Insights

New Data and Analytics Ecosystem Unveiled Amid Complex Landscape

By Health Catalyst Editors

Editor's note: *This article is based on a recent webinar, A Data and Analytics Ecosystem, Purpose-Built for Healthcare, led by Dave Ross, Chief Technology Officer, and Mitch Kearney, SVP of Enterprise Architecture and Platform Development at Health Catalyst.*

As health systems navigate an intricate landscape of patient care, regulatory requirements, and operational efficiency, the need for robust data and analytics has never been more crucial.

Healthcare organizations must transition from outdated and sluggish systems to modern architectures that support data scalability, interoperability, and adaptability.

Health Catalyst Ignite™ is designed to tackle these pressing issues head-on. This solution promises to streamline operations and empower healthcare stakeholders with actionable insights that can measurably and meaningfully improve financial, operational, and clinical outcomes.

Our latest webinar explored how this flagship technology offers unparalleled capabilities in harnessing real-time data while enhancing collaboration in health systems.

Why Healthcare Data Demands Modern Data and Analytics Solutions

Experts contend that making the switch to Health Catalyst Ignite™ could be the key to unlocking an organization's full potential by addressing:

1. **Time and Energy Constraints:** Traditional data management tasks are repetitive and manual, often leading to content duplication and inefficient resource use. Ignite automates these processes, streamlining data management, enriching data quality, and ultimately saving valuable time and energy for healthcare professionals.

2. **Cost of Data Management:** The high costs associated with technology, licensing, and the resources needed to manage healthcare data can be prohibitive. Ignite's scalable infrastructure is optimized to handle peak data loads without incurring excessive costs, and data management is standardized and optimized to make it more affordable and efficient in the long run.

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3. **Accessibility and Efficiency:** In many healthcare systems, accessing and utilizing data, whether at the front or back end, can be cumbersome. Ignite simplifies this by prioritizing the delivery of relevant data in a user-friendly manner, thus enhancing accessibility and operational efficiency.

4. **Data Inconsistency:** Inconsistent or unreliable data can erode trust and lead to ineffective decision-making. Ignite ensures data normalization and harmonization, providing standardized content and structure that users can rely on, thereby supporting more accurate and confident decision-making.

The Five Pillars of Ignite to Unlock Insights in Record Time

Ignite's development was guided by five fundamental pillars, with each element contributing to users' ability to derive insights from vast data sets at unprecedented speeds and depths:

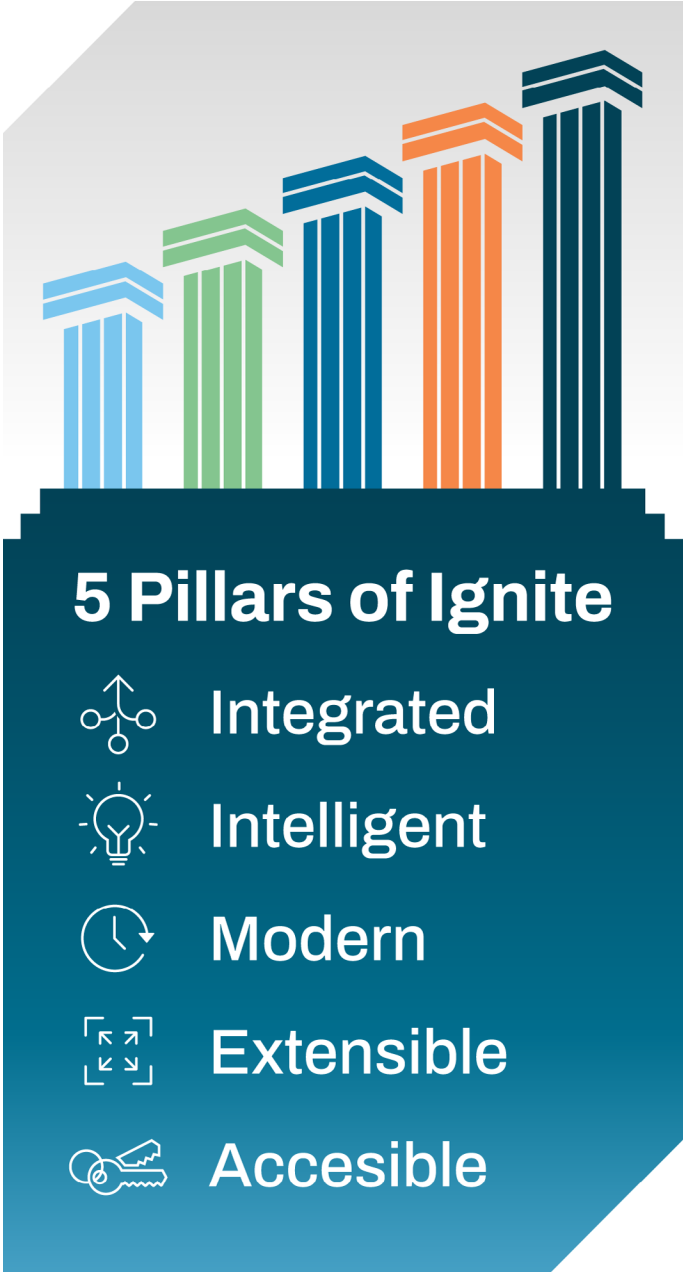
1. **Integrated:** Ignite offers end-to-end technology integration, featuring a unified and extensible data model that promotes interoperability across various systems and departments.

2. **Intelligent:** The application boasts plug-and-play data acquisition, healthcare-specific data quality measures, embedded AI and machine learning capabilities, and over 300 configurable templates to support diverse analytics needs.

3. **Modern:** Utilizing flexible compute resources and event-driven processing, Ignite supports modern DataOps practices, ensuring that data operations are efficient and current.

4. **Extensible:** The ecosystem is designed to be adaptable, with support for extensible data acquisition, including prebuilt APIs and FHIR® (Fast Healthcare Interoperability Resources) APIs. Thus, it can evolve alongside healthcare needs and technological advances.

5. **Accessible:** The solution guarantees on-time, high-quality data delivery, offering self-service reporting and data science capabilities that maintain current insights and support timely interventions.



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Demystifying the Technologies Underpinning the Ignite Ecosystem

Each aspect of the Ignite ecosystem is purposefully integrated to address healthcare's unique and complex needs. Every click and interaction is designed to optimize and enhance the use of available data. Let's examine the distinctive elements that buttress Ignite's functionality.

Core Enabling Technologies

Ignite's core technologies provide a robust and scalable foundation for securely and efficiently handling of vast healthcare data. Key components include DevOps, which facilitates continuous development and deployment to keep the system agile and adaptable.

The cloud data infrastructure offers flexible and scalable storage solutions, accommodating data growth. In that regard, cloud computing enables real-time analytics and data processing with advanced computational capabilities.

Meanwhile, data security measures protect sensitive healthcare information, maintaining compliance with industry standards. Access management controls safeguard data integrity and confidentiality, allowing only authorized personnel to access and modify data.

Ignite's Lakehouse Architecture

Ignite's architecture seamlessly integrates the best features of data lakes and data warehouses. It includes specialized components like Source Marts, Data Collections, and Domain Marts, which facilitate the transformation of raw data into structured formats. This architecture is particularly advantageous for healthcare, as it allows for scalable, real-time data processing, storage, and analytics, enabling faster insights and more informed decision-making.

The Lakehouse architecture also supports various healthcare use cases, ensuring structured and unstructured data is always ready for analysis and reporting. What's more, integrating specialized analytics tools like Pop Analyzer for population health and Healthcare.AI™ for predictive analytics, plus data entry and visualization tools, culminates into a unified model and analytic engine to inform and facilitate measurable improvements.

Comprehensive Data Acquisition Processes

Ignite's comprehensive data acquisition process efficiently connects to diverse data sources, including EHRs, pharmacy systems, streaming data, claims, legacy systems, imaging, and HL7® FHIR® interfaces. This process ensures data is accurately captured, integrated, and standardized, making it immediately available for analysis. By automating data acquisition, Ignite significantly reduces the manual efforts required, ensuring that data is timely and accurately prepared for all downstream processes.

Impact on Key Performance Metrics for Health Systems

Technology aside, Ignite significantly enhances patient care coordination, clinical decision support, operational efficiency, and population health management by turning data and analytics into strategic intelligence.

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However, experts acknowledged that many health systems often face challenges in gaining buy-in for new technology due to budget constraints, a learning curve, a fear of integration challenges, or an aversion to change. Therefore, they suggested starting small with a phased implementation and demonstrating value to stakeholders early in the transition process.

Ignite's design prioritizes accessible and user-friendly data consumption through the following:

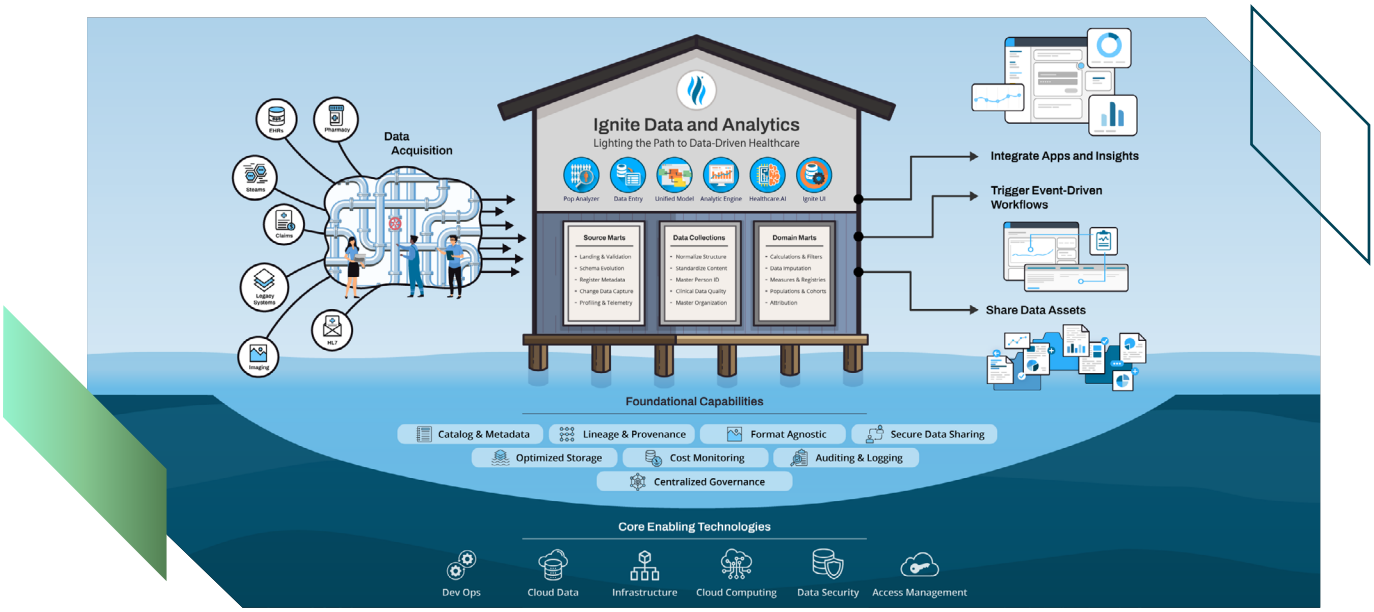
- **Structured Data Flows** ensure users receive reliable and timely information tailored to various organizational needs.
- **Application and Insight integration** enables event-driven workflows and data sharing across different systems.
- **Unified View of Data** provides a consolidated view, allowing stakeholders to access comprehensive and consistent information, which is critical for making informed decisions.
- **Support for Advanced Analytics**, reporting, and real-time data visualization, providing stakeholders with the information they need when they need it.

A Compelling Call to Action: Adopting a Modern Data and Analytics Ecosystem

Ignite is a modern data and analytics ecosystem built for healthcare use cases. It offers a balanced blend of the comprehensive capabilities of big enterprise solutions and the flexibility and customization of point solutions.

With Ignite's data and analytics capabilities, healthcare organizations can harness the full potential of their data and cultivate a culture of innovation, collaboration, and transparency.

Finally, as the healthcare landscape evolves with increasing complexity, embracing modern data solutions is no longer an option for today's health systems but a strategic necessity.



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IGNITE YOUR

Healthcare Data Revolution

Revolution Is:

$32.2 Million Cost Reduction

Through AI-Enabled Care Management*

The healthcare data revolution promised massive change, but siloed data, lack of literacy, and costs have hindered progress. Now, the Health Catalyst Ignite™ Data and Analytics platform overcomes these challenges. Streamline processes, cut costs, and improve patient outcomes. With Ignite, make precise data-driven decisions for real, measurable improvements.

What does your data revolution look like?

Join the Revolution Now

HealthCatalyst®

*https://www.healthcatalyst.com/success_stories/healthcare-utilization-unitypoint-health