

# Enterprise Master Patient Index (EMPI)

## Benefits

Access Critical Care Data  
Improved Patient Services  
Provide Better Care  
Synchronize Data  
Tracks Across  
Organization

## Interface

Assisted Living  
Daycare  
Outpatient  
Skilled Nursing  
Waiting List  
Health Info Exchange

## Enterprise Master Patient Index (EMPI)

Enterprise Master Patient (EMPI) is a repository containing a registry of all patients across an enterprise. An EMPI provides many benefits including:

- Maintaining a central registry of all patients and their demographics, assigning a unique identifier to each patient.
- Eliminating duplicate patient registration entries that result due to changes in patient demographics (patient moved to another location), data entry errors during patient registration, or missing demographic information.
- Providing record locator services by enabling physicians to identify which health care providers a patient has visited, across the enterprise

The key functionality provided by an EMPI is its ability to identify matching patient registration records and link them together as they represent information about a single entity. An EMPI needs to be able to perform this record linkage even in the presence of errors and missing attributes. This key functionality is provided by a matching algorithm. There are a wide variety of matching algorithms that have been used in practice but they are classified into two Algorithmic categories:

- Deterministic Algorithms - that search for an exact match between attributes
- Probabilistic Algorithms - that search for an approximate match between two records

EMPI is standards-based across the enterprise and is designed to be extensible. Its architecture uses principles of SOA services, including a matching algorithm service, that can be altered simply through changes to the configuration file. EMPI includes deterministic and probabilistic algorithms that can be plugged into the system without any modifications.

## Master Patient Index (MPI)

The Master Patient Index identifies patients for all their admissions to a Facility. It ensures that a patient's stay is consolidated regardless of the number of Admissions/ Episodes the patient had. It prevents Admitting a patient that has caused significant financial or administrative difficulties in past Stays. The MPI contains records for every ADT of a patient.

The MPI allows users to view a patient's demographic data in the Master Patient Index (MPI) and use the previous admission data for the current admission. Patient searches can use a patient's ID or some of their demographic data.

On the Person Search screen, a user can search by various methods, including the EUID, Local ID, SSN, and Demographic Data, which includes Date of Birth, Address, and Phone Number. Each facility record shares an enterprise record, which is created by the MPI. Two facility records that represent the same real-life person belong to the same enterprise record.

An enterprise record contains its own set of patient demographics called the Single Best Record, which is calculated from the demographics data of its facility records. The MPI generates a unique patient ID, called an EUID, for each enterprise record.

