

ROGEE MEDICAL  
INFORMATION SYSTEM



▶▶ MASTER PATIENT  
INDEX MODULE  
Version 6.0



## Master Patient Index

The master patient index system (MPI) is an electronic medical record system. It is a computerized version of the traditional paper model used to store patient medical information. The MPI system is characterized by a structured format that permits instantaneous access to medical patient records and eliminates all paper medical records, allowing accurate, quick documentation and retrieval of patients' visits.

MPI has been created to identify patients encountered at healthcare facilities. MPI has the responsibility of administering the generation and utilization of appropriate health information that assists in decision making, management of health services and their delivery. The MPI functionalities are fostered on the national and sub-national levels, and are based on an explicit analysis of the needs of information.

### Objectives

MPI is the means for E-health care that allows for quick, accurate storage of patients encountered at the health centers. To contain patient confidentiality, only eligible people with access permittance are concedable, rendering an efficient and effective control of the system functionalities. Specific objectives include:

- Recording of patient files and ability to update, transfer and retrieve them
- Replication of patient information among the centers
- Organization of health services delivery
- Statistical data generation in relation to indefinite variables

- Contributes to sustained monitoring and evaluation of operations and their integration with national managerial processes of health care
- Enhance physicians decision making

### **Functionality:**

- Integration with the Appointments System
- Integration with the Clinician System
- Patients security and confidentiality
- Recording of all patients' details while tracking their flow
- Keyboard use for data entry is minimized, compensated by a drop-down list
- Search engine is available
- Arabic support is included for all user functions

### **Authentication and Authority:**

A- The system ensures high security, business integrity and confidentiality through full information log to the system by the administrator and eligible users.

Physicians are given online access to patient records over distributed network, which facilitates the presentation of patient health information in a clear manner.

The system is defined by default according to userID for permittance or denial to access information, for the reason of business and medical ethics, whereby patient

records are secured and authorized for retrieval upon justified reasons. The system is defined by default according to user ID for access of information.

## B- Security:

### 1- On Operating System Level:

- All processes on system are known through the user authentication
- Intranet-based, which disables accessibility to the network
- Identifying patients based on their national ID or residency number

### 2- On Application and User Level:

The database administration does not have access to user password because passwords are encrypted on a 64 bit function.

## **Description:**

The system supports registration for different types of users. Accordingly, once the patient comes into any medical center, the nurse has to open a file for him. First, the nurse executes a 'Family File' for the patient where data about Family Information, Family Members, Family Diseases, and Individual Members are filled. Then, the nurse writes in a 'Patient File' comprising of the patient's demographics, personal information, medical history and lifestyle. If the patient is a relative of an employee at MOI, then his file must be linked to his referee record

with a unique identifiable Patient ID, while noting the nature of relation between the patient and his guardian. Thereinafter, the system will automatically check for information related to both patients to prevent duplication of the same data. Subsequent to recording all information, a unique ID number is generated and an instant picture is taken for this patient. An electronic medical card is then issued for the patient, encompassing his picture, ID, and full name. The magnetic card will serve as the solitary identifier for every patient seeking health care from any center, irrespective of origin of issuance. However, the system also supports smart cards, whereby information on smart card chips maybe integrated into the system and checked for duplication and/or updates. Ultimately, the formation of cards directly linked to patients' information facilitates the generation of statistical data related to disparate variables.

All MPI module application can be integrated with any medical machine because it is Health Level 7 (HL7) compatible. It can be implemented in a single clinic, in poly clinics, and it supports online doctor connectivity, thus facilitating controlled access to patient files from remote locations

MPI also provides quick access by physician to patient records over distributed network and facilitates the presentation of patient health information in a clear manner. Search can be done in several manners to facilitate update and retrieval of files. Search is accomplished in relation to patient's ID, name, telephone number, and/or referee person. Furthermore, the system favors a rapid identification of expiry dates of medicaments during a specified period the user opts for. Due to the subsistence of more than one medical center is, each center is given a code whereby all patient files issued behold the code of the center.

When the doctor logs onto the MPI and puts the id of the patient, the doctor can access the medical file of the patient. He can see the past visits of the patient, examine him, and fill a new visit for him. The doctor might transfer this patient to a consultant doctor. The doctor can see if the patient is allergic to something, he can see the problem list and medication list that were filled for the patient. The doctor may as well check the Laboratory results of the patient through MPI as they are both integrated within each other.

When registering for a new patient medical record, the system sets an automatic expiry date based on the death of each patient. Upon keeping track of patients, all deceased are updated on their respective files, and the system will ultimately alert the user of the termination of the file.

If the patient has an outside file in specific affiliated hospitals, the user is capable of merging the external file numbers to the present one. It is important to note that patients' fore-seeking care from different specialists, alluding to distinctive modules inclusive MOI national database, have all their records integrated as one medical file.

Medical information recorded on MPI can be corrected for or modified before archiving, however, data related to the patient's demographics and personal life are stored as they are in MOI database and is abstained from adjustment, whilst only authorized users are legitimate for justified deletion and/or renewing a medical file. For patients with referee files, the system opts for indicating whether updated information is applicable to the both of the patients' files or not.