

From Fragmented to AI-Enabled: How *Beckman Coulter* Is Modernizing Clinical Lab Operations



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Clinical laboratories generate some of the most critical and time-sensitive data in healthcare. Every diagnosis, every treatment pathway, and every clinical decision depends on the accuracy, accessibility, and integrity of laboratory insight.

At the same time, healthcare organizations are rapidly adopting artificial intelligence as a core operational capability. A 2025 industry survey found that **63%** of healthcare and life sciences organizations have already deployed AI, with another 31% in pilot or evaluation stages, signaling that AI use has moved well beyond experimentation and into mainstream operational practice.

For clinical laboratories, however, AI cannot be effective without a unified data foundation.

Recognizing this, Beckman Coulter Diagnostics selected Gravity by Innovaccer as its enterprise data and AI platform to support the modernization of clinical laboratory operations. **The objective is not simply to introduce analytics, but to unify diagnostic, operational, and utilization data across instruments, middleware, laboratory information systems, and enterprise platforms into a consistent, governed architecture that can support intelligent operations at scale.**

This decision reflects a broader industry realization. Intelligence requires integration. And integration requires infrastructure.

The Visibility Gap in Modern Laboratories

Most laboratories are not lacking data. They are navigating fragmentation.

Operational metrics may reside in one system. Utilization insights may live in another. Instrument-level data often requires manual extraction. Leaders frequently depend on spreadsheets or static dashboards to reconcile information across platforms.

When answering a basic operational question requires stitching together multiple data sources, improvement becomes reactive. Variability is difficult to quantify. Benchmarking across sites becomes inconsistent. The impact of operational changes is harder to measure with confidence.

As diagnostic volumes increase and health systems demand greater transparency, this model does not scale.

Modernization, therefore, is not about layering more tools on top of fragmented systems. It is about creating a unified data fabric that allows performance to be understood consistently across the enterprise.

Repositioning the Laboratory Within the Health System

Laboratories have historically been measured primarily through cost and efficiency indicators such as turnaround time and cost per test. While important, these metrics alone do not reflect the laboratory's broader strategic contribution.

Laboratories generate diagnostic intelligence that influences care delivery, resource allocation, and clinical outcomes. To operate at that level, laboratory performance must be connected to enterprise objectives through standardized metrics and reliable data.



Beckman Coulter's modernization initiative is grounded in four priorities.

Transforming Laboratory Operations

Enabling laboratories to move beyond cost-center models by aligning operational performance with broader health system goals and patient care outcomes.

Empowering Laboratory Leaders

Providing laboratory leaders with trusted data, standardized metrics, and actionable insights needed to identify inefficiencies, reduce waste, and maximize the laboratory's contribution to care delivery.

Delivering Data-Driven Insights

Aggregating and synthesizing disparate diagnostic, operational, and utilization data to support evidence-based decision-making across complex laboratory environments.

Optimizing Test Utilization

Supporting more informed decisions around test ordering and availability, helping ensure the right test is delivered to the right patient, in the right setting, at the right time.

Each of these priorities depends on a consistent and interoperable data foundation.

Why Gravity Matters in the Architectural Layer

Artificial intelligence in laboratory medicine is only as reliable as the data architecture that supports it.

Gravity functions as an enterprise data and AI platform designed to unify heterogeneous laboratory environments. Instruments, middleware, LIS platforms, and enterprise systems each generate data in different formats, structures, and frequencies.

Without normalization, governance, and standardized modeling, that data cannot reliably support advanced analytics.

By implementing Gravity, Beckman Coulter is establishing:



A unified data model across diagnostic and operational systems



Standardized definitions for key performance indicators



Governance frameworks that ensure data consistency and traceability



An AI-ready architecture capable of supporting scalable analytics

This architectural layer allows laboratories to move beyond static reporting toward integrated performance management.

Rather than analyzing isolated datasets, leaders can evaluate operational trends across sites, compare utilization patterns, and assess variability using consistent metrics. Over time, this foundation enables more advanced capabilities, including predictive analytics and intelligent workflow optimization.

The important point is that AI enablement is not a feature. It is an outcome of disciplined data architecture.

From Reporting to Intelligent Operations

When data is unified, operational management becomes more proactive.

Performance deviations can be surfaced earlier. Utilization trends can be identified before they affect capacity. Benchmarking across sites becomes standardized rather than anecdotal.

With a governed data layer in place, intelligent systems can assist in identifying anomalies, prioritizing operational interventions, and refining performance targets. This is where laboratory modernization moves from digitization toward intelligent operations.

The objective is not automation for its own sake. It is measurable, sustainable improvement driven by consistent visibility and trusted data.

Continuous Improvement at Scale

Continuous improvement requires more than intent. It requires infrastructure that makes performance measurable across time and across sites.

Standardized metrics and unified data definitions enable objective evaluation of operational changes. Leaders can quantify the impact of process adjustments, compare performance across facilities, and align laboratory outcomes with broader enterprise goals.

This clarity reshapes how laboratories are perceived within health systems. When performance is transparent and aligned with strategic priorities, laboratories are recognized as contributors to clinical and financial performance rather than isolated operational units.

As diagnostic complexity increases, resilience will increasingly depend on this kind of architectural alignment.

What This Modernization Signals

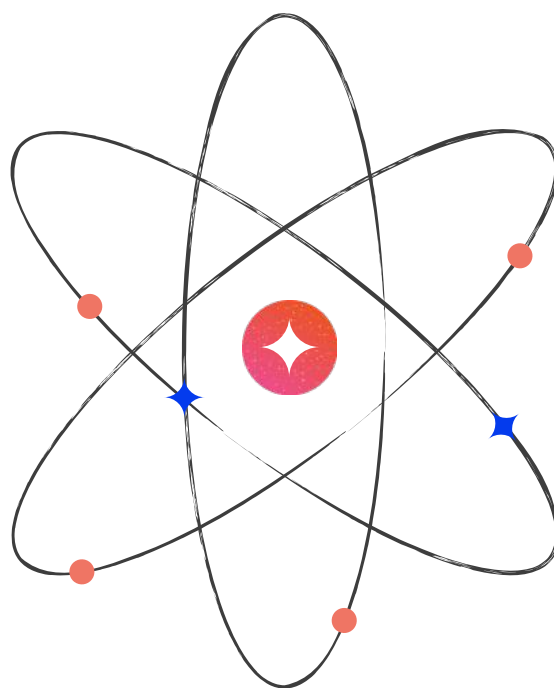
Beckman Coulter's investment in Gravity signals a broader evolution in diagnostics.

Differentiation is no longer defined solely by instrumentation and assays. It increasingly includes the intelligence layer that connects instruments to enterprise performance. Laboratories that unify their data foundations will be better positioned to adopt advanced analytics, optimize utilization, and support more intelligent workflows.

Modernization at this level is not incremental. It is structural.

By building an AI-ready, governed data architecture, Beckman Coulter is laying the groundwork for laboratory operations that are not only more connected, but increasingly capable of continuous optimization.

The transformation from fragmented systems to intelligent operations begins with infrastructure. And infrastructure, when thoughtfully designed, becomes the foundation for measurable enterprise value.



About Innovaccer

Innovaccer is the AI infrastructure for autonomous healthcare operations, delivering better clinical and financial outcomes across health systems, payers, governments, and life sciences. Powered by the Healthcare Intelligence Platform, Innovaccer unifies enterprise data and applies AI to automate administrative work, strengthen operational performance, and drive measurable margin expansion. Organizations such as Orlando Health, Adventist HealthCare, and Banner Health trust Innovaccer to integrate intelligence into their existing infrastructure and elevate the quality of care.

For more information, visit www.innovaccer.com.

