

Case Study

Success Story  
For Healthcare

# Leading Health System Gains Agility with Analytics

There's a saying in business that what gets measured gets improved. Nowhere is this idea more critical than in a hospital, where improvements can save lives. A leading integrated healthcare system in the U.S. is taking bold steps to generate real-time data about what's happening with patient care. It's using Kofax Insight™ to deliver intelligent data to the nurses who tend to patients, supervisors who watch over the nursing staff and executives responsible for overall quality of care.

## Delivers

patient information in real time  
for better care

## Gains

actionable insights  
immediately vs 30 days post fact

## Dashboards

across departments drive better  
resource utilization

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### Products in Use

Kofax Insight™

### Focus

Healthcare – Business and Process Intelligence

Needless to say, it was not always easy—or possible—to capture, integrate, analyze and present this data to the people who need it. The improvements this healthcare provider has achieved with the Insight process intelligence tool are “above and beyond” the analytics capabilities of many of its industry peers.

For the provider, implementing Kofax Insight is all about improving patient care and quality. The solution was initially implemented to give nurses more information about what was happening on the hospital floor at any given moment. It extended to the leadership team with an integrated dashboard that allowed them to quickly see at a campus, enterprise or regional level how the organization was meeting the needs of patients. Today, Kofax Insight is an enterprise solution that plays a critical role in the first moments of interaction when patient care matters most.

## Challenge

A key reason for leveraging Kofax Insight was to pull data from various reporting systems into integrated dashboards designed to provide nurses, executive leaders, and other staff members with enhanced data visibility throughout the enterprise. Across the hospital, several data capture and reporting silos had been created. “All together we were looking at 25 disparate systems from individual vendors, each with their own reporting mechanisms for analytics. We wanted to integrate them all and provide staff with a one-stop shop for analyzing important data,” said a Director, Data Solutions. This situation was exacerbated by mergers and acquisitions over the years as other hospitals joined the organization and brought their own systems into the mix.

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**Director, Data Solutions**

Too many data sources complicate executive analysis. Departmental silos and organizational expansion made it challenging to provide a unified view to executives. At the enterprise level, leaders received reports from multiple departments and systems—from the EHR to revenue cycle management applications. Furthermore, these reports were delivered in various formats — from spreadsheets to emails with PDF attachments. “It’s amazing to think about it now,” says the Director, Data Solutions, “but we were still using a lot of spreadsheets.”

This made for a cumbersome process for leaders, who would review up to 30 different sources of data on a daily basis in an attempt to piece together a complete assessment of the overall state of the organization. To complicate matters, executives might see two or three different numbers for the same base metric, which made accurate analysis challenging.

### Monthly reports not timely enough for nurses to drive change

At the other end of the spectrum, staff at the operational level, including nurses, medical technicians and providers, also needed better insight into the effectiveness of their processes and practices. In fact, the organization needed to provide analytics at all levels within the system — from operation staff to operational directors, service-line directors, VPs and the executive leadership team.

The charge nurse, for example, had traditionally received a monthly report that included quality metrics, along with patient care and safety metrics. As the frontline manager overseeing a unit within the

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hospital on any given shift, a charge nurse supervises nurses and takes responsibility for the care of all patients within that unit. Receiving feedback on a monthly basis may assist charge nurses with future planning and improvements, but the leadership team wanted data delivered to them on a daily basis to help them drive performance and make changes to patient care in near real time. To enable faster insight and action, this data would need to be presented in a dashboard format, rather than the manual chart review process the charge nurses had been using.

### Over reliance on IT impedes analytics progress

Finally, it was vital that business teams could create their own reports and analytics without the assistance of IT. This was a key driver for selecting Kofax Insight. "IT resources are tapped," explains the director, "That requires business units to find solutions for themselves and produce analytics that may have at one time been IT-based."

IT staff typically spends 85% of their time "keeping the lights on," and the remaining time is spent on regulatory requirements and mergers and acquisitions. This leaves virtually no time for new initiatives that are not regulatory related.

## Solution

Although Kofax Insight now plays a vital role across the health system—from the nursing floor to the corner office—the product had a humble beginning in the organization. Several years prior to deploying the solution, the director at the health system worked in IT supporting the Medical Laboratory. At that point, he says his team was manually coding business intelligence solutions and building web pages that displayed bar charts and trend lines.

The organization began searching for a prebuilt solution that would free up his high-skilled programmers from coding charts on a regular basis. After carefully reviewing seven different solutions, the clear choice was Kofax Insight, primarily for its ability to integrate disparate systems. "Most of the solutions we considered needed to have underlying data already aggregated before they would work well," he says. "Kofax Insight gave us the ability to connect the data sources, aggregate the data, and build a front end without coding. That was why we chose it in the laboratory." At the same time, the

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enterprise leadership team was looking for an enterprise business intelligence solution to provide integration/visualization of Epic EHR data, financial data from SAP and various other disparate systems. The laboratory solution came to the attention of someone involved in that process, and before long, the director was working at the enterprise level implementing Kofax Insight.

### Using dashboards for insight into patient care

Since the ultimate goal was to improve patient outcomes at the health system, the strategy involved connecting data from disparate systems to offer nurses, managers and leaders real-time information about patient needs.

To support that goal, the team developed a series of dashboards built on Kofax Insight and based on the principle of monitoring, measuring and managing. These include, among others:

- **The Charge Nurse Dashboard** is an operational-level dashboard that enables supervising nurses to monitor patient care as it is happening. This dashboard provides quality and safety measurements and analysis of patient flow. It provides real-time data to enable the charge nurse to monitor and respond proactively to patient needs and increase the quality of patient care.
- **The Nurse Quality Scorecard Dashboard** is a management-level dashboard that is focused on nursing education and nursing performance. This dashboard aggregates nursing care data over a large volume of patients with 13-month trending analysis on 10 patient quality and safety measures. It offers an objective view across the patient population and enables managers to identify opportunities for improvement at the nurse, department, campus and enterprise levels.

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- The Enterprise Integrated Dashboard provides executives with insight into the overall health of the organization. This dashboard addresses imperatives that executive leadership has identified, including quality of patient care, preemptively managing risk, driving continuously higher performance and ensuring accountability through the system. It integrates disparate clinical, financial and operational data; provides “always on” key performance indicators (KPIs); enables insights into levels, trends and impacts; and replaces manual reporting processes with automated updates.

With Kofax Insight, nurses, nurse supervisors, ICU staff, lab technicians, executives and others gain information about the effectiveness of processes that impact patient wellness. They can quickly drill down for more detail, and they can discover and address critical issues that (if left unchecked) could lead to problems. “The Kofax Insight solution integrates various statistical analysis programs into a dashboard display, but it’s much more than just a dashboard solution,” says the director. “It’s an analytical tool that gives everyone – from nurses to executives – continuous insight into patient care. It allows them to see what is actually happening, rather than what they think is happening.”

### Delivering patient information in real time

In some cases, this information is delivered in real time. For example, the Charge Nurse Dashboard provides the charge nurse with continuous information about which patients need to be seen, what their pain level is and so on. After a visit from the nurse, the patient’s record is green on the dashboard. But if the patient has not been seen for a specified period of time, the record turns yellow, which signals to the charge nurse to check on the patient.

In other cases, as with the Enterprise Integrated Dashboard, information is delivered on a daily basis because that’s the frequency with which executives need reports. Kofax Insight gives the organization the ability to deliver real-time data where it’s needed and to provide less frequent business intelligence when that’s more appropriate.



## Results

To date, the health system has deployed 20 dashboard projects across the enterprise using Kofax Insight in a centralized application framework with decentralized analytical development. These dashboards are used by a number of departments within the organization, including anatomic pathology, clinical pathology, radiology, human resources, revenue cycle management, an insurance division, as well as nursing and other areas. The IT team also uses Kofax Insight to track resource utilization within the IT department itself. All together, more than 1,700 employees regularly use these dashboards, with a total view utilization count across all dashboards of over 120,000.

Ultimately, the most important measure of success for the organization is patient care. In that respect, the Kofax Insight solution gets a clean bill of health. For example, the Charge Nurse Dashboard gives nursing staff insight into analytics they didn’t have before, such as immediate visibility into where staffing help is most needed. If one unit’s acuity level is very high, the charge nurse can bring in other nursing staff to help. If it’s low on another day, the charge nurse can try to support another nursing unit.

“We’re trying to get patients the right level of care as fast as possible,” the director says, “and real-time data analysis on staffing levels, acuity levels, and more offers our personnel the insight they need to improve patient care. When I think about that kind of impact, it makes me extremely proud of what we’ve been able to accomplish with our Kofax Insight solution.”

### Enabling analysts to gain immediate insight

One outcome of deploying Insight has been an immediate time savings for business analysts within the organization. Before the Leadership Dashboard was built, analysts manually produced the daily reports for executive management. This activity alone required nearly three FTEs transposing information into spreadsheets from various source reports. In 30 days they were able to automate this process and add features that gave executives the ability to drill down for more information or insight.

An unexpected result was how quickly analysts took to the new system and began building their own reports, aggregating and transforming data. "They had been struggling for so long," recalls the director. "They were always waiting for IT resources and just trying to get data out of their own systems." Suddenly analysts were providing new solutions to their business counterparts.

And because analysts were no longer spending time producing manual reports, they were able to do the job for which they were hired: analysis. This has led to new insights in areas such as length of hospital stays and patient safety. Moreover, insights can be immediate, rather than 30 days after the fact. "With monthly reporting," says the director, "you find the problem and come up with a solution, but its three months later before you actually see a benefit. Real-time reporting and analysis with Kofax Insight has allowed us to be far more agile and proactive."

#### **Improving patient care in the first moments of interaction**

For every business, there are numerous points where customers and the organization connect, and the information captured during those moments can have a significant impact on outcomes for both the customer and business. In a hospital, many of those interactions happen between patients and nurses. Kofax Insight gives this integrated healthcare system the ability to capture information from those moments, apply analytics and business intelligence, and feed it back to nurses, managers and executives in the form of dashboards. "The Insight solution plays a critical role in the first moments when patient care matters the most," concludes the director.

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