

CIO's guide to investing in a system of intelligence

Guide for enterprise analytics

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Executive summary

Healthcare data has become a commodity. Yet, disparate data sets and siloed systems have plagued healthcare organizations, resulting in insight gaps. Achieving a competitive advantage in the future requires leveraging big data and machine learning to generate on-demand, AI-driven intelligence. Chief Information Officers (CIOs) are positioned to invest in a system of intelligence that is purpose-built with data that can be easily consumed by algorithms and AI to deliver actionable, enterprise-side insights.

Over the past decade, the healthcare industry has made significant data investments. The HITECH Act and Electronic Medical Records (EMR) Mandate rapidly transformed healthcare from manual documentation to electronic record keeping, leading to widespread shifts in information infrastructure, administration, and clinical processes. But many infrastructure investments have been siloed, predominantly focusing on singular applications such as patient data administration. This has perpetuated the legacy model of piecing together disparate data sets and analyzing them with manual tools, which is cumbersome and time-consuming. It is a far cry from the big data efficiencies that the banking and consumer industries have established.

Systems of intelligence deliver precision, speed, and productivity. They are highly automated platforms with massive, longitudinal, patient-level datasets that deliver actionable real-world insights in seconds. Using grouper software, machine learning, and AI, the data is sequenced to reflect the order of events throughout each patient's care journey makes data insightful and allows for seemingly endless analyses across multiple use cases. A system of intelligence can help bridge the insights gap that many CIOs face today, delivering actionable insights needed to succeed in the era of value-based care. Harnessing the power of a system of intelligence can strengthen existing infrastructure investments and provide critical insights for clinical and financial decisions.



Healthcare's enterprise analytics revolution

The future is on-demand, AI-driven intelligence. The analytical methodologies available to the financial services, consumer, and logistics industries can be applied to healthcare, delivering precise insights for population health management, physician performance improvement, network contract negotiations, and growth strategies.

Big data has made its way into healthcare but gaining insights from data isn't as easy as it seems. Healthcare still has ways to go with leveraging advanced analytics, predictive models, and machine learning to uncover hidden patterns in patient journeys and extract more precise insights. The trend in other industries such as financial services, consumer, and logistics has been significant investments in foundational platforms, the full embrace of cloud technology, and the elevation of analytics as an enterprise-wide priority and capability.

A major lesson from these industries is the speed and scale at which advanced analytics has transformed business models and created new industry leaders. In less than a decade, trading floors have disappeared, credit applications are approved instantaneously, and online retailers personalize purchase recommendations to shoppers. Significant investments in cloud technology, big data, machine learning, and AI underpinned these advancements.

A system of intelligence is a critical IT investment. Unlike your other IT systems, a system of intelligence is purpose-built to deliver enterprise insights and answer healthcare's most complex business questions. It should generate scale for your organization by delivering consistent insights across multiple use cases. And should support a diverse group of users across the enterprise (e.g., business owners, executives, data scientists, analytics experts).

CRITICAL COMPONENTS OF A SYSTEM OF INTELLIGENCE

- [Large and payer-complete patient-level data sets](#), including claims, clinical, genomic, and social and behavioral determinants of health (SDoH) data.
- [Comprehensive social and behavioral insights](#) that add context to patient journeys to address health disparities.
- [Platform automation](#) for cleaning, organizing, and enriching data to deliver AI-powered predictions.
- [Advanced grouper technology](#) that assesses episode or patient risk, generates provider and patient profiles, and constructs longitudinal patient care journeys.
- [Transparent and provider-trusted, case-mix adjusted](#) performance benchmarks and population health insights.
- [Granular insights](#) that pinpoint improvement opportunities at the precise patient cohort-level or level of discrete clinical behaviors to enable immediate action.
- [Lightning-fast access to analytics](#) with ease of implementation, end-user configurability, and self-service capabilities.

Build or buy a system of intelligence?

Building the capabilities of a proper system of intelligence de novo — even for a highly advanced organization — would require a \$150-250M+ investment over five years in new personnel, external data acquisition, professional services, and software development. Furthermore, making such an investment to build the necessary capabilities ground-up is a risk for any institution, given that it requires extensive data as well as experience and capabilities often found outside of the healthcare industry. This could result in a platform that is obsolete by the time it is completed. As an alternative to building in-house, you may look for an analytics platform with the capabilities needed to evaluate growth opportunities and power value-based care transformation — all at a fraction of the investment required for building an in-house platform.

If you are considering investing in a system of intelligence, there are four critical components you must assess:

1

DATA & ARCHITECTURE

Big data doesn't necessarily mean good or useful data. Big data is possible in healthcare due to the vast amounts of claims, clinical, and health-related data generated through electronic medical records, billing systems, consumer, and social data. But one data point alone has limited predictive value. The power of big data in healthcare comes from the ability to link and analyze disparate data sources to generate longitudinal views of individual patient journeys and identify trends over time.

Knowing in advance the types of data and the amount of data that will be made available to you when partnering with an analytics vendor will help determine if it will be sufficient to answer your business questions. Few have access to the sheer amount of data necessary to power a predictive analytics engine with statistical validity — even fewer have the processing power needed to extract, validate, clean, and normalize the data to make it interpretable and actionable.

You'll want to make sure your vendor has built a secure, HIPAA-compliant infrastructure with the ability to rapidly ingest new data from external sources, linking in claims and EHR data at the patient level to increase the value of your own data in yielding useful care insights. Your organization has already made significant investments in the data revolution. Put that data to work.

2

MACHINE LEARNING & AI

Closing the data gap in healthcare doesn't stop with the raw data. It is now finally possible to connect patient-level data to build longitudinal patient journeys that can be consumed by machine learning and artificial intelligence to deliver insights. A standout analytics partner will have an automated data processing and modeling pipeline, which delivers far greater speed to insight.

Cutting-edge applications of cloud technology, data storage, and real-time analytics available in the market today are finally providing the analytical power and speed to unlock more precise, timely, and actionable insights across a multiplicity of business use cases.

Do you know how their predictive models are arriving at a conclusion? What can be done to address the insights shown? There are many “black box” analytics offerings on the market today that may be flashy but not actionable for your patients or members.

3

ADAPTIVE DELIVERY

The knowledge and insight that big data can provide are useless until it makes its way into the hands of care providers and stakeholders. In order to be impactful, these analytics need to be easily accessible, allow users to create queries on-the-fly, and expose granular detail on how the insight was derived. An enterprise analytics platform should seamlessly digest data and present insights through a range of different visualizations and formats. Depending on the audience, your organization will need to align the most appropriate format (cloud-based software platform, report, data feed, mobile, in EMR, data portal) to the recipient. You should have the final say in how to translate insights into action and, ultimately, outcomes. Just as if a tree falls in the forest and no one is around to hear it, of what use is a more precise insight if it is not delivered into the relevant workflow in a timely manner?

4

BUSINESS APPLICATIONS

A system of intelligence that makes insight easy to consume is critical. Delivering insights via on-demand software as a service (SaaS) solutions will help your organization quickly answer your most pressing business questions. For example, using the available health data and advanced analytics, you can answer questions like:

- How do I engage providers in clinical transformation?
- How do I deliver performance insights to my provider partners that are actionable?
- How do I build trust and motivate behavior change with my provider partners?
- How can I improve the quality and efficiency of care delivery?
- How can I strengthen network integrity and improve physician alignment?

Healthcare's trusted analytics platform for actionable and precise insights

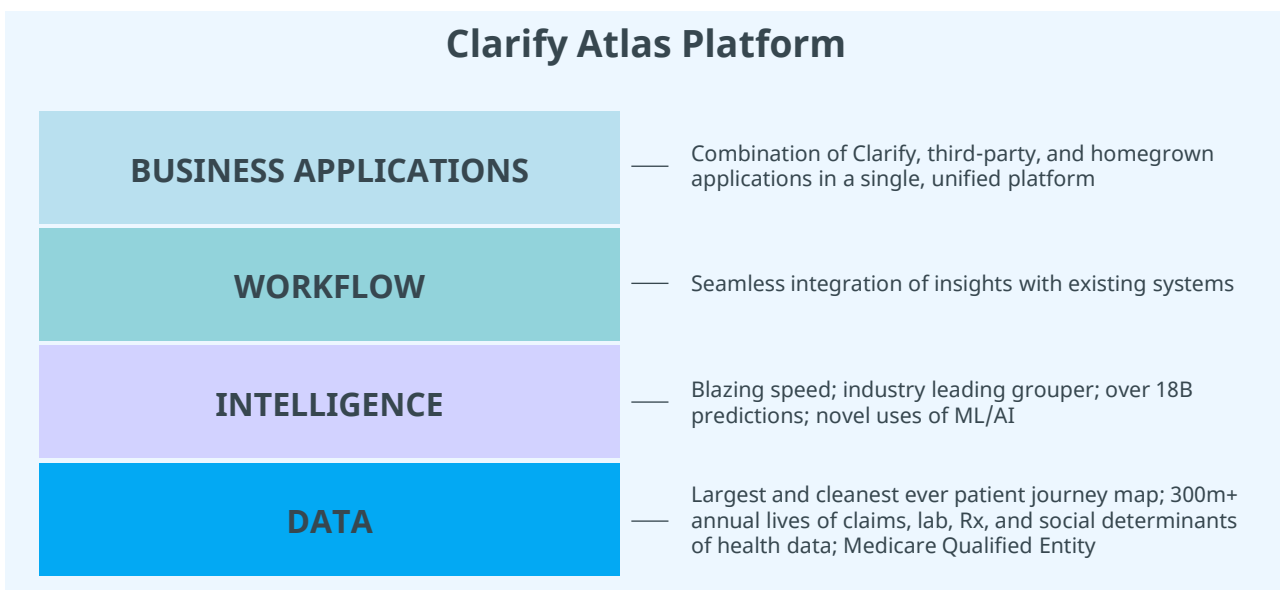


The Clarify Atlas Platform is the industry's most trusted system of intelligence for enterprise-wide insights. It maps over 300 million patient journeys, driving more than 18 billion AI-powered predictions to answer complex business questions instantly.

CLARIFY DELIVERS A UNIQUELY DIFFERENTIATED PLATFORM

The Clarify Atlas Platform brings together one of the industry's largest, longitudinal, patient-level datasets, aggregating traditionally siloed claims, electronic health records (EHRs), prescription, and social and behavioral data from over 300 million lives. In addition, Clarify's CMS Qualified Entity status feeds Atlas with 100 percent of Medicare fee-for-service data sets. Our approach to cleaning and enriching vast and disparate healthcare data sources offers unmatched market intelligence and actionable insights to guide business decisions and scale the adoption of value-based care. Our clinically relevant standard units of analysis, called Clarify Care Groupings, enable the platform to evaluate any patient care journey and benchmark any provider's performance. The intelligence layer consists of machine learning and AI that makes healthcare data that was previously inaccessible and unusable insightful. The platform also allows for seamless integration with existing workflows. Lastly, its business applications are self-service cloud software that allows users to click to query, while the platform instantly interrogates Clarify's 300 million unique patient journeys. In software, users can test hypotheses instantly and change them on the fly, create useful visualizations with the click of a button, and find high-value opportunities to act on.

Clarify Atlas Platform



Conclusion

The power to close the insights gap in healthcare lies in linking all healthcare's patient-level data and using that data to train predictive models through an advanced analytics engine for the purpose of providing timely and actionable insights to providers, health plans, and life sciences companies. However, many organizations may not have the time, resources, or ability to collect and link every piece of health-related data relevant to your business or to build a system of intelligence from the ground up. CIOs can help close the insights gap by selecting the right analytics partner.

About Clarify Health

Clarify Health is an enterprise analytics and value-based payments platform company that empowers payers, providers, and life sciences companies to deliver better care, therapies, and outcomes with actionable patient journey insights. Clarify's cloud-based business applications are built on the Clarify Atlas Platform, which maps 300M+ patient journeys to deliver 18B+ AI-powered predictions and surface insights with speed and precision. Clarify's products illuminate actionable opportunities to drive growth, optimize networks, improve care delivery, manage population health, maximize value-based care performance, and bring therapies to market. With Clarify, healthcare organizations can leapfrog from point-solution and manual analytics to self-service, rapid generation of enterprise insights that light the path to better care and outcomes.

For more information or to request a demo, contact us at info@clarifyhealth.com.
To learn more about Clarify's cloud-based analytics solutions visit www.clarifyhealth.com.

