

Overcoming overlaps, duplicate records and time to achieve an optimal EMPI

OVERVIEW

A northeast region health network with a services footprint that includes over a dozen hospitals and large physician groups selected Epic electronic health records system as a single enterprise EHR. After thorough planning, the health network's team embarked on the formidable task of migrating 8.3 million patient records from multiple EHRs to the new system. The monumental data-driven digital transformation endeavored to facilitate improved patient identity integrity, care delivery, and revenue cycle activities. At the outset, the in-house team decided that an Enterprise Master Patient Index (EMPI) cleanup was critical to project success. Subsequently, the health network turned to the unique partnership of e4health Verato to undertake the complicated, multi-layered MPI cleanup effort. e4health led the project with a six-phase approach: holistic assessment, preparation, decision-making, data migration, analytics/reporting, and ongoing evaluation. In addition, a sophisticated rules-based strategy drove decisions and survivorship rules based on relationships with facilities and 400+ downstream systems.

I want to thank you for your dedication to this remarkable accomplishment. I was often told by many people a 3% duplication with all of the complexities would be nearly impossible to accomplish. As I have come to expect from you, you have proven many people wrong with your talents.

Vice President of IT, Revenue Cycle



Migration to Epic target EHR



Address 2.7M duplicate tasks



Time frame 9 months



Positioned to leverage target records

THE BACKGROUND

For the health network, Epic EHR is the engine that drives patient care, operational decisions, and contextual insights with reliable, holistic, and integrated data. However, importing millions of patient records from multiple data sources to a single EHR creates enterprise-level overlaps. Overlaps are defined as patients that exist in two or more different facility source systems or databases. Overlaps must be merged into the EMPI to realize the full benefit of the EHR, ensure system integrity, and manage critical patient care implications. In this case over 1.9 million overlaps occurred.

Further, each facility also had same-source, facility-level duplicates that demanded resolution before addressing the enterprise-level overlaps. As the team addressed each facility-level duplicate and enterprise overlap, many of the downstream systems required manual merge efforts. This effort entailed a detailed decision flow process to ensure that all downstream systems were accounted for and appropriately matched the EHR and EMPI. Project leaders considered each facility, each ancillary system within that facility, and whether the downstream system overlapped across multiple facilities within the enterprise.

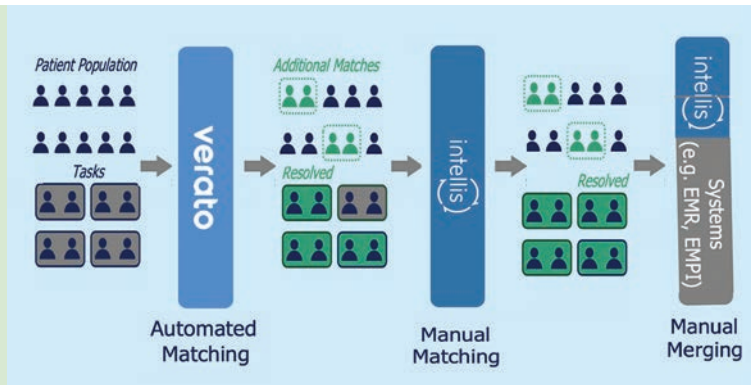
So crucial is the enterprise patient identity integrity, that Epic requires a duplicate rate of 3% or less before an enterprise can "go live" with Epic. Given the considerable investment into Epic and the fact that high-quality data is among the most valuable assets to the organization, an MPI cleanup was central to the system-wide comprehensive data migration project.

THE CHALLENGE

In tandem, e4health and Verato brought their unique skill sets and vast healthcare IT experience to the multifaceted MPI cleanup initiative. With the data migration of EHRs representing 16 entities to a single instance of Epic, the health network aspired to reduce the time frame and manual effort needed to address millions of potential overlaps and facility-level duplicate records. The immense task involved impacts for patient care and safety as well as vast downstream financial implications. Given a firm Epic "go live" date, the ambitious time frame for the project was nine months. Further, the health network desired to work toward a duplicate rate far below Epic's requirement of 3% or less to commence "go live."

THE IQ PROCESS

With e4health's six-phase process—holistic assessment, preparation, decision-making, data migration, analytics and reporting, and ongoing evaluation—and Verato's referential matching technology, the team presented a timely, agile, intelligent, and data-driven action plan. This approach also delivered experienced project execution in three key areas: resolving enterprise overlaps and same source duplicates, deter-mining surviving records/targets, and merging downstream systems.



Resolving enterprise overlaps and facility duplicates

Before the immense migration to Epic, the team identified enterprise overlaps and same-source facility duplicate records in the patient populations of each legacy system. Next, Verato was tasked to address duplicates using their referential matching technology. The precision matching system identified 70% of enterprise overlaps, and matched same-source facility duplicates. Then, e4health used the resulting data to verify each matched case, merge the records, and address the impacts on downstream systems. Also, e4health manually researched, matched, and validated the 30% of overlaps and duplicates not identified through referential matching.

Determining surviving records

A critical part of the sequential EMPI process was identifying the records that would become surviving records. A surviving record/target is the designated "source of truth" into which all data for a patient is merged. First, the in-house team and e4health built a customized merging algorithm using client-defined parameters. The algorithm was based on a weighted record hierarchy. Among the factors used to determine the algorithm are: number of visits, most recent visit dates, oldest registration dates, records that exist in specific downstream systems. Then, e4health's highly trained team used the algorithm's specific enterprise and facility rules to determine target records. This careful and timely decision-making process was at the core of the merging procedure.

Downstream systems

After merging records, e4health addressed the multiple downstream and ancillary systems that required manual merging. Managing merges in these systems was a mission-critical task. The health network's system administrators and department leaders did not have the bandwidth to address the volume and time-sensitive nature of downstream merges. e4health eliminated the stress and burden on health network staff and accomplished this vital piece of the project.

THE SOLUTION

The e4health/Verato partnership proved to be the smart solution for the complicated, multidimensional initiative ...

- Reconciled enterprise-level overlaps
- Resolved same-source, facility-level duplicates
- Merged and or validated 400 downstream systems
- Created a structured and sequential rules-based process
- Delivered within the very tight time frame

Effective and timely decision-making defined the project's trajectory and led to success. Our team of passionate professionals, Verato's referential patient matching technology, and EMPI merging best practices combined to deliver reliable data for a fully optimized enterprise EHR in just nine months. The team's IQ approach, proven methodologies, and vast experience led to a duplicate rate of 2.5% while continuing to work toward the goal of below 1%.

Achieving EMPI Success

- Achieved a duplicate rate below 2.5% working toward a goal of below 1%
- Integrated with the health network team to address merges in downstream systems and alleviated substantial workload impacts
- Developed long term strategies and workflow optimizations to solidify patient identity integrity initiatives
- Facilitated maximization of the health network's investment in EHR and the value of clean and integrated patient data
- Leveraged industry-leading expertise, efficient workflows, and technology
- Improved data-driven patient care and safety practices as well as financial initiatives