Large health system powers digital engagement and interoperability initiatives with Verato hMDM

The Client

A non-profit health system that serves the Texas community, home to 9 million residents. They serve this community through primary care and specialty physician practices, hospitals, outpatient facilities, urgent care centers, home health and preventive and fitness services.

25+ hospital locations

4k+ licensed hospital beds

6k+ physicians

$5+ billion annual revenue

The Challenge

As one of the largest health systems in Texas with a key business driver of strategic growth, they sought to ensure a completely connected consumer experience. To achieve this, the IT organization knew they needed a healthcare-focused master data management (hMDM) platform to be the trusted source of truth for patient and consumer identities serving as the fundamental layer for four priority initiatives:

- A Consumer 360 View
- Targeted Marketing Strategy
- Person Matching and Deduplication
- M&A Data Integration and Migration

Avoided costs
$585,000 in annual cost savings & $990,000 in upfront cost savings

Increased "Click Rate"
Improve email click rate by 24%

Enhanced productivity
Automatically resolve over 70% of match related tasks

Demographic Data Enhancement
Capture 40% more attributes compared to other 3rd party data vendors

Closing gaps in care
35% improvement in conversion from care gaps campaign

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A Consumer 360 View

A top priority for the data team since 2019 has been to leverage their enterprise data warehouse (EDW) to build a Consumer 360 view from across dozens of data sources to drive various key downstream operations such as call centers and marketing functions. The data warehouse also needed to serve as the source of trusted analytics for all desired queries and datasets.

This health system needed to be confident that the clinical data from Epic, consumer and marketing data from Salesforce, claims data, care management data, 3rd-party enrichment data, patient satisfaction data, and data from dozens of other clinical and non-clinical sources were all accurately linked to the right patients and consumers in the EDW to understand the whole person and drive these downstream initiatives and analytics.

To answer these questions, this health system planned to develop a consumer marketing model to better understand new potential consumers and how to reach them.

Targeted Marketing Strategy

As part of their growth strategy, the health system's executive-level vision was to leverage their Consumer 360 view in the EDW to drive marketing segmentation, outreach, and analytics — answering questions such as:

- Who do we want to market to that we've never seen before?

- As people go from "unknown" (basic web interaction) to "known" (call center or CRM interaction) to "patient" (has a visit) how should we change the way they interact with them? How can this organization move them through those stages effectively?

- What was a consumer doing when they decided to become a patient? For example, were they in an acute episode? Did they have a baby on the way? Were they new to the neighborhood or relocating?

Target the right customers

With the right message and content

Through the right channels

In the right format

At the right time

In the right way (Compliant)

Personalized

Convenient

Transparent

Customer Experience is the New Battleground

Relevant

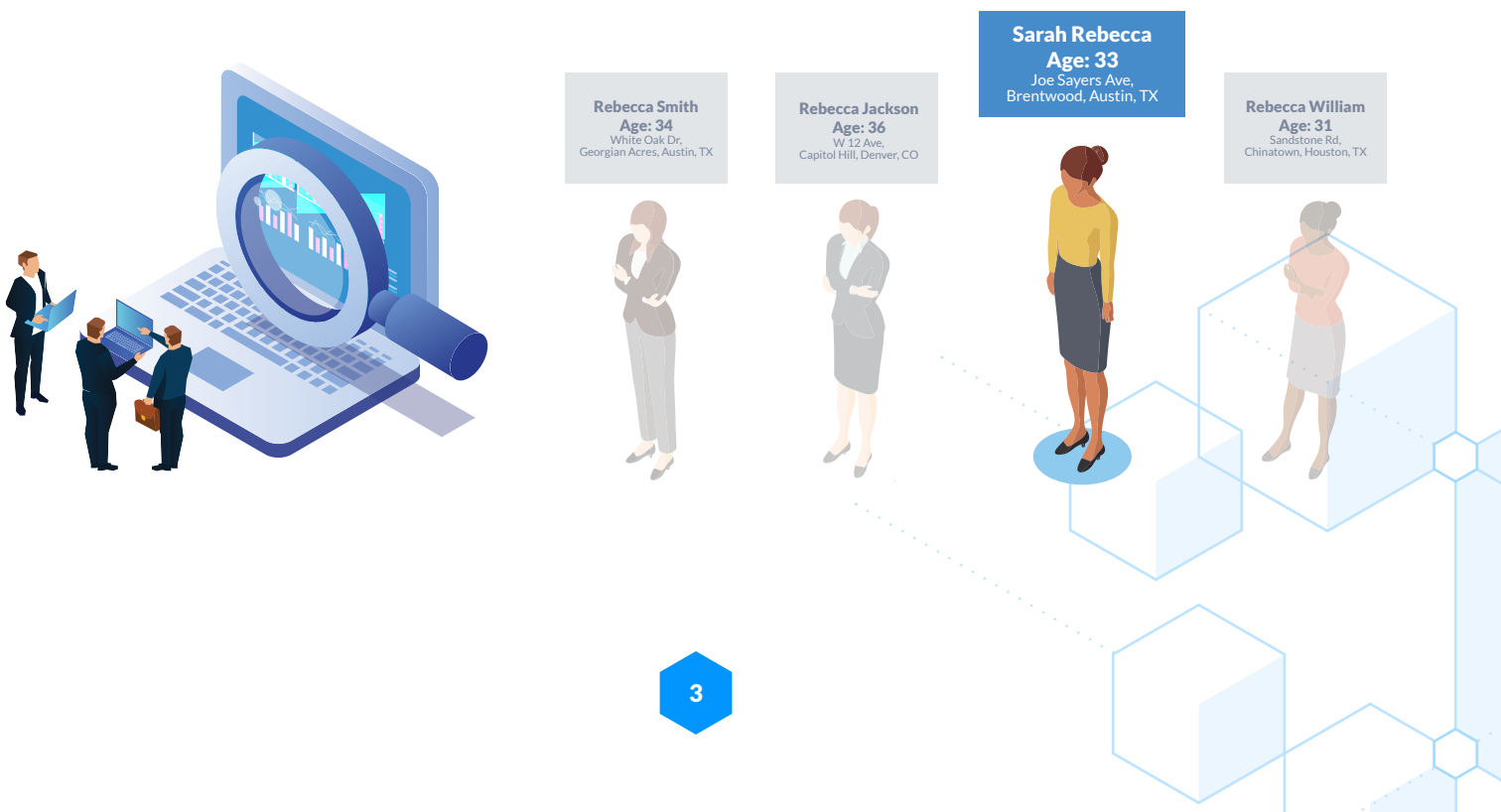Engaging

Easy To Deal With

Trustworthy

For this consumer marketing model to succeed, they needed to leverage the complete Consumer 360 view in the EDW and proprietary algorithms to segment consumers, use those segments in Salesforce to drive outreach, then understand when marketing campaigns have been effective by tying clinical visits to marketing outreach campaigns. This health system also needed an effective dataset of lead lists and enrichment data for consumers in their service area zip codes to improve both outreach and segmentation.

Person Matching and Deduplication

A significant challenge facing the health information management (HIM) team was an extremely high volume of backlog duplicate records requiring manual review. **They had a backlog of 140,000 records that Epic deemed too challenging to match, with 30,000 new instances added to the backlog every year.** To address this challenge, the organization considered expanding headcount to manually match these records, but this solution would become cost-prohibitive with scale. Furthermore, extreme caution was needed around the manual work of merging clinical records to avoid accidentally joining people with the same name, age, date of birth, or multiple overlapping identifiers. Even within a small geographic area, the risk of errors or false-positive matches remained a concern that could jeopardize a person's care and experience.

Additionally, this healthcare provider organization required ongoing manual review and deduplication of registration points where a high number of duplicate records were being created. For example, in some instances where speed of care is critical, such as in the Emergency Department, the patient data collection process at registration may not match to an existing record in Epic, leading to a new record being created, later identified as a possible duplicate in Epic requiring a manual merge. **On average, 1,500 records enter the queue on a weekly basis for manual review because of incomplete information at the point of registration.** Each manual review and resolution take approximately 15 minutes, significantly increasing the workload on the HIM team.

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M&A Data Integration and Migration

Adding to the challenge of backlog records was this health system's highly active mergers and acquisitions (M&A) strategy. Undergoing multiple acquisitions each year presented challenges around data integration, duplication, and the understanding of a patient's journey. Following any M&A activity, this organization's backlog queue of duplicates continued to rise, creating an even greater burden on the HIM team to review and resolve duplicates to improve patient safety, quality of care, data accuracy, and reimbursement.

This Texas based health system also needed a way to identify any existing data on consumers and patients across joint ventures and match them to patients already in Epic to avoid duplication. To provide a seamless consumer experience, it was key to ensure any previous touchpoints would be captured and integrated with new incoming data.

Verato helps organizations throughout the merger & acquisition lifecycle obtain an accurate and complete picture of a patient, consumer, provider & organizational entity.

The Solution

Verato hMDM platform

To accomplish their four initiatives, this health system selected the next generation identity data management platform to meet their **master data management, data enrichment,** and **automated data stewardship needs**.

Consumer 360 View

This healthcare organization uses Verato as the single source of truth for identity across the health system, accurately linking records from across dozens of clinical and non-clinical data sources including

- Epic
- Salesforce
- Patient satisfaction surveys (Press Ganey)
- Claims
- Care coordination / Population Health
- Web traffic
- Marketing
- Joint Ventures: Urgent Care
- Joint Ventures: Surgery Centers
- Joint Ventures: Imaging
- 3rd party primary care channels

Achieving a
360° view of the consumer
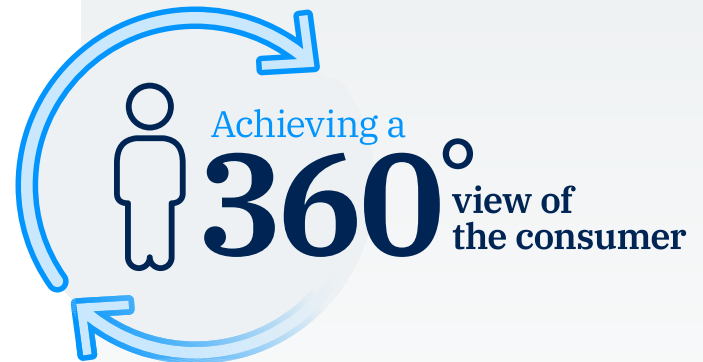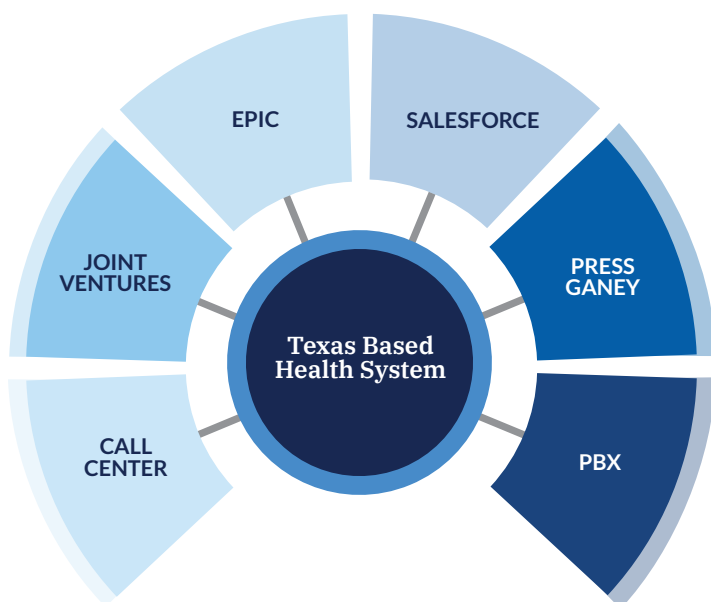
Data enters this organization's EDW from various feeds and at various frequencies (e.g. Epic runs every morning and every night), and all data is sent to Verato from the health system's ETL layer prior to being loaded into the EDW — calling this organization's private instance of the Verato hMDM platform via Verato's RESTful web-services APIs for real-time assignment of a unique ID called a LinkID.

Verato uses Verato Referential Matching technology in the health system's private hMDM instance to determine if each record belongs to a new or existing patient before assigning the LinkID in real time

This health system uses the LinkID in the EDW as the unique key to join all the data about a person together to power its marketing and analytics initiatives. This organization stays in sync with LinkID assignments automatically and in real time via API.

EPIC · SALESFORCE · JOINT VENTURES · PRESS GANEY · Texas Based Health System · CALL CENTER · PBX

Targeted Marketing Strategy

The Texas based healthcare organization creates marketing models using the Consumer 360 view in the EDW to create personas and drive marketing segmentation and outreach. To supplement the Consumer 360 data, this organization also uses Verato enrichment data to gain additional data attributes for consumers in their service area zip codes and uses Verato hMDM to align those enrichment records to the correct patients and consumers in the EDW using the Verato LinkID. In addition to augmenting their own consumer records with enrichment data, Verato also supplies enrichment data for consumers in the 411 zip codes in this health system's geography, empowering them with the data to target other potential personas in the service area that have not previously been seen.

This combination of this organization's own dozens of clinical and non-clinical data sources, plus a wide array of enrichment data supplied by Verato — like contact information including phone numbers and addresses, as well as lifestyle data like income, ethnicity, race, occupation, and interests — allows this health system to develop more targeted marketing segmentation and patient cohort models built off personas that reflect increased likelihood of certain chronic conditions or consumer behaviors. At present, several models have been created including the Diabetes Consumer Model, Blood Pressure Consumer Model, a Cardiovascular Consumer Model, and an Urgent Care Consumer model.

This healthcare organization feeds these models and segments into Salesforce via API to run marketing and engagement campaigns. Verato also fuels their ability to measure the effectiveness of campaigns — by accurately associating any data collected through new outreach to any additional engagement by that person (e.g. a visit to this health system to receive care).
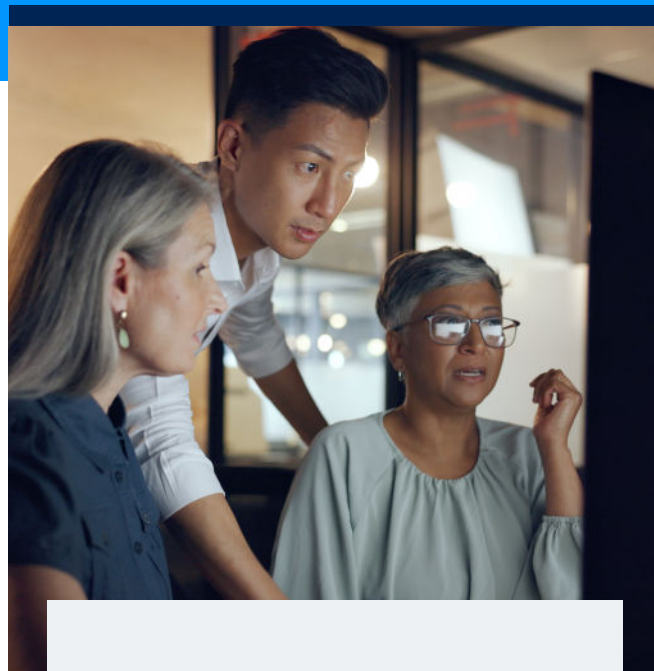
Consumer 360 Benefits

- Verato Referential Matching makes significantly more **matches automatically** than other matching approaches and can match records across both clinical and non-clinical sources of data despite the wide variations in data quality and completeness across these sources.

- Verato is a real-time cloud-native SaaS solution, enabling this health system to easily assign LinkIDs via modern APIs as part of its ETL processes.

- Verato infrastructure automatically increases throughput to accommodate larger loads.

- As a built-for-healthcare solution, Verato does not require complex configuration and tuning, so this health system is able to **self-service** onboard **new data sources to Verato** quickly and easily as required for the EDW.

Targeted Marketing Benefits

- Verato powers the Consumer 360 view by **accurately associating** the right data with the right consumers in the EDW.

- Verato **enriches the data** for consumers in the EDW with additional outreach, lifestyle, and interest attributes to power this organization's segmentation and cohort analyses, and even supplies data for whole zip codes within their geographic service area.

- Verato enables this health system to **measure the effectiveness** of campaigns by using Verato Referential Matching to close the loop by tying together data from outreach campaigns to records like registrations and visits.

M&A Data Integration and Migration

To address this Texas based health system's backlog of 140,000 "potential duplicates," and to also ensure automated remediation for a high level of duplicate records being created at registration and through M&A activity, they used Verato to automatically resolve their Epic work queue.

First, the Epic work queue is extracted from Epic Clarity, then passed through their integration layer to call Verato automated task resolution APIs. Verato makes an automated decision for each pair of records sent to the API from across the Epic "potential duplicate" work queue, then responds in real time with an automated decision and substantiating metadata. The integration layer then generates an HL7 merge message to be passed to Epic for those records that have been automatically confirmed as duplicates by Verato. Epic has been configured to accept automated HL7 merge messages from external sources.

Data integration and migration benefits

1
Verato Referential Matching is **more accurate** than traditional matching approaches and can **automatically resolve** pairs of "potential duplicate" records **from Epic** work queues.

2
Verato can supply substantiating data and metadata to explain how records were matched.

3
This substantiating data can even help make **data stewardship more efficient** in cases where Verato cannot automatically resolve a pair of "potential duplicate" records.

4
Verato works with HIM teams to make sure they are comfortable with and trust the matching process so that Verato **automated** match **decisions** can be automatically **sent** as merge messages **into Epic.**

Results

With the decision to adopt the Verato hMDM platform in February 2019, the implementation kicked off and this health system went live with Verato within 60 days.

Consumer 360 Application Results

1

As of 2023, Verato has successfully identified over 10M unique identities across the Texas based health system from over 20M records from dozens of sources.

2

The successful linkage of identities within the Consumer 360 application has enabled the health system to achieve their goal of outreach to consumers in a personalized way and know who they are as they touch different areas of the system.

3

Consumer 360 enables the system to take new patients that come in through clinics or hospitals or any other location on any given day and send an outbound API call to Verato to determine if there is an existing Verato LinkID match or if a new identity is needed, therefore avoiding duplication.

4

Verato hMDM platform also led to improved scalability. The health system noted that Verato made it easy to add new sources and support the organization as it expanded. This was crucial as the organization had over 20+ joint vendors to support and needed a common toolset. Verato also gave the health system visibility into the reason that it matched records, which was increasingly important as the organization continued to expand.

5

With Verato, this organization can connect all their data and form a single source of truth. This cuts time spent on data wrangling in half for business analyst teams, saving the organization **$1.4 million annually**. The health system has also realized a 20 percent time savings when adding new source systems, **saving an additional $26,000 per year.**

Targeted Marketing Results

Demographic Data Enhancement

Verato's ability to link enrichment demographic data to existing clinical data, further enhanced this organization's marketing outreach models by tying in missing contact information, lifestyle data like income, ethnicity, race, occupation, and interests. For unknown patients, meaning these patients have not been seen by the health system, **Verato was able to capture 80% of their birthdates compared to other 3rd party data vendors by over 40%.**

Increased "Click Rate"

Verato's ability to help establish the Consumer 360 as well as supply additional enrichment data allowed this health system to improve its engagement and outreach models enough to increase their email click rate from **2% to 26%.**

Closing gaps in care

This Texas based health system leverages their Consumer 360 view for marketing campaigns inside Salesforce that target people who have been discharged and need follow-up care, like specialist referrals and medication adherence. This organization reaches out via email or text to get these patients back into facilities for those appointments.

Decreased time & print cost

A successful increase in email outreach and smaller more targeted audiences substantially decreased the cost of mailed communications by 40%.

M&A Data Integration & Migration

Avoided costs

With Verato, this health system gained efficient data matching and saved thousands of work hours by automating reconciliation processes. This enabled them to avoid hiring additional personnel that would have had to match these records manually, **generating $585,000 in annual cost savings and $990,000 in upfront cost savings from resolving the backlog.**

Enhanced productivity.

Using Verato, this healthcare organization was able to automatically resolve **over 70% of their initial outstanding Epic work queue of 140,000** tasks, and Verato automatically processes approximately **2,600** new potential duplicate tasks from Epic monthly.
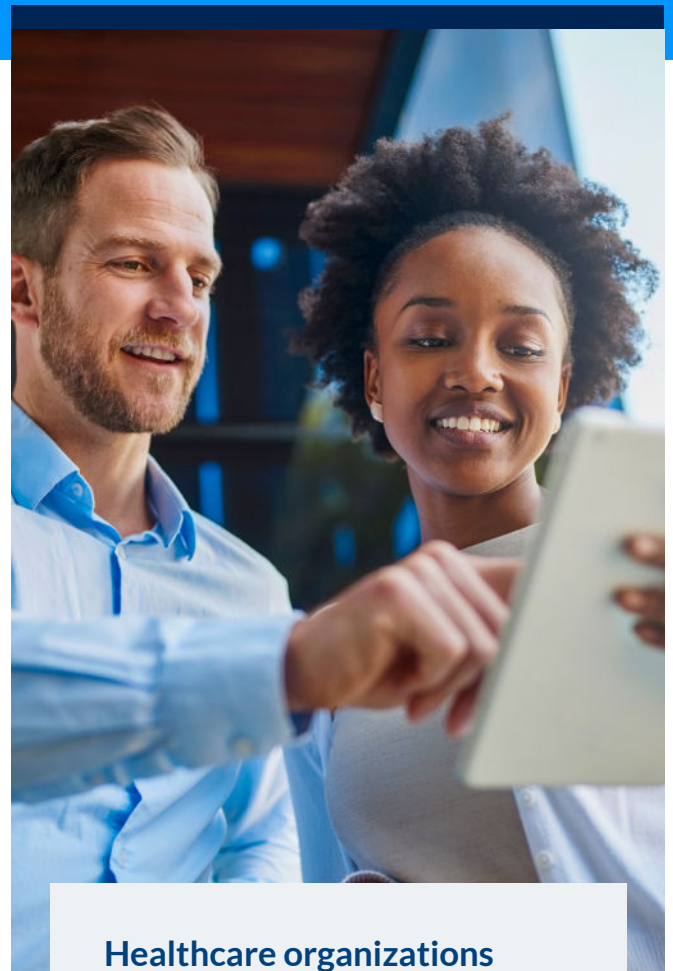
Healthcare organizations typically need the capabilities of both EMPI and MDM — and need it in a single solution that combines those capabilities with data enrichment. Verato hMDM provides this, and is built specifically with healthcare use cases in mind. With Verato, organizations can bring together critical data about their patients, members, consumers, and providers across their enterprise — establishing a true "single source of truth."

Conclusion

By adopting Verato, the health system was able to automate patient record matching and significantly improve productivity for data wrangling tasks. Additionally, the organization now has a journey map for every customer and can connect the dots across its EMR, CRM and joint ventures. Going forward, the organization plans to use Verato to enrich its consumer data set with external data from insurance companies and other partners to support joint ventures. The organization expects this initiative to enable better marketing to prospective clients, extending revenue and market penetration.

> "Verato allows us to create a unified view of our consumers so we can connect people to the right care at the right time across our systems. We originally looked at Verato as an EMPI for our EDW, but we're finding it has flexibility far beyond that use case, which allows us to be nimble across our initiatives."
>
> Chief Data and Analytics Officer,
> Texas-Based Health System

Verato enables digital engagement, clinical interoperability, cloud migration, and provider data integrity by solving the problem that drives everything else—knowing who is who. The Verato hMDM platform, the industry's first purpose-built healthcare master data management solution, enables a complete and trusted 360-degree view of patients, consumers, members, providers, and communities. With a secure enterprisewide single source of truth for identity, Verato ensures that you get identity right from the start.

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