2020

Medical Tourism: The Impact of Cost and Wait Time in Relation to Cardiac Surgeries Among Individuals in the United States

Karen Eberechukwu
eberechukwu@marshall.edu

MEDICAL TOURISM: THE IMPACT OF COST AND WAIT TIME IN RELATION TO CARDIAC SURGERIES AMONG INDIVIDUALS IN THE UNITED STATES.

ABSTRACT

Introduction: Medical tourism has been defined as consumer movement whereby individuals travel abroad to get treatment, incur out-of-pocket and third-party payments. As American health care continues to face extraordinary increases in cost and long wait time. Medical tourism has made it possible for cardiac patients to do their surgeries at a more affordable rate with shorter wait times while achieving quality care.

Methodology: The methodology of this study was a literature review used to examine the research. 5 electronic databases and government websites were utilized, with Only 42 sources referenced in the literature review.

Results: The research showed how medical tourism has helped patients who sought cardiac care to save money. Also, have their surgery done in time, not having to wait months before being attended to, and also have access to vacation destinations during their recovery. Additionally, it was discovered that the impact of medical tourism has no adverse effect on the U.S. economy; neither do insurance companies face loss.

Discussion/ Conclusion: High cost and long wait time have shown to have a negative impact on cardiac surgery patients in the United States. And but it does not negatively affect the U.S. economy and the insurance industry in the United States. Through medical tourism, patients have had more opportunity in saving and getting valued care equal to that of the U.S.

Key Words: Cost, Cardiac Surgery, Economy, Impact, Medical Tourism, Wait Time.

INTRODUCTION

Tourism is by far a rapidly growing industry, as indicated by the United Nations World Tourism Organization (2014), there was a record of over 900 million tourists in 2010, which notably rose to over 1.4 billion travelers worldwide across the international border in 2018 and has been on the rise. Medical and health tourism has been receiving global media attention due to its growth over the years in global tourism; however, it was once thought of to be the last option for a frantic person (Crooks, Kingsbury, Snyder & Johnston, 2010). As medical tourism grew, U.S. insurance companies had thought of ways towards expanding to cover individuals who sought international medical care, bringing into existence international friendly packages (Kirchner, Carroll, & Nious, 2013).

The medical travel industry has been known for making about $45 billion annually (Goldbach & West, 2010). According to Deloitte Access Economics (2011), over 7million patients had traveled annually to seek one or more medical care and has been projected by 2019, to increase significantly by over 30 billion (Amodeo, 2010). According to the global medical tourism market, 2017 was valued at over $50 million and estimated to reach over $140 million by the year 2025, while it entered a Compound Annual Growth Rate (CAGR) of almost 12% within the period of, 2018-2025 (Singh, 2013). Medical tourism sought to combine medical services with tourism for encouraging individuals seeking care while on their vacation (Yu, Lee & Noh, 2011). Factors that have prompted the development and popularity of medical tourism included; high cost, lengthy wait time of healthcare in their country of residence, technology, quality standard of care in other countries, and free-flow abroad travel (Dall et al, 2013). Domestic Medical Tourism on the other hand, has been known to be the movement of individuals who live in a country but sought medical and or surgical care out of the state or city in which they reside. The reason for this was to receive

equal to or better care than what they could have in their suburban city also, seeking affordable medical care, or an advanced level of valued care (Medical Tourism Association, 2012).

The cardiovascular treatment has been known to be among the most expensive procedures, through medical tourism patients undergo affordable cardiovascular procedures (Piepoli, Hoes, Agewall, Albus, Brotons, Catapano, Verschuren, 2016). As medical travel rate has increased, cardiovascular surgery procedures have been on the top of the list for individuals seeking care abroad due to Cardiovascular Disease (CVD) or other heart-related diseases (Fryar, Chen & Li, 2012). CVD has been noted to be among one of the leading causes of death in the United States. It has multiplied due to the obesity epidemic and many more (Heron, 2017). The National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP, 2019) Stated in 2010, approximately 640,000 deaths were cardiac related out of over 800,000 deaths. Americans that suffered from heart diseases mostly resulted in death (Fryar, 2012). The American heart association (2017) stated that in 2016 over 17 million deaths annually were due to CVD, of which over 70% were from low-middle income countries and were expected to increase by over 23 million in 2030. Although over the years the number of deaths rate has declined, still the financial load of CVD remained high, accounting for over 29% per annual Medicare expenditure and slightly above 16.8% of the general nationwide healthcare costs (Knapper, Ghasemzadeh, Khayata, Patel, Quyyumi, Mendis & Sperling, 2015).

Most of the standard cardiac surgeries included coronary artery bypass, cardiac-valve replacement/reconstruction, and many more (Jacobs, Horowitz, Mavroudis, Siegel, & Sade, 2013). According to (MTA, 2011), Medical tourism has also been defined as a cost-effective way for patients to get healthcare in conjunction with the tourism industry, which involves private and public sectors. Countries such as Thailand, Mexico, Brazil & the Philippines have been actively

explored, as they attract patients with their health/ resort package deal, advanced technology for an inexpensive amount compared to the United States health service cost (Pocock & Phua, 2011). India's medical tourism has been among the fastest-growing sub-sectors in the industry. Also, it has one of the best heart surgeon in the world, with over 99% success rate in bypass surgery.

The increase of wait time has been due to the unevenness in demand and supply; when demand exceeds supply, there is a chance of an increase in the ratio of patients to a physician (cardiologist), causing longer wait time for patients (Viberg, Forsberg, Borowitz, & Molin, 2013). According to the Organization for Economic Co-operation and Development-OECD (2017), waiting times vary depending on the location and medical service. For example, a cardiac patient has an average wait period of over 30 days in Washington, while in Dermatology patient has to wait for about 28 days anywhere in the U.S. to get a skin examination. In neighboring countries such as; Mexico, Costa, etc., lower medical bills are charged for similar procedures with comparable standards to that of the United States (Whittake, 2010). According to the National Travel and Tourism Office (NTTO, 2019), Over 90 million Americans traveled to neighboring countries for coronary surgeries & cardiovascular medicine and many more, which costs 20% to 90% less than the United States (Sampson, 2019). Medical tourists take advantage of the Savings from an international procedure because America has the most expensive health care system in the world (Johnston et al, 2012).

The purpose of the research was to determine if the decision for medical tourism was as a result of the high cost and long wait time for cardiac surgery patients in the United States and if these factors have negatively impacted the U.S. economy and insurance system.

METHODOLOGY

This study hypothesized that medical tourism has had a positive impact on cardiac surgery cost and wait time among medical tourists. So, individuals who sought care abroad would save and benefit from the lesser wait time; also, it does not affect the U.S. economy and insurance industry in the United States.

The framework examined how individuals in the United States are impacted by high cost and long wait time of medical services (cardiac surgeries) concerning medical tourism. The framework for this study gave a clearer understanding of the drive and intention behind medical tourism. It explains medical tourist motivation, satisfaction, and destination. The conceptual framework for this study followed the steps and research framework used by (Reddy, 2013).

The literature used in this research was made up of primary and secondary data. Databases used were EBSCO host, Google Scholar, Healthsource-Consumer Edition, PubMed, ProQuest. Relevant and most viable information obtained for the literature was used and to evaluate research concerning the study. The stated databases, news writes up, government websites, and web posts linked to Medical Tourism were accessed to get quality and valuable data from Google web search. The following keywords engaged for the evaluation of inclusion were "Medical Tourism," OR Medical Travel OR "Health Vacation." AND "cost," OR "Wait Time," OR "Impact "AND "Cardiac Surgery OR "Medical Services,"

A semi-structured interview, approved by Marshall University IRB on February 20th, 2020, of a cardiologist expert knowledgeable in medical tourism who has involved medical tourism into his/her practice. For better clarity and adequate information on cardiac surgeries in relation to medical tourism, ten open ended questions were drafted for the interview with the

expert. Due to the COVID-19 pandemic, the interview was not conducted because of increased workload of the expert during the pandemic. (See Appendix 1).

All the references used to search for relevant information were all written in English and published from 2009-2020. To get updated information for this study. A total of 42 references were used in this research. K.E. conducted the literature search and was validated by A.C., who reviewed the references of the research to ensure it met the inclusion criteria.

Using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) method, the search established [50] pertinent articles. Articles were excluded (N=20) if they did not meet the inclusion criteria. Articles were included (N=14) if they could appropriately augment further discussion on the main topic and important variables. (N=13) References were used from other sources that were included in the search. [N= 42] references included were subject to full-text review and were included in the data abstraction and analysis. [14] references were used in the results section (Moher, Liberati, Tetzlaff, Altman, The PRISMA Group, 2009) (see Figure 2).

RESULTS

High cost for cardiac surgery patient in the United States

As cost domestically burdens the minds of cardiac surgeons, it has helped to motivate the factor behind the international medical tourism industry. The patient (cardiac) needs to be able to get value treatment while being able to make little savings. According to the American heart association (2017), the overall medical fees of CVD are projected to increase over $700 billion in 2035. There might be a medical treatment that costs so much and its required for the patient but, are not available due to financial reasons such as coronary artery bypass graft surgery (CABG).

And undoubtedly, interests to make interventions made in low-cost countries. The cost of a (CABG) was over $120,000 in the United States. In contrast, the cost of undergoing a similar procedure in India was about 300,000 rupees ($8000) (Mikulic, 2020). This medium shows the U.S. was offering an inflated price, making it hard for the average citizen to afford healthcare. (cardiovascular surgery). The lower cost of cardiac surgeries abroad had contributed to the attractiveness of overseas choices because it allowed personalized services (Piepoli, 2016). (See Table.1). About 25 - 34% of the individuals in the United States has had difficulties affording routine cost or even their deductibles (Ashley, Cailey, Bryan & Mollyann, 2019). The cost of medical procedures has driven individuals overseas to sought care (medical tourism) with an equal standard of care and procedures. The United States' high cost of cardiac surgery and other surgeries have been noted be because of advanced technologies and organ procurement (Senst, Basit, Diaz, 2020). A case of the journal of medicine a self-employed that had acute mitral valve that required surgery. He was billed over $190,000, and he needed to have deposited half before the surgery. He looked for an affordable option, which he found for less than $50,000 still in the U.S and found lesser in India for less than $ 8,000, which he went for it and he had been back with a healthy heart (Rao, 2014).

Long wait time for cardiac surgery patient in the United States

Patients who traveled abroad for medical tourism tend to get scheduled within a shorter time frame than in the United States. In India procedures are done quickly (no wait time or less) and receivable for cardiac patients and are billed at an affordable price (Sultana, Haque, Momen, & Yasmin, 2014). The shortage of physicians has made the healthcare industry faces disorganization in services, causing care to be sought after abroad (medical tourism) (Bernstein, 2015). In 2014, the

number of wait-time increased by 30%, and it is due to the growing number of insured patients and resulting physician shortage (Merritt Hawkins, 2017). These shortages have affected rural and urban areas in America; For example, in mid-cities areas like Connecticut, Hartford, estimated over 30% longer wait times than urban areas like Washington D.C. also. Over 14 multiple cities in the United States patients experience an average of over 21 days to see a cardiologist. While the patient's in Boston experienced a longer wait time of over 40days and lesser wait times of fewer than 15 days in cities like Houston, Texas, and Dallas (MH, 2017). During medical tourism, patients are timely attended to with tourist packages of mixing vacations with healthcare (Dalen, & Alpert, 2018). An example can be Thailand. Swedes it's a very tourist-friendly location and large patient group in Thailand. Destinations that offered medical tourism services took measures to stress the quality of its expertise, facilities, and including levels of cleanliness. Hight mortality rate and complication rate has been associated with long wait time. Puts the patient in a hurry to get the surgery done or not financially prepared, leaving them to consider a second option, which is medical tourism for a quicker and less expensive procedure with quality value.

U.S. economy and the insurance system

In as much as the patient in the united states go abroad for medical tourism, the U.S. has been benefiting from medical tourism with an average of over $400M to $1B for the U.S. economy and continues to surpass the income lost by outgoing medical tourism in the United States which is almost $90M to over $200M, (Lunt, Smith, Mannion, Green, Exworthy, Hanefeld, King, 2014). (See Figure 3) shows the expenditure of U.S. outbound medical tourists. According to Zion Market Research (2017), medical tourism generates over 1/3 of South-east Asian private hospital revenue in most Asian countries. It has been expected to increase significantly by over 8% in 2024 (TTG-

Asia, 2019). The United States health insurance is complicated, and there have been several difficulties expanding because there are state and federal regulations and legislation and even politics involved. For example, price incentives are not allowed in the state of Texas to medical tourists. The law was put in place to stop doctors from limiting the request of medical tourism in Mexico due to the proximity (Cohen, 2011). Despite that, some states have given the go-ahead for employees to travel overseas for medical tourism, such as California, where medical tourism is strongly encouraged (Cohen, 2011). Furthermore, some private health insurance companies such as Seven Corners have drafted out packages like Bordercross Worldwide (plan) to cover medical treatment for their clients abroad medical tourism (Paul, Barker, Watts, Messinger & Coustasse, 2017).

DISCUSSION

The purpose of this research project was to determine if an individual's decisions on medical tourism are influenced by high cost and long wait-time as it relates to cardiac surgeries in the United States. The results explained the cause of patients' decisions towards traveling abroad for affordable treatment and lesser wait time, and the impact it had on the U.S. economy and the insurance industry.

Based on the result of the research, medical tourism has proven to be the right decision for valued cardiac procedures and shorter wait times. The results have also shown that the U.S. economy and the insurance industry have not been impacted. The purpose of medical tourism has been to aid patients who sought lower-cost procedures, valued care, patient-centeredness, and also avail good doctors and hospital facilities. In addition, although the U.S. has had the highest levels

of medical skills and cutting-edge technology in the world, citizens tend to travel abroad for more affordable healthcare.

For the case of impact in high cost, the study showed that high cost and long wait time had been negatively influencing cardiac patient decisions from getting care and has shrunk cost savings for care.Medical tourism has been progressing to offer medical services, mostly expensive surgery to low-cost countries. The literature review suggested that medical tourism has offered economic value for the increased burden of costs in developed markets such as the United States. Most of the tourist countries use Medical tourism as one of its primary sources of revenue, potentially have been attracting high-income support industries (Kaul & Bhatia, 2010). It has been noted to be an alternative for millions of uninsured cardiac patients and more to obtain accessible, available, and affordable health services from countries like the U.S. that are developed. (Medical Tourism Magazine, 2010). For the long wait time in the U.S., can be due to the shortage of health providers. Rapid response to patients for their surgery has been negatively influenced by delays, especially with the cardiac patient whose health depreciates by the minute and has led to death.

It has been debated that the U.S. has been negatively impacted by outbound medical tourism, but instead, they have gained. According to the world travel & tourism council, (2019), the U.S. was the largest destination for inbound medical tourists and spent over $3.8 billion on incoming in 2017. According to the World Travel & Tourism Council (2019), Medical Tourism accounts for about 35% of global medical tourism spending. It is also the largest destination for outbound medical tourism, representing about 20% of the market, with the U.S. individuals spending over $2 billion in 2017 on medical tourism services abroad. At the same time, about 6%

of Americans' have left the U.S. to get affordable healthcare abroad (India, East Asia, Thailand, and more places) and do not mind paying for their expenses out of pocket. (Dalen & Alpert, 2018).

Limitations

The limitation of this literature review was attributed to the following reasons. Most of the Peer-reviewed articles used in the study had limited information on cardiac surgeries for medical tourism because they were only 5 electronic databases used to access quality articles. Additional, database was also explored; Adequate information needs to be gathered on cardiac surgeries relating to medical tourism in regard to the needs of potential patients, and the study needs to be updated with recent information. Lastly, the journal and researcher bias cannot be eliminated.

Practical Implications

As a result of high cost, long wait time, and the lack of hospital transparency in the U.S. health care costs, there is a need for more affordable care with a shorter wait time for cardiac patients. Cardiac patients in the U.S. have shifted to medical tourism, which can decrease the drive of U.S. goods and services to be less competitive in the international market. Thus, future studies will be helpful towards gaining more insight in medical tourism and factors that may fast-track the rate of improvement of cardiac care in the United States.

CONCLUSION

The primary hypothesis of this research has been supported by the literature review. High cost and long wait time have shown to have a negative impact on decisions made by cardiac surgery patients in the United States. However, medical tourism services have made a positive impact on cardiac surgery patients in saving.

REFERENCES

Amodeo, J. (2010). *Medical Refugees and the Future of Health Tourism. World Medical &Health Policy, 2(4), 62–78.* DOI:10.2202/1948-4682.1103

Ashley. K., Cailey. M., Bryan. W & Mollyann. B (2019). *Data Note: Americans' Challenges with Health Care Costs.* https://www.kff.org/health-costs/issue-brief/data-note-americans-challenges-health-care-costs/.

Asia-TTG (2019). Medical tourism generates over 30% of SE Asian private hospital revenue: new report. Retrieved from https://www.ttgasia.com/2019/07/17/medical-tourism-generates-over-30-of-se-asian-private-hospital-revenue-new-report/

Amadeo, K. (April 18, 2020). How the US Trade Deficit Hurts the Economy. Retrieved from https://www.thebalance.com/u-s-trade-deficit-causes-effects-trade-partners-3306276

Bernstein, L. (2015, March 3). U.S. faces 90,000 doctor shortage by 2025, medical school association warns. Retrieved from https://www.washingtonpost.com/news/to-your-health/wp/2015/03/03/u-s-faces-90000-doctor-shortage-by-2025-medical-school-association-warns/

Cohen, G. (2011). *A legal perspective on medical tourism in the USA. International Medical Travel Journal.* Retrieved from www.imtj.com *Review, 107755871877494.* doi:10.1177/1077558718774945

Crooks, V. A., Kingsbury, P., Snyder, J., & Johnston, R. (2010). *What is known about the patient's experience of medical tourism? A scoping review. BMC Health Services Research, 10(1).* doi:10.1186/1472-6963-10-266

Dall, T. M., Gallo, P. D., Chakrabarti, R., West, T., Semilla, A. P., & Storm, M. V. (2013). *An Aging Population and Growing Disease Burden Will Require ALarge And Specialized Health Care Workforce By 2025. Health Affairs, 32(11), 2013–2020.* doi:10.1377/hlthaff.2013.0714

Dalen, J. E., & Alpert, J. S. (2018). *Medical Tourists: Incoming and Outgoing. The American Journal of Medicine*. doi: 10.1016/j.amjmed.2018.06.022

Deloitte Access Economics (2011). *Broader implications from a downturn in international students,preparedforUniversitiesAustralia,*June;http://www.universitiesaustralia.edu.au/resources/618/1100, accessed March 24,2020.

Fryar CD, Chen T-C, Li X (2012). *Prevalence of uncontrolled risk factors for cardiovascular disease*: United States, 1999–2010 pdf icon [PDF-494K]. NCHS data brief, no. 103. Hyattsville, MD: National Center for Health Statistics. Accessed May 18, 2020

Goldbach, A. R. & West, D. R. (2010). *Medical tourism: A new venture of healthcare. Journal of Global Business Issues,* 4(2), 43–44.

Heron, M. (2017). *Leading causes of Deaths: National Vital Statistics Reports for pdf icon PDF*.;68(6). Accessed November 19, 2019.

Jacobs, J. P., Horowitz, M. D., Mavroudis, C., Siegel, A., & Sade, R. M. (2013). Surgical Tourism: The Role of Cardiothoracic *Surgery* Societies in Evaluating International Surgery Centers. The Annals of Thoracic Surgery, 96(1), 8–14. Doi: 10.1016/j.athoracsur.2013.02.058.

Kirchner, E., Carroll, J., & Nious, K. (Dec. 4, 2013). *US Insurance Companies Expanding Medical Tourism Coverage*. Retrieved from https://www.nbcbayarea.com/news/local/medical-tourism-the-future-of-healthcare/1931661/

Knapper, J. T., Ghasemzadeh, N., Khayata, M., Patel, S. P., Quyyumi, A. A., Mendis, S., … Sperling, L. S. (2015). *Time to Change Our Focus. Journal of the American College of Cardiology, 66(8), 960–971*. doi: 10.1016/j.jacc.2015.07.008

Kaul, U., & Bhatia, V. (2010). Perspective on coronary interventions & cardiac surgeries in India. *The Indian journal of medical research, 132*(5), 543–548.

Lunt, N. D., Smith, R. T., Mannion, R., Green, S., Exworthy, M., Hanefeld, J., King, H. (2014). *Implications for the NHS of inward and outward medical tourism: a policy and economic analysis using literature review and mixed methods approaches*. Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK263160/

Medical Tourism Association, (2012). *US HealthCare Reform's Effect on the US Medical TourismMarketplace.Whitepaper.*Retrievedfrom: http://www.medicaltourismassociation.com/en/us-healthcare-reform-s-affect-on-the-us-medical-tourism-marketplace-white-paper.html

Mikulic, M. (February 25, 2020). Heart bypass costs select countries 2019. Retrieved from https://www.statista.com/statistics/189966/cost-of-a-heart-bypass-in-various-countries/

Medical Tourism Magazine: Powered by Global Healthcare Resources. (2010). Retrieved from https://www.magazine.medicaltourism.com/

Medical Tourism Association (MTA, 2011). *Medical Tourism FAQ's*. Retrieved from http://www.medicaltourismassociation.com/en/medical-tourism-faq-s.html

Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analysis: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal. pmed1000097

Mensah, G. A., Wei, G. S., Sorlie, P. D., Fine, L. J., Rosenberg, Y., Kaufmann, P. G., Mussolino, M. E., Hsu, L. L., Addou, E., Engelgau, M. M., & Gordon, D. (2017). *Decline in Cardiovascular Mortality: Possible Causes and Implications. Circulation research, 120*(2), 366–380. https://doi.org/10.1161/CIRCRESAHA.116.309115

Merritt Hawkins (MH). (2017, April 14). Merritt Hawkins' 2017 Survey on Physician Appointment Wait Times Now Available. Retrieved from https://vhhaservices.com/2017/04/14/merritt-hawkins-2017-survey-physician-appointment-wait-times-now-available/

National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP). (2020, March 25). Retrieved from https://www.cdc.gov/chronicdisease/index.htm

Organization for Economic Co-operation and Development (OECD) (2017). HEALTH DATA, available online in OECD. Stat at www.oecd.org/health/healthdata.Patient-Initiated *Second Opinions: Systematic Review of Characteristics and Impact on Diagnosis, Treatment, and Satisfaction*:https://www.mayoclinicproceedings.org/article/S0025-6196%2814%2900245-6/fulltext

Paul, D. P., Barker, T., Watts, A. L., Messinger, A., & Coustasse, A. (2017). *Insurance Companies Adapting to Trends by Adopting Medical Tourism. The Health Care Manager, 36(4), 326–333.* doi:10.1097/hcm.0000000000000179

The American Heart Association (2017) Office of Federal Advocacy www.heart.org/advocacy.

Pocock, N. S., & Phua, K. H. (2011). *Medical tourism and policy implications for health systems: a conceptual framework from a comparative study of Thailand, Singapore & Malaysia. Globalization and Health,7(1), 12. doi:10.1186/1744-8603-7-12.*

Piepoli, M. F., Hoes, A. W., Agewall, S., Albus, C., Brotons, C., Catapano, A. L., Verschuren, W. M. M. (2016). *European Guidelines on cardiovascular disease prevention in clinical practice. European Heart Journal, 37(29), 2315–2381.* doi:10.1093/eurheartj/ehw106

Zion Market Research. (2019, July 15). Global Share of Medical Tourism Market Size to Reach USD 28.0 Billion by 2024. Retrieved from https://www.globenewswire.com/news-release/2019/07/15/1882589/0/en/Global-Share-of-Medical-Tourism-Market-Size-to-Reach-USD-28-0-Billion-by-2024.html

Rao, S. R. (2014). A Tale of 2 Countries: *The Cost of My Mother's Cardiac Care in the United States and India. The Annals of Family Medicine,* 12(5), 470–472. doi:10.1370/afm.1676.

Senst B, Basit H, Diaz RR. (2020). *Cardiac Surgery.In: Stat Pearls [Internet]. Treasure Island (FL):StatPearlsPublishing*;2020Jan-.Availablefrom: https://www.ncbi.nlm.nih.gov/books/NBK532935/

Sultana, S., Haque, A., Momen, A., & Yasmin, F. (2014). Factors affecting the attractiveness of medical tourism destination: an empirical study on India- review article. *Iranian journal of public health, 43*(7), 867–876.

Singh, N. (2013). *Exploring the factors influencing the travel motivations of US medical tourists. Current Issues in Tourism,* 16(5), 436-454.

The global medical tourism market. (June 18, 2019). Medical Tourism Market by Treatment Type (Dental Treatment, Cosmetic Treatment, Cardiovascular Treatment, Orthopedic Treatment, Neurological Treatment, Cancer Treatment, Fertility Treatment, and Others): Global Opportunity Analysis and Industry Forecast, 2018 - 2025. Retrieved from https://www.reportlinker.com/p05757828/?utm_source=PRN

United Nations World Tourism Organization. (2014). *UNWTO tourism highlights the 2014 edition.*

United Nations: World Tourism Organization (NTTO), (2019) *Tourism Data Dashboard. World Tourism Organization.* Available at https://www.unwto.org/unwto-tourism-dashboard. Accessed: March 21,2020.

Viberg, N., Forsberg, B. C., Borowitz, M., & Molin, R. (2013). *International comparisons of waiting times in health care – Limitations and prospects. Health Policy,* 112(1-2), 53–61. doi: 10.1016/j.healthpol.2013.06.013

Whittaker A, Manderson L, Cartwright E (2010), *Patients without borders: understanding medical travel. Medical Anthropology*.29 (4): 336-343. 10.1080/01459740.2010.501318.

Yu, J., Lee, T. J., & Noh, H. (2011). *Characteristics of a medical tourism industry: The case of South Korea. Journal of Travel & Tourism Marketing*, 28(8), 856-872.

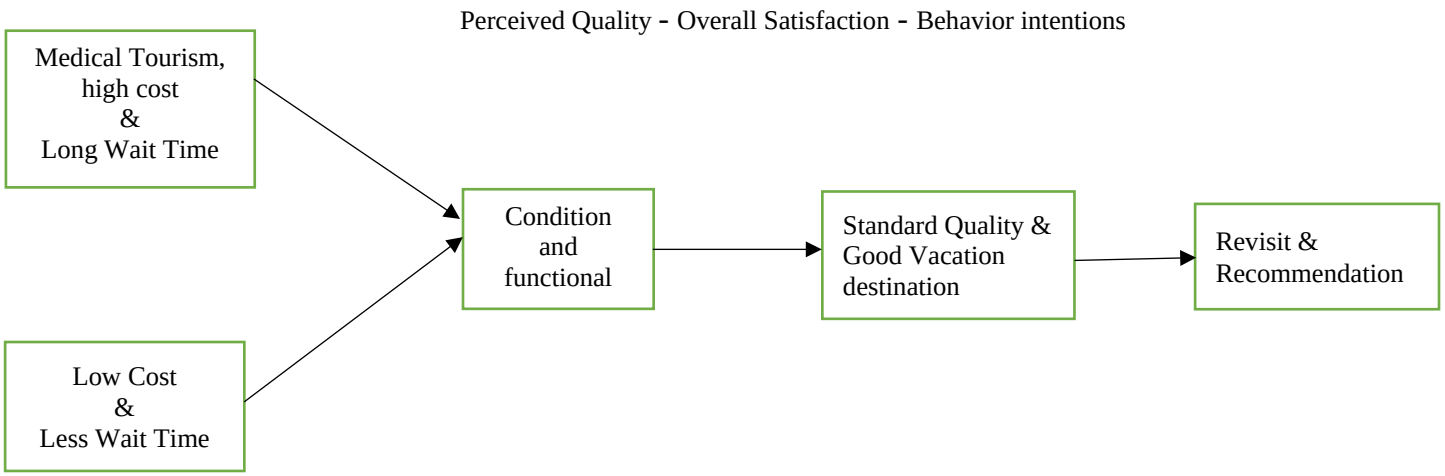


Figure 1: Research Framework adapted from Wu & Hung (2009) (Wu & Hung, 2009; Reddy, 2013).

PRISMA 2009 Flow Diagram

Figure.2.

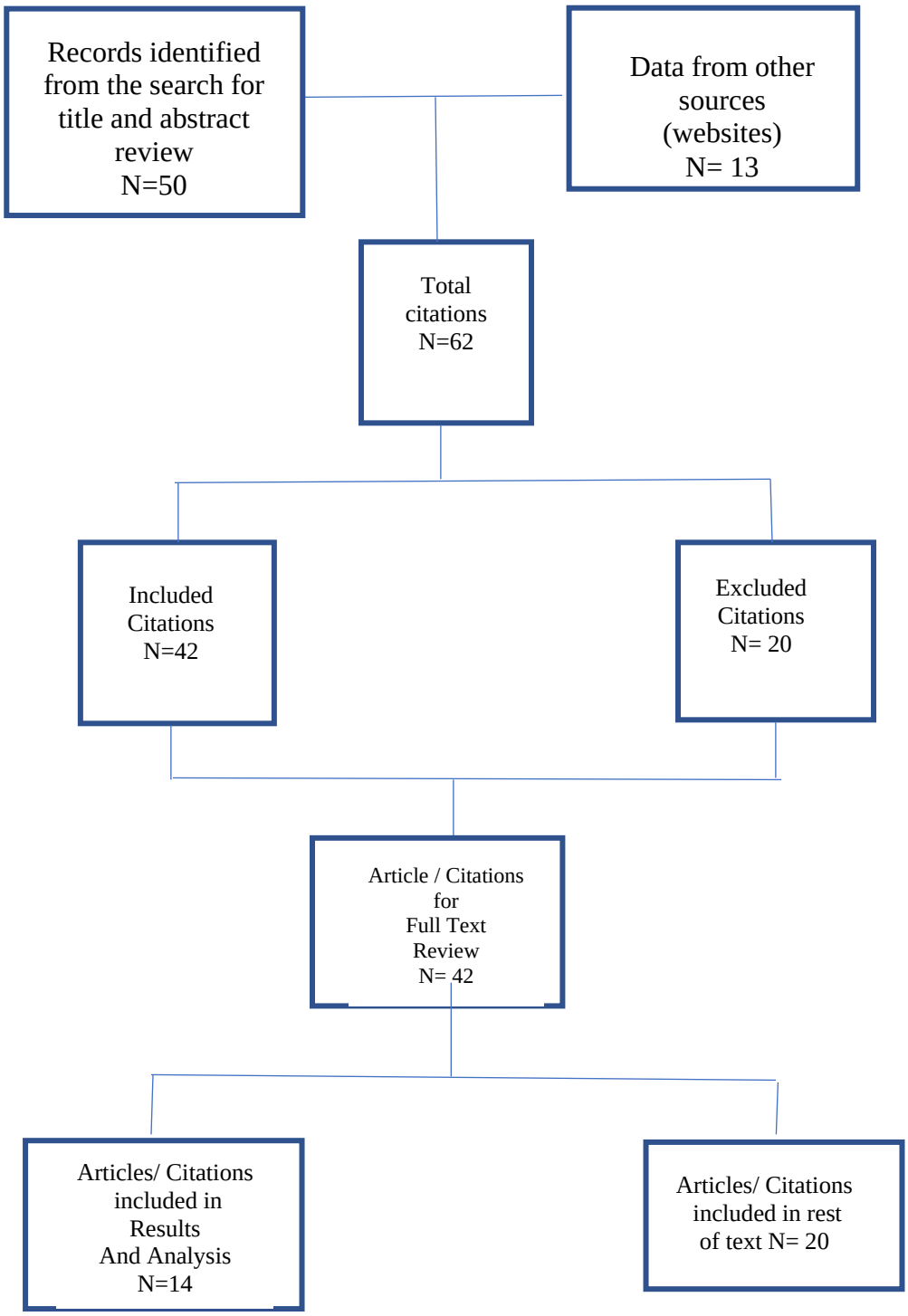


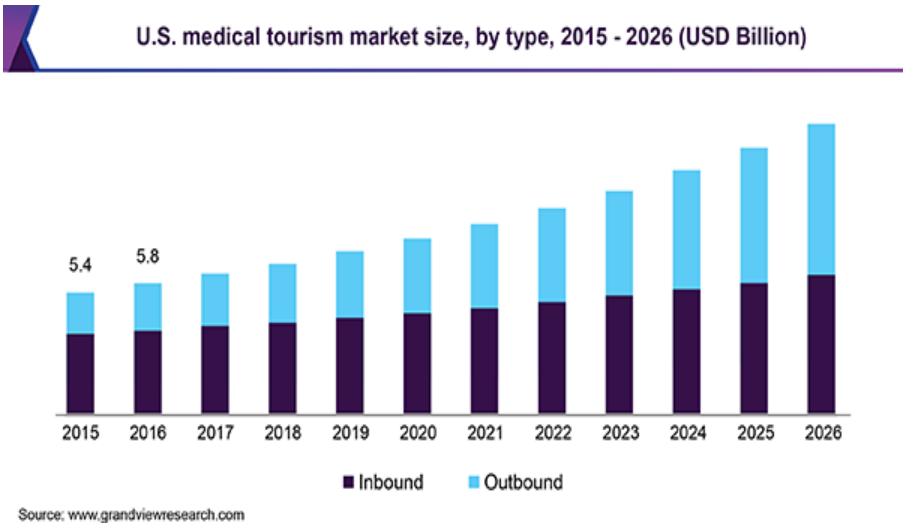
Figure 2: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). To get more information, visit www.prisma-statement.org.

Table.1. Comparison of Medical Treatment Pricing in Particular Countries (in US dollars)

Procedures	USA	COSTA RICA	INDIA	THIALAND	SINGAPORE	MALAYSIA	MEXICO
Cardiac bypass	$126,000	$28,000	$8,000	$20,000	$19,000	$15,000	$25,000
Heart valve replacement	$200,000	$30,000	$10,000	$20,00	$18,500	$17,000	$30,000
Angioplasty	$30,000	$14,000	$6,000	$5,000	$16,000	$12,000	$14,000

Source: Mikulic, 2020. https://www.statista.com/topics/3484/cardiovascular-disease-in-the-us/

Figure.3. report "U.S. Medical Tourism Market Size, Share & Trends Analysis Report by Type (Inbound, Outbound), Competitive Landscape, And Segment Forecasts, 2019 - 2026".



Adapted from grandviewsearch;

APPENDIX A

Questions to be Asked in Semi-Structured Interview of an Expert in plastic surgery

- How have you implemented medical tourism into your practice? Why? Why not?
- What are the toughest task medical tourist face? Why?
- Do you think that there are support for the expansion of medical tourism in the united states? Why? Why not?
- How has medical tourism benefited the united states healthcare system?
- What are your perception of medical tourism in the United States on sustainability? Why?
- What sector has benefited the most from medical tourism? Why? Why not?
- What are the main problems/challenges with medical tourism in the United State? Why?
- What regulation are in place for the medical tourist? Why?
- Do you know if there are plans to add or change the regulation?
- Are there any other significant advantages or disadvantages to medical tourism that we have not discussed?