

Transforming the healthcare supply chain: How AI unlocks resilience and strategic insights

As hospitals and health systems face [escalating supply costs](#) and [supply chain disruptions](#), they are exploring new strategies to improve organizational resilience and control expenses.

Given the inroads that AI is making into all aspects of healthcare, it's also becoming an important enabler for smarter supply chain management.

To learn more about how AI is transforming healthcare supply chains, Becker's Healthcare recently spoke with Ben Gold, vice president of AI and data at GHX.

From prediction to results

Supply chain leaders know that fluctuations in elective surgeries, physician preference items and payer shifts make demand forecasting an arduous task.

To counteract variability, Mr. Gold believes AI can be a powerful tool for supply chain teams because it goes beyond just fulfilling demand. The technology excels at detecting patterns of volatility in large data sets that humans often miss.

He explained that AI and deep learning can evaluate many variables, such as purchase orders and GPO contracts to determine how they relate to one another.

With AI, healthcare organizations have a completely new tool to reinvent how supply chains work and bolster their resiliency. Hospitals can better create inventory buffers in advance, before supply chain disruptions cascade throughout the system.

In the future, Mr. Gold hopes AI will empower supply chain leaders to think beyond cost savings by surfacing inequities in resource distribution across facilities, regions and patient populations. This will enable organizations to link their supply chain strategies to broader health equity goals.

The 'data nerve center'

For decades, supply chain teams have been the unsung heroes in patient care, working behind the scenes. However, when supply shortages proliferated during COVID, leaders realized that the supply chain is the invisible hand that enables healthcare delivery.

In many hospitals, the supply chain touches more data streams than any other function. It interacts with systems like the ERP, EHR, supplier feeds and GPOs. With access to all of this data, AI-based supply chain solutions can transform a cost center into an engine of strategic enterprise insights.

The insights it gathers can help inform not just procurement, but clinical variation reduction, financial strategy and even workforce planning. Mr. Gold highlighted that it's especially useful in identifying mismatches between supply utilization and clinical outcomes. This reframes the supply chain's role from "savings police" to partner in care quality.

Mr. Gold and his team at GHX also see market appetite among healthcare organizations to use data and AI to make smarter, value-based purchasing decisions – not just cheaper ones.

"That will aid hospitals' and health systems' efforts to identify the clinically and financially optimized set of supplies that will help promote improved patient outcomes and support organizations' financial health," said Mr. Gold.

Trust versus tech

The biggest challenge to AI adoption in the healthcare supply chain isn't technology itself, it's human trust. While executives know that AI works, many worry whether their teams, clinicians and suppliers will accept AI-generated recommendations. Proven solutions to help spur adoption include an increased focus on change management, transparency and governance.

According to Mr. Gold, one best practice is to start small, demonstrate success, and then expand to additional use cases over time. Another is to demonstrate that AI is able to handle work that people either couldn't do before, such as better predicting supply chain disruptions, or that people didn't enjoy or don't excel at, such as analyzing large sets of complex data.

To build trust and increase end-user adoption, AI should be used to eliminate tasks that prevent people from doing work that gives them personal meaning.

Building resilience

Traditional resiliency strategies rely on secondary suppliers or inventory stockpiles. This constrains working capital for healthcare systems. In addition, spending money proactively as a hedge against backorders and supply chain disruptions results in waste when excess inventory must be discarded.

“The reason healthcare operates this way is because early or real-time detection of backorder events is incredibly difficult for the average human. It requires looking for signals in large datasets,” Mr. Gold said.

AI and machine learning equip healthcare supply chain organizations with new information earlier than ever before. With AI, resiliency strategies shift to dynamic re-routing, real-time substitutions and risk modeling across the ecosystem. This proactive paradigm goes beyond what is possible with existing, manual playbooks.

[GHX Resiliency Center](#), notifies healthcare providers as soon as data signals detect a backorder. In response, the system presents alternate suppliers, and for providers that have self-published substitute libraries, GHX quickly starts working on the backorder.

The right partnership

Everyone eventually will have predictive models. The leading organizations will develop operating practices informed by AI such as daily huddles, sourcing strategies and executive dashboards.

“GHX Resiliency Center ties into what healthcare supply chains are good at, which is making decisions,” Mr. Gold said. “This solution focuses heavily on analytics. Using generative AI and copilots, supply chain teams can ask GHX Resiliency Center questions in ‘supply chain language’. Within 30 seconds, they receive powerful insights based on analyses of comprehensive data sets.”

As healthcare organizations explore AI technologies, some will choose to build their own predictive models. It’s important to keep in mind that getting a model up and running requires heavy upfront capital expenses, as well as ongoing expenses related to maintenance and enhancements.

For most health systems, partnering results in scalable, maintenance-optimized predictive models in a more economical manner.

“It’s much more efficient for a company like GHX to build machine learning models and deploy them to thousands of customers than for one health system to build and maintain a model itself,” Mr. Gold said.

When it comes to partnering, finding a trusted vendor is essential. Healthcare organizations need technology partners who understand their risk tolerance, are committed to fixing problems as they arise and will deliver technology that’s sustainable and scalable.