ARGO Healthcare Solutions

Entity Match & Resolution EMPI

Features

- Improved probabilistic accuracy using natural language processing and machine learning

- Active Integration to avoid creating duplicate entities

- Biometric device support to maintain unique identities and avoid identity fraud

- Just-in-time adjudication of duplicate profiles

- Advanced prioritization workflow with queue and team management features

- Data profiling tools and analytical reports

- High-performance, service-oriented architecture

- Rapid deployment and flexible entity configurations

Improving healthcare performance by accurately matching patient records

Minimizing Duplicate Rates

Industry studies show that the rate of duplicate patient records ranges from 4-12 percent, which may increase as healthcare organizations share patient health information. In addition to duplicate patient records, potential safety issues related to patient identification include an "overlay" of a patient's information into the wrong patient's record, orders entered for the wrong patient, or care delivered to the wrong patient because of problems with identification[1]. An **Enterprise Master Patient Index (EMPI)** labels and links data, ensuring the right information is shared across the enterprise.

The **ARGO Entity Match & Resolution EMPI** solution incorporates biometric authentication and enables real-time identification, precise linking, and effective resolution of data from multiple systems and sources. ARGO's flexible, cost-effective, advanced probabilistic matching engine accurately establishes and maintains unique records and identifiers that are accessible throughout an organization. **To date, ARGO has evaluated more than 150 million records and identified over 50 million duplicate records.**

Optimizing Data Quality Management

ARGO's workflow, task, and entity management application provides an intuitive, browser-based user interface for resolving adjudication tasks within the EMPI. It also identifies data quality issues, such as potential overlays, duplicates, or overlapping source system records.

Providing a Unique Implementation Approach

ARGO professionals perform a statistical analysis of an organization's data to determine the optimal configuration for probabilistic matching, along with identifying match algorithm parameters specific to the organization's data set. The ARGO matching engine analyzes the data set to determine the number of duplicate and potential duplicate records. This analysis determines the probability of each record, matching other records within the data set – detecting duplicates within and overlaps across organizations. This process – the **ARGO Duplicate Profile Analysis** – is used during implementation for site-specific tuning.

[1]National Quality Forum: Identification and Prioritization of Health IT Patient Safety Measures, Final Report, February 11, 2016; http://www.qualityforum.org/Publications/2016/02/Identification_and_Prioritization_of_HIT_Patient_Safety_Measures.aspx

For more information on ARGO healthcare products or services, visit ARGOHealthcaresolutions.com.

Employing Probabilistic Models

ARGO Entity Match & Resolution employs probabilistic models with typographical error, natural language processing, and cultural phenomena to determine the likelihood of two matching records. The solution's matching engine applies intelligent machine learning techniques to fine-tune parameters for implementing organizational, regional, or departmental data characteristics. Using these capabilities, organizations can increase accuracy and lower their duplicate rates to 0.5 percent. These improvements help reduce costs and improve patient satisfaction.

Designed to work across data-intensive healthcare technology environments, the solution accurately matches and links records including hospital EHRs, and clinical and physician practice management systems. Entity Match & Resolution also fulfills data analytics requirements of mergers and acquisitions, accountable care organization models, population health initiatives, and health information exchanges.

Improved matching accuracy allows organizations to:

- Improve search capabilities to prevent duplicate entity records
- Remediate potential duplicates faster
- Reduce incidence of adverse clinical impacts
- Achieve and maintain regulatory compliance

- Improve quality of care and safety
- Increase reliability and trust in population health quality measures
- Expand revenue cycle performance
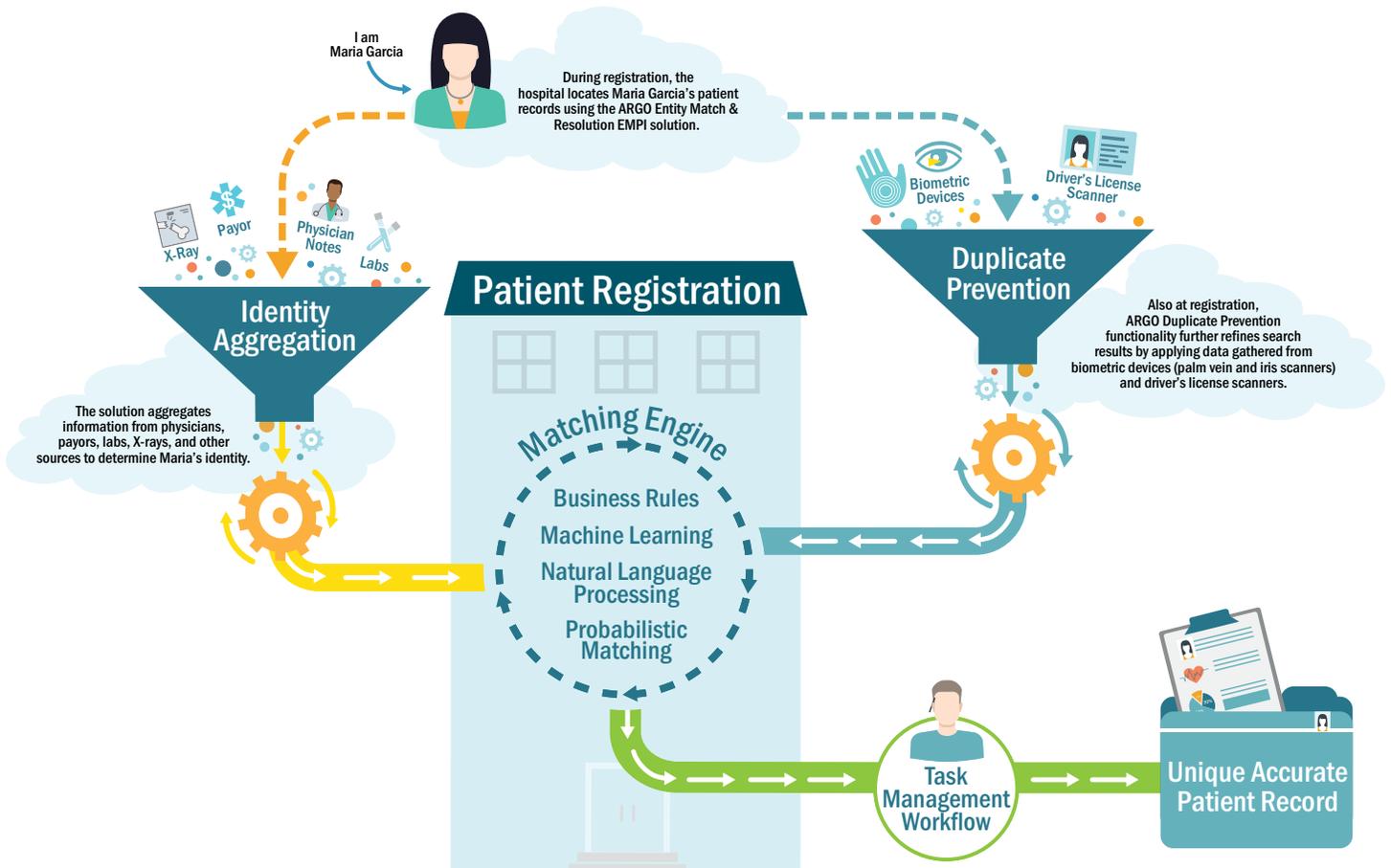
The ARGO Matching Engine within the EMPI employs business rules, machine learning, natural language processing, and probabilistic matching to create a unique, accurate patient record.