Healthcare Provider Data Management

Tamr's New Approach with **AI-Native MDM**

Tamr

Healthcare is highly regulated and complex. In addition to managing vast amounts of data across multiple systems, healthcare organizations are navigating numerous layers of oversight that ensure patient safety, data privacy, and quality of care. However, because critical provider and organizational data lives across multiple systems and siloes, it's difficult to maintain a unified, accurate view of these critical entities.

Traditionally, healthcare organizations relied on master data management (MDM) solutions to help them overcome this challenge. But traditional MDM struggles to keep pace with the scale, complexity, and speed needed to manage this data effectively, leaving healthcare organizations struggling to keep up as the volume and variety of their data explodes.

The Challenges of Healthcare Provider Data Management

When it comes to managing data, healthcare organizations face a myriad of challenges. Providers often have complex and changing associations in a network, making fragmented, duplicated information in disparate, disconnected systems a common scenario.

Further, for years, government agencies and healthcare organizations have been compiling and sharing healthcare data sources, including electronic medical records (EMRs), EHRs, prescription data, insurance claims, payment data, and more. And while all providers have a unique 10-digit identifier, aka a National Provider Index (NPI), a standard maintained across the US, it lacks quality and often contains fat-fingered data entry or the inadvertent addition of suffixes.

The complexity of maintaining accurate records for healthcare providers, clinics, and organizations is compounded by the need to integrate data from various sources, each with its own format and standards, making it difficult for healthcare organizations to gain holistic, trustworthy views of their data. And that’s not all.

Healthcare organizations face typical data management challenges, too.

Fragmented Data Systems

Healthcare data is often spread across multiple, siloed systems, making it difficult to seamlessly share information across different platforms and organizations. Not only do these disconnected views lead to inconsistencies and duplication, but they also put the ability to provide quality patient care at risk.

Data Quality Issues

Incomplete, outdated, or incorrect data can lead to inefficiencies and errors in decision-making, which, in the world of healthcare, can literally mean life or death. Inconsistent data entry, outdated records, and human error all lead to inaccuracies, which, in turn, affect patient outcomes. Complexity in provider networks further complicates matters, making it difficult to master provider data when organizations merge or acquire new practices.

Scalability Challenges

Healthcare organizations are generating massive amounts of data. And as the data grows, so do the challenges associated with managing it. Traditional MDM tools are often unable to handle the large volumes of data that healthcare organizations must manage, particularly as these organizations grow or merge.

source RBC Capital Markets

Approximately **30% of the world's data volume** is being generated by the healthcare industry, and by 2025, the compound annual growth rate of data for healthcare will reach **36%**. To put this into perspective, that's 6% faster than manufacturing, **10% faster than financial services, and 11% faster than media & entertainment**.

Clearly, there is a critical need for healthcare organizations to streamline operations related to the mastering of provider data. To tackle the challenges of healthcare provider data management, healthcare organizations are increasingly looking to **AI-native data mastering** solutions like Tamr as a way to overcome the challenges of traditional MDM. Using advanced machine learning algorithms, Tamr automates the mastering process, significantly improving data accuracy, processing speed, and scalability. And, it integrates with **external data sources** like the National Plan and Provider Enumeration System (NPPES), Center for Medicare/Medicaid (CMS), and Research Organization Registry (ROR), enabling healthcare organizations to easily enrich and validate their data to create **golden records** that represent a comprehensive and reliable view of key provider and organizational entities.

How Tamr's AI-Native Approach Transforms MDM

Tamr's AI-native data mastering technology is at the forefront of data innovation, enabling healthcare organizations to reap the benefits of provider **golden records** and the holistic views they provide. By using Tamr, healthcare organizations are changing the game when it comes to provider mastering, positioning them to grow and adapt today and into the future.

Tamr tackles the challenges of healthcare data management head-on using an AI-native approach that automates and enhances the MDM process. Here's how we do it.

1. Automated Data Mastering

Tamr's **patented** machine learning models automatically identify and merge duplicate provider records to create a single "golden record" for each entity and continuously improve its accuracy over time. This automation reduces the manual effort required to manage data and ensures that records are always up-to-date.

What is a Golden Record?

A **golden record** represents the pinnacle of data management: a single, authoritative, accurate version of, in this case, a provider's data across multiple data sources and datasets. This hard-to-achieve level of data integrity and comprehensiveness is now possible through an AI-first approach. By leveraging artificial intelligence (AI) to create golden records, healthcare organizations can achieve faster time to value, enabling them to deliver better, more responsive patient care, reduce operational costs, and make more informed decisions. Essentially, golden records streamline data management, leading to more accurate insights, improved decision-making, and stronger performance.

Golden records are the cornerstone for healthcare organizations striving to gain a competitive edge and secure their leadership position in an increasingly complex, dynamic marketplace.

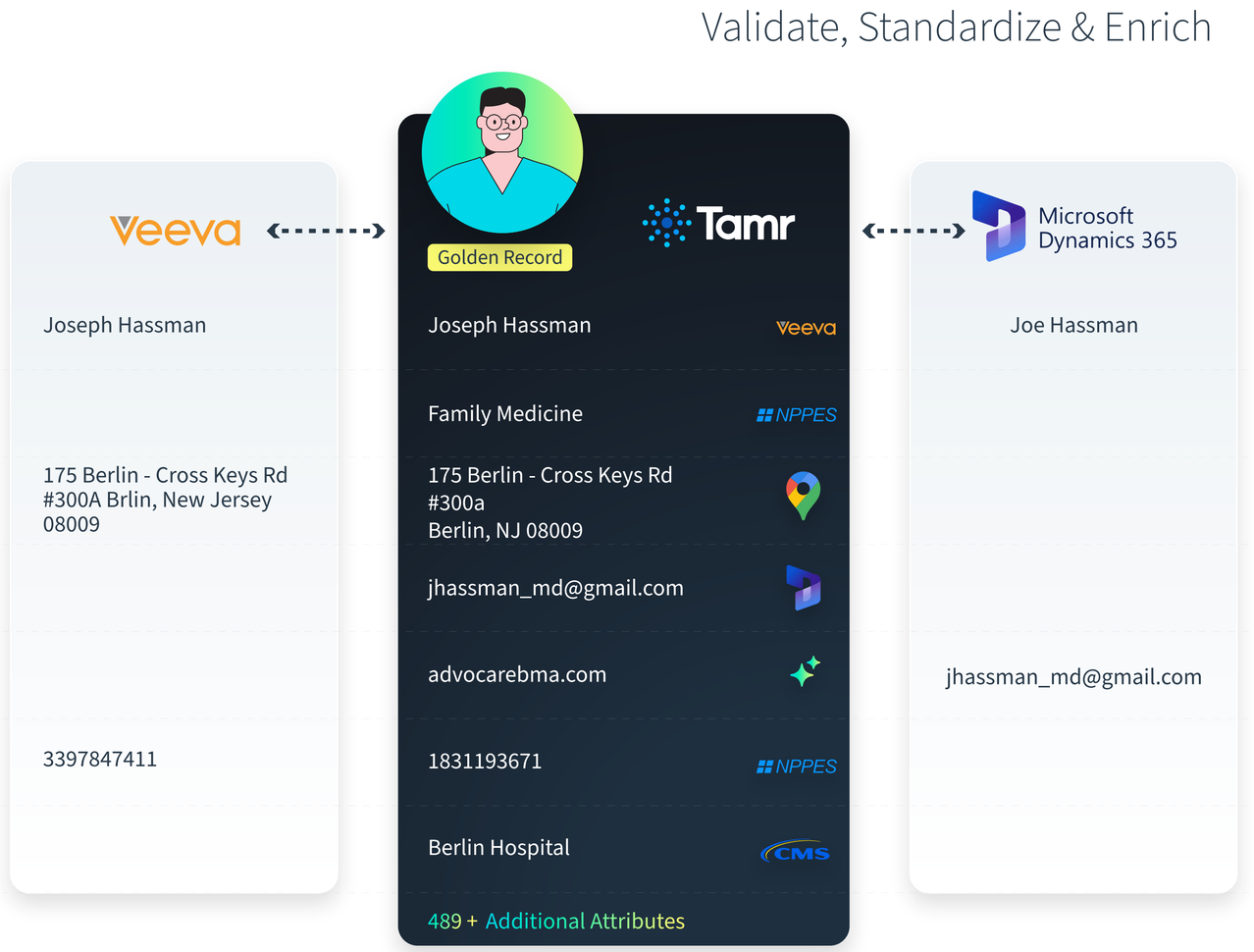
2. Integration with External Data Sources

Data enrichment is the process of enhancing existing, internal datasets with information that is generated from additional data sources. Through integration with authoritative external sources like NPPES and CMS, Tamr enriches healthcare data with additional information such as NPIs, practice locations, and specialties.

Using data enrichment, healthcare organizations can:

- Verify data syntax and content legitimacy
- Convert values to a common and structured format
- Correct incorrect values and inject new attributes

Using ML-driven referential matching, Tamr's enrichment process not only validates the existing data but also fills in any gaps, providing a more complete and persistent view of each provider entity.



3. Real-Time Data Processing

Tamr can handle real-time data updates, ensuring that healthcare organizations always have access to the most current information for each provider in their network. Using the real-time capabilities of **Tamr RealTime**, healthcare organizations gain instant access to a mastered view of every provider entity, uncovering insights that would otherwise take months or years to achieve using legacy MDM solutions. And if provider credentials or organizational hierarchies change –which they often do! – Tamr can process these changes and update these provider golden records quickly and efficiently, while also avoiding creating duplicates within the system of record. Further, Tamr can help eliminate bad data and false connections, ensuring provider data always remains accurate and up-to-date.

CHG Healthcare

CUSTOMER SPOTLIGHT:

CHG Healthcare Masters Provider Data in Real Time

CHG Healthcare, the nation's largest physician staffing company, struggled with data quality. Inconsistent data entry practices resulted in multiple records for the same provider, making it difficult to meet the needs of their patients.

In partnership with Tamr, not only is CHG Healthcare reducing dirty, duplicative data, but they're doing so in real time.

For over three years, CHG has been using Tamr to support its batch pipeline. But in addition to the batch, more than 2000 each day are entering CHG's system of record (SOR) from another CHG system. And many times, the "new" leads include records that match providers already captured in their SOR. Previously, CHG used Tamr's low-latency APIs to conduct ad hoc lead searches to prevent adding duplicates to the system, but the process stopped there.

Today, using Tamr RealTime, CHG is operationalizing the “search before create” workflow to not only stop duplicate leads entering the system in real-time, but also to create new records when the search reveals that the lead does not currently exist in the system.

Using Tamr, CHG Healthcare was able to reduce duplicate physician records by 48% and master millions of provider records in weeks, not months or years. Further, using Tamr’s RealTime APIs, CHG can keep its data pristine by identifying duplicate records while the data is still in motion - not once it enters their systems of record. By searching the systems in real time, CHG can match new leads with existing entities and enrich them with any new information that’s available, instead of creating new, duplicate records every time.

To learn more, **read the full case study**.

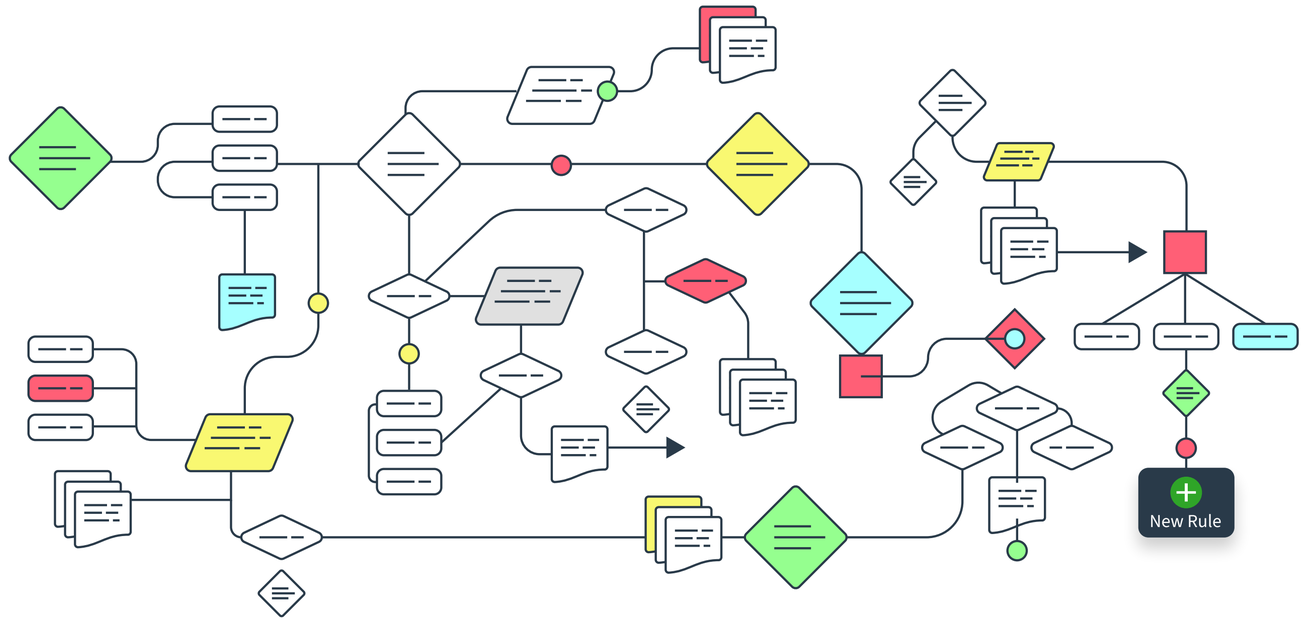
Bringing Tamr RealTime to Life:

A nurse is looking for work and applies to five different jobs at five different clinics in a single day. On the inbound lead list, this nurse would be listed five times. CHG also has a system of record that includes all of their current providers, but it’s unclear if the nurse already exists in the system. Using Tamr RealTime, CHG can now check the SOR to see if the nurse exists, and if they do, Tamr can retrieve all of the nurse’s information from the golden record. If the nurse does not exist, the first lead will trigger the “create new record” workflow. At that point, the nurse now exists in the SOR which means the next four leads will be added to this record instead of creating duplicates within the system.

4. Scalability and Flexibility

Healthcare data isn't just big — it's complex, varied, and constantly changing. Tamr's AI-native platform is built to scale, continuously learning so it can handle millions of records with ease, even as they change. And because it's built to adapt, Tamr is an ideal solution for healthcare organizations of all sizes, from small clinics to large hospital networks.

Additionally, Tamr's flexible architecture allows for easy integration with a healthcare organization's existing web of healthcare data systems, minimizing disruption during implementation. Using real-time, AI-powered search APIs, Tamr enables teams across the organization to access up-to-the-minute information directly within their workflows, ensuring everyone is always working with the best data available. Further, 360° provider views allow stakeholders to not only gain a holistic view of information across systems, but also drill down into additional information within the operational systems, providing insight into all provider data and its sources.



5. Interactive Issue Resolution

Tamr's Virtual Chief Data Officer (vCDO) enables data users, regardless of their role, to ask questions about the data and resolve issues with it in real time. Using an intuitive, ChatGPT-like interface, users can pose questions such as:

"Was this entity involved in a merger?"

"Does provider X already exist in the system?"

"Has this provider worked in multiple locations or multiple states?"

Using the power of Generative AI (GenAI), Tamr's vCDO makes it easy for all users to access internal datasets in real time so they can enrich them and make them more complete. Users can also append new data to their organization's central data assets so that everyone across the organization can benefit from the latest data, regardless of how or where they capture it.

According to **Wavestone's 2024 Data and AI Leadership Executive Survey**:

- 64% of CDO's believe GenAI has the potential to be one of the most transformative technologies in a generation
- 90% of organizations expect to increase their investments in GenAI

Real-World Impact: Improving Healthcare Provider Data Management

Tamr's AI-native approach to MDM is already demonstrating significant benefits in the healthcare sector. By automating data mastering and enriching records with reliable external data from reputable sources including NPPES, CMS (and others in the future!), healthcare organizations can:

- **Enhance Data Accuracy:**
  Tamr's machine learning models reduce errors and ensure that provider data is consistent across all the healthcare organization's systems of record.
- **Increase Operational Efficiency:**
  With real-time data processing, healthcare organizations can make faster, more informed decisions based on accurate, up-to-date information that's mastered on-the-spot.
- **Support Compliance and Reporting:**
  Accurate and up-to-date data is essential for meeting regulatory requirements and producing reliable reports.
- **Improve Patient Safety:**
  Mastered provider data enables better, more effective coordination at the point of care, ensuring patients receive the right care from the right provider, thereby improving treatment outcomes and reducing potential risks of misdiagnoses or inappropriate treatments.
- **Reduce Operational Costs:**
  Accurate provider data streamlines operations, reduces administrative burdens, and drives value-based care by aligning the right provider with the right patient every time.

CUSTOMER SPOTLIGHT:

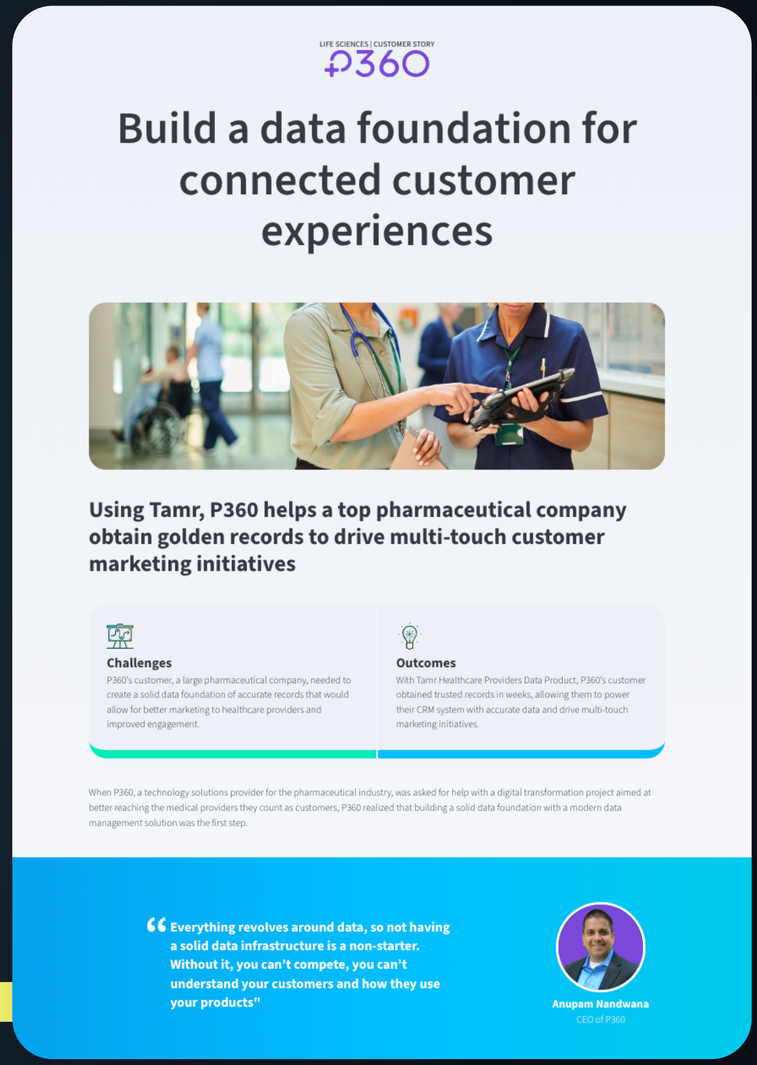
P360 Accelerates the Mastering of Healthcare Organization Data

P360, a leading technology solutions provider for the pharmaceutical industry, needed to build a solid data foundation. And they knew that an AI-native data management solution was the best place to start. That's why they selected Tamr.

Using Tamr, P360 unified its customer's internal and external data related to millions of healthcare providers, creating golden records that contained unique customer IDs as a constant identifier and single source of truth. These golden records enabled their client to power their downstream applications, including their new CRM solution, with clean, unified, trustworthy data.

As a result, P360's client increased the effectiveness of their sales and marketing campaigns and gained valuable insights that helped them to hone their marketing strategies.

To learn more, **read the full case study**.



A History of Innovation in Provider Data Management

Tamr has a rich history of innovation and excellence, and it remains a core part of our DNA today. As new technologies emerge and standards in scale and efficiency evolve, Tamr continues to innovate and expand its offerings to better serve the healthcare industry. Recent and upcoming product enhancements to Tamr's AI-native MDM solution include:

- **Expanded NPPES Enrichment:** Tamr now includes Type 2 NPI numbers in its firmographic corpus, allowing for even more comprehensive enrichment of healthcare organization records. We are also exploring other HCO/HCP enrichment sources and will continue to add to our list as customer needs emerge.

- **Advanced Matching Capabilities:** New fuzzy matching algorithms will improve the accuracy of entity resolution, even when dealing with incomplete or inconsistent data.

- **Enhanced Scalability Features:** Tamr is developing new tools to handle even larger datasets, ensuring that our platform can meet the growing demands of healthcare organizations and the explosion of data they're facing.

Tamr: The Future of Healthcare MDM

As the healthcare industry continues to evolve, the high stakes of patient outcomes and regulatory compliance make effective data management essential for ensuring accuracy, security, and timely decision-making. Tamr's AI-native approach to MDM offers a powerful solution for healthcare organizations looking to improve data quality, enhance operational efficiency, and support better patient outcomes. By adopting Tamr's innovative technology, healthcare organizations can overcome the challenges of traditional MDM solutions and harness the full potential of their data.

Ready to take the next step in data management? **Request a demo** to see, firsthand, how Tamr's AI-native MDM solutions can help you exceed your goals.