Empowering Patients with Data:

Maastro's New Patient Portal Encourages Active Participation in Managing Healthcare

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Joeri Veugen
Team Leader DBA/BI, Maastro

Goals	Solution	Results
Modernize systems with a cloud-first strategy while retaining control over patient information for security and compliance	Use Informatica Intelligent Cloud Services to integrate data from on-premises systems with Software as a Service (SaaS) applications and cloud-based image archives	Controls data flows and user access while collecting, managing, and sharing healthcare data in the cloud
Create a new government-mandated patient portal, allowing patients to view their health records in one place using their computer or mobile device	Exchange patient data among Maastro's databases and Cross Enterprise Document Sharing (XDS) repository with Informatica Cloud Data Integration	Empowers patients to view their medical information and images to take a more active role in their own care and helps Maastro comply with regulatory requirements
Launch a referral portal that clinics around the country can use to refer patients to Maastro Clinic for cancer treatment	Receive and process incoming referral messages in real time using Informatica Cloud Application Integration	Provides faster patient access to potentially life-saving radiotherapy through immediate referral notifications

Informatica Success Story: Maastro

The Dutch healthcare system is one of the most highly regarded in the world, consistently ranking at or near the top of the Euro Health Consumer Index. When it comes to patient rights and information, The Netherlands received the highest score of all countries on the 2018 index. A likely contributor to the high score is the country's decision to prioritize a patient-centric framework for healthcare IT called MedMij: a nationwide initiative to give citizens the ability to view their health records electronically in an online Personal Health Environment (PHE).

Initiated by The Netherlands Patient Federation, MedMij is the country's standard for the secure exchange of health data among care users and care providers. It's a cooperative effort among all healthcare stakeholders, including the Maastro Clinic, a top cancer treatment and research facility. By meeting a deadline to demonstrate its readiness to comply with MedMij, Maastro would also become eligible for a government financial stimulus.

Already in the midst of a digital transformation, Maastro needed to maintain control over its data as it moves to SaaS applications and as health records are made available to patients through a cloud-based PHE portal. In addition, Maastro wanted to launch a referral portal that clinics around the country can use to more easily refer patients to the clinic for cancer treatment. It also needed to make it easier for oncology researchers and data scientists to access patient records and get the information they need while obfuscating sensitive data to comply with the EU General Data Protection Regulation (GDPR).

"To give patients more control over their data and implement a successful cloud strategy, we have to treat data in a different way," says Joeri Veugen, Team Leader DBA/BI at Maastro. "We needed an integration toolset that would help us share our data with the outside world yet still remain in control, because in the end we are still responsible for the accuracy, security, and timeliness of the data."

Choosing the right integration platform

To provide bi-directional integration between its on-premises Microsoft SQL Server databases and a variety of targets, including the new patient portal, Maastro chose Informatica Intelligent Cloud Services (IICS) as its Integration Platform as a Service (iPaaS) solution. By providing security controls including identity and access management, auditing, and alerting, the solution allows Maastro to send patient information and other sensitive data outside the walls of its data center while maintaining sufficient control.

"As an iPaaS solution, Informatica Intelligent Cloud Services was the best fit for our patient portal, providing a common integration layer between all our systems," says Veugen.

Maastro now uses Informatica Intelligent Cloud Services to load nightly data into its patient portal, for batch integrations of information into new cloud systems, and for real-time integration between its incident management system and ServiceNow.

Powering patient and referral portals

For the new patient portal, Maastro uses Informatica Cloud Data Integration to query its SQL Server-based data warehouse and electronic patient record system, package the information into HL7 Clinical Document Architecture (CDA) and/or Fast Healthcare Interoperable Resource (FHIR) messages, and deliver the messages in batch to a vendor-neutral XDS repository that stores medical imaging data (Hyland VNA). Patients can then access their records and images via a SaaS application and XDS viewer.

"Informatica Cloud Data Integration is flexible, allowing us to send full documents as well as updates to existing documents," says Veugen. "It allows us to offload the transformation logic to non-clinical servers to minimize any performance impact the queries might have on our electronic patient record system, which is absolutely critical."

Maastro is using IICS for its referral portal as well, which requires real-time integration so Maastro can begin immediately preparing for new patients. Like the patient portal, the referral portal is connected to an XDS repository. When a new referral is made, Informatica Cloud Application Integration receives a message from the repository through a web service listener, then either processes the content into SQL or provides it to another web service in real time.

Enabling a more patient-centric approach

Fortunately, Maastro implemented the Informatica solutions in time to receive the government incentive for early compliance with MedMij, and data is now delivered following the MedMij standard. Its new patient portal has the potential to increase patients' engagement in their radiotherapy and care processes, allowing them to better manage their own health while also improving their communication with care providers. And with real-time referrals, Maastro's planning department is notified immediately, providing faster patient access to potentially life-saving radiotherapy.

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Inside The Solution:

- Informatica Intelligent Cloud Services
  - Informatica Cloud Application Integration
  - Informatica Cloud Data Integration

Efficient and secure cancer research

Maastro is also using IICS to give its researchers direct, GDPR-compliant access to patient data. Researchers can query the data, create and run their own mappings, and develop their own data flows, yet personally identifiable information such as names, birthdates, and social security numbers are not transmitted. As a result, researchers can easily get the data they need to make faster progress, transforming SQL data into flat files or whatever database they need for their research project.

"Medical data is always sensitive, and we are an ambitious company," says Veugen. "In a short time, Informatica Intelligent Cloud Services enabled us to build complex clinical and research data flows, and now people are starting to ask us, how did you do that? The idea that we could re-use the solution to help other care providers makes me proud."

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