoint (asking – how do each of the critical issues, when answered, relate to our “intuitive” sense concerning the viability and promise of an alliance), and from a quantitative standpoint. Two considerations are involved here. The first, after deciding which of a model’s dimensions are most relevant to the alliance at hand, is articulating exactly how such dimensions will be quantified. How will they be measured (what metric will be used)? The second is – how will the measured dimensions (both strategic and tactical) be weighted with respect to their relative importance when assessing potential allies.

The PRODEMSTRA model has been developed to stimulate future research in the area of SME’s international alliances. While many ideas can be put forth, perhaps three future research suggestions capture a host of possibilities best. First, does the model truly include those dimensions that are most critical to SME alliance success in the international arena? Second, what combinations of congruent strategic and tactical dimensions are most highly associated with SME success in international markets? And finally, do such “successful” combinations of strategic and tactical dimensions vary by type of alliance (research and development, assemble, manufacturing, marketing, etc.) and by type of industry (consumer-focused versus, business-focused, goods versus services, etc.)?

To the degree that the PRODEMSTRA model stimulates thought, aids SME managers in tracking strategic and tactical conditions and related changes in potential and existing allies, and provides grounds for future research, will determine if it truly offers value to this important area of international business.
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Session 1: Consumer Behavior and Health Care
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Patient Participation: A Social Network Perspective
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Consumer Preferences for Attributes of Alzheimer’s Disease: Predictive Genetic Tests
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An Assessment of Patient Proactivity Today and a Look at How It’s Relationship with Satisfaction Has Changed Over the Past 20 Years
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A Study of Knowledge, Attitudes, Practices, and Health Information Seeking Related to Malaria-Dengue Prevention in India
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Session 2: Attitudes, Behavior and Branding Issues
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Implementing a Proactive Health Care Management Program
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Efficient Detailing Effort of a New Drug: Targeting the Physicians using the Doctor-Patient Interaction Information from a Survey Data
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The Influence of Branded Trash on Consumer Attitudes
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Entrepreneurial Branding: The High West Case
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A Content Analysis of the Public Participation within Social Media
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The Role of eHealth Literacy in Consumer Using Health Information on the Internet
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A Shared Experience in a Virtual Community
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Users’ Preferred Interactive E-Health Tools on U.S. Hospital Web Site
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From the Patients’ Perspective: Experiences with Health Care Delivery Redesign
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Session Moderator: Jim Oakley, U. of North Carolina at Charlotte

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The Role of Self-Efficacy and the Stages of Behavior Change as Related to Physical Activity Levels of Senior Citizen Center Participants
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The Role of Mindfulness in Explaining College Student Lifestyle Choices
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Whither Health Care Marketing in the Academy…and in the Field?
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Session Moderator: Bruce Perrott, University of Technology Sydney

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Sarah Henize, Bowling Green State, henizes@bgsu.edu

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College Student Exposure to Nature: The Relationship to Knowledge and Attitudes Towards the Environment
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Kim Sadler, Middle Tennessee State University

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The Impact of Culture on Practice Design
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Is Saying Sorry Good Enough? Examining the Typologies of Apology in Organizational Response During Health Crises
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The Effect of Corporate Reputation on Health Insurance Choices in a Public-Policy-Shaped Environment of Premium Equality
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Session 8: The Impact of Direct-to-Consumer Advertising and Health Care
Session Moderator: Debbie Treise, University of Florida
An Experimental Examination of Consumer Attitudes, Behavioral Intentions & Information Search Behavior after Viewing a Predictive Genetic Test Direct-to-Consumer Advertisement
Brent Rollins, Philadelphia College of Osteopathic Med., brentro@pcom.edu
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Encouraging Shared Decision Making through a Direct-to-Consumer Approach to Improve Outcomes in Atrial Fibrillation
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Consumer Vulnerability in the Context of Direct-to-Consumer Prescription Drug Advertising
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Health Literacy through the Marketing Lens
Karen Hood, U. of Arkansas at Little Rock, kmhood@ualr.edu
Session 9: Frame Analysis of Media and Health Care Issues
Session Moderator: Michael F. Weigold, University of Florida

A Dangerous Neighbor: The News Frames of the Radiation Effects from the Fukushima Nuclear Accident
Junga Kim, University of Florida, jungakim@ufl.edu
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Message Framing, Identity Salience, and Interpretation of Information
Jim Oakley, U. of North Carolina at Charlotte, James.Oakley@uncc.edu
Linyun Yang, U. of North Carolina at Charlotte

From Prohibition to Legalization: Coverage of Marijuana in the Washington Post
Erica Kight, University of Florida, ekight@jou.ufl.edu
Carla Buddensieg, University of Florida

Cross-Cultural Frame Analysis of Obesity
Jin Sook Im, University of Florida, imjins@ufl.edu

Session 10: Research Methods and Model Applications in Health Care
Session Moderator: Beth Hogan, Fayetteville State University

The Effect of Nursing Students’ Clinical Experiences on Probability of Graduation
Alex Herran, Rhodes College, herran@rhodes.edu
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Linda Finch, University of Memphis, lfinch@rhodes.edu
Mark John Somers, New Jersey Institute of Technology

Evaluating the Effect of Declining Lead Times on the Economic Based Performance of First, Second, and Third Market Entrants
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Mixed Methods in Health Services Research: Planning, Implementing and Interpreting Data
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Andrada Tomoaia-Cotisel, University of Utah
Norm Waitzman, University of Utah
JaeWhan Kim, University of Utah
Annie Mervis, University of Utah
Julie Day, University of Utah
Michael Magill, University of Utah

Forming International Strategic Alliances in a Health Care Context: The Case of the U.S. and India
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