Improve patient matching in Cerner® with a simple plug-in

Verato Auto-Steward® is a cloud-based plug-in that injects the power of Referential Matching™ into Cerner

Instantly and dramatically improve Cerner's patient matching without disrupting Cerner or deploying a third party EMPI product.

Get the full value from your Cerner investment and increase patient satisfaction and safety across your enterprise.

The abstract

Healthcare organizations across the country have adopted Cerner as the backbone of their record management, operations and health information exchange. Unfortunately, like every EHR with embedded patient matching technology, Cerner's enterprise master patient index (EMPI) struggles with a wide range of patient matching issues. Poor patient matching results in unidentified duplicate records, potential duplicate records, and overlays which, in turn, degrade care, increase costs and impede revenue collection.

Verato Auto-Steward is a simple but powerful cloud-based plug-in for Cerner that instantly improves Cerner's patient matching without disrupting any of its core functionality. Verato Auto-Steward can resolve 50-75% of the toughest matches that the Cerner EMPI cannot resolve, so you can resolve duplicate records and reduce the amount of data stewardship required to manually review potential matches.

Because it is cloud-based, Verato Auto-Steward does not require any customization, does not disrupt Cerner, and is easy to deploy.

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All EHRs have duplicate patient records, which have real and substantial costs

Providers have moved from paper medical charts to Electronic Health Records (EHRs) to improve communication, collaboration and patient care across the organization while reducing costs. But unfortunately, most EHRs have not lived up to their promises. One frustration with EHRs is their subpar patient matching ability. With incomplete or incorrect patient matching, caregivers and patients lose faith in the integrity of the EHR as they fail to find medical records — or worse, see a mixture of two patients' records combined with each other. The simple fact is that no matter how expensive your EHR is, no matter what size your patient population is, no matter how clean your data is, and no matter how diligent your registration staff is, your EHR is riddled with duplicate records. In fact, according to a recent Black Book Research survey, the average duplicate rate across healthcare organizations is 24%.[1]

And the risks and costs of duplicate records are skyrocketing. According to the same Black Book survey, each duplicate record costs healthcare organizations over $1,750 per emergency department (ED) visit, and over $1,950 per inpatient stay due to redundant medical tests and procedures. In addition to these costs, the survey found that 35% of all denied claims were a result of poor patient matching, costing the average hospital $2.5 million and the healthcare industry $6.78 billion annually. A different study is not as optimistic, asserting that patient misidentification costs the average hospital over $17.4 million annually in denied claims.[2]

All of these duplicate records reflect poorly on healthcare organizations — 88% of consumers directly blame the hospital system for their dissatisfaction with the lack of portability of their health care records.[3] And hospital reputations are damaged every time a patient cannot find all of their medical records in their patient portals.

[1] Improving the Patient Identification Process and Interoperability to Decrease Patient Record Error Rates, Black Book Market Research, 2021

[2] 2016 National Patient Misidentification Report, Ponemon Institute

[3] 2018 Mid-Year EHR Consumer Satisfaction Survey, Black Book Market Research

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Conventional matching technologies require manual review to make 30% of matches

The best EMPI technologies use sophisticated matching algorithms to compare patient demographic data to determine if two records represent the same person. But typos, misspellings, old addresses and phone numbers, maiden names, and missing or default data elements often prevent these algorithms from automatically matching records. In many of these cases, the EMPI will create a "task" containing two or more similar records for a data steward or Health Information Manager (HIM) to manually review to determine if those records match. Each day, a typical mid-sized hospital can generate many hundreds, if not thousands, of tasks requiring manual review. This volume often outpaces the capacity of the data stewards and HIM professionals to process them — resulting in an ever-growing backlog of tasks and an ever-growing number of duplicates in the EMPI. These duplicates may not be resolved until they are discovered at the point of care, during the billing process, or in patient communications.

The Cerner EMPI is no different. Its algorithm compares the demographic data of two records, and if it is not certain whether two records match, the Cerner EMPI flags the records for manual review. It is then up to a data steward's judgment to determine whether the two records belong to the same patient.

Each day, a typical mid-sized hospital can generate many hundreds, if not thousands, of tasks requiring manual review.

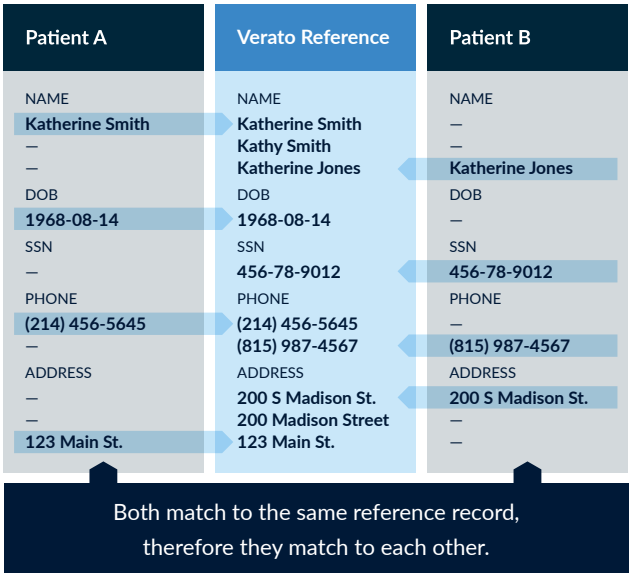
	Patient A	Patient B	Patient C
IDENTIFIER	1234	457	9876
NAME	Kathy Smith	Katherine Jones	Cathy Jones
GENDER	F	F	F
DOB	1968-08-14	1968-08-14	1968-08-14
SSN	456-34-6547	456-34-6547	
ADDRESS	?	?	?
LINE 1	123 Main St.	200 S Madison St.	123 Main St.
LINE 2	Apt. #1	Apt. #1	
CITY	Springfield	St. Louis	Springfield
STATE	MO	MO	MO
PHONE			
AREA	214	815	815
NUMBER	456-5642	987-4567	987-4567

Verato uses a fundamentally different approach to match records called Referential Matching.

Referential Matching makes matches that conventional technologies can't make

Verato uses a fundamentally different approach to match records called Referential Matching. Rather than using algorithms to compare the demographic data from two records, Verato compares the data from those records to its comprehensive and continuously-updated reference database. This database contains over 300 million identities spanning the entire U.S. population, and each identity contains a complete demographic data profile — including nicknames, aliases, maiden names, common typos, past phone numbers, and old addresses. This database is essentially an "answer key" of demographic data, and Verato uses this answer key to make matches that conventional patient matching technologies could never make.

As an illustration of the power of Referential Matching, consider two records for the same patient, Kathy Smith. Since she last visited her physician, Kathy got married, moved, and changed her last name. So her current patient record contains different demographic data than her patient record from before her marriage. No conventional patient matching technology, including the Cerner EMPI, would definitively declare these records to represent the same patient. But most technologies would flag the two records for manual review because they contain the same SSN and birthdate, making them a potential match. The two records would remain duplicates in the EMPI until a data steward manually reviewed and resolved them.



By contrast, using the power of Referential Matching, Verato Auto-Steward would match each of these two records to the same Verato reference record which contains Kathy's old and new names and addresses. Since both records match to the same reference record, Verato Auto-Steward would conclude that they match to each other.

Verato Auto-Steward injects the power of Referential Matching into Cerner

Verato Auto-Steward integrates with the Cerner EMPI to automatically resolve 50-75% of the "potential duplicates" that Cerner has flagged as tasks for data stewards or HIM staff. This enables your organization to reduce duplicates, reduce clinical costs, reduce the costs of data stewardship processes, improve care and patient safety, improve revenue cycle, and get the most out of your Cerner investment.

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How the Cerner EMPI integrates with Verato Auto-Steward

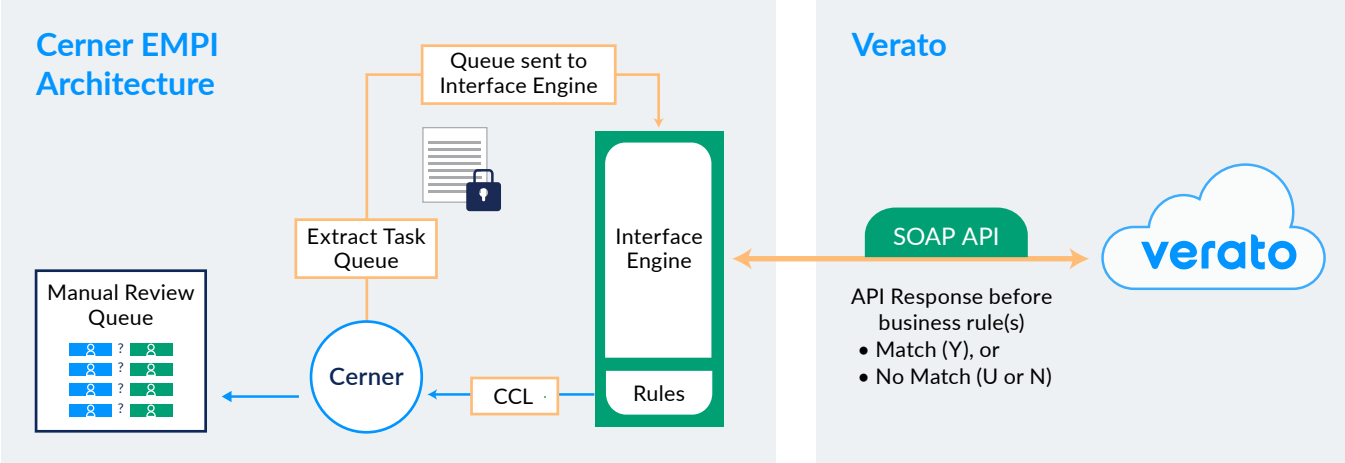
The Cerner EMPI creates a task list of potential duplicate records for manual review, called the "Task Backlog." First, the Task Backlog is extracted from the Cerner EMPI in the form of a flat file organized as pairs of potential duplicate records. The secure file is sent to an integration engine — whichever integration engine your organization uses for other integration work — which formats the file into Auto-Steward requests and calls Verato's API.

When Verato Auto-Steward receives the API call, Verato uses its Referential Matching technology to make a determination on each potential duplicate pair — either yes, no, or unknown.

After Verato Auto-Steward makes determinations on each potential duplicate pair, it returns these determinations via a response file back to the integration engine. Verato Auto-Steward includes supporting evidence to show how each determination was made. The integration engine then converts the file back into a processing file that can be applied to the Cerner EMPI where the determinations resolve the tasks within the EMPI.

Healthcare organizations leveraging Verato Auto-Steward can either use the Verato Auto-Steward for batch files, or they can move the same process described above to a real-time service. This ensures that tasks issues that arise from your normal operations are nearly immediately addressed to prevent the costly and impactful issues of patient duplication.

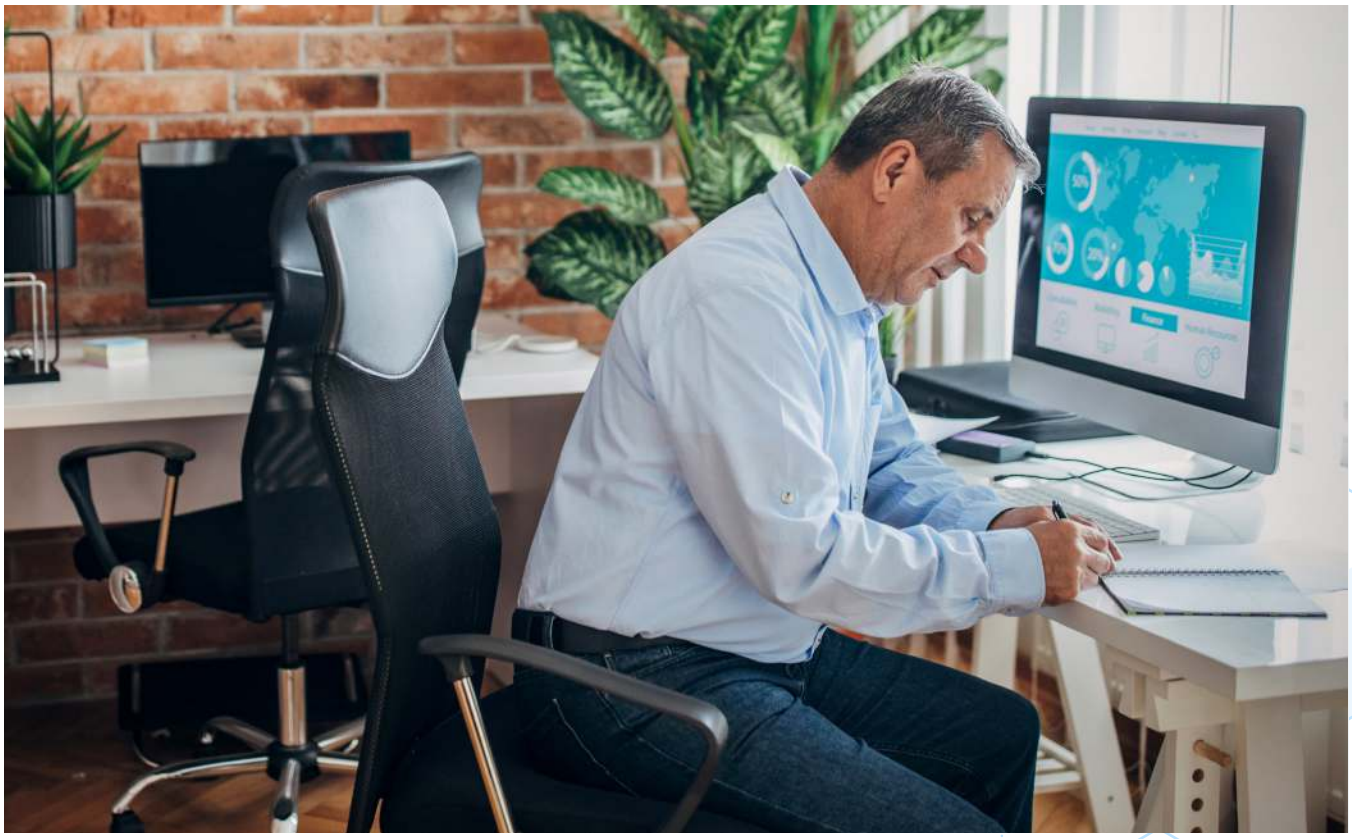
Importantly, the Verato Auto-Steward determinations can be automatically imported after being run through business rule decisions to ensure certain scenarios on merging records are followed appropriately (for example, not merging duplicate records for a patient who is still in the hospital until after they have been discharged).



Verato Auto-Steward improves matching accuracy, increases productivity, and maximizes the value of Cerner

Verato Auto-Steward can automatically resolve 50-75% of the Cerner EMPI Task Backlog and ongoing creation of tasks within the Cerner EMPI. By automating this otherwise manual process, you can greatly increase patient matching accuracy, decrease duplicates, improve your backlog review throughput, and re-focus data stewardship teams and HIM staff on more important business initiatives. More importantly, by reducing your duplicate rate, you will also reduce the liability associated with duplicate records and improve safety and satisfaction across your organization — as well as for patients.

You have already invested in Cerner as a world-class EHR solution that has become the backbone of your organization's operations and record management. Get the most out of that investment by ensuring Cerner's patient matching is world-class, too.



Verato, the identity experts for healthcare, enables smarter growth, improved care quality and efficiency, and better population health by solving the problem that drives everything else — knowing who is who. Over 70 of the most respected brands in healthcare rely on Verato for a complete and trusted 360-degree view of the people they serve to accelerate the success of their digital health initiatives and fully understand consumers' preferences, risks, and needs from the beginning and throughout their care journey. Only the Verato HITRUST-certified, next generation cloud identity platform enables interoperability across the complex digital health ecosystem with unprecedented accuracy, ease, and time-to-value. With an enterprise-wide single source of truth for identity, Verato ensures that you get identity right from the start.

For more information, visit **verato.com**.

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