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## **Tourist's Health: Foreign Patient Tracking System in Turkey (FPTS)**

### **Abstract**

In this study, the main and relationship stakeholders of Tourist's Health in Turkey were determined and the patient registration and tracking system developed for foreign patients were examined along with concepts of Tourist's Health. In such multi-stakeholder systems, each stakeholder registering on their own and not sharing the data in an integrated data prevents ensuring the data integrity. This eliminates the control of the processes of statistics, query and reporting. The Foreign Patient Tracking System does not contain crosscheck on its deficiencies and accuracy due to the registrations only composed of data from some healthcare organizations. It is important for achieving data integrity among stakeholders to integrate the necessary information share accurately and in a real-time manner.

This study was conducted to evaluate the rules regarding the applications of emergency response and patient tracking systems for tourist's health in Turkey within the scope of data integrity. Under discussion section, an integration model was recommended.

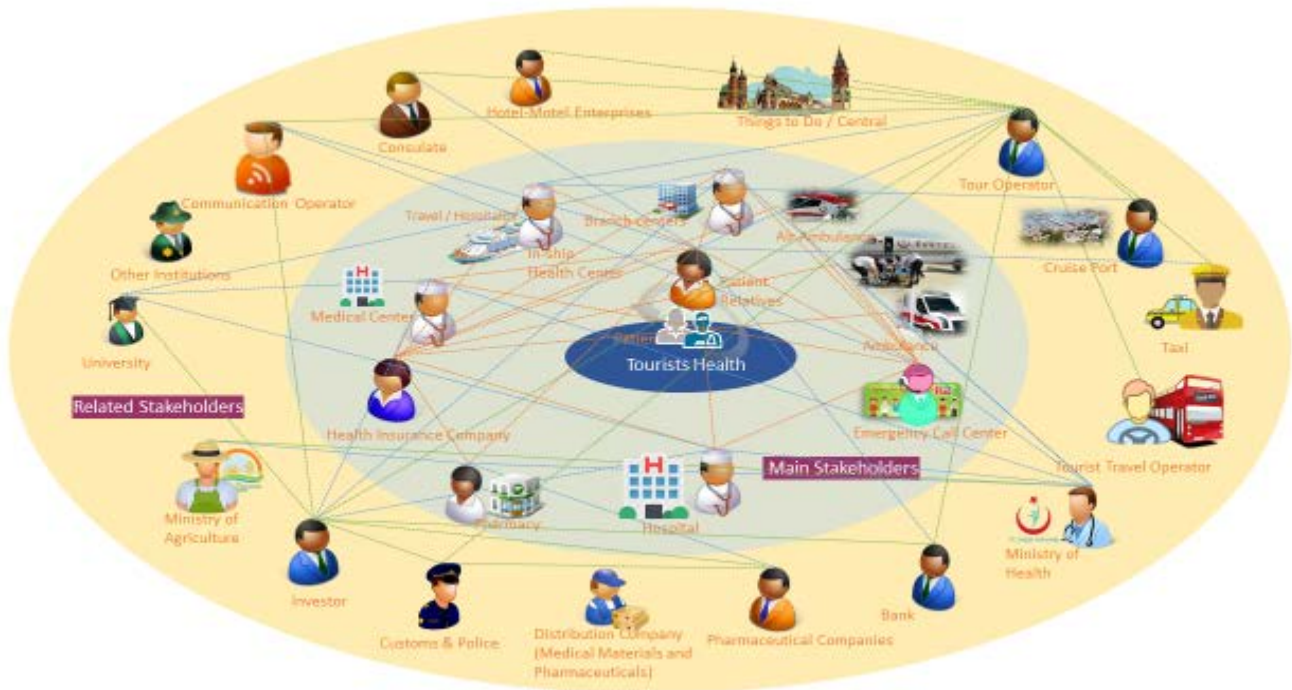
Consequently, the "Foreign Patient Tracking System" keeps records of Tourists' health in Turkey, and regarding the system, the necessity of integrating the tracking and control of these records with methods of data interchange.

**Keywords:** Tourist's Health, Foreign Patient Tracking System, Turkey

### **1. Introduction**

The scope of the study is examining the process of keeping the record the data produced by stakeholders on Tourist's health by entering them in the Foreign Patient Tracking System developed by the Ministry of Health. The point within this scope is to address the related concepts and create a perspective of problems at the end of the examination of the system.

Figure 1. Multi-Stakeholder Relationship Map of Health of Tourists Coming to Turkey



Tourist's Health is a subject managed with associated stakeholders rather than main stakeholders. The stakeholder relations here focus on the quality and success of the service to be rendered in corporate activities targeting a common goal.

## 2. Tourist's Health

It is defined as the status of health, attitudes and behaviors of individuals engaging in touristic activities and the health problems they encounter. In other words, Tourist's Health means that tourists traveling from the country of residence to another country for vacation is obliged to receive emergency or unplanned healthcare service.

The most important factor in health in tourism becoming such a significant problem is the requirement of developing an international level of tourist's health. Tourist's individual and group healthcare needs include all their needs regarding protective, therapeutic and personal hygiene.

As for the healthcare problems regarding tourists, there are health problems caused by the travel itself, problems due to disease carrying and the tourist, and risks about the place of travel.

Tourist's health is a subject which is gaining importance in the world opinion and comes across as a competitive element in tourism. In addition, it is accepted to be primarily important for tourism and the most important one of the basic principles that defines the quality of tourism.

Tourist's health includes both tourists' protective and therapeutic healthcare needs and personal hygiene both individually and in groups. Tourist's health covers several topics from preparing a recreative and

entertaining environment and preventing environmental pollution including noise to meeting tourists' basic hygienic requirements (Ak & D., 2000)

Tourists mainly prefer environments with perfect infrastructure which will not endanger their health. Nevertheless, if a foreign tourist gets ill due to unexpected reasons, he/she will demand an immediate and reliable healthcare. Cause, outcome, and cost of an unexpected illness are of importance.

Specifically in Turkey, issues regarding Tourist's Health can be grouped as follows:

- Existence of a (addressee) center to which a tourist or his/her country
- A healthy environment and healthy employees in that environment
- Protection of public health against possible diseases due to tourism
- Presentation of healthcare for tourists' health and in emergencies
  - Operation of healthcare personnel and organizations
  - Relations with abroad insurances and pricing
- Promotion of healthcare services in the wake of tourism and healthcare abroad
- Availability of healthcare personnel in hotels or health centers (The Health Foundation of Turkey, 2010).

Tourist's health which has multiple stakeholders and is associated with many subjects can be evaluated by ensuring access to quality and affordable healthcare especially in emergencies.

### **3. Tourist's Health in Turkey**

Problems of a touristic region about health and tourist's health application cannot be handled as a phenomenon separately from its general health problems. These problems in question are described as how diseases that can be prevented with vaccine could not be cured, the lack of trained personnel, deficiencies of healthcare infrastructure, the lack of healthcare units and personnel that can communicate with tourists, insufficiency of emergency healthcare services, lack of communication and cooperation between healthcare organizations and local administrations, and incomplete environmental health services. Food safety is one of the most important health risks encountered by tourists. Significant health risks also include insufficient number of qualified supervision units and personnel and inadequate laboratory evaluation. Other general issues regarding the country are low level of general and health education, environmental awareness, whether precautions for environmental health are taken and necessary infrastructure and minimum health conditions are provided. The first effort for determining health problems of tourists in Turkey was made in the tourism season of 1988. The purpose of this study is to determine the reasons why tourists complain about Turkey and evaluate health records. (Evcı & Tezcan, 2005).

Healthcare services provided for foreigners in Turkey can be gathered in three main groups (Aydın, Şeker, & Şahan, 2011):

1. Emergency Healthcare Services for foreigners who stay in Turkey for short periods (Tourist's Health): those who come for meetings, congresses, etc., for commercial purposes and for touristic purposes
2. Those who come from abroad for medical purposes (Medical Tourism): neighbor countries, Middle East, Africa; countries which do not have bilateral agreements with Turkey out of the General Health

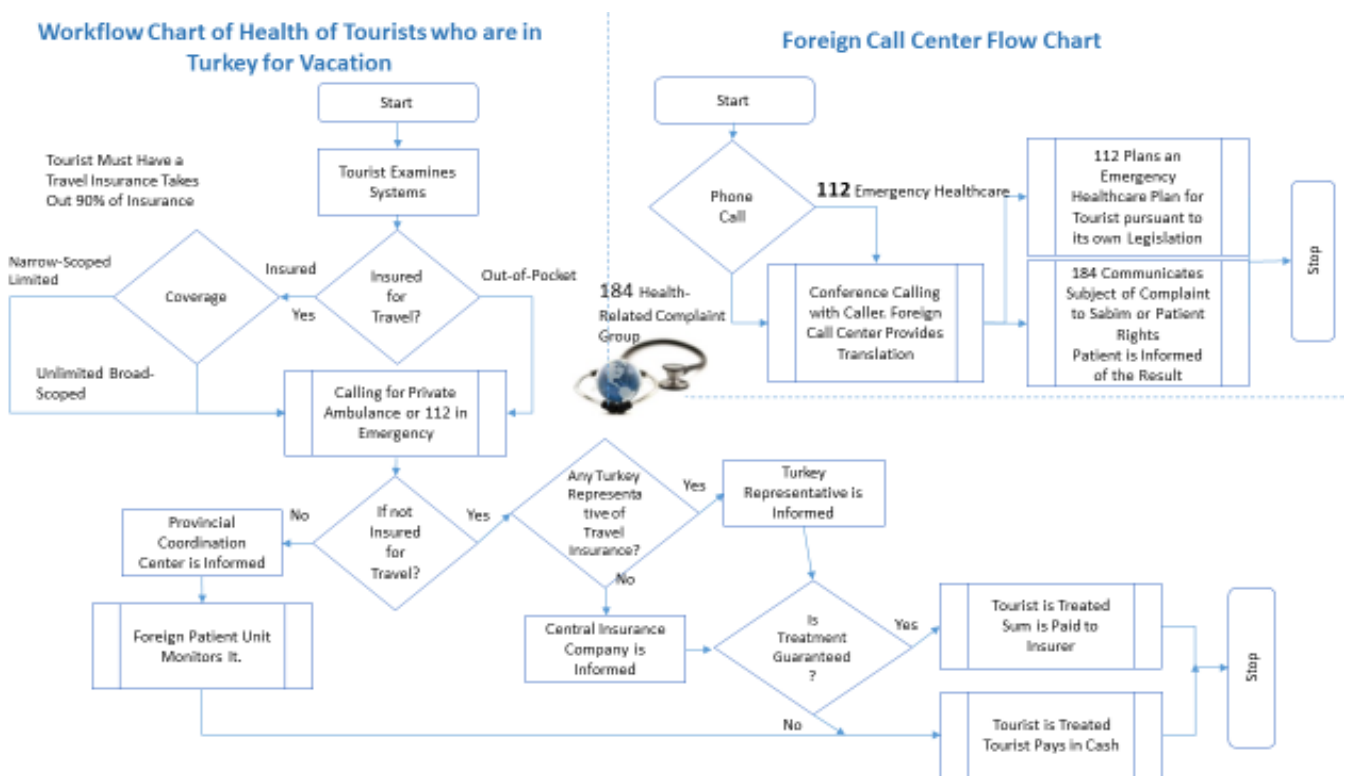
Insurance coverage (i.e. Denmark, Norway, Sweden, England, etc.); those who come from Developed Western Countries (USA, Europe, etc.) and Turkish citizens living abroad.

3. Foreigners staying in Turkey for long periods (routine treatment and emergencies): consular personnel, retired individuals who settled in Turkey.

Foreign Tourists benefit from 112 “Emergency Healthcare Services” within the scope of emergency healthcare, too. 112 provides 24/7 services with 4059 land ambulances, 17 helicopter ambulance, 3 plane ambulances, 316 snow-track ambulances, 64 ambulance that can carry 4 injured people at once and 60 obese-intensive care ambulances. The Foreign Patient Call Center provides foreign tourists with 24/7 service in 6 languages for accessing healthcare services (Interview with Minister of Health M. Müezzinoğlu, 2014).

It can be said in terms of individual therapeutic services that Turkey has a qualified information system and data platform and these can be improved even further to provide decision support for healthcare personnel as well as enhancing the continuity of treatment. Yet, Tourist’s Health and related information systems are yet to be included in an integrated structure despite having their data platforms.

Figure 3: Flow Chart for Health of Tourist Coming to Turkey and Foreign Call Center



Source: (Aydın, Şeker, & Şahan, 2011) It was developed utilizing the information Ministry of Health 2011 Medical Tourism in Public Hospitals and Application Guide for Tourist’s Health.

#### 4. Ministry of Health Foreign Patient Tracking System (FPTS)

Within the scope of Medical Tourism or Tourist’s Health, the “Foreign Patient Tracking System” was established by the Ministry of Health in 2011 to keep record of the data of international patients who receive healthcare in Turkey.

Pursuant to the Ministry of Health’s Circular of Medical Tourism and Tourist’s Health no. 2011/41, the Foreign Patient Tracking System was developed so that public hospitals, private hospitals, medical centers, branch centers, polyclinics and university hospital can track foreign patients. The main goal of this system is to create the system record of a foreign tourist patient. Access to System: data which can be accessed by hospital personnel and officials of Provincial Directorate of Health are specified separately in the system. Hence, user accounts opened during entry to system with authorization are logged in the system with the password they have defined before. Foreign Patient Registration Screen: When foreign patients arrive at the Health Center, the foreign patient registration unit completes their registration by filling all the fields (\*) in the system. Official of Provincial Directorate of Health is in charge of the control of provincial records and meeting any deficiencies. No registration is needed for foreign patients who received residence permit and a temporary identification number, Refugees, those who applied for asylum, asylum-seekers, stateless persons, victims of human trafficking, those within the scope of a judicial case, foreigners who have had a car accident, and foreigners who came to Turkey for education, instruction and courses. Registration of these individuals are performed pursuant to general processing rules.

Figure 4: Foreign Patient Tracking System (FPTS); Foreigner Registration Screen

Foreigner Registration Screen	
<div style="display: flex; justify-content: space-between; border-bottom: 1px solid black;"> <span>Foreigner Registration</span> <span>Additional Diagnosis</span> <span>Intervention</span> <span>Additional File</span> <span>Epicrisis</span> </div>	
Name - Last Name (*)	: <input type="text"/>
Sex (*)	: <input type="radio"/> Male <input type="radio"/> Female
Date of Birth (*)	: <input type="text"/>
Passport No (*)	: <input type="text"/>
Nationality (*)	: <input type="text" value="-Select-"/>
Patient Check-In Date (*)	: <input type="text"/>
Patient Check-Out Date (*)	: <input type="text"/>
Clinic	: <input type="text" value="-Select-"/>
Main Diagnosis (*)	: <input type="text"/>
<small>Note: Enter ICD10 Code or at least 2 letters of name (like MI) in the field above and wait for a while (max. 10 sec.). Select in the list opened.</small>	
Diagnosis Status (*)	: <input type="radio"/> Final Diagnosis <input type="radio"/> Suspicious Diagnosis <input type="checkbox"/> To be Referred : <input type="text" value="Specify Final Diagnosis"/>
Patient Reason for Check-In (*)	: <input type="text" value="-Select-"/>
Patient Type of Check-In (*)	: <input type="text" value="-Select-"/>
Type of Treatment (*)	: <input type="radio"/> Outpatient Treatment <input type="radio"/> Inpatient Treatment
Surgery	: <input type="text" value="-Select-"/> <input type="text" value="Specify Type of Surgery"/>
Cost – Sum Amount of Invoice (*)	: <input type="text"/> TRY
Method of Payment (*)	: <input type="checkbox"/> Cash / Out-of-Pocket <input type="checkbox"/> Insurance Company <input type="checkbox"/> Health Tourism Company <input type="checkbox"/> Intermediary Corporation <input type="checkbox"/> Others
Epicrisis Report:	

(\*) Obligatory field

When a foreign patient comes to the country for receiving therapeutic services (on purpose), this is considered “Medical Tourism”; if a foreigner is obliged to receive healthcare in immediate and sudden cases when they are in the country for vacation or travelling, this is considered “Tourist’s Health.”

The point here is the reason for and method of coming to the country. Patients’ reasons for coming to the country are divided into groups such as Medical Tourism, Tourist’s Health, Thermal Medical Tourism, and Geriatric Medical Tourism. Patients’ methods of coming to the country include Intermediary Organization, Individual (himself/herself), Travel Agency, Medical Tourism Company.

Other than these records, an Epicrisis Report of the foreign patient is written and the process is concluded by registering the foreign patient on the system. After the completion of the foreign patient registration, additional diagnoses, interventions and fees and/or patient files, if any (additional diagnosis, Intervention, Additional file, etc.) are accessed on the updated screen and the information is added to complete the patient registration process. These

system records which are managed by the Department of Medical Tourism can be reported from period to period. When these records are demanded, they can be transferred to Spreadsheet Software Programs (i.e. Excel, etc.) electronically and used in the processes of statistics and reporting.

Foreign patient query processes can be performed by the officials of Provincial Directorate of Health by filtering the data according to the criteria on the registration screen.

Nevertheless, the system cannot be utilized efficiently in terms of data integrity despite all these efforts. The recommendations for the case are mentioned under discussion.

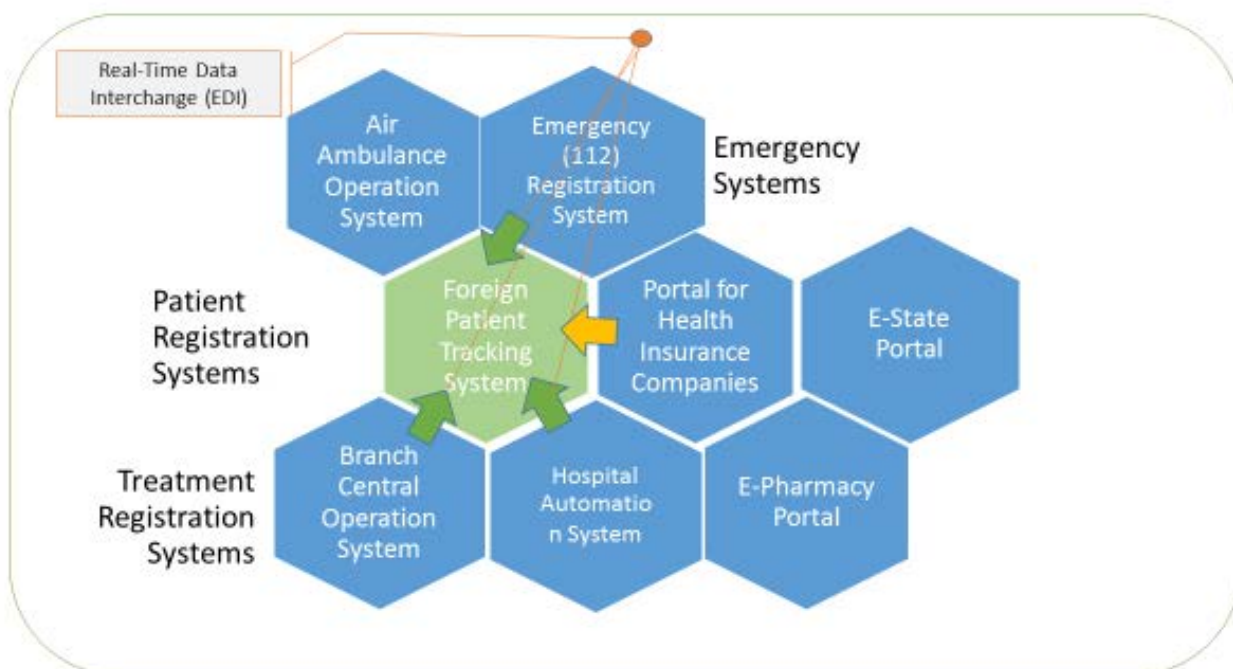
## 5. Discussion

Applications of cruiser in-ship health centers, which are other main stakeholders, are excluded from the scope of the study. Actually, time spent in the sea and on the land is close to each other for Cruiser Tourist's Health. It is for sure that this subject would be intriguing for researchers. We are concentrating our study on tourist's health in Turkey and the data entries in information systems' registration media.

Operation of the patient tracking system developed for foreign tourists in Turkey is ended by a healthcare organization registering the patient in the system after the treatment in general sense. The crosscheck of the accuracy of the data entries and complete or incomplete data entry cannot be performed within an integrity. Even though tasks are assigned with regulations and directives, data integrity of the system is yet to be achieved.

In examinations on the Foreign Patient Tracking System, it was found that data entries in previous years, especially the international patient data in 2015 and 2016 were not on sufficient levels. New regulations have been established for ensuring data entries and number of obligatory fields to fill have been reduced and revised (Aydın M. A., 2016).

Figure 5. Data sharing model of Systems Used in Turkey via the "Foreign Patient Tracking System"



Despite the previous administrative disposals for ensuring data entries to the system in such system designs, it is an obvious finding that no result could be achieved. In this approach, it is also obvious that it is important to keep the data produced especially by the main stakeholders in an integrated database.

System designers generally create records based on the information necessary for only one organization. Yet, if system infrastructures are improved in compliance with electronic data interchange (EDI), then the ability to obtain the data on the system or at the moment when they are created should enable the systems to work in an integrated way.

Despite focusing specifically on Turkey, this study will also maintain the logic of creating integrated databases in the stage of forming Tourist's Health statistics for other countries.

Per this approach, the accuracy of the real-time data will be achieved with the data crosscheck system in the wake of operating the Foreign Patient Tracking System in integration with the abovementioned systems. In this model, treatment registration systems, Emergency systems, and patient registration systems can establish a common database by sharing the necessary data. This study regards achieving the data integrity and eliminating incomplete registration processes as the main principle.

## 6. Conclusions

Although it has been five years since the first introduction of the "Foreign Patient Tracking System" developed by the Ministry of Health in Turkey in 2011, statistical data and patient tracking records have been told to be incomplete. In this approach, it is recommended to share data with at least one other information system via electronic data interchange (EDI) methods. Transferring the data to be created in hospital automation systems to the system in real time could provide solution under these circumstances. Furthermore, exchange of more statistical data in system's registration section could be ensured instead of hospital personnel entering these data in their own system with a keyboard. As this structure becomes popular among main stakeholders, statistics of Tourist's Health can be created in a controlled manner in the system as an application of query and reporting.

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