

## Original Article

# International Hospitals' Performance Variables: A Comparative Study

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## Abstract

**Background:** To define a series of variable that separates international hospitals from other ones is the main aim of this study.

**Materials and Methods:** After choosing some countries in the worldwide, two hospitals, which were the leaders on international patients' admissions, were selected for investigating their main indicators according to world health organization framework for demonstrating performance assessment to attract patients from the universe.

**Results:** Under the first performance assessment dimension clinical effectiveness and safety, in chosen hospitals of Australia as Malaysia found (4), New Zealand (9), India (7) and Iran (1) indicator (s). The production efficiency and staff orientation dimensions concluded no difference in terms of quantity and type of indicators via countries. Next aspect as patient centeredness was consisted of 4 indicators in Australia, New Zealand (2), India (6) and Iran (5). Eventually, eight indicators asset from Australia, New Zealand (2), India (6) and Iran (6) for responsive governance.

**Conclusion:** Although the variables of international hospital's performance assessment were the same with others, these should be more highlighted for attracting worldwide patients and strongly recommends the international authority for quality assurance.

**Keywords:** Hospitals, Variables, Medical tourism, Comparative study

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## Introduction

Medical tourism defines as travelers seeking care beyond of their country<sup>1</sup>, despite some of countries offering relatively low cost services, there is no authoritative data on medical tourisms counts between countries. Therefore, there is a need for measuring how people attract to providers internationally<sup>2</sup>. From medical tourism perspective, quality is the same importance with cost<sup>3</sup>. Even in developed countries, healthcare particularly those

involves invasive procedures is not safe. Ideally, it is necessary to serve reporting system as a basic assessment for hospital indicators comparison facilitated by international accreditation due to information asymmetries and lack of comparative safety and quality data, either knowledge of hospital infection rates or reporting of adverse events<sup>4</sup>. Indeed, the main characteristics for developing performance framework for health systems according to Canadian institute for health information<sup>5</sup> are accessibility, person-centered, safe, appropriate, effective and

efficiently. In addition, World Health Organization (WHO) addressed the aim of measuring hospital performance as improving hospital performance not identifying individual failures<sup>6</sup>. Meanwhile, WHO European regional office under performance assessment tool for hospitals (PATH) project, developed a comprehensive tool consists of clinical effectiveness, safety, patient centeredness, production efficiency, staff orientation and responsive governance for assessing hospital performance. Main goal of that, is demonstration hospital quality improvement<sup>7</sup> in comparison with other assessing hospital performance projects, PATH needs to be well coordinated, voluntary participation and appropriate for different national contexts<sup>8</sup>. Through this study, we were exploring the main indicators for assessing quality of cross border hospital care with using PATH framework in selected countries.

**Clinical effectiveness and safety:** Quality of medical treatment is crucial for medical tourists, and there are organizations contribute to safe international practices<sup>9</sup>. Researchers indicate that the sources of information frequently used by medical tourists may be biased or lack comprehensive information by individual safety, treatment outcomes, and potential impacts of the medical tourism industry on third parties<sup>10</sup>. In fact, outcome preferences might be a more reliable metric for policy and decision makers<sup>11</sup>.

**Patient centeredness:** Patient centeredness as main part of healthcare quality defined as the state of respectfulness of patients' wants, needs, values and even beliefs<sup>12</sup>. Therefore, patients may be unaware of the safety concerns due to lacking familiarity with health care system, language or cultural communication barriers between international patients and hospital workers<sup>13</sup>. Some popular reports<sup>14-15</sup> demonstrated that foreign patients attracted by variety of services including cosmetic surgery, organ transplants, joint replacements, dental treatment, and positron emission tomography (PET) and computed tomography (CT) scans for the detection of cancer, heart defects, brain disorders and other conditions. Voigt et al (2010)<sup>16</sup> divided some countries for delivering special services in medical care such as Thailand reputed for gender surgery,

India for hip replacement, China for stem cell surgery as well as some experimental procedures and Hungary for dentistry.

**Production efficiency:** There has been an extensive literature dealing with the efficiency of healthcare, and data envelopment analysis (DEA) is the best-known methodology widely used<sup>17</sup>. Hospital as main part of any health system<sup>18</sup> spends largest amount of overall health expenditures between 50% and 70% and best policy for reducing hospital cost is decreasing inpatient beds and length of stay over time<sup>19</sup>. Three high indicators such as adjusted cost per hospital admission, unoccupied bed rate and technical inefficiency reflect efficiency losses in hospital services<sup>20</sup>.

**Staff orientation:** When hospital resources are scarce, everything goes wrong automatically. Nursing attention to patients and their daily tasks reduction lead to patient safety threaten<sup>21</sup>. Staff orientation refers to qualified hospital staff, staff satisfaction, staff continuous training and learning<sup>7</sup>. The internationally known hospitals often have doctors and nurses to assess the efficacy of procedures, helping patients to select physicians and hospitals<sup>20</sup>, assisting them with travel arrangements, airport pickup, interpreters and lodging if needed<sup>22</sup>.

**Responsive Governance:** This dimension identified as hospital answering to community needs and demands. Therefore, some indicators such equity, accessibility, continuity and health promotion are put under this category<sup>19</sup>. For this study, Joint Commission Standards accreditation<sup>23</sup>, International Organization for Standardization's (ISO) 9000 quality family demonstrated as the degree of respecting their efforts into community<sup>24</sup>.

## Methods

Exploring main variables of international hospitals was the aim of this comparative study. First, the literature review of related scientific articles was done via the PROQUEST, EMERERALD, SCOPUS, Springer and Google scholar search engines. Then, some leader international hospitals in Australia, New Zealand, India, Malaysia and Iran selected regardless of their ownership (public or private) and specialties. The main criterion for hospital selection was the popularity of hospitals on medical tourism. After that,

through their websites, indications demonstrated for attracting medical tourism extracted by countries. Finally, the comparative tables has been drawn for classifying variables according to WHO PATH project dimensions.

## Results

Under clinical effectiveness and patient safety domain, while various numbers of variables found through the five countries, there was only one indicator found in Iranian International hospital website (Table 1). Regarding efficiency as a second aspect of hospital performance, in all studied countries, some indicators such as bed numbers, clinics and wards diversity, and length of stay, bed occupancy, waiting time and even emergency, inpatient and outpatient clients found. Moreover, there were some indicators on patient centeredness as well as responsive governance aspects shown in Table 2 and 3 respectively. However, for final aspect as staff orientation, there were rare indicators in selected countries. For example, staff satisfaction and training, staff foreign language skills and diversity of medical specialist.

## Discussion

Unlike some, previous studies which excluded patients who received aesthetic enhancement in other countries from the definition of 'Medical Tourism'<sup>28</sup>,

basically, in this study assumed that medical tourism is defined for individuals who seeking medical services in other countries for different reasons regardless of services type. In fact, Voigt et al (2010)<sup>16</sup> noted that the main reasons for patients travelling to obtain medical care include cost savings, quality of healthcare, unavailability of services, drugs and surgery methods in the country of origin, long waiting lists associated with appropriate medical treatment, ability to remain anonymous and maintain privacy overseas especially for those obtaining procedures like cosmetic surgery, cultural affinity in terms of language, food and religion, geographical proximity and even the added benefit of holiday. By comparison with the current study, it is found that the waiting list and privacy matters put under clinical effectiveness and safety dimension and the last item on holiday benefit determined as one sub item with the patient centeredness. However, there is no separate item on responsive governance in Voigt et al study. Also, findings of this study were align with the Deloitte survey (2011)<sup>25</sup> while he noted that lower quality of healthcare as well as lower access to health technologies may explain why people choose to travel to another country for medical care. Via the comparative study, he recommended useful points for developing this industry for Australia. Herrick (2007)<sup>20</sup> did other global report showed in healthcare quality, besides of hospital accreditation and ISO certifications, hospital affiliation, electronic medical

**Table 1:** Clinical Effectiveness and Patient Safety Variables in selected hospitals of studied countries (year 2017).

Australia	New Zealand	India	Malaysia	Iran
Staph Aureus Bacteremia Hand Hygiene rate	SSI <sup>1</sup>  Pre-surgery hurt	Availability  Accessibility, Reliability	national goals for Patient Safety and CG <sup>2</sup> Geographical Situation	Patient Safety Standards Score
Patient falls	Patient falls	Operational Indicators	Use of Medical Technology	
Medication Errors	Medication Safety  Pressure Ulcer Venous thrombo embolism Time of care Care Essential Audits SBARR <sup>3</sup>	Quality and Patient Safety Infection Control		

<sup>1</sup> - Surgery Site Infection

<sup>2</sup> - Clinical Governance

<sup>3</sup> - Situation; Background; Assessment; Recommendation and Response

**Table 2:** Patient Centeredness Variables in selected hospitals of studied countries (year 2017).

Australia	New Zealand	India	Malaysia	Iran
contracts with international insurance services organization	contracts with international insurance services organization	contracts with international insurance services organization	international insurance services organization	VIP accommodation in five-star hotel
contracts with Flight agencies	contracts with Flight agencies	contracts with tourism services agencies	Simultaneous interpreter	On line admission with tariff notification
Being Multicultural hospitals		Special services for discharge of patient	Luxury accommodation in world class	international insurance services organization
Mastery to 17 original languages		Special services for insuring patients Simultaneous interpreter Food and diet on patients' request	Availability of retail Free internet access Patient multi menus food Interactive website	Multi language websites City Tour visit

**Table 3:** Responsive Governance Variables in selected hospitals of studied countries (year 2017).

Australia	New Zealand	India	Malaysia	Iran
Quality certificate from joint commission	Green hospital certificate	MTQUA <sup>1</sup> certificate	Health quality association certificate	National accreditation certificate
Accredited Radiology management Accredited MRI <sup>2</sup> CHSA <sup>4</sup> ISO <sup>5</sup> 9001 Gold Plus Certificate	4 or 5 star hospital certificate	National accreditation certificate accredited Clinical Laboratory	Asian quality in healthcare association Wellness hospital Winner of Frost & Sullivan <sup>6</sup> Prize. Certificate for HALAL food & drink accredited Clinical Laboratory	GMP <sup>3</sup> certificate ISO 9001-2008 ISO 14001 IPD <sup>7</sup> certificate from MOHME <sup>8</sup> Best laboratory certificate
Certificate for best communication in health care Phase 6 certificate in Management systems and healthcare information association				

1 - Medical Travel Quality Alliance

2 - Magnetic resonance imaging

3 - Good Manufacture Product

4 - Cleaning & Hygiene Suppliers Association

5 - International Standardization Organization

6 - Frost & Sullivan is a growth partnership company focused on helping our clients achieve transformational growth as they are impacted by an economic environment dominated by accelerating change, driven by disruptive technologies, mega trends, and new business models

7 - International Patient Department

8 - Ministry of Health and Medical Education

records of patients and also physician credentials are so important. Through this study, we did not investigate these matters. He also indicated other variables such as globalization effects on health care system and on other countries. Meanwhile, Pennings (2002)<sup>15</sup> discussed the main reason for moving

people from one country to another is to get the desired treatment. Although, he mostly studied on reproductive tourism vice versa ethical issues, it would be focus on national or international measures to ban these actions legally. While, WHO<sup>19</sup> considered definitions and indicators on hospital performance and

we used it mainly in our study, whereas, we could not find any staff orientation indications on turn over, vacancy and absence through international hospital websites.

Moreover, Davis, et al (2013)<sup>27</sup> were used efficiency as relative stay and day surgery, post-admission mortality (30 days after) and unplanned readmission for effectiveness and finally accounting hospital ethnic and socio-economic degree for equity. By comparison, none of mentioned indicators was found via international hospital websites. It might be happened due to negative effects on patients' choice. Queensland government (2015)<sup>28</sup> developed key performance indicators (KPI) for health service performance management framework in four dimensions of effective-safety and quality, equity and effectiveness-access, efficiency and financial performance and effectiveness-patient experience. While, Champagne et al (2005)<sup>29</sup> according to PATH project developed hospital quality improvement performance assessment tool and implemented it in 25 European countries. This valuable and practical tool divided WHO hospital performance assessment framework dimensions into sub-dimensions and then set the indicators under these categories. Although some sub-dimensions did not have any specific variables, actually rest of them had defined indicators could be measured in all hospitals of relevant countries.

## Conclusion

Everyone has their own right and taste for receiving healthcare services. However, this optional issue will be so important when seeking overseas healthcare facilities. Indeed, there are always drivers for attractive medical tourism. Therefore, it is strongly recommended policy makers for expanding their national achievements on medical tourism, implementing those developmental strategies for ensuring individuals regardless of their nationalities to have best experience not only in medical matters but also in their personal lives for traveling abroad by demonstrating hospital services in best way as possible as they can.

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