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Determinants of Medical Tourism Destination Selection Process

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Abstract

Even though American health care providers have incessantly raised their prices, medical insurers have managed to achieve (greater) profitability covering fewer services for a smaller number of clientele every year. Against this backdrop, there has been a sharp increase in the number of people seeking health care in foreign countries. Using prospect theory, this study finds medical tourism consideration to be driven by domestic medical costs, patient privacy concerns, medical restrictions, and foreign destination desirability. The latter is in turn influenced by tourist attractions and service quality assurance in addition to domestic medical costs. The findings and their implications and limitations are also discussed.

Keywords: Medical Tourism; Destination Desirability; Medical Costs; Care Quality; Privacy, Attractions

Introduction

Medical tourism refers to the medical care decision where by patients elect to travel across international borders with the intention of receiving some form of medical treatment for the enhancement or restoration of their health (Hudson & Li, 2012; Lunt et al., 2011). Although the primary motive of such travel is seeking medical care that is not easily accessible or available in the home country, patients have been found to incorporate leisure, fun, and relaxation activities as part of their decision (Heung, Kucukusta, & Song, 2010). The size of medical tourism industry is currently estimated at $45-100 billion, with a projected growth rate of up to 25% year-over-year for the next 10 years (Medical Tourism Magazine, 2016; Patients Beyond Borders, 2017). Approximately 14 million cross-border patients travel worldwide every year, spending an average of $3,800-7,000 per visit on medically-related costs, cross-border and local transport, inpatient stay and accommodations (Medical Tourism Association, 2013; Patients Beyond Borders, 2017). This market is projected to expand globally in the next decade as an estimated that 3-4% of the world's population will travel internationally for healthcare and health-related treatment (Medical Tourism Magazine, 2016). Within the United States alone, approximately 1,400,000 Americans are expected to travel outside the US for medical care in 2017 (Patients Beyond Borders, 2017) and over 40% of Americans see medical tourism as a practical future option for themselves (Pafford, 2009).

Medical tourism has been examined by international trade economists as the transfer of medical services across borders (Mattoo & Rathindran, 2006). Using the income approach, they have documented the sizeable impact of medical tourism on the host countries' economic development (e.g., Lee & Hung, 2010; Pafford, 2009). Consequently, many countries, especially developing countries in Asia, have been planning legally and practically to take advantage of this expanding market (Heung, Kucukusta, & Song, 2010). In fact, Ramirez de Arellano (2007) argues

that investing in the medical industry is a way to improve services, generate foreign exchange, and boost tourism. Despites its prevalence and importance, medical tourism has only recently been the focus of academic studies. Previous research that exists in this domain primarily investigates medical tourism industry from either the supply or demand perspective (e.g., Connell, 2006; Smith & Forgione, 2007). For instance, Smith and Forgione (2007) proposed a two-stage model indicating the factors that influence a patient's decision to seek medical services in other countries. According to this model, the choice of destination is influenced by country-specific characteristics, such as economic conditions, political climate, and regulatory policies whereas such factors as costs, hospital accreditation, quality of care, and physician training are expected to have an impact on the choice of health-care facilities (Smith & Forgione, 2007). Further, Österle, Johnson, and Delgado (2013) argued that while cost, access, and care quality influence a patient's decision regarding where to seek care, other factors may simultaneously influence the decision about the care destination, including culture, social factors, and the institutional environment. Similarly, Henson, Guy, and Dotson (2015) found that destination country economic development and safety, destination culture, and travel matters are some the specific factors that influence patients to seek foreign medical care. In another study, Ye, Yuen, Qiu, and Zhang (2008) investigated the motivations and barriers to medical tourism and found that the motivations of medical tourists differ from those of their mass tourism counterparts; the former are more concerned with medical factors than destination attributes.

In a comprehensive review of existing literature in this domain, Heung, Kucukusta, and Song (2010) argued that the existing theoretical models in medical tourism literature do not adequately explain the medical tourism phenomenon and thus there is a clear need for further study of this important tourism sector. They also offered a "tentative" framework for the study of medical tourism and called for addressing the dearth of empirical research on the topic. This research aims

to answer this call and is focused on the "demand side" of the equation. More precisely, the main objective of this research is to explore motivational factors that lead people to seek medical tourism as a viable option for their health care needs. In doing so, we draw on the prospect theory and empirically model Medical Tourism Consideration (MTC) and choice of destination. The model proposed in this research, which is developed based on a comprehensive review of the literature as well as the findings of two focus group studies, highlights the key factors that potential medical tourists may perceive to be influential in their intentions (or lack thereof) to seek health-care services abroad. Thus, this study provides a better understanding of the consumer side of medical tourism. Considering the implications medical tourism has on the health and wellness of consumers in the home country, this is a topic that deserves the attention of the health care community including medical care providers, insurance companies, the government, as well as other organizations involved directly or indirectly in the decision. Toward that end this study offers practical implications for policy makers and professionals involved (e.g., hospitals and other health-care institutions, travel and tourism agencies). The remainder of the article is structured as follows. First, the existing literature in this domain is reviewed. The hypotheses are then developed and empirically tested, followed by the discussion of findings. Finally, the practical implications of this study, as well as its limitations and directions for further research, are discussed.

Literature Review

The prominence of MTC is better understood in the broader context of the global health care industry. According to a Deloitte's (2017) report, percentage of global GDP spent on health care is projected to rise slightly from an estimated 10.4% in 2015 to 10.5% in 2020, reaching $8.7 trillion. In the United States alone, total health care spending for 2016 reached nearly $3.4 trillion, which is partially attributed to rising prices for health care services (Centers for Medicare and Medicaid Services [CMS], 2017; Samli, 2010). CMS also estimated that health care spending will

account for 19.9 percent of GDP by 2025, up from 17.8 percent in 2015. Medical price growth are also projected to accelerate from an average of 2.4 percent from 2018 to 2019 to an average of 2.7 percent for 2020 to 2025. At the same time, medical insurers have found ways to increase their profits while covering fewer services for a smaller number of clientele every year (Rosenfeld, 2011). These trends place a dual strain on patients and health care providers. On the one hand, the number of Americans seeking medical treatment in foreign countries has increased sharply even though it is often fraught with uncertainty and risk. On the other hand, the number of foreign patients who travel to the U.S. for medical purposes has been declining (Brown, 2008; Johnson & Garman, 2010; Rhea, 2008).

MTC occurs because people seek greater value and control when faced with medical decisions (e.g., Wang, 2012). The increasing cost of medical treatments in developed countries, long waiting lists, non-reimbursement of certain medical costs, marinating privacy and confidentiality, growing technological sophistication and improvement in the quality and safety of treatments available overseas, availability of travel intermediaries, simplicity of travel to foreign nations and relative affordability of international air travel, incentives available to global care seekers, employer and insurance company endorsement and possibility of combining the visit with a mini-vacation have all been cited as drivers of MTC (e.g., Connell, 2006; Heung et al., 2010; Jadhav, Yeravdekar, & Kulkarni, 2014; Maniam, 2015; Menvielle, Menvielle, & Tournois, 2011; Singh, 2013; Ye et al., 2008).

However, MTC is not without substantial risks such as unsafe practices by foreign professionals and facilities, poor and substandard quality of services, risk of travelling after a surgery, transmission of antibiotic resistant organisms that may be prevalent in foreign countries, discontinuity of medical documentation, minimal legal recourse, and difficulty of after-care coordination once the patient returns home (Center for disease Control, 2013; Crooks et al., 2013).

Since MTC involves value seeking and decision making under conditions of risk and uncertainty, we develop our conceptual model under the rubric of prospect theory (Kahneman & Tversky, 1979). Prospect theory views tourists as value-maximizers during the decision-making process, with value rooted in the gains and losses that each alternative entails given the certainty level of each feature under consideration (Kahneman & Tversky, 1979). Two predictions under the auspice of prospect theory are particularly germane to MTC. First, certainty effect refers to people's tendency to give more weight to features that they consider to be certain relative to features that are merely probable. It follows that tourists tend to be risk-averse when choices involve sure gains and risk-seeking when choices involve sure losses. Second, isolation effect refers to people's tendency to simplify their choice-making by isolating and focusing on features that differ across alternatives. Relying on prospect theory as well as the reviewed literature, we develop a conceptual model and a set of hypotheses as summarized in Figure 1.

---------- Insert Figure 1 about here ----------

Drivers of MTC

Domestic Medical Costs

The major factor that has led to a vast increase in medical tourism is the continually increasing health care expenses such as insurance and medical procedures in developed countries, especially in the U.S. (Abd Mutalib et al., 2017; Brown, 2008; Hall, 1992; Heung et al., 2010; LaRocco & Pinchera, 2011; Maniam, 2015; Menvielle et al., 2011; Singh 2013; Smith & Forgione, 2007). In fact, MTC is primarily driven by patients' need to reduce their medical expenses (Johnson & Garman, 2010; Reddy, York, & Brannon, 2010). Marlowe and Sullivan (2007) identify cost advantage of foreign medical services as the main precursor of MTC. People who need or desire certain health care services might not afford those services. Even if they can afford the bills, cost differentials often serve as a strong incentive to seek alternative providers. For instance, a

heart valve replacement surgery approximately costs $170,000 in the U.S. whereas the price for the same procedure is around $28,200 in Mexico and $9,500 in India (Medical Tourism Association, 2016). Similarly, the World Health Organization study reveals that the common procedure of a knee replacement would cost $48,000 in the U.S., $8,500 in India, $10,000 in Thailand, and $6,375 in Poland (Kelley, 2013). Even patients who are insured may have strong incentives for MTC because receiving health care services is sometimes accompanied by the possibility of significant increases in insurance premium as information about their recent medical conditions makes its way to insurance companies (Brown, 2008). In addition, several medical insurance companies (e.g., Blue Cross Blue Shield, Health Net) now offer medical tourism options as part of their offerings (Keckley & Underwood, 2009). In summary, despite the risks and uncertainties involved, medical tourism is a viable health option for people under various insurance plans as well as the uninsured and under-insured individuals.

Both isolation effect and certainty effect underscore the importance of cost differential in MTC. Unlike some features that tourists perceive to be common among alternative destinations, healthcare-related monetary costs may substantially differ across these alternatives. For instance, the average cost of a heart bypass procedure is approximately $7,900 in India, $13,900 in Turkey, and $27,000 in Mexico (Medical Tourism Association, 2016). While the literature suggests that relative medical costs may influence a medical tourist's choice of an international medical facility only after selecting the destination country (Heung et al., 2010; Smith & Forgione, 2007), tourists are also expected to isolate and focus on relative monetary costs when deciding whether to seek medical services abroad at the first place. Moreover, tourists may view monetary costs as a relatively more certain feature of each alternative destination compared to other factors such as service quality (Darby & Karni, 1973) or legal risks (Mirrer-Sunger, 2017); as such, they are expected to give it more weight. In fact, the Medical Tourism Association's patient surveys

indicate that nearly 80% of the demand for medical travel is driven by cost savings and the cost of medical treatment is the most important factor (85%) in patients' decision to travel abroad for treatment (Medical Tourism Association, 2013). Since monetary costs represent losses (as opposed to gains), prospect theory predicts that tourists will exhibit risk-seeking behavior by choosing the less costly alternative despite the risks emanating from other features under consideration. Therefore, when overseas alternatives are perceived to involve relatively less monetary costs, tourists are expected to prefer such alternatives.

> **H1:** The higher medical costs in home country relative to other countries, the stronger the MTC.

Patient Privacy

Previous research suggests that cost differential is not the only driver of MTC (Heung et al., 2010). Another risk that can encourage patients to consider medical tourism is the lack of privacy regarding their medical intentions and procedures at home (Horowitz et al., 2007; Jadhav et al., 2014). In this study, privacy is defined as the absence of any disclosure of information about the medical decisions patients make, procedures they receive, and results they experience to the patient's family, social network, health care system, and insurance industry. For instance, patients who seek drug rehabilitation, gender transformation surgery, or plastic surgery often desire that certain individuals, groups, and businesses (i.e., health care and insurance industries) not be made aware of their decisions and actions.

Patients' concern over their health information has been a long standing issue. According to the Health Insurance Portability and Accountability Act (HIPAA) enacted in 1999, patients must consent for the transfer of their medical information between health care providers. However, the 2003 amendments to the HIPAA's privacy rule allow over 600,000 "covered entities" (i.e., health care providers) and their business associates to share patients' medical records without their

consent and even notice (Herman & Peel, 2004). Similarly in Europe, a special Eurobarometer on Data Protection showed that most citizens did not feel in control of what happens to their data nowadays (European Commission, 2015) and the new data privacy regulations (effective in 2018) will allow sharing of patients' health and genetic data for healthcare purposes, for public interest in the area of public health, and/or for other specific reasons (European Patients Forum, 2016). Furthermore, the relatively recent digitization of medical information exacerbates patient privacy concerns (Laric & Pitta, 2009). For these reasons, receiving medical procedures away from home country is often the most convenient, effective, and less risky way to preserve privacy and confidentiality.

The association between medical patient privacy and MTC is supported by both isolation and certainty effects. Patient privacy is an important condition distinguishing between a domestic medical service and a foreign alternative as well as between two foreign alternatives. As such, patients are likely to isolate and focus on this feature when considering various alternatives. Furthermore, receiving medical services domestically is indeed accompanied by significant information sharing among various constituencies, a certain outcome of domestic alternatives that is not necessarily the case with medical tourism. Consequently, patients are expected to place greater weight on privacy. Since threats to privacy represent losses (as opposed to gains), patients will likely engage in risk-seeking behavior by choosing the alternative that offers greatest privacy. Therefore, as foreign alternatives are perceived to involve less privacy concerns, patients tend to prefer such alternatives.

H2: The higher the concern with patient privacy in home country, the stronger the MTC.

Medical Restrictions

Past research indicates that patients are traveling abroad in search of certain procedures that are not conveniently available in their home countries due to a host of reasons (e.g., long

waiting periods to receive care; Menvielle et al., 2011; Singh 2013) or procedures that the home government prohibits and prosecutes such as organ transplant and stem cell therapy (Annas, 1985). In U.S., for example, stringent restrictions exist on the supply of organs for heart and liver transplantation, the number and kind of facilities performing the procedures, and health conditions of the receiving patients (Annas, 1985). Such restrictions have resulted in excessively long waiting lists for receive a lifesaving organ transplant. Currently, there are nearly 120,000 people waiting for lifesaving organ transplants in the U.S. alone and the average number of people who die each year due to excessive wait time is estimated to be between 7,300 and 11,000 – or 20-30 people every day (statistics slightly vary; American Transplant Foundation, 2017; Donate Life America, 2014; National Kidney Foundation, 2016; Organ Procurement and Transplantation Network, 2017). Similarly in the European Union, a total of over 63,000 patients were officially on organs' waiting lists in 2013. It is also estimated that 4,100 patients died while on these waiting lists in the course of 2013 (European Commission, 2014). MTC for these patients is driven more by the mere availability of services in foreign countries than by the cost disadvantage of domestic providers or privacy concerns. Medical restrictions are intimately linked to MTC according to isolation effect. In fact, availability and legality of specific medical services, when such differences exist, are the ultimate criterion that sets apart domestic and foreign alternatives. Therefore, medical restrictions in home country tend to sway patients towards medical tourism.

H₃: The higher the medical restrictions in home country, the stronger the MTC.

Destination Desirability

Patients who choose to receive medical services outside their home countries often have multiple destination options, with each destination offering a unique combination of attractive features beyond health care (Abd Mutalib et al., 2017). Dann (1977) identifies the attractive features of the destination country as part of the "pull factors" in his travel decision model.

Moreover, Smith and Forgione (2007) argue that medical tourism is a partial function of the economic conditions, political climate, and regulatory policies of the destination country, followed by the characteristics of the medical facility such as costs of services, physician expertise, quality of care, and accreditation. Finally, Heung et al. (2010) argue that people often stumble over certain destination countries without mindful search. Some people might be considering attractive vacation destinations for the sake of vacation only, but later realize that they could also receive certain medical procedures at a much lower cost in that country. Others might feel forced to choose one of the few available destinations based primarily on their medical needs. In sum, the literature suggests that MTC is also influenced by perceived destination desirability.

H4: The more desirable the destination country, the stronger the MTC.

Drivers of Destination Desirability

Domestic Medical Cost

As noted, the gap between cost of domestic and foreign care continue to grow leading patients to seek foreign health care services (Mason & Wright, 2011). The fractional cost of care in medical tourism destinations might not only urge patients to disfavor medical services available in their home countries, but also serve as a decisive factor in the choice of destination. Since there are usually multiple foreign countries that offer the sought-after procedures, patients have to eventually choose one country as their destination. A key consideration for prospective medical tourists who face multiple destination options is the relative cost associated with each option (Heung et al., 2010). For example, relative to their average cost in the U.S., health care services are, on average, 65-90% less expensive in India, 40-65% in Mexico, 50-65% in Turkey, 45-65% in Costa Rica, and 20-30% in Brazil (Patients Beyond Borders, 2017). Patients are likely to give more consideration to those countries that offer the intended service at the least practical cost.

An important factor that in part determines the relative standing of each destination option in terms of cost differential is the coverage provided by patients' own insurance companies. For example, some American insurance companies (e.g., Blue Cross Blue Shield, United Group Program) now allow their clients to seek certain medical procedures at certain medical facilities in Mexico while resting assured that they will be covered for related expenses. This phenomenon appears to be a win-win-win initiative where all of the parties involved benefit from the continued coverage. In terms of isolation effect and certainty effect, the same arguments stated in support of H1 above, apply to the association between cost differential and destination desirability. Therefore, we hypothesize:

H5: The higher medical costs in home country relative to other countries, the more desirable that country as destination.

Tourist Attractions

As globalization of health care services continues, many countries, especially developing ones, see an opportunity to generate revenues through promoting and offering a host of medical and entertainment services to medical tourists (Awadzi & Panda, 2006; Crouch & Ritchie, 1999; Keaney, 2002). This trend has intensified competition among providers and given patients more options and destinations to choose from. For instance, in an effort to increase the contribution of the tourism industry to GDP, China's tourism authorities have prioritized medical tourism, paying particular attention to combining tourist attractions and medical facilities in the same marketing and advertising campaigns (Heung & Kucukusta, 2013). Another example is Hungary, which attracts patients who try to combine treatment with exploration of the country's renowned attractions (Jónás-Berki, Csapó, Pálfi, & Aubert, 2015).

Tourist attractions often enable patients to choose one destination over another (Medina-Muñoz & Medina-Muñoz, 2014). In fact, the availability of affordable medical services in other

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countries serves as a justification for taking a long desired vacation with less feeling of guilt (Dolnicar, Lazarevski, & Yanamandram, 2013; Horowitz et al., 2007), especially when insurance companies offer coverage in destination countries. The tourist attractions that these patients perceive in regards to each country also help determine destination consideration set. The isolation effect is at play here, as well. Patients tend to see tourist attractions as another source of value exploitable through medical tourism and a distinguishing feature that increases the appeal of medical tourism options relative to domestic options. Thus, we hypothesize:

H6: The more tourist attractions in a country, the more desirable that country as destination.

Service Quality Assurance

The required or expected quality of medical services is one of the key determinants of destination desirability. In fact, Henson et al. (2015) argued that confidence in medical care quality, which includes hospital or doctor credentials/accreditation as well as their success rate and reputation in treating the condition, is the most significant factor in this context. Similarly, Wongkit and McKercher (2016) found that quality considerations are pre-eminent regardless of the type of treatment sought and Han and Hyun's (2012) study revealed that trust in the medical clinic and its staff is a significant decision factor for patients seeking medical treatments overseas.

Medical services are high in credence properties, which make it difficult, if at all possible, for the patient to ascertain and evaluate service quality even after receiving them. Services high on credence properties are difficult to evaluate due to the level of skills and knowledge required for comprehending the effects and quality of these services (Darby & Karni, 1973). Tourism, on the other hand, is a service high in experience properties because tourists can best determine the value they receive during or after the tour and through first-hand experience (Nelson, 1970). Therefore, patients in grave need of risky and more complicated medical care (e.g., those seeking an organ transplant or a bypass surgery) may first determine what medical facilities in which countries offer

the focal services at a competitive cost and quality (e.g., qualifications of the physician, availability of certain medical equipment and technology; Abd Mutalib et al., 2017; Singh, 2013) and only then consider tourism possibilities in those countries. For such patients, the vacation functions will be more marginal (Lunt et al., 2011) compared to quality assurance procedures in provider organizations, which are intended to safeguard the quality of care provided to tourists (Johnston et al., 2010). On the other hand, vacationing preferences could be a significant component of consumer decision-making for patients who seek to receive a low-risk medical procedure (Lunt et al., 2011). Beyond their differences, these two groups share an interest in publicly available and professionally certified assurances of service quality (Horowitz et al., 2007; Hudson & Li, 2012; Turner, 2007). In fact, Carabello's (2008) study revealed that most American travelers chose a medical facility based on destination interest combined with medical services. In response, promoting medical centers as highly customer-focused service providers that employ clinicians with overseas experience (training, employment, registration) has been a prevalent theme in medical tourism advertising (Lunt et al., 2011; Turner, 2007).

The most convenient assurance used by medical tourists is the certification of medical facilities and personnel by such internationally recognized institutions as the Joint Commission International (JCI), the International Organization for Standardization (ISO), and the Trent Accreditation Scheme (TAS; Heung et al., 2010). However, certification as a source of advantage is gradually waning away from developed countries as an increasing number of private- and state-run medical facilities seek and acquire sufficient certification. For example, in the three-year window between 2008 and 2011, the number of accredited hospitals has grown from 3 to 20 in Mexico, from 12 to 25 in Brazil, from 10 to 17 in India, and from 14 to 24 in Thailand (JCI, 2011). While the expensive costs of health care in the U.S. may drive individuals to seek medical care abroad, service quality and the accreditation of organizations make a strong impact on destination

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decisions. In fact, several organizations such as the American Medical Association strongly recommend that American medical tourists only consider JCI recommended clinics and physicians (Rhea, 2008). Given these observations, service quality assurance in part determines perceived destination desirability.

H7: The more the service assurances in a country, the more desirable that country as destination.

Method

Instrumentation

Instrument development consisted of three stages. In the first stage, we scanned the extant medical tourism literature (cf., Heung et al., 2010; Horowitz et al., 2010; Marlowe & Sullivan, 2007; Pafford, 2009) for keywords and phrases that could facilitate the writing of one or more items for any of the seven variables. If available, existing items were adopted to measure the constructs.

In the second stage, two video-taped focus groups were used to discuss and augment the keyword/phrase list and develop multiple items per variable. Since medical tourism is high in experience and credence properties (Darby and Karni, 1973; Steenkamp, 1990), patients who have never been engaged, at least cognitively, with medical tourism are expected to be unaware of the requirements, thought processes, and decision criteria involved in MTC. As such, focus group participants were selected purposively to ensure that they had prior experience with medical tourism or, at least, had considered it in the past. The first focus group was 105 minutes long and consisted of eight staff and faculty members at a comprehensive university in Southwestern United States. Four participants were male, between 29 and 46 years old and the other four were female, between 37 and 53 years old. Participants in the second, 124-minute long focus group were seven non-university professional adults recruited using the authors' social networks. Three participants

were male, between 38 and 55 years old and the other four were female, between 35 and 53 years old. In both focus groups, caution was taken to include an almost balanced number of middle and upper income levels. Since the thematic variations of the collected data proved to be minor, no additional focus groups were deemed necessary (McQuarrie, 1993). Procedures as well as findings were similar across the focus groups. To cognitively engage participants with the topic, we first asked them to each prepare a list of factors that, in their opinion, could motivate medical tourism. The lists were then shared and the moderator verified that the factors were reasonably associated with one or more of the variables in our model. Next, the moderator kindled a discussion of participants' experiences and attitudes in regards to medical tourism and home and host countries, digging out personal narratives and emotional accounts. Participants reported a variety of prior experiences such as visiting a general physician for common cold, dentistry works, endoscopy, blood transfusion, physiotherapy, and open heart surgery. While a majority of these experiences were positive, a few negative incidents were also reported. After analyzing the video-recordings of the focus groups, we generated 35 items for the seven variables. The focus groups also suggested that before exposing respondents to tourist attractions, service quality assurance, and destination desirability measures, the instrument should ask them to think of a country they would likely consider as a destination. In the third stage, we checked the content validity of the measures by seeking the expert opinion of three colleagues who were familiar with medical tourism literature. In addition to slight modifications made to some of the items, seven items were removed and one new item was added, resulting in the 29 items used in the questionnaire (see Table 1). Each construct had four to five items, except MTC, which included three items. All of the 29 items were measured on a five-point Likert scale, with '1' and '5' signifying 'strongly disagree' and 'strongly agree'. The sequence of the 29 items was randomized and six of them were reverse-coded. Reverse-coding helps minimize "straight line" answering by respondents and is recommended

when respondents are familiar with English language, which was the case here (Fowler, 1995). Four additional items captured respondents' demographic information including age, gender, education, and household income.

---------- Insert Table 1 about here ----------

Sampling

We recruited respondents who could offer dependable perspectives on the survey questions (Iacobucci & Churchill, 2010). More specifically, patients who had prior thought about, or experience with, medical tourism were desired; we thus chose to survey the sizable group of Winter Texans who visit Texas every year, mostly from Northern states. A majority of Winter Texans are married and have some college education and over $50K household income (Simpson et al., 2010). Most reside in their own mobile or RV facilities during their stay (130 days, on average), and enjoy the favorable climate, nearby beaches, social activities, and other tourist attractions. More than half of them have Medicare and/or private insurance. Even though recruitment was conducted in one state, the sample represents tourists from around the United States since the area where respondents were recruited is a popular winter migrant destination (see Cruz-Milán et al., 2016).

The researchers intercepted Winter Texans in early February 2010 at various shopping venues. Each interception began with qualifying the potential respondent for the research. We distributed 560 questionnaires, 12 of which were not returned and nine were returned incomplete. A total of 539 surveys were complete and used in the study, comprising an effective response rate of 96%. Male and female respondents comprised 46.7% and 53.3% of the sample, respectively. Respondents' age ranged from 38 to 85 years ($M = 50.6$). Roughly 65% were 45 years of age or older. High school diploma, bachelor's degree, master's degree, and doctorate degree were the highest education for 40.1%, 37.1%, 16.8% and 2.3% of the sample, respectively.

The remainder 3.6% had not completed high school. A majority of the respondents (73.9%) reported an annual income of less than $80,000, and 12.3% were earning above $120,000 annually.

Analyses and Results

We subjected the data to exploratory factor analysis (EFA) using the principal components method. The scree test (Horn & Engstrom, 1979) identified a total of seven factors, which collectively extracted 92% of the total variance. The rotated factor loadings (with varimax rotation) returned a clear structure (see Table 1). Each of the 29 items loaded strongly on the variable it purported to measure. Main loadings for six of the factors were all above .80, with the loadings of the seventh factor (i.e., MTC) ranging from .73 to .75. All cross loadings were below .43. Given the adequacy of the observed underlying structure and loadings pattern, the 29 items were treated as constituting an *a priori* model and a confirmatory factor analysis (CFA) was carried out using AMOS 20.0 to confirm the results of the EFA and test the convergent and discriminant validities of the seven constructs. CFA results (see Table 1) confirm the construct validity. Chi-square was significant at .01 level ($\chi^2 = 729.78$, $df = 356$); GFI = .955; comparative-fit index (CFI) = .952; incremental fit index (IFI) = .952; root mean square error of approximation (RMSEA) = .069. Even though RMSEA is moderate, the other indices are above the recommended thresholds, indicating an acceptable fit and providing support for the hypothesized underlying structure.

As shown in Table 1, the standard loadings range from .81 to .96; Cronbach's α for the seven factors ranged from .90 to .96; and the average variance extracted in each factor ranges from .63 to .71. Inter-factor correlations range from .23 to .73 (see Table 2). Since the loadings, Cronbach's α, and the average variances extracted are all above recommended thresholds, the factors hold acceptable convergent validity (McDonald & Ho, 2002). To determine discriminant validity, squared inter-factor correlations were compared against the average variances extracted

per factor (Fornell & Larcker, 1981). Since the range of the former statistics (from .05 to .53) falls below that of the latter (from .67 to .71), the factors possess adequate discriminant validity.

---------- **Insert Table 2 about here** ----------

The conceptual model was tested using SEM (see Table 3). Although chi-square was significant (χ^2 = 746.184, df = 368, p = 0.000), the overall model fit indices were within recommended ranges: GFI = .961; CFI = .956; IFI = .957; and RMSEA = .065 (Browne & Cudeck, 1992; Hu & Bentler, 1999; Rigdon, 1996). While RMSEA is only modest, the other indices are well above the recommended threshold, providing support for the *a priori* model (Bagozzi & Heatherton, 1994). MTC was significantly (α = .001) associated with its four hypothesized antecedents including domestic medical costs (β = .381; t = 6.817), patient privacy (β = .182; t = 2.862), medical restrictions (β = .263; t = 3.765), and destination desirability (β = .239; t = 4.94). H_1 through H_4 are thus supported. In addition, destination desirability was significantly (α = .001) associated with its three hypothesized drivers including domestic medical costs (β = .321; t = 6.129), tourist attractions (β = .258; t = 4.567), and service quality assurance (β = .253; t = 3.954). Hence, H_5 through H_7 are also supported.

---------- **Insert Table 3 about here** ----------

General Discussion

The results of the study offer extensive support for all hypotheses as well the application of the isolation effect and certainty effect components of the prospect theory. Based on our analysis the most important driver of MTC is cost differential. In the U.S., health care costs have grown at a faster rate than inflation rates. At the household level, health care costs rose to an average of $19,393 in 2011, a 7.3% ($1,319) increase over the year before (Kavilanz, 2011). With a growth rate twice the inflation, health care is becoming increasingly burdensome for insured middle class Americans as their income has been stagnating. The problem is more acute for uninsured and

underinsured people. Further, as proposed in the study, the result supports the prospect theory. The health care costs are perceived as losses by the consumers (as opposed to gains) there by propelling them toward risk seeking behavior whereby they seek out the less costly alternative at the same time ignoring the other risks involved. Our study offers further support for the crucial role of medical costs. In addition to domestic medical costs, as hypothesized, patient privacy concern can sway people toward medical tourism (Horowitz et al., 2007). Although the enactment of the HIPAA in 1999 promised enhanced patient privacy through prohibiting health care providers from transferring patient information without patient consent (Benjamin, 2002), amendments to the HIPAA in 2003 abolished that promise by allowing almost all providers and their business associates to share patients' medical records without their consent and even notice (Herman & Peel, 2004). This was exacerbated with the advent of medical records digitization (Laric & Pitta, 2009). The heightened focus on privacy issues would force them to isolate and focus on the privacy aspect more closely considering the loss of privacy as a potential loss and thus engaging in risk seeking behavior as proposed by prospect theory. As a result, Americans are increasingly concerned with rights to their health records and many pursue medical procedures in foreign countries to proactively maintain privacy ignoring the other risks associated with the decision (isolation effect). Our study also shows that medical restrictions are directly associated with MTC. People travel aboard to seek health care normally for expensive procedures such as cardiac and orthopedic surgeries and organ transplantation (Ryan, 2011). Of such high profile procedures, some are difficult to get domestically for Americans. Coupled with resource scarcity, the stringent regulations that hinder timely and effective treatments place Americans on waiting lists, many of whom die due to excessive wait time (e.g., American Transplant Foundation, 2017; Organ Procurement and Transplantation Network, 2017). Therefore, medical tourism may also be driven

by domestic medical restrictions as opposed to cost comparisons or privacy issues as per the isolation effect associated with the prospect theory.

As signified by the term itself, medical tourists desire enjoyable experiences in addition to health care services (Carruth & Carruth, 2010). Therefore, they carefully select the destination country to combine the pursuit of medical treatment with the adventures of touring a different place in a cost-effective manner. In other cases, patients may know of a specific health care provider in a certain country and proceed to explore tourist attractions and activities available therein. At any rate, the desirability of destination country is often assessed in the process of medical tourism decision-making. Our study underscores the importance of destination desirability for MTC.

Traveling abroad in search of the best treatment possible for a particular illness used to be a privilege of wealthy patients (Burkett, 2007). However, rising domestic medical costs and explosion of information available to patients have rendered foreign alternatives economically more justified and professionally more trustworthy for middle class citizens of developed countries, who now consider medical tourism as a viable option (Ryan, 2011). For these patients, cost differential between domestic and foreign providers for a given medical procedure is still the decisive factor (Levary, 2011). Our study supports that domestic medical costs is the most critical indicator of perceived destination desirability.

Destination desirability is also dependent upon the number and attractiveness of tourist sites and activities available in each country. Thanks to the globalization of medical services, developing countries capitalize on their comparative cost advantages to promote and offer a host of medical services to the citizens of other nations, especially the economically advanced ones (Awadzi & Panda, 2006; Keaney, 2002). As a result, prospective medical tourists have more

domestic and foreign alternatives to choose from. So, they also consider tourist attractions including the culture, tradition, lifestyle, and places of interest of each destination.

Lastly, destination desirability is also influenced by service quality assurance, also referred to as accreditation, reputation of medical providers, or even quality of medical care in the literature (Heung et al., 2010; Smith & Forgione, 2007). Despite its cost disadvantage, American health care system enjoys some of the highest medical standards among the industrial nations (Burkett, 2007). Since quality and safety have always been a prime concern when it comes to medical tourism (Carruth & Carruth, 2010), negative stereotypes about medical conditions in certain developing countries continue to influence the decisions of many medical tourists (Ryan, 2011). Some foreign hospitals and facilities work hard to overcome this enigma in an effort to attract Western medical tourists. In fact, some Southeast Asian countries such as Singapore and India now utilize world-class facilities and professionals (Gan & Frederick, 2011; Mudur, 2004).

Implications

The results of the study offer important theoretical as well as practical implications. On the theoretical front, this study offers a theoretical model for health care decision making in the context of medical tourism. Further, it applies prospect theory to a new but fast growing area of consumer health care decision making. On the practical front, the study offers several insights for several constituents such as health care providers, policy makers, insurance companies as well as the insurance plan sponsors (e.g., companies). For many patients who are desperate but unable to receive certain medical services at home, medical tourism often proves to be a boon. On the flip side, this may also lead to the patients being taken advantage of by rouge facilities or doctors abroad. In order to ensure public health and safety, government agencies may tie up with or at least list the high quality hospitals in popular medical tourism destinations. Further, in the case of non-

urgent medical procedures, medical outsourcing will also relieve some of the pressure on the U.S. medical care system.

While there are a few existing institutions establishing and certifying such assurances, there are numerous new business opportunities for entrepreneurs, insurance companies, and/or medical providers. Specifically, since patients are increasingly interested in medical tourism while desiring, or even demanding, service quality assurances, potentially profitable opportunities exist in the form of new service or business ideas such as formal agencies bringing the foreign hospitals and patients together, appraisal services that rate the quality of care and care providers across different facilities and destinations, travel and tourism intermediaries specialized in medical tourism, (e.g., travel agents and airlines), and monitoring agencies alleviating patients' post-service concerns.

The finding that patients consider medical tourism in part due to the allure of the destinations, which in turn influenced by the scope and quality of their tourist attractions, is of interest not only to medical service providers, but also to traditional destination marketers. As international destinations continue to grow in number and quality, they face more intense competition over tourists' leisure and tourism budgets. Traditional destination marketers can profit from researching the possibilities of targeting tourists who would be open to the idea of augmenting their vacation plans to take advantage of medical, surgical, or dental services available in the advertised destinations. They can alternatively target patients who consider medical tourism, but know very little about the possibility of mixing business with fun.

Our study underscores the importance of value propositions such as cost differential and service quality assurance that offer important guidelines for medical service providers. Prospect theory suggests that medical providers should shift their focus from features and benefits that tourists perceive to be merely probable to those that tourists identify as significantly more certain.

Similar strategies can also be formulated by policy makers to reinvigorate the ailing U.S. health care industry as well.

Limitations and Future Research Directions

The model and findings of this study should be corroborated by future research. First, we studied medical tourism from the demand point of view. It should be investigated on the supply side of the equation, as well (Heung et al., 2010). For instance, a developing country's success in attracting patients from around the world depends in part on how strategically that country proceeds (Crouch & Ritchie, 1999). Second, although the constructs included in our conceptual model along with their measures are supported by a literature review and focus groups, they should be improved upon in future research. Smith and Forgione (2007) consider economic conditions, political systems, and regulations as other determinants of destination desirability; and Levary (2011) links the choice of destination to tourists familiarity with the foreign language involved as well as distance from home. In addition to these factors, reputation of medical professionals in destination countries, referrals by domestic professionals, and patient word of mouth might also be relevant to the study of MTC even though these have not been previously considered. Third, while prospect theory, as used in this study, is based on the assumption that consumers are rational decision-makers who make choices that will maximize benefits for themselves and minimize any cost, we acknowledge that consumers' cognitive biases often prevent them from making rational decisions, despite their best efforts. Future research could investigate MTC using other behavioral theoretical lenses to address the emotional or subjective aspects of decision making in this context. Last, Winter Texans, albeit representing a cross-section of the country, fall short of representing broader populations of interest. In addition, use of a non-probability sample may limit the reliability of the findings. Future research can extend our study and verify the generalizability of the findings by utilizing more representative samples across the country. We invite researchers to

further push the boundaries of our knowledge about medical tourism by taking these and other research directions at both micro and macro spheres.

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Table 1 – EFA and CFA Results (Measurement Model)

	EFA [a] Loading	CFA [b] Path
Medical Restrictions α = .96 [c]; AVE = .66 [d]		
There are some medical restrictions in U.S.	.842	.847
Some medical services are not available in U.S.	.869	.859
Certain treatments available overseas are not provided in U.S.	.853	.854
Some people have to seek certain medical services overseas.	.872	.880
Patient Privacy α = .93; AVE = .64		
When the medical service provider is American, patient information is more accessible to American insurance companies.	.870	.895
Receiving medical services overseas enhances patient privacy in U.S.	.879	.912
No matter in what country one receives medical services, American insurance companies have equal access to patient information. [e]	.896	.916
One way to enhance patient privacy is to use foreign providers.	.900	.932
Domestic Medical Costs α = .95; AVE = .64		
Medical services are less expensive in U.S. [e]	.858	.823
American medical service providers charge an arm and a leg.	.878	.862
Medical services are more affordable in U.S. [e]	.811	.813
It is more costly to receive medical services in U.S.	.899	.966
Medical services are overpriced in U.S.	.894	.959
Tourist Attractions α = .93; AVE = .67		
There are many tourist attractions in that country.	.896	.874
That country is a pleasant place for any tourist.	.907	.940
There are amusing things to do in that country.	.870	.810
That country is not attractive to tourists. [e]	.896	.913
I will visit that country as a medical tourist.	.921	.949
Service Quality Assurance α = .94; AVE = .69		
The acceptable quality of medical services in that country is known to me.	.888	.894
The medical services in that country are certified.	.900	.899
I am assured I'll receive services at an acceptable level of quality in that country.	.896	.888
I have not come across any quality assurance about medical services in that country. [e]	.882	.891
Destination Desirability α = .90; AVE = .71		
That country is a desirable place for me as a medical tourist.	.890	.930
That country is a suitable place to receive my intended services.	.903	.948
That country is not appropriate for me as a medical tourist. [e]	.899	.940
I would recommend that country to anyone with similar needs.	.884	.912
MTC (Medical Tourism Consideration) α = .93; AVE = .63		
I will consider traveling to another country to receive medical services if I have major medical needs.	.730	.848
Medical tourism might be a practical option for me in future.	.747	.916
Certain treatments might motivate me to seek medical services in a foreign country.	.736	.911

a Principal Components Analysis, varimax rotation
b CFA 1st-order measurement model standardized regression weights, all path coefficients significant at $p < .001$.
c Cronbach's Alpha
d Average Variance Extracted in CFA
e Reverse-coded items

Table 2 – Correlation Matrix and Descriptive Statistics

	M	SD	1	2	3	4	5	6	7
1. Medical restrictions	2.80	.98	1.00						
2. Patient privacy	2.76	1.12	.426	1.00					
3. Domestic medical costs	3.40	1.18	.401	.351	1.00				
4. Tourist attractions	2.73	1.22	.360	.342	.374	1.00			
5. Service quality assurance	2.35	1.08	.382	.380	.405	.345	1.00		
6. Destination desirability	3.48	1.15	.501	.514	.646	.478	.314	1.00	
7. Medical tourism consideration	3.50	1.34	.512	.435	.631	.228	.448	.730	1.00

Table 3 – Hypothesis Testing with SEM (Structural Model)

Path	Standardized β	SE	P	Hypothesis
Domestic medical costs → MTC [a]	.381	.056	< .001	H1 supported
Patient Privacy → MTC	.182	.064	= .004	H2 supported
Medical restrictions → MTC	.263	.070	< .001	H3 supported
Destination desirability → MTC	.239	.048	< .001	H4 supported
Domestic medical costs → Destination desirability	.321	.052	< .001	H5 supported
Tourist attractions → Destination desirability	.258	.057	< .001	H6 supported
Service quality assurance → Destination desirability	.253	.064	< .000	H7 supported

Model Fit: χ^2 = 746.184 (df = 368), p = 0.000
GFI = .961; CFI = .956; IFI = .957; RMSEA = .065

a Medical Tourism Consideration

Figure 1 – The Conceptual Model