



Next-Generation EMPIs Improve Identity Data Quality

EMPIs help healthcare delivery organizations and payers maintain accurate, consistent information about patients and members across different healthcare IT systems and facilities. They help improve care delivery and business performance by optimizing data quality, reconciling inconsistencies and data gaps across systems, and assigning a unique identifier to each person.

This Q&A reviews the key features, functions, and benefits of an EMPI, explains the unique attributes of a next-generation EMPI, and provides tips for evaluating an EMPI solution.

Q1

What is an Enterprise Master Person Index?

An Enterprise Master Person Index (EMPI), also known as an Enterprise Master Patient Index, is a software solution that helps healthcare organizations (HCOs) reconcile patient and member records across disparate systems. EMPIs match and link records from various sources, providing a uniform, uniquely identified record for each individual.

Q2

Why are EMPIs necessary?

Most HCOs rely on a diverse collection of clinical and business systems such as EHR platforms, pharmacy and lab software, appointment scheduling applications, CRM solutions, and billing and payment tools. Each system typically manages patient and member records independently.

Reconciling identity data across systems can be challenging. Name or address changes, formatting discrepancies, typos, and other anomalies often lead to duplicate records (multiple entries created for the same person), overlay records (data for multiple individuals merged into the same record), and other data inconsistencies and gaps.

Q3

What are some of the potential consequences of inaccurate identity data?

- **Patient safety issues** – incorrect patient matching can cause mishaps like administering the wrong medication to a patient
- **Treatment and reimbursement delays** – 35% of all denied claims stem from inaccurate patient identification or information¹
- **Excess expenses for providers, payers, and patients** – the average cost of repeated medical care due to duplicate records is \$1,950 per inpatient stay and over \$1,700 per emergency department visit¹
- **Regulatory fines and legal settlements** – an HCO might accidentally disclose patient health information to the wrong patient, violating HIPAA rules or other data privacy regulations
- **Lost IT productivity** – IT organizations often waste time and resources manually cleaning data and de-duplicating records

Q4

How do EMPIs help? What benefits do they provide?

EMPIs help HCOs improve care quality and business performance by eliminating duplicate records and overlays. They provide a single source of truth for identity data that is accurate, complete, and up-to-date, helping HCOs:

- Reduce medical errors, avoid duplicate diagnostic and lab procedures, and simplify M&A integrations
- Improve data governance and comply with information sharing regulations like CMS-0057-F
- Prepare data for analytics and AI initiatives, boost IT productivity, and more

¹ [Black Book Market Research](#)

Q5

How do EMPIs work?

EMPIs use various matching techniques to identify and consolidate records belonging to the same person, including:

- Deterministic algorithms that look for exact matches of specific data elements like name, date of birth, or social security number. If all criteria match, the records are deemed to belong to the same individual.
- Probabilistic algorithms that use statistical models to determine the likelihood that two records belong to the same person. Probabilistic algorithms assign a score indicating the probability of a match based on similarities in multiple attributes.
- Referential matching algorithms that verify a person's identity, fill in gaps, and resolve data discrepancies by cross-referencing records with external identity proofing services or authoritative data sources such as government databases, telephone directories, or credit reporting agencies. Referential matching ensures records are complete, error-free, and up-to-date.

Q6

What is a next-generation EMPI?

Gartner² defines a next-generation EMPI as one that employs referential matching. They go on to say "Next-generation EMPI referential matching will significantly improve patient identification, record matching and merging accuracy." Gartner recommends healthcare CIOs "Increase the accuracy and efficiency of medical record match and merge activity by taking advantage of next-generation EMPI platforms that leverage external sources of patient reference data such as identity-proofing services."

Q7

What capabilities should I look for when evaluating an EMPI solution?

Look for a solution that offers:

- Comprehensive matching capabilities – supports a variety of matching techniques, including referential matching
- Built-in automation tools – provides automatic record matching and reconciliation
- A customized rules engine – supports configurable, site-specific logic for matching or alerting
- Robust integration functionality – works with a wide range of systems and standards-based APIs such as HL7[®] v2 and FHIR[®]
- Flexible deployment models – can be implemented in a public cloud, on-premises, or as a managed service
- Regulatory compliance – adheres to security frameworks like HITRUST and data privacy regulations like HIPAA

Q8

How can we get started?

When evaluating EMPI options, choosing the right partner is just as important as choosing the right product. Be sure to choose a solution provider with extensive healthcare data and records management expertise.

InterSystems has the knowledge, experience, and products to help you overcome the most complex healthcare data integration and management challenges. InterSystems is a leader in healthcare data technology and standards-based interoperability.

InterSystems EMPI makes it easy to reconcile and link patient and member records across disparate systems. The next-generation EMPI helps you optimize identity data quality and improve clinical and business outcomes. Learn more about InterSystems EMPI [here](#).