

CASE STUDY: IMT MDM OPTIMIZATION REDUCES TASK VOLUMES FOR LARGE US HEALTHCARE SYSTEM

Over time, shifting patterns in data availability, data collection and data quality can impact the accuracy of a Master Data Management (MDM) configuration. An initial implementation takes into consideration both the frequency and discrepancy of values from the initial historical load, but that can and will change over time.



Generally speaking, the algorithm associated weight files and thresholds should be reviewed when the underlying data changes more than 10%. In addition, new standardization and comparison functions should be reviewed to achieve optimal performance and match accuracy. At IMT, we continually help our customers optimize MDM algorithms to improve match accuracy, and reduce task volumes by as much as 50%, while reducing both false positive and false negative linkages.

LARGE US HEALTH SYSTEM WITH A HIGH VOLUME, HIGHLY INTEGRATED EMPI

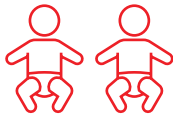
One of the largest healthcare systems in the US engages IMT as their trusted partner in the implementation and optimization of their highly integrated, high volume EMPI (Enterprise Master Patient Index), on IBM Infosphere MDM SE (formerly Initiate Systems). Serving more than 35 million patients, the health system spans 150+ hospitals and 2000+ care delivery sites. More than one thousand entities, linked across multiple EHR, HIS and CRM systems, are continuously accessed by consuming systems via real time and batch methods. HIE, population health and XDS use APIs and FHIR patient services, while data warehouse and analytical systems load new and updated entity data via FTP.

THE CHALLENGE

With such volume and source system distribution, it's not uncommon for a health system of this size to experience data drift and data collection disparities that reduce match confidence. Singletons (aka, lone patient records) can be caused by sparse or inaccurate data which fails to match other records. Singletons negatively impact consuming systems that query for a single 'best match' patient record, because the clinicians and care teams may not receive the most complete set of clinical information belonging to a patient. In addition, high Singleton rates correlate to an increased volume of tasks that need to be reviewed by Data Stewards. After performing thorough data profiling, entity composition and quality analysis, IMT isolated specific factors that contributed these issues:



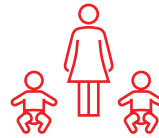
Missing or anonymous date of birth



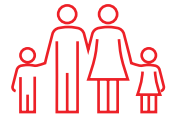
Twins born one day apart



Initials in place of first or middle name



Mother's birth name in records for newborn twins



Shared demographics among family members (SSN, Dob, Address, Phone)

THE SOLUTION

IMT leveraged a secure replica of production data, which allowed the team to perform thorough, detailed analysis, and measure the impact of configuration changes without impacting the current production environment. Data owners and stewards reviewed comparison pairs representing a variety of matching scenarios, and baseline analytics were captured to measure the direct impact of those recommended configuration changes.

IMT projected the following outcomes from these recommendations:

Singleton population reduced by

2 million

Active entity count reduced by

1 million

Potential Duplicate and Linkage Tasks reduced by

62%

This approach offered valuable benefits over "blind" task elimination and resolution offered by third party data enrichment and black-box entity resolution services. Instead, this health system leveraged their own data to make decisions, maintaining transparency and traceability along the way. By maintaining control over the optimization rollout, they implemented a regional

rollout instead of a single big bang rollout to minimize disruptions across their broad health system.

For more information about IMT MDM Optimization, please contact sales@imt.ca, or visit <https://www.imt.ca/your-solutions/healthcare/masteridm/mdm-optimizations/>



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