



## Identity Management

*The Key to Delivering the Right Information to the Right Person at the Right Time*

A Frost & Sullivan White Paper

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Greg Caressi and Koustav Chatterjee

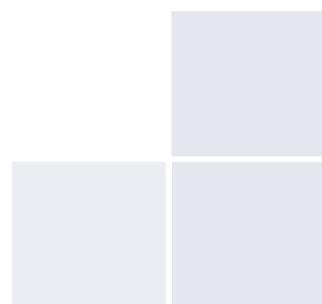
Introduction ..... 3

Data Integration Gap Today is in Connecting an Individual’s Patient Data to Support Interoperability Across and Within Healthcare Organizations ..... 4

Integration of Transactional and Workflow Data to Develop Unique and Safe Patient Identifier ..... 4

Improved Analytics (and Insights) Based on Integrated Patient Data ..... 5

Call to Action..... 5



## INTRODUCTION

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Identity management is becoming increasingly important for healthcare enterprises that try to reduce security and compliance risk amid rapid growth of market consolidation and increasing alliance with disparate health IT systems for effective care coordination. According to the US National Institutes of Health,

*“195,000 deaths occur each year because of medical errors, with 10 of 17 being the result of identity errors or wrong patient errors.”*

Since average patient traffic in US-based health systems remains strong due to the prevalence of chronic diseases, an increasing volume of patient data is added into healthcare providers' data warehouses every day. A recent study by RAND Corporation revealed that somewhere between 8 to 16% of patient records generated by US providers can be defined as duplicate. More importantly, for each duplicate record, a mid-size health system absorbs an additional cost of \$96.

Standard health IT products (electronic health records, health information exchanges, or analytics systems) often fail to protect the business and health interest of providers and patients, respectively, as they typically identify and highlight only 10% of total duplicate records. In many cases patients suffer negative clinical and financial outcomes when diagnosed and treated based on decisions made using duplicate or inaccurate medical records. These patients often undergo repeat tests or experience delayed treatment, which results in longer in-patient stay or readmission.

It's critical for providers to embrace a robust identity management infrastructure that ensures that patient data is accurately stored and safely accessed by designated users, which include care team members, family members and the patient. Providers can uniquely represent patients across the entire network, identify all relevant stakeholders, authenticate personalized clinical intervention and prioritize care team attribution. Healthcare providers can clearly benefit from the ability to collate patient records within their own organization, but systems that allow them to collate patient records across multiple provider organizations represent a difficult challenge.

These systems don't support the process of disparate data capture across the patient journey, which requires adoption of a standard patient matching algorithm (which really doesn't exist). As a result, the Office of the National Coordinator for Health Information Technology (ONC) recently launched the “patient matching algorithm challenge” worth \$75,000 (six winners will be eligible for the prize money), and encouraged healthcare IT developers to build new algorithms that can potentially help providers benchmark patient evidence by capturing accurate medical records from multiple internal and external systems via open API (application programming interface), blockchain or Blue Button. Steven Posnack, Director of ONC, said:

*“The ability to complete patient matching efficiently, accurately, and at scale has long been identified as a key element of the nation's health IT infrastructure. Patient matching is almost universally needed to enable the interoperability of health data for all kinds of purposes... Patient matching also requires careful consideration with respect to its effect on patient safety and administrative costs.”*

ONC has clearly stated the need to retain patients' medical records via a master patient index. It is expected that the rule will be broadly applied in most US states and providers are going to drive transformational investment in favor of agile master patient indexes, carrying longitudinal patient records.

## **DATA INTEGRATION GAP TODAY IS IN CONNECTING AN INDIVIDUAL'S PATIENT DATA TO SUPPORT INTEROPERABILITY ACROSS AND WITHIN HEALTHCARE ORGANIZATIONS**

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In order to build, deploy and optimize their identity management infrastructure, providers must ensure that their underlying technology platforms can build a robust medical database that contains a unique longitudinal record for each registered patient within a cross-continuum healthcare setting. However, the lack of IT infrastructure support to foster data interoperability across various healthcare enterprises is the norm. The lack of unique patient identifiers that connect data across different healthcare organizations cannot be overlooked as a key cause (and potential solution) to this problem. Medical context management for transitioning patients has remained one of the most progressive yet least mature service capabilities in the value-based healthcare IT market today.

Cultural due diligence, aimed at securing stakeholder buy-in to invest in identity management solutions that foster personalized and secure clinical intervention, should be embraced comprehensively. Every stakeholder, including and especially patients and payers, needs to be educated on the key value benefits of unique patient identifiers, which include the ability to:

- Protect, govern and match patient data (e.g., admission and discharge data) within a multidisciplinary care network;
- Manage patient context on behalf of care providers across the continuum;
- Automate attribution of care team members and assign personalized responsibilities based on each patient's unique clinical risk profiles;
- Permit patient data access to key opinion leaders;
- Enable a functional, patient-centered medical home model; and
- Identify/prevent duplicate medical records.

## **INTEGRATION OF TRANSACTIONAL AND WORKFLOW DATA TO DEVELOP UNIQUE AND SAFE PATIENT IDENTIFIER**

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Although some providers have implemented hospital- and practice-centric patient identifiers (via a master patient index), they are restricted from developing a network-level master patient index (MPI) that connects MPIs across different practices, hospital departments, post-acute care facilities and payer groups. This is because these providers, in most cases, utilize multiple disparate EHRs that do not interface well with each other and often carry inaccurate patient records.

Best-in-class providers are keen to opt for vendor-neutral and cross-enterprise master patient index (XMPI) solutions. These solutions are ideal for managing patient identity and consent within and outside of any large healthcare network that interfaces with multiple disparate clinical workflows.

External organizations may be better positioned to develop systems that create unique patient identifiers needed to link patient information across the care continuum, based on a variety of data sources that are tied to existing unique identification systems (such as in the financial services sector). Greg Caressi, Senior Vice President, Frost & Sullivan's Transformational Health practice, said, "A systematic approach involving agencies external to the government and to healthcare provider organizations is the most likely near-term solution to this challenge." Clearinghouses that could serve this function, perhaps based on data and infrastructure similar to financial services industry models, have been discussed

and could be formalized through legislative mandate in the near future. Provider organizations should embrace the capabilities that such a system could bring and begin to consider how to draw benefits from this type of system to address their internal patient identification challenges as well as the potential benefits in care coordination and population health management efforts.

## **IMPROVED ANALYTICS (AND INSIGHTS) BASED ON INTEGRATED PATIENT DATA**

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Analytics are leveraged extensively to consolidate patient data for the purpose of evidence-based clinical decision making. Thus, an agile analytics platform that sources and normalizes clinical and financial context for each incoming or outgoing patient is immensely valuable. Having a consolidated patient view, enabled by a single patient identifier, creates the ability to perform analytics based on a unified data set, increasing the volume of data inputs to be analyzed and resulting in better analytical insights. Other industries have addressed this issue through creating an infrastructure for unique identifiers for consumer financial data and credit reporting, for example.

## **CALL TO ACTION**

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- The medication error rate currently ranges between 50% to 60% for providers exchanging clinical information across a delivery network. Medication errors due to inaccurate records result in preventable adverse events (e.g., hospital-acquired infections and comorbidities). Healthcare providers need to improve efficacy of their incumbent care management programs via a master patient index that accurately identifies patients across the continuum of care and allows caregivers to allocate the best possible workflows to at-risk and chronic patients. Data-driven treatment marks precision care and yields tangible values to health systems aspiring to improve operational efficiency, prevent readmission, and expedite patient discharge.
- Unique patient identifiers are crucial to the success of care coordination and population health management efforts. Identifying and leveraging the capability to link patient data across different provider entities through a system of unique patient identifiers that is not enterprise specific (but can be integrated with enterprise-specific data) will be a key differentiator for high-performing healthcare organizations in the world of value-based care.
- Frost & Sullivan expects new approaches to patient identifiers (EHR-integrated and remotely accessible) across health systems to come to the fore and be adopted—with the blessing of government authorities—in the not-distant future. Organizations should be considering approaches they can take today to create unique patient identifiers that support stronger analytics.

## NEXT STEPS



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### **SILICON VALLEY**

3211 Scott Blvd  
Santa Clara, CA 95054  
Tel 650.475.4500

Fax 650.475.1571

### **SAN ANTONIO**

7550 West Interstate 10  
Suite 400  
San Antonio, TX 78229  
Tel 210.348.1000

Fax 210.348.1003

### **LONDON**

Floor 3 - Building 5,  
Chiswick Business Park  
566 Chiswick High Road  
London W4 5YF  
Tel +44 (0)20 8996 8500  
Fax +44 (0)20 8994 1389

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Frost & Sullivan  
3211 Scott Blvd  
Santa Clara CA, 95054