Leveraging AI to Streamline Access, Capacity, and Patient Engagement

Large regional health system's ongoing partnership with Care Continuity leverages artificial intelligence and machine learning to streamline patient engagement and mitigate capacity constraints across 15 hospitals and clinics.

Artificial intelligence and machine learning have become increasingly imbedded in our daily lives over the last several years, and we've unconsciously relied on AI to simplify complexities and ultimately make our lives easier. AI has changed the way we shop, listen to music, navigate from point A to point B, watch our favorite shows, manage our household, and do our banking. It recommends clicks and items based on our previous engagement patterns, often predicting our next interests with uncanny accuracy. Now we can hardly remember the way we used to do things or how we managed those tasks before. Applying this same thinking to the healthcare industry allows us to leverage learnings from retail, technology, and entertainment to transform the way we engage with our patients and providers.

Healthcare has become increasingly consumer-centric, and while the term 'patient-centered' is often spoken, it's seldom executed effectively. Rather, between disparate systems and industry jargon, it has become increasingly difficult to navigate. Systems aren't built around patients, yet they're expected to navigate on their own. It's not uncommon for patients to leave their doctor's office with little more than a slip of paper with a name and phone number, left with the responsibility to call an office they've never spoken to before, and coordinate their own follow-up with a provider they've never met.

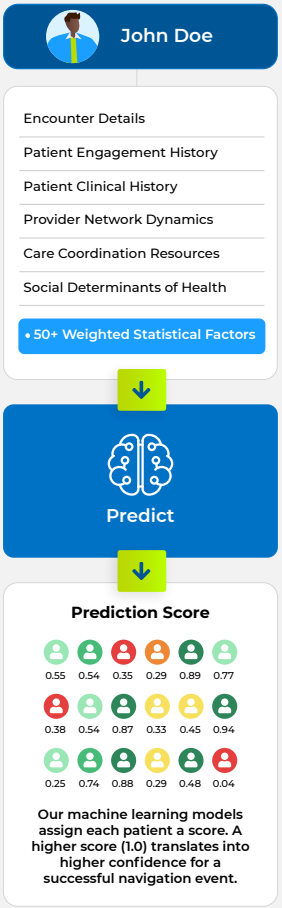
In fact, American adults spend an average of eight hours each month coordinating care for themselves or their loved ones. This can only be expected to increase as the “sandwich generation” continues to see greater caregiving responsibilities, juggling the needs of both their children and parents on top of daily responsibilities. What the industry is only just beginning to recognize is that patients have placed as much, if not more, value on experience as they do on clinical outcomes. A 2021 Patient Experience Benchmark Study conducted by Accenture revealed that patients are twice as likely to change providers due to a poor navigation experience versus a poor care experience.

The complexity has increased in recent years with added regulatory requirements for payers, as well as mergers and growth by larger health systems. This has expanded the healthcare circle for individual patients, with more pathways to follow and rules to abide by. Growth of provider networks has resulted in patients now having an overwhelming amount of choice, but without the necessary information to actually make informed choices. AI enables us to simplify this process and make healthcare more accessible, more patient-centric, and optimized within network and insurance restrictions. Care Continuity has leveraged over a decade of experience and client application to build AI-driven models to do exactly this. It allows us, and our clients – regardless of payer mix, patient demographics, location, or clinical condition – to meet our patients where they are and navigate them to the right providers at the right point in their care journey.

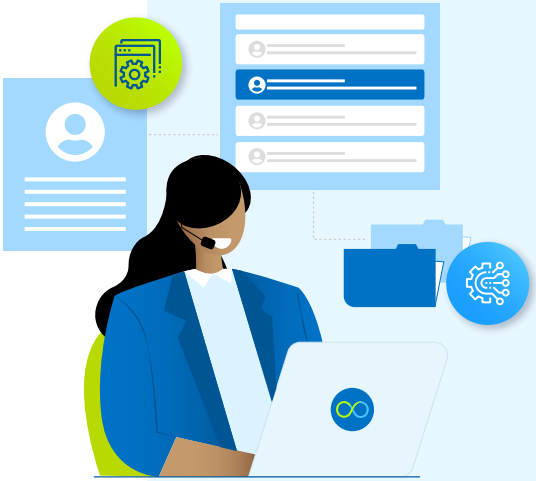
Predicting Engagement and Outcomes

Health systems have increased their focus on the patient's experience and entire care journey. Many clients have seen the importance of treating their patients more like consumers but don't have the experience or knowledge to shift their approach. Leveraging AI, and observing how other industries have benefited from it, has become more common place in healthcare now to engage with patients directly. Care Continuity can support these initiatives by providing health systems with the insights and visibility into those patients who need help the most and are most likely to accept assistance. Our models incorporate over 50 weighted factors - including characteristics that impact overall health such as patient engagement, clinical history, social determinants of health (SDoH), and specific provider network dynamics – which culminate into a predictive score of future behavior and outcomes for each patient. This score guides how a patient navigator or referral coordinator may interact with the patient moving forward and feeds into prioritized work queues, ensuring that each navigator knows exactly which patient to reach out to and at which time to optimize workflow and output.

Our AI-driven models not only determine the best way to engage with patients, whether by phone, text, or email, but also tailor outreach based on individual preferences. Some patients value personal interaction and benefit most from a direct phone call, while others prefer the convenience and speed of automated options like texts or ChatBots.



The AI model identifies and informs us which patients would actually benefit the most from each communication pathway. Our machine learning model helps navigators make smart, well-informed decisions when interacting with patients and providers, ensuring streamlining communication and quickly connect patients to the right appointments and preferred providers. By honoring each patient's preference, we reduce the burden on them, offering a personalized yet efficient experience.



This approach not only makes the patients' lives easier, but it allows our clients to better plan capacity and direct patients to preferred providers. Every interaction is guided by our models, allowing us to predict outcomes with greater accuracy. **Our models predict which patients have the greatest need for assistance, who is more likely to accept help, and who is more likely to actually go to their appointments.** These are just a small example of the numerous factors that feed into our algorithms to determine how to prioritize our outreach. While this improves patient experience in their care journey, this also allows providers, especially large health systems, to streamline their access and promote patient loyalty by actively navigating patients to preferred or affiliated practices whenever possible. In a little over two years since program inception for this specific client, through AI and intelligent workflows, Care Continuity has completed over 76,000 engagements with patients, resulting in over 15,000 completed appointments.

AI allows us to prioritize which patients to contact first based on their predicted utilization patterns, potential of downstream services, and increased need for specialty care. Now, through prioritized engagement and outreach, 90% of patients needing a new PCP are getting their next appointment scheduled within seven days of discharge. The impact on specialist appointments is even more significant, as these have historically been difficult to schedule due to high demand and offices being at capacity. By prioritizing the patients with greatest need, we've seen a 25% reduction in median time to appointment for new specialist relationships. As can be expected, this varies by service line, depending on demand and capacity, but the majority patients with the highest likelihood of needing downstream services and procedures were all seen within 14 days of discharge.

Additionally, we've achieved tremendous success and gained valuable insights by leveraging a ChatBot to conduct initial engagement with patients. This has not only allowed us to reach more patients more effectively, but also enables us to meet the patients where they are, and at a time and through a modality that is convenient for them. By using the ChatBot as a primary point of contact for certain patients, it further enables prioritization and targeted outreach to those patients requiring human intervention by our navigators. Over the past two-and-a-half years of our partnership with this particular client, the ChatBot has allowed us to reach over 43,000 patients, or nearly 93% of in-scope discharges, within two hours of discharge, a threshold that would be extremely difficult to achieve without leveraging machine learning models and automated technologies.

▲ 43,000

patients reached via ChatBot within 2 hours of discharge

90% ▲

growth in patient visits above expected

25% ▼

reduction in wait time for new specialists appointments

This is coordinated with existing text outreach the client is already leveraging to ensure that the patient is not inundated with redundant messages. Patients are then able to respond at their own pace and convenience and indicate whether they would like to receive assistance for appointment coordination. While we don't always receive a response back from every patient, over two-thirds of the patients who do respond request assistance with scheduling their follow-up appointments. These data elements and preferences are then incorporated into our outreach prioritization for those patients needing or wanting more human assistance. This can be a significant burden lifted off the patient, as 20% of the time, scheduling an appointment with a specialist office requires three or more calls to the office before the appointment is confirmed.

Streamlining how we schedule patients for their next appointments also allows us to better manage throughput and capacity. Thanks to improved efficiency in throughput by applying smarter, iterative models, one client has seen a 90% growth in patient visits (and double the profit margin) above expected over the course of eight months. This growth was especially high for follow-ups after an outpatient visit, where we assisted in scheduling and completing 142% more visits than would have occurred without navigator intervention. Additionally, we were able to triple the volume of same day surgeries, resulting in an increase in higher margin, lower cost visits for the client.

30% ▲
increase in in-network PCP attributions

76,000
prioritized patient engagements

15,000
completed appointments

Data-driven Decision Making

As health systems have expanded, whether through organic growth or mergers and acquisitions, it has been increasingly difficult to gain comprehensive insight into each facet of a network. Different providers may use incompatible technologies that don't interact or follow processes unique to their individual organization, making data disjointed and unusable to decision makers. Even systems using a single EMR struggle to gain insights needed to understand how patients are navigating their system and network because EMRs simply aren't designed for robust analytics or reporting. As a result, many clients lack transparency regarding where their patients are going after they leave their facilities and have little insight into the causes of patient outmigration. Without such valuable information, it makes it extremely difficult to actually develop strategies or make operational changes that drive the desired outcomes---because you don't actually know what you're trying to fix.

The advantage Care Continuity offers is within our technology, which is informed by standard EMR, scheduling, and case management platforms, yet operates independently from them. This allows us to pull data from those systems, augment it with our own insights, and normalize reporting to shed light on network performance. Clients have successfully leveraged our reporting and analytics to better understand scheduling barriers, reasons behind patient migration, where patients are actually going, and opportunities for improvement, down to the individual provider location.

These insights empower executives in their decision-making, ensuring that strategies are designed to address key issues and barriers, and operational changes can continue to be tracked and measured.

We're able to leverage these insights to identify individual service lines or locations that can present the greatest opportunity for our clients, allowing for targeted growth strategies to improve revenue, patient experience, and provider access. Care Continuity's standard key performance indicators post go-live provide tracking and measurement of financial and operational performance that are typically not readily available for many health systems. Oftentimes, our reports are the first opportunity for a client to have visibility into overall network performance. For one client in particular, our reporting provided executives with valuable insights into why patients were leaving their system and where they were going, allowing them to successfully redirect them back into the network. By leveraging this data for physician education and referral behavior change, and with the help of proactive navigation, we were able to help this client increase PCP attribution to preferred providers by over 30% in one year. A key executive of clinical operations here shared, "We greatly appreciate the hard ROI Care Continuity provides in keeping patients in our network and driving margin improvement in our key service lines, but at least 60% of the value we receive from the partnership is from the insights provided into our markets, both what our patients are experiencing and how our physician partners are supporting our strategic initiatives."

In today's rapidly evolving healthcare landscape, leveraging artificial intelligence and machine learning can revolutionize patient engagement, streamline access, and improve operational efficiency for healthcare organizations. Care Continuity's partnerships showcase the early successes of AI-driven solutions in improving patient outcomes, enhancing operational efficiency, and driving sustainable growth. The future of healthcare is bright, as Care Continuity continues to innovate; the potential for AI to transform healthcare is limitless, ensuring that every patient receives the high-quality care they deserve.

About Care Continuity:

Founded in 2014, Care Continuity provides expert patient navigation solutions that are designed to bridge gaps in healthcare, providing seamless transitions between care settings, reducing network leakage, and promoting optimal health outcomes and patient satisfaction. Through a combination of advanced software, AI and a dedicated team of care concierges, we help guide patients through their care journey while maintaining the integrity of the health system network. This translates to greater patient satisfaction, better health outcomes, and increased margins for our clients.

To learn more, visit **www.carecontinuity.com** or follow us on LinkedIn. .

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