

An Exploratory Examination of Decision Factors for Self-financed Medical Tourism

Abstract

Outsourced medical treatment has experienced significant expansion during the last decade. The emerging type of travel combines medical treatment with excursion packages, providing consumers with high-quality but low-cost medical care around the world. The purpose of this study is to explore possible decision factors for medical tourism and identify predictors for those decision factors. To this end, we conducted an empirical study of a sample of 1,066 participants, culminating in a proposed four-factor decision model for overseas medical tourism. In order to determine predictors for decisions regarding medical tourism, four statistical tests—Exploratory Factor Analysis (EFA), Multivariate of Analysis (MANOVA), Descriptive Discriminant Analysis (DDA) and Post-Hoc Analysis—were utilized. Four factors of the decision model were extracted: medical quality, accommodation, family support and language concern. As for the significant predictors for decisions, consumers might make different decisions regarding medical tourism based upon their gender, education status and personal medical expenditure saving levels. The article concludes with some implications for practice and suggestions for future research based on the study's findings.

Keywords: Medical Tourism, Outsource, Decision Model

Introduction

With total health costs recently exceeding \$1.5 trillion per year, the need to control health expenditures has become a top priority in the United States (Bies & Zacharia, 2007).

Specifically, Americans have the highest health-related spending per capita among members of the Organization for Economic Cooperation and Development. For example, Americans on average spend more than \$5,000 for medical services annually, as compared to less than \$100 in

India (Bookman & Bookman, 2007). These medical expenditures also illustrate the importance of the medical sector in American society and indicate the potential power of the medical market. From a macroeconomic perspective, spiraling health costs continue to have significant effects on the profits of American companies and to harm their competitiveness in the global market. Therefore, outsourced medical services have become one alternative for decreasing operation costs, even though some people question the feasibility of this course of action for the American market.

Unlike many European countries, the U.S. doesn't have socialized medicine, thus consumers not covered by employer-provided insurance have been hit hard with personal out-of-pocket expenses. To decrease personal financial burdens, American patients without sufficient health coverage are searching for affordable alternatives. Employers are seeking to reduce health insurance costs by offering employees incentives for outsourced medical care. Also, some patients are considering overseas medical treatments generally not covered under insurance policies, such as cosmetic surgery or fertility treatments (Gupta, 2008; Millstein & Smith, 2006, Wolff, 2007).

The combination of travel and medical treatment is not a new concept; the ancient Greeks people traveled to seek medical treatment by visiting the temple of the Greek god of medicine and healing, as they believed this kind of pilgrimage would cure their diseases. Since the 18th century, spa visiting has been viewed by Europeans in particular as an alternative approach to help people recuperate from various diseases. Visiting remote areas like African villas or seaside resorts in England, became one of options for restoring one's health (Klaus, 2006). During the 1900s, wealthy patients flooded into some American clinics with advanced medical care quality such as Mayo Clinic in Minnesota or Cleveland Clinic in Ohio (Pfford, 2009).

In modern times, the world has become increasingly “flat,” and overseas medical services have experienced a phenomenal expansion for decades (Milstein & Smith, 2007), particularly as traveling for medical reasons become a viable cost-saving measure (Lee & Davis, 2004). The results from a poll indicated that there will be over 40% of American healthcare customers will consider the overseas treatment in the future (Pafford, 2009). While overseas medical care previously consisted mainly of outsourcing tasks such as radiology and other diagnostics, medical transcription, and coding and collections, present day globalization in the health sector involves hands-on specialty care and complex procedures performed at a fraction of the cost. Overseas medical services have become one of the most popular options for American consumers to decrease extravagant medical bills for the last decade. Bies and Zacharia (2007) utilized the Analytical Network Process (ANP) model for understanding whether or not medical tourism is worth promoting in the United States by simultaneously considering the associated benefits, opportunities, costs and risks in four different types of medical packages. Based on their findings, self-selected medical tourism is the most preferred among the four different packages, due to its low cost and the variety of choice. Employer-encouraged programs rated second, as they have a slightly higher cost but incorporate good insurance coverage. Many middle-class Americans predictably would seek the possibility of the same medical surgery at one-tenth the cost in Thailand or India, which prevents them from becoming a new member of the poverty class (Milstein & Smith, 2006).

The medical tourism market size will reach about \$21 billion a year by 2010 and over 10 million American patients is seeking oversea medical treatment as an alternative option to save their medical expenses (Cook, 2008). An estimated 500,000 Americans traveled overseas for affordable medical treatment, according to the National Coalition for Health Care, indicating that

the American health care system is no longer immune to overseas competition (NCHC, 2007). Overseas medical services appeal to both individuals and companies as they could significantly slash the cost of medical treatment. For example, a heart coronary bypass is more than \$100,000 in the United States, compared to about \$10,000 for the whole travel package at an Indian hospital (Wolff, 2007). Americans have traveled to Latin America for decades seeking cosmetic surgery and dental work, but it's only in recent years that serious elective surgery halfway around the world has become a viable option (Pollack, 2003; Rai, 2005; Slater, 2004; Soloman, 2004). Table 1 illustrates typical price differentials for seven common non-urgent surgeries studied in six countries by the Medical Tourism Association (MTA) in 2010. In many cases, price differentials can be as high as 90%. As a result, insurance companies such as Blue Cross/Blue Shield in South Carolina also start offering the overseas medical options and foreign care programs to their customers in order to slash their costs as foreign medical service is only charged at a small proportion of U.S. costs (Pafford, 2009).

[Insert Table 1 here]

From the perspective of service suppliers, a tremendous quantity of medical tourists traveled around the world for medical services in the past decade, and this new tourism has created significant benefits for local economic development. The OECD (1989) recognized the profitability of medical tourism in some developing countries (e.g. Cuba, India, Malaysia, and Thailand) and suggested that such special tourism offered an outlet for revenue generation. Medical services became a new economic engine due to the decreased tariff on the international service industry, internationalized human capital, declining travel costs, advances in transportation technology and powerful information technology (Bookman & Bookman, 2007; Comarow, 2008; Woodman, 2007). For example, since 2002, medical tourism to India has been

increasing at 30% per annum; over 150,000 foreigners sought medical care in India last year (Woodman, 2007). Also, more and more international medical tourists traveled to America for care, bringing more than \$2 billion to the U.S. and marking such medical services as a significant revenue source for local clinics and hospitals like the Mayo Clinic or Johns Hopkins Hospital (Lee & Davis, 2004; Walt, 1998; Zinn, Kashlak, & Balotsky, 1994). Local governments outside the U.S. also assist hospitals and clinics by aggressively luring American and Western European patients with cutting-edge technology. For example, Cuban medical industry successfully developed two cancer vaccines for head/neck and lung cancer, licensed by three American medical companies (MEDICC, 2004).

Taken together, medical tourism, the practice of seeking overseas medical treatment, has burgeoned into a sophisticated business for decades in Western countries as it offers significant cost reductions for health care. Most companies or health insurance providers believe it is a ticket to reduce health care costs by outsourcing major medical services to other countries. Price is the major incentive for such overseas medical services (Bookman & Bookman, 2007). However, there might be other factors that affect patients' decisions regarding such medical services; these factors should also be taken into consideration. Thus, the purpose of this study is to explore possible decision factors for self-financed medical tourists as well as take the next step towards understanding the potential for outsourcing medical services.

The Study

Little empirical research exists regarding medical tourism/travel. Issues of legal redress for medical malpractice (Howze, 2007; Mirrer-Singer, 2007) and potential market size (Milstein & Smith, 2007) have been examined. The more financially stressed the household, the more likely the respondents were to consider travel to a "very good offshore hospital with good

surgeons.” Milstein and Smith found a potential market of 20-40% for surgery of a non-emergency nature. Study participants were asked how much savings it would take for the sick person in the household to agree to major surgery in a good hospital outside the U.S. with well-trained surgeons speaking English or the patient’s language. Those stressed by expenses and the uninsured indicated that far lower levels of savings would motivate them to travel for surgery compared to those not under financial stress. Outside of these studies, systematic research on this burgeoning sector is spartan.

Research Design

In this exploratory study, a series of data analyses were conducted based on the two research questions. First, this study asked: which factors influence the intention to engage in self-financed medical tourism? The second research question asked whether or not five socio-demographic indicators including gender, education status, income level, affect participants’ decisions to participate in medical tourism. To address these questions, the quantitative survey research method was utilized to collect information about participants’ decisions. In spite of intensive literature reviews, discussions with medical consumers, other researchers and employees in the health sector also aided in developing a scale with wording clarity. Face validity of the questionnaire was evaluated by the panel of subject matter experts (Barbbie, 2006).

With approval from the Institutional Review Board, data were collected from participants in Midwest states in the United States in 2008. After giving their consent, 1,017 volunteers participated in the study, and all questionnaires were distributed and collected by the end of 2008.

Independent Variables

To evaluate how individual characteristics affect their decisions on overseas medical services, five socio-demographic variables were used in this study: gender, education status, income level, ethnicity and medical expenditure saving levels. Specifically, participants' education status was categorized as high school graduate, college degree and above college. Income level was classified as low (below \$25,000), middle (from \$25,001 to \$50,000), or middle high (\$50,001 and above). Ethnicity was categorized as Caucasian and non-Caucasian. The medical expenditure saving level was measured using four categories, including irrelevant (the level of personal savings has nothing to do with the decision seeking overseas treatment), low (less than \$10,000 saved), middle (from \$10,001 to \$40,001 saved) and high (more than \$40,001 saved).

Dependent Variables

The nineteen overseas medical decision items and their responding scales were developed based on reviews of relevant literature. All questions were presented to subjects in a Likert format with a response scale of one to six, where responses were labeled: 1=Not at all important, 2=Not Important, 3=Slightly Important, 4=Important, 5=Very Important, 6=Extremely Important.

Data Analysis

For the first step, Exploratory Factor Analysis (EFA) was utilized for data reduction and to generate the acceptable latent constructs or dimensions from the data set for further comparisons (Fabrigar, Visser, & Brown. 1997). Next, the constructs derived from the EFA provided the basic analysis units for comparisons with five independent variables. Specifically, multivariate statistical techniques (e.g. Multivariate of Analysis, MANOVA) were utilized to understand whether or not there are significant mean differences in the combined decision

factors for individuals of different socio-demographic backgrounds. One of the significant advantages of the multivariate approach is that it improves the probability of discovering the actual changes by controlling the possibilities of Type I error inflation (Tabachnick & Fidell, 2007). Also, in order to provide unbiased parameter estimates, cases with missing values were deleted in the pre-analysis screening using listwise deletion, as it is the most conservative missing data process (Mertler & Vannatta, 2002). The missing percentage was below the 15% critical rate (Mertler & Vannatta, 2002) for all questions in this study.

Each MANOVA analysis involved two steps. First, MANOVA would determine whether or not there are significant mean differences across groups for five socio-economic factors. No additional test was carried out for the next step if MANOVA test failed to find significant group differences. Second, the Descriptive Discriminant Analysis (DDA) and Post-hoc test are two follow-up tests when significant overall *F*-test is identified in each ANOVA. The rationale that DDA was employed in this study is that it serves as a multivariate approach to identify which decision factors best separate the predictor group across different level. Scheffé's post hoc analysis was employed to assess which group means significantly differ from others (Stevens, 1992). To avoid a higher probability of mistakenly rejecting a correct hypothesis, a Bonferroni adjustment was used by adjusting from the .05 to the .01 level, to control against Type I error inflation (Tabachnick & Fidell, 2007).

Results

Participants' Profiles

A total of 1,017 volunteers enrolled in this survey. The sample size satisfied the requirements for MANOVA and its follow-up tests as suggested by Hair et al. (2006). Table 2 illustrates the characteristics of the participants in this study.

[Insert Table 2 here]

Most participants had high school diplomas and were in middle-high income status. Twenty three percent of total participants believe that the level of personal savings has nothing to do with the decision to seek overseas medical treatment.

Predictors and Decision Factors

After factor analysis, a value of over .90 levels in the KMO (Kaiser-Meyer-Olkin) measurement and a significant Bartlett's test of sphericity suggested that this dataset was suitable for exploratory factor analysis (Tabachnick & Fidell, 2007). After varimax rotation, the analysis produced a four-factor solution, which was evaluated on the basis of three criteria: eigenvalue, loading values and scree plot (Mertler & Vannatta, 2002; Tabachnick & Fidell, 2007). Specifically, items with an eigenvalue lower than 1, factor loading values lower than .40 (with 25% overlapping variance, Comrey & Lee, 1992) and falling outside the sharp descent of the line would be deleted after EFA. Four factors were extracted and served as the dependent variables for the following MANOVA: medical quality, accommodations, family support and language concern. Approximately 56.5 percent of the total variance is explained using EFA. Table 3 illustrates a breakdown of which items composed each of the four factors and their factor loading values. Reliability analyses were used to examine the items in each factor, and all Cronbach's Alpha values meet the .7 criterion (Nunnally, 1994) for ensuring their homogeneity and the internal consistency of factor constructs, with the exception of the fourth factor (cultural immersion). After MANOVA statistical tests, the results indicated that gender, education, and personal saving level significantly affect the combined variables: four decision factors.

[Insert Table 3 here]

MANOVA results revealed significant gender differences for the decision factors, Pillai's Trace=0.28, $F(4, 1061)=7.52, p<.05$, partial multivariate $\eta^2=.05$. DDS revealed that one out of three generated functions was significant, $\Lambda= 0.97, \chi^2 (4, N=1066) =30.07, p<.05$, indicating that the constructs differentiating gender were primarily the medical quality and language concern factors, with Canonical Variate Correlation Coefficients (CVCC) of .77 and .76, respectively. Later, the univariate ANOVA (the Scheffe test, see Table 4) results were found to be congruent with findings from DDS, suggesting that the gender category significantly differed for medical quality ($F(1, 1064)=18.15, p<.001$, partial $\eta^2=.07$) and language concern ($F(1, 1064)=17.53, p<.001$, partial $\eta^2=.03$). Female participants were significantly more likely to consider the medical quality and language concern as major factors for overseas medical tourism than male counterparts.

[Insert Table 4 here]

Education and Four Decision Factors

MANOVA results (see Table 5) revealed a significant mean difference in the four decision factors across three education status groups, Wikes' Lambda =.98, $F(8, 1976)=2.18, p<.05$, partial multivariate $\eta^2=.05$. DDS suggested that foreign connection and cultural immersion serve as the best discriminators for separating the program length category, Wikes' $\Lambda= 0.98, \chi^2 (8, N=994) =17.40, p<.05$. Specifically, mean differences among education group levels were discriminated by accommodation and family support (CVCC = .78 vs. .74, respectively). Later, The Scheffe test with Bonferroni adjustments indicated that mean differences of education status were significant only for language concern, $F(2, 991)=4.76, p<.01$, partial $\eta^2=.024$. High school graduates tended to be more likely to emphasize the

importance of language concern for overseas medical decisions than their post-college counterparts, 5.11 vs. 4.78, respectively.

[Insert Table 5 here]

Personal Medical Saving Levels and Four Decision Factors

In Table 6 MANOVA revealed the significant combined decision difference among four medical expenditure saving groups (irrelevant, low, middle, and high), Pillai's Trace=.10, $F(12, 3063)=8.84.30, p<.001$, partial multivariate $\eta^2=0.15$. DDA indicated that family support (CVCC=.87) and accommodation (CVCC=.84) served as the best variables to distinguish medical expenditure savings across the four levels, Wikes' $\Lambda=0.93, \chi^2(8, N=994)=53.17, p<.05$. Later, the post hoc analysis (Scheffé) with Bonferroni adjustments also suggested the following significant differences, including accommodation, $F(3, 1022)=20.27, p<.001$, partial $\eta^2=0.25$; and family support, $F(3, 1022)=31.14, p<.001$, partial $\eta^2=0.25$. The "middle high" and "irrelevant" savings groups believe accommodation is a more important factor for medical tourism than the "middle" group (4.37 vs. 3.93, respectively; 4.43 vs. 3.93, respectively). However, the "low" savings group believed accommodation is a more important factor for medical treatment than the "middle high" and "irrelevant" savings groups (5.20 vs. 4.37, respectively; 5.20 vs. 4.43, respectively). Both "irrelevant" and "middle high" savings groups were more likely to recognize the importance of family support in the decision process than the "low" savings group (4.19 vs. 3.47, respectively; 4.47 vs. 3.47, respectively). The "middle high" group believes family support is a more important factor than the "middle" counterpart (4.19 vs. 3.77, respectively).

[Insert Table 6 here]

Discussion

Based on the findings, there were four decision factors extracted from the dataset, indicating that decisions regarding medical tourism are derived from considerations of medical quality, accommodation, family support and language/communication. Quality of medical care accounted for the most variance in the decision making process and it becomes the most important factor for self-financed medical tourism. Such findings are congruent with previous studies suggested that the quality of medical professionals is the most important factor for oversea medical trip (Connell, 2006; Klaus, 2006; Smith & Forgione, 2007). Muller and Kaufmann (2001) did their market research about wellness tourism in Switzerland and concluded quality of services including well-trained staff and comprehensive facilities are critical factors for the health-related tourism services based on their findings from the importance performance analysis. Ye, Yuen, Qiu, and Zhang (2008) utilized the push and pull theory to identify motivations for oversea medical trips and also concluded that medical quality and providers' expertise are major components in pull factor to attract medical tourists. Heung, Kucukusta, & Song (2010) proposed a demand and supply model of medical tourism and suggested that medical service quality is one of four important factors in the supply side, including communication, promotion, and infrastructure.

One of the criticisms of the quality of medical tourism derived by Wolff (2007) from his interviews with American doctors is that there is not a standard for evaluating the quality of medical services overseas. Thus, patients might experience more fear and uncertainty about quality than if they faced the same medical treatment in the United States. The skill of the surgeons, infection rates/sanitation, the use of counterfeit drugs, aftercare upon return to the U.S., the inability to sue for malpractice and Joint Commission International (JCI) accreditation were key items in the overall assessment of quality of care. JCI started accrediting overseas

medical institutions in 2000, and about 120 international hospitals successfully finished the accreditation process by 2007 (Wolff, 2007). If potential patients can feel assured that these areas of concern regarding the quality of care are meeting high standards, medical travel is more likely.

Once high quality of care is assured, the next area of concern is totally unrelated to medicine: concerns regarding simple logistics. Thus, service providers should create a smooth path for paperwork, such as visas, flights, accommodations and areas of recuperation. Some medical tourists commented that the itinerary of travel packages is also an attraction for overseas medical tourism. Also, health care is a prime concern, arousing many emotions and insecurities. People are dealing with their lives and the lives of their loved ones; thus, the prospect of entrusting health care to practitioners in a developing country might be troubling. The prospect of traveling without one's familial support system and dealing with language and cultural barriers is daunting to most people. Language also played a key role for decisions regarding medical tourism, as patients hope that they will be able to communicate with foreign doctors about what they needed and to describe their own symptoms. Heung, Kucukusta and Song (2010) suggested that the ability of bilingual communication also is an important factor in the supply side as most medical tourists expect that they can discuss their medical treatments with non-native doctors. In another study about the barriers of medical tourism, language also becomes one of the major barriers to develop the medical tourism market for some overseas medical service providers as most foreign patients come from English-speaking countries. However, it might not be one of the most important factors as English is a universal language in the medical field and most foreign doctors do not have a language barrier. Besides, language also might serve as a decisive factor

for second-generation immigrants who would feel comfortable seeing doctors in their countries of origin (Bookman & Bookman, 2007).

As for differences in four decision factors for individuals of different demographics, this study suggested the decisions regarding overseas medical services will significantly vary in terms of patients' gender, education status and level of medical expenditure saving. The decision was not different according to patients' income levels and ethnic backgrounds. The results were not congruent with literature suggesting that income is the major predictor for overseas treatment decisions, regardless of gender, age and ethnicity (Bookman & Bookman, 2007). Specifically, in this study, female consumers were more likely than their male counterparts to believe that quality and language/communication are two essential issues for decisions on medical tourism. Females believe these two factors might help them decrease their anxiety and the risk associated with medical treatments in foreign countries. Namely, female customers might perceive more risks in overseas medical treatment than males and such gender differences might have major implications for providers' marketing programs.

The ability of communication between patients and foreign medical service providers has become one of major concerns about foreign medical tours. Namely, decisions on medical tourism varied from high school graduates to post-college graduates as far as the language/communication was concerned. One possible argument might be that college graduates might have more language skills or more exposure to international students/instructors/speakers who convince them that you don't have to be from the U.S. to speak good English than their high school educated counterparts. College graduates might be comfortable with their own language skills as some colleges have requirements for second language acquisition. Also, college graduates have more knowledge about the prevalence of English in some professional fields (e.g.

academics and medicine) than high school graduates. As for the personal medical expenditure savings level, there was not a linear relationship between levels of savings and decisions regarding medical tourism. Namely, the level of medical expenditure savings would not be a proper predictor for the overseas medical decision, even if there were some statistically significant relationships among different levels of medical expenditure savings.

Conclusion and Implications

Medical tourism not only serves as a venue for economic benefits in some developing countries, but also offers one of viable options for people suffering from high health costs. Based on the Deloitte poll report, about 40% of participants will consider choosing the elective and self-financed medical treatments overseas as long as such treatments are half-priced and foreign medical institutions could deliver the quality medical service to them (Khan, 2010). For example, India has emerged as the market leader for medical tourism, with an approximated 150,000 foreign patients in 2007, compared to 10,000 five years ago, and may be on the threshold of another dramatic boom (Ananthakrishnan, 2006). The flight of America's "medical refugees" is a symptom of a troubled antiquated bureaucratic health delivery system; outsourced health care will deprive U.S. hospitals of billions in annual revenue. American hospitals will be forced to compete on price and become more transparent, as medical tourism is adding a new level of competition.

Due to the globalization, American people will be able to access to some less expensive and affordable medical treatment around the world. Such overseas medical services make it true that these patients could pay "first-class medical services at third-world prices" (Ramirez de Arellano, 2007, p.194). Almost 750,000 Americans traveled overseas in 2007 for medical care. This number is expected to increase to 6 million after 2010 (Yee, 2008). Most of these

consumers are not seeking cosmetic surgery, but instead are middle-income Americans seeking medically necessary operations that would impoverish them in the US. These patients, who are underinsured or uninsured, self-employed or coping with insurance plans with restrictive coverage, are ready to leave America and trek halfway around the globe for surgery, as they become increasingly cost-sensitive. The current global financial crisis can only exacerbate the situation; the power of economics cannot be denied.

However, some constraints on medical tourism should be noted for medical tourism planners based on the findings. First, quality assurance of medical service has become one of the major factors for the patients who explore the possibility for the oversea treatment (Smith and Forgione, 2007). The quality of professionals in medical service has been a major issue for most foreign patients as they are totally convinced that it is the same quality as they can have in their home towns (Connell, 2006). Second, some people do not have access to overseas medical services, and the great majority of health services will always be conducted in the country of residence, due to regulations such as U.S. Medicare, which will not pay for services done outside the U.S., personal preference and practical considerations. Third, patents are the major issue for international regulation, as they are territorial, and the patented medical technology is only legally used in the United States (Bookman & Bookman, 2007). Other four major barriers for the development of international medical tourism include international regulations, international standards, insurance and patient protection. York (2008) confirmed that one downside for the oversea medical tourism is the lack of liability for the malpractice and some oversea hospitals starts listing their liability in their contracts with foreign patients. Besides all this, geographic proximity to familiar physicians and to family and friends provide enormous emotional benefits that are difficult to quantify. However, a small but significant percentage of medical services will

be performed offshore in some developing countries such as Cuba, India, Singapore, and Thailand in the future.

The newness of the medical tourism industry, the emotional nature of health care, and the misconceptions held by consumers require that the healthcare industry pay close attention to factors influencing medical travel decisions. Full page advertisement for oversea medical treatment now run in weekly American periodicals such as TIME and NEWSWEEK, courting American consumers, but no amount of advertising will recruit patients if key criteria are not met, like quality of medical treatment. This study found that quality of care, ease of logistics, language/translation aid, and family support were the factors of most importance to potential U.S. consumers who seek for overseas medical tours. Moving from dental work, facelifts and tummy tucks, to open heart, complex orthopedic hip replacement and neurological surgery is a profound change. In addition to branching out into these fields, medical tourism will prove its cost effectiveness and might serve as another option for specific medical treatments not available in individuals' hometowns (e.g. hip resurfacing or fertility treatment). Moreover, in this study, individuals of gender, education status and medical expenditure saving levels were significantly associated with decisions on overseas medical treatment. Such findings will be critical for medical service providers to understand their customers' needs and preferences as well as better market their medical products in the future.

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Table 1

Surgical Price Differentials in Six Countries (MTA, 2010)

	HB	HVR	ANG	HIP	HYS	KNE	SPF
USA	\$144,000	\$170,000	\$57,000	\$50,000	\$15,000	\$50,000	\$100,000
India	\$5,200	\$5,500	\$3,300	\$7,000	\$2,500	\$6,200	\$6,500
Thailand	\$15,121	\$21,212	\$3,788	\$7,879	\$2,727	\$12,297	\$9,091
Malaysia	\$11,430	\$10,580	\$5,430	\$7,500	\$5,250	\$7,000	\$6,000
Costa Rica	\$25,000	\$30,000	\$13,000	\$12,500	\$5,700	\$11,500	\$11,500
Mexico	\$27,000	\$18,000	\$12,500	\$13,000	\$5,800	\$12,000	\$12,000

Note. HB-Heart Bypass; HVR-Heart Valve Replacement; ANG-Angioplasty; HIP-Hip Replacement; HYS-Hysterectomy; KNE-Knee Replacement; SPF- Spinal Fusion.

Table 2

Characteristics of Participants in the medical tourism study

Demographic Characteristics	Frequency	Percentage
Gender, N=1066		
Male	543	51
Female	523	49
Education status, N=994		
High school graduate	514	52
College degree	346	35
Above college	134	13
Income, N=1064		
Low	349	33
Middle	313	29
Middle high	402	38
Ethnic background, N=1041		
Caucasian	975	94
Non-Caucasian	66	6
Personal saving level, N= 1026		
Irrelevant to oversea medical treatment	239	23
Low	301	29
Middle	296	29
High	190	19

Table 3

Factor Loadings, and Cronbach's Alpha Values of Five Program Effect Model by EFA

Factor Names and Items	Loading	α	Explained Variance
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Factor 1, Medical quality		.88	21.11%
▪ Competence of surgeon/medical team	.75		
▪ Overall quality of care	.72		
▪ Sanitation/infection rates of the country	.71		
▪ Accredited by JCI	.60		
▪ Post-treatment continuity of care upon return	.59		
▪ Small or no medical malpractice overseas	.55		
▪ Concern over counterfeit drugs in use	.49		
▪ Elective/scheduled treatment	.40		
Factor 2, Accommodations		.85	15.64%
▪ Help with all arrangements, such as air/hotel	.82		
▪ Assistance with passports and visas	.80		
▪ Recuperation at a vacation resort	.54		
▪ High quality hotel service overseas	.50		
Factor 3, Family support		.77	12.33%
▪ Approval of families and friends	.73		
▪ Family/support network	.67		
▪ Length of air travel time	.50		
Factor 4, Language concern		.84	7.41%
▪ Onsite interpreters in multiple languages	.76		
▪ Language barriers/translations issues	.58		

Note. All items are measured on a 6 point scale of 1= not at all important to 6 = extremely important.

Gender and Four Decision Factors

Table 4

Multivariate Analysis of Variance of Decision Factors by Gender

Decision Factors	Overall Mean	Gender		F- value
		Male	Female	
		-Mean Agreement Scores-		
Medical quality	5.24	5.14	5.34	18.15****
Accommodation quality	4.07	4.04	4.10	0.73
Family support	3.92	3.81	4.06	9.57
Language concern	5.03	4.90	5.18	17.53****

Note: Overall agreement score was measured on a six-point scale of 1 = not at all important to 6 = extremely important

* $p < .05$; ** $p < .01$; **** $p < .001$

Table 5

Multivariate Analysis of Variance (MANOVA) of Decision Factors by Education

Decision Factors	Overall Mean	Education Status			F- value
		H.S.	College	Post College	

		-----Mean Agreement Score-----			
Medical quality	5.23	5.26	5.22	5.13	1.55
Accommodation	4.07	4.18	3.98	3.89	4.35*
Family support	3.91	4.03	3.79	3.77	4.57*
Language concern	5.05	5.11 _a	5.00	4.78 _a	4.76**

Note. Overall agreement score was measured on a six- point scale of 1 = not at all important to 6 = extremely important. Means sharing the same subscript differ at $p < 0.0125$ in the Scheffé comparison, two-tailed.

* $p < .05$; ** $p < .01$; *** $p < .001$

Table 6

Multivariate Analysis of Variance of Decision Factors by Four Medical Personal Saving Groups
 Personal Saving Groups

Decision Factors	Overall	Personal Saving Groups				F- value
	Mean	Irrelevant	Low	Middle	M. High	
		-----Mean Agreement Score-----				
Medical quality	5.24	5.44	5.20	5.20	5.25	8.34
Accommodation	4.07	4.43 _{b,d}	5.20 _{a,b}	3.93 _{c,d}	4.37 _{a,c}	20.27***
Family support	3.93	4.47 _f	3.47 _{e,f}	3.77 _g	4.19 _{e,g}	31.14***
Language concern	5.03	5.31	4.86	4.91	5.15	9.90

Note. Overall agreement score was measured on a 6 point scale of 1 = not at all important to 6 =extremely important. Means sharing the same subscript differ at $p < 0.01$ in the Scheffé comparison, two-tailed.

* $p < .05$; ** $p < .01$; *** $p < .001$