rudderstack

HealthMatch Builds a Scalable HIPAA-Compliant Tech Stack With RudderStack and Customer.io

Highlights

- HealthMatch used Customer.io and RudderStack to better match more than one million patients with more than 300 medical conditions to clinical trial sponsors and researchers in four countries.
- HealthMatch moved from email-only customer engagement and limited analytics with SendGrid and Google Analytics to multi-channel customer engagement and a robust customer data platform with Customer.io and RudderStack.
- HealthMatch leveraged Customer.io and RudderStack to build a HIPAA-compliant platform and technology stack with little to no engineering, freeing the company to perfect its core product and patient-matching algorithm.

Key Stats

- HealthMatch used Customer.io and RudderStack to pivot to a new business model and built a full-fledged customer engagement workflow in seven days.
- The new HealthMatch business model generated significant revenue in its first month.
- HealthMatch reduced the drop-off rate of customers logging into the company's site after email notifications from 40% to 28%.
- HealthMatch feeds data from 10 backend systems and three front-end applications to RudderStack and Customer.io.
- HealthMatch improved data freshness using a 5-minute SQL sync / reverse-ETL to ensure accurate and personalized information in customer messaging.

Overview

Founded in 2017, HealthMatch is a digital health company accelerating medical research and improving access to life-saving medication by making it easier for patients to find and access clinical trials. Based in Sydney, Australia, the company primarily works with users and customers in the United States. HealthMatch uses

technology to bring together clinical trial sponsors (pharmaceutical companies, universities, government agencies), patients, and researchers.

HealthMatch serves these three types of customers working towards a common goal. The company helps sponsors accelerate enrollment and address gaps in trial participant diversity. It employs a multi-channel approach and proprietary screening technologies to recruit and qualify patients who don't already have access to healthcare and to reach out to underserved communities, counteracting bias. It is eight times faster than traditional recruitment, resulting in a database of over one million patients seeking to participate in trials for more than 300 conditions.

HealthMatch also provides patients with a platform to access innovative studies and clinical trials for cutting-edge treatments and new medications. The company collects patients' health and demographic information through an online questionnaire and matches them with trials in their area. The process is intuitive. Patients know right away if they're eligible and are automatically notified of future trials they match.

The final cohort of HealthMatch customers is the researchers themselves. HealthMatch offers pre-screened patients that meet trial criteria, are in the vicinity of trial sites, and have expressed an interest in participating. The company's platform allows clinicians to review, accept, and reject patients in one place and automates patient notifications about trial preparation and trial dates. HealthMatch has already placed 36,000 patients who opted in through its online application tool. The company hopes to increase the volume of potential and successful customers by scaling its business model.

Challenge: Pivoting to a New Business Model to Better Match Patients to Clinical Trials

HealthMatch was at a critical juncture. The company had patients, sponsors, and researchers using the platform but struggled to create connections between these three cohorts.

The data was there for the picking, but the HealthMatch technology stack was rudimentary and not up to the task of filtering event and user data from these three distinct populations and routing it to trigger-based marketing tools to match patients to trials. Using SendGrid for email notifications, Google Analytics as its data tool, and lacking a CDP, the company was ill-prepared to reach out to its million applicants in a timely manner to funnel qualified patients to appropriate trials.

> "Our analytics and marketing tech stack was basic," explains HealthMatch Product Lead Joel Pinkham. "We wanted something that could scale with our user base and was flexible enough to deal with complex scenarios. We have over a million patients using our platform, and we need to message them based on specific medical, demographic, and geographic criteria. Sometimes, they're not eligible for any trials when they sign up with us. But medical research moves fast, and often, they'll qualify for something else down the line. Our goal is to match the largest pool of qualified applicants to a trial as soon as it goes live. The current sign-up model of announcing a trial and waiting for people to register is inefficient and delays research. Speeding up trials saves lives."

HealthMatch had an established product roadmap and was ready to pivot to a new business model that would better match patients to trials. While the company's technology stack was a limiting factor, any future solutions had to be HIPAA compliant. The Health Insurance Portability and Accountability Act (HIPAA) establishes national standards for electronic healthcare transactions, including the storage and sharing of protected health information (PIH) in the United States. To remain compliant, HealthMatch had to ensure that every vendor in its technology stack adhered to HIPAA guidelines. The search was on for companies that could meet these stringent criteria.

"Dealing with medical data differs from working with regular b2b or consumer SaaS data," adds Pinkham. "Protecting private information is a top priority, but specific regulations on securing medical data exist. We must be cautious with what we share and store. To remain HIPAA compliant, we needed solutions we could host ourselves or vendors with whom we could sign business agreements guaranteeing they met privacy regulations.

We were on a tight schedule, and there was no room for mistakes. Clinical trials have strict rules about patient data and consent. Because we're dealing with patients, sponsors, and researchers, secure sharing is vital as the potential for breaches increases with the number of persons and organizations involved."

Solution: A New Technology Stack Built Around Customer.io and RudderStack

HealthMatch rebuilt its technology stack, replacing SendGrid with Customer.io and Google Analytics with RudderStack. These two platforms greatly expanded the company's ability to interact with patients, sponsors, and researchers and route patient data to and from destinations in its technology stack. They gave HealthMatch the tools to scale patient communications and event tracking, paving the way for a new business model.

> "I wanted to hit the ground running," begins Pinkham. "I believe in asking engineers to focus on a company's core product, and I wanted our talent working on something only they can do. I was worried that pivoting to our new business model would tie up our engineers, so I worked with our CTO to evaluate potential solutions, quickly choosing Customer.io and RudderStack as our most powerful and easily implemented tools. We brought it to one of our engineers, and within a week, the three of us rolled out a new business model using these two solutions."

Whereas SendGrid is purely an email tool, Customer.io is a comprehensive cross-channel customer engagement platform. It comprises email, mobile push notifications, SMS and WhatsApp messages, Slack integration, Facebook and Google Ad audience outreach, direct mail, in-app mobile and web messaging, and Webhooks data automations. The built-in Visual Workflow builder allows HealthMatch to easily schedule email messages and push notifications based on patient actions.

Customer.io's SQL Sync feature generates up-to-the-minute personalized messages based on patient matches to trials. This combination of features turbocharges HealthMatch's ability to communicate with patients, sponsors, and researchers, but it can only work well if it has good data.

RudderStack replaces Google Analytics with a complete customer data platform (CDP). HealthMatch is no longer forced to align customer events with Google Analytics' rigid event structure. The company's engineers are not wasting time becoming Google Analytics implementation experts. HealthMatch can leverage RudderStack's powerful event stream functionalities to get detailed insights into patient behaviors and its trial recruitment funnel.

HealthMatch is also using RudderStack Event Stream to route event data from the company website to its Redshift data warehouse and RudderStack Reverse-ETL to push relevant data to its technology stack, including Customer.io, Amplitude, and HubSpot. This enhanced stack powers the company's current customer engagement efforts and lays the groundwork for further improvements as HealthMatch refines its product and customer engagement platform.

> "We started small," continues Pinkham. "SendGrid and Google Analytics hobbled us. We had transactional emails in place, but our data fidelity wasn't great. We were manually moving customer data from our BI Tool to SendGrid and manually setting up email campaigns. It was tedious and ineffective, and we weren't connecting enough qualified patients to sponsors and researchers. Our initial use case for Customer.io and RudderStack was straightforward, and it transformed how we do business, but we have yet to explore the full potential of these tools."

Further simplifying the transition to HealthMatch's new customer engagement platform and business model, Customer.io and RudderStack are HIPAA compliant and can sign BAAs (Business Associate Agreements) with healthcare companies. Unlike competing CDPs like Segment, RudderStack does not store customer or

event data on its servers. It processes your company's information, including PHI, and routes it back to your data warehouse. Customer.io ensures HIPAA by limiting your team's access to PHI, monitoring data used in marketing campaigns, securing patient areas, and offering double opt-ins for patient consent.

"Customer.io and RudderStack did a lot of the heavy lifting," adds Pinkham. "They gave us everything we needed to realize our new business vision and HIPAA compliance in a matter of days. We relied on their expertise instead of spending months coding a solution ourselves. We're a small company with a big idea, and we need to partner with innovators like these two companies to get our product to the medical community faster."

Results: A Full-Fledged Customer Engagement Workflow that Earned thousands in 24 Hours

HealthMatch's new business model was an overnight success. After taking a week to set up the new customer engagement workflow, Pinkham and his team launched an initial recruitment campaign for a single customer that generated significant revenue in its first 24 hours.

> "We had already worked out the algorithm," explains Pinkham. "It narrows the million plus patients in our database to 30,000 who might qualify for a trial. We push that data to RudderStack, which feeds it to Customer.io, generating an email or SMS that informs qualified patients they have a new match waiting on our site. Our workflow provides incredible value to patients, sponsors, and researchers. Trials fill up faster, and automating the enrollment process prevents HIPAA violations due to human error. We've had similar successes with another 20 customers and continue to perfect our patient matching algorithm and find new ways to satisfy the needs of research clinics and sponsors."

Rolling out the new business model was just the start for HealthMatch. The company also used Customer.io and RudderStack to improve its patient acquisition funnel.

"We were seeing a 40% drop-off between customers clicking an email they were eligible for a trial and logging into our site," continues Pinkham. "It didn't affect our previous business model, so we let the problem slide. But our new approach depends on patients replying to these emails. This represented losing 40% of our potential revenue, so we needed to get email respondents to our site without having them log in. Also, we needed to do it in a way that was HIPAA-compliant and highly secure."

HealthMatch used Customer.io's Webhook actions to connect to an API that generates temporary patient login codes and injects them into email messages in real-time. The company then flushes these codes from its systems, ensuring no record remains to violate patient confidentiality.

> "We eliminated a significant friction point," adds Pinkham. "And we didn't have to do any coding. We simply used HealthMatch's built-in Webhooks integration to eliminate typing in a password. We didn't get all those patients back, but we reduced our drop-off rate to 28%. At the same time, we gave patients more control because we made it easier for them to complete the remaining questions confirming their trial eligibility. I'm delighted with both these results."

The combination of Customer.io and RudderStack also helps HealthMatch get the right information to the right people at the right time.

> "We use SQL to sync patient data to RudderStack, Customer.io, and other apps in our stack every fifteen minutes," says Pinkham. "And we time our emails so clinicians see the most recent matches first thing in the morning, no matter their time zone. As a bonus, we dropped Salesforce as our CRM and are using HubSpot as a cost-effective and leaner alternative because Customer.io and RudderStack have allowed us to do much more with our data."

In a few days, HealthMatch transformed its business and moved the company in a new direction that better serves patients, sponsors, and researchers. "Customer.io and RudderStack helped us live up to our potential," concludes Pinkham. "Without expending tremendous financial or human capital, we pivoted to a new business model and set up the conditions to further refine our product and boost our revenues. We achieved this by trusting Customer.io and RudderStack to engineer the data and marketing tools that would allow us to focus on improving the accuracy of our algorithm and finding new ways to accelerate and improve how patients are matched to clinical trials. Researchers are finding new treatments for medical conditions every day. I'm proud that HealthMatch is helping patients access these novel therapies through clinical trials, finding ways to improve their lives while helping advance medical science."

Destinations | Amazon S3, Amazon Redshift, Amplitude, Customer.io, Facebook Pixel (CAPI), Google Analytics, Slack, HubSpot

Sources | HTTP API, JavaScript SDK, React Native SDK, Java SDK, Customer.io, Amazon Redshift

Warehouse | Redshift