Medical Tourism Services Available to Residents of the United States

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BACKGROUND: There are growing reports of United States (US) residents traveling overseas for medical care, but empirical data about medical tourism are limited.

OBJECTIVE: To characterize the businesses and business practices of entities promoting medical tourism and the types and costs of procedures being offered.

DESIGN, PARTICIPANTS, AND OUTCOMES: Between June and August 2008, we conducted a telephone survey of all businesses engaged in facilitating overseas medical travel for US residents. We collected information from each company including: the number of employees; number of patients referred overseas; medical records security processes; destinations to which patients were referred; treatments offered; treatment costs; and whether patient outcomes were collected.

RESULTS: We identified 63 medical tourism companies and 45 completed our survey (71%). Companies had a mean of 9.8 employees and had referred an average of 285 patients overseas (a total of approximately 13,500 patients). 35 (79%) companies reported requiring accreditation of foreign providers, 22 (50%) collected patient outcome data, but only 17 (39%) described formal medical records security policies. The most common destinations were India (23 companies, 55%), Costa Rica (14, 33%), and Thailand (12, 29%). The most common types of care included orthopedics (32 companies, 73%), cardiac care (23, 52%), and cosmetic surgery (29, 66%). 20 companies (44%) offered treatments not approved for use in the US – most commonly stem cell therapy. Average costs for common procedures, CABG (\$18,600) and knee arthroplasty (\$10,800), were similar to previous reports.

CONCLUSIONS: The number of Americans traveling overseas for medical care with assistance from medical tourism companies is relatively small. Attention to medical records security and patient outcomes is variable and cost-savings are dependent on US prices. That said, overseas medical care can be a reasonable alterna-

tive for price sensitive patients in need of relatively common, elective medical procedures.

KEY WORDS: medical tourism; uninsured; travel; elective surgery.

J Gen Intern Med 26(5):492-97

DOI: 10.1007/s11606-010-1582-8

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INTRODUCTION

The supply and demand of medical care has historically been a local endeavor with the vast majority of patients seeking medical care from providers practicing in their home country in close proximity to their residence.¹⁻⁴ The most notable exception to the local delivery of healthcare has been the international travel of wealthy patients from lower wage countries to prestigious medical centers in the United States (e.g., The Mayo Clinic, The Cleveland Clinic).⁵⁻⁷ The inbound travel of foreigners to the United States (US) for medical care has been cited as evidence of the strong demand for complex services among residents of countries with less access to advanced medical technology.⁸

In recent years growing reports have emerged in the lay press of an alternative migration pattern.⁹ In particular, an array of articles have highlighted the emergence of a medical tourism industry in which patients from high wage (high cost) countries such as the US travel to low wage (low cost) countries to seek care specifically from providers and hospitals who have developed businesses catering to so called "medical tourists".¹⁰⁻¹² The growth in medical tourism has not gone unnoticed by health care providers with a number of prominent interest groups and organizations issuing statements and policies in an effort to guide both physicians and patients.^{13,14} Several motivations for medical tourism have been reported including lower costs with comparable quality, the availability of treatments not approved in the US, and avoidance of lengthy treatment delays.^{15,16} While medical tourism has been the subject of debate and speculation, there are currently little rigorous, empirical data describing the medical tourism market.

The overarching objective of our study was to describe the availability and consumption of offshore medical services by patients residing in the US. To this end, we conducted a

Electronic supplementary material The online version of this article (doi:10.1007/s11606-010-1582-8) contains supplementary material, which is available to authorized users.

Received June 2, 2009

Revised October 26, 2010

Accepted November 2, 2010

Published online December 15, 2010

mixed-methods survey of companies in the business of facilitating the overseas medical travel of US residents. We collected information from each company regarding key issues related to medical tourism that, to the best of our knowledge, have not been studied previously. In particular, we sought to obtain the basic business characteristics of companies engaged in promoting medical tourism, medical records security and quality assurance practices and common destinations, procedures and prices offered to patients.

METHODS

Company Identification

At the time of our study design there was no comprehensive list or database describing companies engaged in promoting medical tourism. Therefore, we used four complementary methods to identify businesses facilitating medical tourism for US residents. First, we conducted a literature review in PubMed using the keywords “medical tourism,” “health tourism” and “travel medicine” to identify articles focusing on medical tourism. We reviewed these articles and contacted any companies that were mentioned. Second, we identified additional companies based upon the experience of one of the study authors (M.D.H.) who operates a medical tourism consulting company and has published a number of review articles in this area.^{17,18} Third, we conducted an internet search using the terms described above to identify additional candidate businesses. Finally, we used a snowball sampling approach during our telephone interviews in which all interviewees were allowed to name additional businesses that they knew were offering similar medical tourism services. This resulted in the identification of 195 potentially eligible companies.

Inclusion Criteria

We applied a number of a priori inclusion/exclusion criteria to companies that were identified because of our desire to focus our study on businesses that specifically facilitated travel of US residents seeking medical care (Fig. 1). In particular, because we were looking for companies focusing largely or

exclusively on Americans, we excluded internet-only businesses without a US telephone number (N=97). We also excluded companies that exclusively promoted overseas travel for dental, spa or wellness treatment (N=5) and companies that only offered information about medical tourism or only provided contact information for overseas providers that patients could use on their own (N=30). These determinations were made either by initial telephone interviews and/or by reviewing company web sites. We attempted to contact each business both by telephone and email. Companies were considered to be out-of-business and ineligible for our study if we were unable to make contact with a corporate representative with at least five telephone calls made over at least two weeks and at least three email messages.

Questionnaire Development

We developed a study questionnaire based upon an initial review of the medical tourism literature. The questionnaire contained both open and closed ended questions and was designed to capture five main areas of interest: 1) basic business characteristics; 2) company identification of customers (patients); 3) services and destinations offered; 4) costs and payment; 5) medical records security and patient outcomes. A full copy of the study survey is available as an online appendix to this manuscript. The survey instrument was initially pilot tested on five companies and subsequently revised by the study authors to maximize clarity of each question and associated responses.

We contacted representatives of each company by telephone and/or email and scheduled a 15-30 minute interview with whichever corporate representative was best suited to completing our survey. All interviews were conducted by one of the study investigators (B.A.) between 01 June 2008 and 30 August 2008; for open ended questions detailed notes were taken during the interview and entered verbatim into a Microsoft Access database for subsequent coding. The completed survey was then emailed back to each participant so they could review the survey and make corrections to the transcript if desired.

Data Analysis

We used univariate methods (e.g., percentages, means with standard deviations [SD]) to describe responses to closed-ended survey items (e.g., year each company opened, types of procedures offered). For open-ended survey items three members of the study team (B.A., T.L., and P.C.), led by an investigator with formal training in qualitative methodologies (T.L.), independently reviewed completed surveys to identify important themes that were discussed by study respondents. We jointly created a coding guide through an iterative process. Two of the investigators (B.A. and P.C.) then used the coding guide to independently abstract important qualitative data from each survey. The two coders (B.A. and P.C.) then jointly reviewed their coding decisions for each item; when differences in coding were observed, the investigators discussed the reasons for the differences and reached consensus to resolve differences.

Figure 1. Company flowchart – all companies screened for our study are shown and explanations are indicated for excluded companies.

To provide some perspective on the potential cost differences between medical care received in the US as compared to overseas, we compared the mean cost for individual procedures reported by our survey respondents with the mean Medicare payment for the same procedure. Medicare payments for each procedure were obtained from publicly available data from the Centers for Medicare and Medicaid Services (CMS) internet site. Specifically, for each procedure we added the average Medicare hospital DRG-specific payment to the mean physician fee for that procedure to come up with a mean total fee for each procedure. All analyses were performed using Stata SE statistical software (Stata Corp., College Station, TX). This project was approved by the University of Iowa IRB.

RESULTS

We identified 63 companies offering medical tourism services and 45 completed the survey (71% response rate). Basic business characteristics for each company are provided in Table 1. The mean number of employees at these businesses

Table 1. Overview of Companies Facilitating Overseas Travel of United States Residents

Characteristic	Number of companies (N=45)
Number of employees, mean (sd)	9.8 (12.3)
Year company opened	Number (%)
2004 or earlier	10 (22)
2005	4 (9)
2006	14 (31)
2007	13 (29)
2008	4 (9)
Company founder background	Number (%)
Business (non-healthcare)	21 (47)
Healthcare non-clinical	8 (18)
Healthcare clinical	5 (11)
Former patient	6 (13)
Travel agency	2 (4)
Unknown	3 (7)
Methods employed to attract patients, ^a	Number (%)
Internet advertising	45 (100)
Word of mouth	22 (49)
Print advertisement	10 (22)
Physician referral	6 (13)
Employer referral	4 (9)
Radio/TV	4 (9)
Insurance company referral	3 (7)
Other	3 (7)
Total number of patients referred overseas, mean (inter-quartile range)	285 (25, 350)
Corporate clients, number (%)	11 (24)
Employers	5 (11)
Insurance companies	4 (9)
Other/ not specified	2 (4)
Primary reason for seeking overseas care	Number (%)
Low cost	43 (95)
Better quality	2 (4)
Primary concern about overseas care	Number (%)
Quality concerns	26 (57)
Follow-up care	5 (11)
Costs	3 (7)
Distance and logistics	1 (2)
Other	3 (7)

^aCompanies may be placed in more than one category. Thus percentage may add up to more than 100%

Table 2. Business Practices and Quality Assurance Policies for Medical Tourism Facilitation Companies

Characteristic	Number of companies (N=45)
Quality assurance and data security	Number (%)
Provider accreditation required	35 (78)
Collect patient satisfaction data	41 (91)
Collect patient outcome data ^a	22 (50)
Have formal medical records security policies ^a	17 (39)
Facilitate communication between US and foreign providers	11 (24)
Follow-up care upon return	Number (%)
Patients see US physicians	42 (93)
Company can help coordinate care	19 (42)
Company has a network of US Physicians	9 (20)
Source of company reimbursement ^a	
Patient	30 (68)
Referral fee from overseas provider	13 (30)
Insurance company	1 (2)
Company reimbursed as a percentage of fee paid to overseas provider, number (%)	24 (53)
Mean percentage of fee received by company, mean %, (sd)	12.4 (6.1)
Company reimbursed a flat fee, number (%)	16 (36)
Fee received by facilitation companies, mean \$, (SD)	660 (780)

^aPercentages calculated based upon 44 companies that completed this specific survey item

was 9.8 and the mean number of patients referred overseas during each company's total time in operation was 285. Medical tourism companies were commonly founded by individuals with backgrounds in business, 47%, non-clinical healthcare, 18%, and former patients, 13%. Fewer than 25% of businesses reported obtaining clients (patients) through contracts with businesses or insurance companies and the most common ways of obtaining clients was through Internet and word-of-mouth advertising. The primary reason study respondents gave for patients choosing overseas medical care was lower cost, while the biggest concerns that the companies reported among their clients related to quality and coordination of follow-up care.

A majority of companies reported requiring some sort of accreditation for foreign providers and/or hospitals – most often by the Joint Commission International (JCI). (Table 2) A minority of companies described specific medical records security policies, 39%, or methods to facilitate communication between US and foreign providers, 24%. (Table 2) Many companies collected patient satisfaction data, 91%, but less collected health outcomes data, 50%. (Table 2) Arrangements for follow-up care were explicitly asked about and 93% of companies reported an expectation that this care would be delivered by US physicians; 42% of companies reported that they assisted in locating these doctors and 20% reported having a predefined network of physicians for follow-up care. (Table 2) With regards to payment, 67% of companies reported being reimbursed for their services directly by patients while 29% reported being reimbursed through a referral fee paid by the overseas providers to whom patients were referred to the medical tourism company. The most common fee schedule by which medical tourism facilitators reported being reimbursed was based on a percentage of the total fee paid by the patient to the overseas providers (mean percentage 12.4%). A substantial

percentage of companies reported being reimbursed based on a flat fee (mean fee \$660).

The most common overseas countries that companies reported referring patients to were India, Costa Rica, and Thailand though many other countries were mentioned less frequently including Malta, Israel, Spain and Germany. (Table 3) The most common medical services utilized by overseas medical travelers were orthopedic procedures, cardiac procedures, infertility treatment, and cosmetic surgery (Table 3); while we excluded companies focusing exclusively on dental care from our study, 34% of companies did report offering dental services in addition to medical services. A substantial percentage of companies reported offering services that were not approved and/or available in the US including stem cell therapy and cancer treatment. (Table 3) The mean costs for a number of common procedures are displayed in Table 4. Of note, the costs reported by the medical tourism companies for many common procedures were often similar to the costs paid by Medicare.

DISCUSSION

The results of this study provide an array of insights into the medical tourism market and the services delivered to US

Table 3. Destinations and Procedures Offered by Medical Tourism Facilitation Companies

Characteristics	Number of companies
Top destinations- number of companies reporting referral of patients to, number (%) ^a	
India	23 (55)
Costa Rica	14 (33)
Thailand	12 (29)
Mexico	10 (24)
Singapore	9 (21)
Other (e.g., Malta, Israel, Spain, Germany)	16 (38)
Treatments offered (approved/ available in the US) number (%) ^b	
Orthopedic	32 (73)
Knee arthroplasty	14 (32)
Hip arthroplasty	12 (27)
Spine/Disk surgery	1 (2)
Other/not specified	10 (23)
Cardiac	23 (52)
Coronary artery bypass graft surgery (CABG)	6 (14)
Percutaneous coronary intervention (PCI)	3 (7)
Other/not specified	15 (34)
Infertility	8 (18)
Cosmetic surgery	29 (66)
Abdominoplasty	6 (14)
Breast augmentation	6 (14)
Facelift	4 (9)
Dental procedures	15 (34)
Offer treatments not approved in the US, number (%) ^c	20 (44)
Specific treatments reported	
Stem cell therapy	7 (16)
Cancer treatment	2 (4)

^aPercentages calculated based upon 42 companies that completed this specific survey item

^bPercentages calculated based upon 44 companies that completed this specific survey item

^cPercentages based upon 45 companies all of whom completed this survey item

Table 4. Costs of Specific Procedures in the United States and as Estimated by Medical Tourism Facilitation Companies Medicare^a

Procedure	Overseas Cost (\$)	US Medicare Payment (\$)
CABG, mean (SD)	18600 (4600)	21000 ^b
PCI, mean (SD)	14400 (9300)	3800 ^c
Hip Arthroplasty, mean (SD)	9500 (4100)	11500 ^d
Knee Arthroplasty, mean (SD)	10800 (6400)	11600 ^e
Infertility Treatment, mean (SD)	12000 (4200)	N/A
Abdominoplasty, mean (SD)	3750 (750)	N/A
Breast augmentation, mean (SD)	2866 (152)	N/A
Facelift, mean (SD)	2833 (760)	N/A

^aNote that costs for overseas travel quoted by medical tourism providers typically included the physician fees, hospital fees, fees collected by the medical tourism operator, and travel expenses

^bMedicare mean reimbursement for DRG 550 + CPT code 33533

^cMedicare mean reimbursement for DRG 247 + CPT code 92980

^dMedicare mean reimbursement for DRG 544+ CPT code 27103

^eMedicare mean reimbursement for DRG 544+ CPT code 27447

residents. Our survey suggests that the number of American's traveling overseas each year may be smaller than previously reported and that cost is an important motivating factor for such travel.¹⁹ We also found that while most companies offer services that are commonly performed in the US, a significant proportion of companies also offer services that have not undergone rigorous testing and study. Our study suggests that while most companies require accreditation and certification of overseas providers, attention to medical records security and collection of data regarding patient outcomes is variable. Finally, our study provides important new information about the cost of certain procedures patients might expect to pay when traveling abroad.

A number of our findings merit further discussion. First, it is important to consider the potential number of Americans traveling overseas for medical care. A number of articles, studies, and reports have suggested that between 500,000 and 2,000,000 Americans travel overseas each year for medical care.^{11,20} Alternatively, our study mirrors the results of a study by consultants and McKinsey & Co. suggesting that the number of US residents who have traveled overseas with the help of companies engaged in promoting such services is perhaps on the order of 13,500 people total (45 companies who have referred an average of 300 patients each).²¹ The discrepancy in the estimates of the size of the overseas medical market is likely related to an array of factors. Many of the prior studies estimating a much larger medical tourism market were conducted by parties with personal and/or financial interests in the overseas medical travel market.²⁰ In addition, our study did not attempt to measure the number of Americans traveling overseas for dental care or the number of Americans who may have traveled overseas without using the services of the medical tourism companies who were the subject of our study. In particular, our study did not include Americans who might have traveled overseas after directly contacting foreign hospitals that market services in the United States such as the Bumrungrad International Hospital in Bangkok, Thailand (<http://www.bumrungrad.com/>, accessed November 2, 2010). Nevertheless, our results highlight the challenges of assessing the number of Americans traveling overseas for medical care and suggest that the market may be somewhat smaller than prior studies have estimated.

Second, our findings related to the cost of overseas medical travel also warrant discussion particularly given that cost was the most important reason cited by the companies for Americans' traveling overseas. We found that overseas medical costs for several procedures were generally similar to combined hospital and physician payments made by Medicare for the same procedures. Our finding of less than expected cost savings for overseas medical care differ from the findings of Milstein et al. who found that bypass surgery performed overseas was approximately half of the cost of bypass surgery paid by private insurers for procedures performed in California.²² Why the difference? Like Milstein et al, we found that overseas bypass surgery costs approximately \$20,000; however for comparison Milstein estimated payments for bypass surgery performed in the US using data from private insurance payers in California. In contrast, we based our comparison on estimated derived from Medicare data. The take-away message is that the expected savings from overseas medical care is dependent on what, typically uninsured, patients might be expected to pay if they instead purchased this care in the US. While it is conventional wisdom that the uninsured pay substantially more than Medicare, a recent paper by Melnick and Fonkyh suggests that the uninsured may actually pay similar rates to Medicare.²³ Thus, in many ways the difference between our conclusion (smaller cost savings) and those of Milstein et al. (larger cost savings) reflect the differences in our reference standard (Medicare versus private insurance) rather than any true difference in the estimated cost for overseas care. Nevertheless, the fact that overseas charges are reasonably close to Medicare rates suggests that there may be significant opportunity for US providers to compete with offshore facilities, in some situations, by offering highly discounted prices to uninsured American patients.^{24,25}

Third, it is important to mention the challenges of continuity of care and communication of medical information for patients receiving overseas medical care. Our finding that medical records security and communication between foreign providers and US physicians is inconsistent mirrors the results of prior studies.²⁰ While one could make the claim that the responsibility for medical record transmission and communication belongs to foreign providers and companies engaged in facilitating medical tourism, it is also important for patients seeking overseas medical care to consider taking an active role in ensuring communication between their overseas providers and their local physicians. At the same time, it is also important to acknowledge that communication among US providers caring for the same patient is often poor, making the communication challenges that we uncovered relatively expected.

A number of additional issues merit brief mention. First is the issue of who is responsible for treating postoperative complications. While Jones et al. point out that physicians have an ethical obligation to treat patients with post-operative complications to the best of their ability even if the complications result from care provided overseas, such issues are complicated and need to be acknowledged.²⁶ Second, it is also important to mention our finding that almost one third of companies engaged in promoting medical travel received referral fees from the overseas providers to whom they were referring patients. While such payments may be a logical business model for the medical tourism companies, the payments have the potential to influ-

ence the providers to whom companies choose to refer patients with potentially worrisome results. Third, many companies collected patient satisfaction data but only half collected medical outcome data. There is both an opportunity and need to expand clinical registries to overseas hospitals catering to US residents. This will afford a fair comparison of the quality between US and foreign hospitals. The comparison could serve two functions, determining hospitals that may have quality problems and possibly alleviating the fears of patients about foreign facilities that have excellent clinical care. Finally, it is important to mention our finding that nearly one half of companies appear to be facilitating the overseas travel of Americans for unapproved therapies – most notably stem cell treatments. This finding validates concerns voiced in a number of recent editorials and highlights important issues including possible profiteering by entrepreneurial providers and the competitive pressure to rapidly commercialize new therapies even in the absence of rigorous clinical data about safety and treatment efficacy.^{27,28} Alternatively, one could argue that the strong demand for unapproved therapies suggests significant demand for experimental services and that US regulatory agencies might be better served by accelerating the approval process and monitoring treatment outcomes rather than delaying approval and incentivizing Americans to travel abroad.

Our study has a number of limitations that are important to acknowledge. First, our study results were limited to data obtained from 45 companies engaged in facilitating overseas medical travel and must be generalized to other businesses with caution. Two-years after conducting our interviews we examined the number of companies included in our study that remained in business. We found that 15.6% (7 of 45) of companies that completed our initial interviews and 16.7% (3 of 18) of studies that we were unable to interview no longer had functioning websites and thus were presumed to no longer be in business. Second, as our data were obtained directly from companies engaged in promoting medical tourism, we cannot comment on either the patient perspective or the perspective of overseas providers who are actually delivering these services. Third, it is important to acknowledge that our results were obtained through a survey and thus we lack an independent data source to validate our results. Nevertheless, our results generally are consistent with the limited body of data currently available concerning medical tourism. Fourth, the estimates of overseas medical costs provided by companies are subject to several shortcomings. The data were obtained by self-report from companies engaged in promoting medical tourism and thus companies may have been tempted to overestimate or underestimate these costs. Likewise, some companies reported costs that included travel costs, while others did not. In addition, while we provided Medicare costs for comparison, it is important to acknowledge that the optimal comparator is open to debate.

In summary, our study suggests that the number of Americans traveling overseas for medical care may be somewhat smaller than prior estimates and that cost is an important motivating factor. Our results also suggest that attention to medical records security, collection of data on patient healthcare outcomes, and attention to the quality, safety, and effectiveness of recommended treatments is variable and could be improved. That said, overseas medical care can be a reasonable alternative for price sensitive patients in need of relatively common, elective medical procedures.

Acknowledgements: Dr. Reisinger is supported by a Career Development Award from the Department of Veterans Affairs, Veterans Health Administration, Health Services Research and Development Service (CD1 08-013-1). Dr. Martin is an investigator at the Iowa City VA Medical Center. Dr. Cram was supported by a K23 career development award (RR01997201) from the NCRR at the NIH and the Robert Wood Johnson Physician Faculty Scholars Program. This work is also funded by R01 HL085347-01A1 from NHLBI at the NIH.

Conflicts of Interest: Dr. Reisinger, Dr. Martin and Dr. Cram have no conflicts of interest to disclose. Dr. Horowitz is President of Medical Insights International, a consulting firm specializing in international and domestic medical travel. Dr. Horowitz provided assistance in the development of the study survey, identification of companies for consideration for inclusion of the survey and critical commentary and revision of the manuscript. Dr. Horowitz did not participate in the analysis of the study data or funding of the study. All other authors had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis. Mr. Alleman and Ms. Luger are graduate students at the University of Iowa with no financial interests related to this study. The views expressed in this article are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs. The funding sources had no role in the analyses or drafting of this manuscript.

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