

UHIN Leverages Leading Patient Identification Platform to Drive Quality and Coordination of Care, Support COVID-19 Response

UHIN

At a Glance

- Product: EMPI
- Utah HIE and full-service clearinghouse
- 25,000 provider participants
- HIE covers 95% of hospitals and 90% of large clinics across Utah
- Clearinghouse serves 80% of providers in Utah, as well as providers in 42 other states

✘ Challenge

- Growing HIE wants precise patient ID matching across its network.
- Legacy master data technology, coupled with reference data solution, was no longer sufficient to manage duplicates and manual tasks.

✔ Solution

- NextGate's EMPI enabled UHIN to align over 6 million patients across 25,000 participants.
- Automated patient matching capabilities allow UHIN to create an integrated network of accurate and accessible patient data.
- Immediately resolved over 965,000 duplicates and reduced 12 percent of manual reviews.
- EMPI's intelligent automated technology enhances physician productivity and instills trust and confidence in data quality.

NEHII partnered with NextGate to accurately match and connect critical public health information across the state of Nebraska to support trusted data exchange and case reporting for COVID-19 using an Enterprise Master Patient Index on Amazon Web Services (AWS).

Founded in 1993, Utah's health information exchange, UHIN, enables electronic medical records exchange and direct secure messaging services for 95 percent of hospitals and 90 percent of large clinics across the state, including Intermountain Healthcare and University of Utah Health. Apart from the 6 million clinical patient records in the HIE, UHIN's full-service healthcare clearinghouse also encompasses more than 214 million claims records. The HIE plays a key role in driving data-driven improvements in care coordination and outcomes for its evolving network of 25,000 provider participants.

Challenge

For state health information exchanges (HIEs), the goals of expanding network participation and fostering effective collaboration between members hinge on the ability to deliver timely, accurate and comprehensive patient data. Like many progressive and growing HIEs, UHIN's need for a modernized, enterprise-level patient matching partner grew, in part, due to the number of EMR systems and applications entering the network, and the resulting number of duplicate and incomplete patient records.

Legacy patient identification technology was no longer sufficient for UHIN to handle the growing volume of providers and patients joining the HIE. Its legacy master data service software was producing too many manual tasks for UHIN's health information management (HIM) team to keep up with. For example, each time a new record was added, or a new provider entered the network, the legacy application would struggle to actively consolidate the information under the patient's Golden Record. Significant administrative challenges quickly became apparent.

UHIN's challenges were further compounded with the addition of another vendor to solve the same problem. The HIE turned to referential matching to fix its legacy master data service, however found that in most cases, their own local demographic data was as rich as the data their vendor was referring against.

To operate efficiently, UHIN needed a proven and automated solution that could match patient data at an enterprise level and connect the dots from other stakeholders across a technologically diverse healthcare community.

Solution

Critical to UHIN was selecting a cloud-based identity management platform that could scale to support future growth and seamlessly onboard new providers and data streams, including social determinants and behavioral health. Further, the HIE had to ensure its network would remain secure, accessible and continually upgraded to alleviate any additional administrative burdens.

To that end, UHIN selected NextGate's Enterprise Master Person Index (EMPI) on Amazon Web Services (AWS) to replace its existing data management solution and referential matching software.

Powered by NextGate's globally recognized MatchMetrix® master identity platform, the EMPI orchestrates all available medical information across the enterprise, with capabilities that include:

- The most up-to-date patient demographics across all clinical and financial systems
- Automated, real-time patient record matching across all systems and sites of care.
- Seamless integration of new and existing legacy applications for fluid data exchange.
- De-identification processes for population-based analytics and quality reporting
- Added benefit of address verification technology to standardize and verify address information

Built on AWS, the EMPI is also able to:

- Bring together best-of-breed applications into a single and secure HIPPA-compliant environment.
- Simplify its technical infrastructure locally to reduce costs, need for hard-to-recruit skillsets.

- Scale and onboard new participants and their sources quickly to meet the pace of growth.
- Provide high reliability and availability

Results

NextGate's implementation approach began with a thorough analysis of UHIN's data and careful tuning of the platform. Tuning the EMPI to an organization's particular patient population significantly increases matching accuracy and dramatically reduces the need for manual reviews by the HIM team.

On-demand access to up-to-date, comprehensive medical records afforded by the EMPI improves care decisioning and outcomes, while reducing errors and unnecessary costs.

The rise of COVID-19 during the implementation phase gave NextGate additional motivation to get the job done swiftly and accurately, especially since the HIE was pivotal to understanding the scope of the region's spread. Having a crystal-clear picture of the pandemic across Utah, including admissions, discharges, lab work and prognosis, was critical for UHIN participants to identify and track exposures, and ultimately drive decisions on public health.

"The demands of COVID-19 amplified the need for having a robust identity management solution in place for case surveillance and reporting," said Cody Johansen, Director of HIE Services at UHIN. "As a vital piece of infrastructure for data integrity and interoperability, the EMPI supports our efforts to effectively and collectively respond to the crisis."

"NextGate's EMPI on AWS has been a foundational tool in supporting our network's digital maturity and fostering an integrated approach to community health."

- Cody Johansen
Director of HIE Services

Patient Matching for COVID-19:

✘ Challenge

The ability to exchange and synchronize demographics across multiple systems and sites of care is a key element in dealing with COVID-19. Lack of important demographic data such as addresses and phone numbers lead to erroneous reporting, administrative burdens, patient frustration and precarious delays.

On average, 80% of coronavirus test results are missing demographics, and half do not have addresses, according to the Council of State and Territorial Epidemiologists (CSTE).

To identify at-risk populations and communities in danger of an outbreak, researchers need demographic data including race and ethnicity, which is missing for almost 50% of

During initial record clean-up, more than 7.3 million disparate records were analyzed and over 965,000 duplicates were resolved. That includes over 110,000 new health records that were added midimplementation.

NextGate was also able to immediately reduce 12 percent of manual reviews generated by their combined legacy solutions. Today, UHIN has been able to save 10-20 hours of manual remediation per week.

Having a longitudinal view of patient records improves nearly every aspect of care delivery for UHIN and its more than 25,000 network participants. Specifically:

- Enhanced clinical decision making, physician productivity and care coordination through automation of patient ID management.
- Increased confidence in data quality and accuracy.
- Improved security and compliance posture.
- Reduced infrastructure costs: avoidance of on-prem data centers, servers and storage and associated power, cooling and resources to maintain it.
- Scalability for "of the moment" and future growth needs to accommodate additional members and cover more patients.

reported COVID-19 cases nationwide, as reported by the CDC. The result is an incomplete picture of the pandemic's impact on people of color, who have been hit particularly hard by the virus.

✔ Solution

Implementing an EMPI serves to:

- Enrich patient information for contact tracing
- Populate test results with missing demographic information
- Support analytics for epidemiology and disease surveillance.
- Decreased administrative waste re manual look up and record remediation.
- Heightened support of broader HIE initiatives, i.e. population health, social determinants and patient satisfaction.

"NextGate's EMPI on AWS has been a foundational tool in supporting our network's digital maturity and fostering an integrated approach to community health," said Johansen. "Having an established, best-in-class partner like NextGate to flawlessly execute and maximize the extent of the EMPI ensures data integrity and patient safety of the highest level."

What's Next?

UHIN will now leverage NextGate's address intelligence offering as part of the EMPI to standardize and verify patient address information. Using such postal standards as U.S. Postal Service (USPS), Royal Mail and Canada Post ensures the address is accurate, up-to-date and converted to the appropriate format for a trusted, reliable patient address. The technology has the added benefit of geocoding and reverse geocoding to enable location-based searches of populations.

About NextGate

NextGate is the global leader in identity modernization and data transformation in healthcare. With over 100 customers in nine countries, NextGate is revolutionizing the consumer care journey by resolving isolated, unstructured health and lifestyle data and establishing a trusted, single identity across the continuum. Our identity and data integrity solutions connect the digital ecosystem at scale to deliver a unified experience for care providers and their patients. NextGate's market-leading, HITRUST-certified Enterprise Master Person Index (EMPI) is deployed by the world's most progressive health systems, state and government agencies, and health information exchanges for meaningful, data-driven improvements in care quality, safety and delivery.