
Inova™

CASE STUDY

Inova Health tips the scales toward supply chain success

PAR Excellence technology helps surpass Kanban

5	30,000	124
NUMBER OF HOSPITALS	NUMBER OF SCALES	NUMBER OF LOCATIONS WITH SCALES

After maximizing the use of Kanban for managing inventory, Inova Health System had reached something of a point of no return on investment. The Fairfax, VA-based integrated delivery network (IDN) yearned to attain what the multifacility system determined to be the next level of effectiveness and efficiency within supply chain operations to satisfy its clinical and administrative customers.

Supply chain succeeded with the lean management-oriented Kanban method for years, but now the team needed to upgrade to something more to usher them forward in their progress to equip and fortify their facilities. They turned to PAR Excellence and its weight-based technology as the answer.

"We made the decision to adopt PAR Excellence scales as part of our broader strategy to support Inova's near and long term growth and modernize how inventory is managed across the system," said Chad Jones, senior director, Supply Chain Operations and Procurement, Inova Health System. "As we began planning for additional hospitals and the eventual transition away from older facilities, it became clear that our existing inventory models — including Kanban — would not optimize efficiently or provide the level of visibility and control required."

Inova currently operates five hospitals which collectively generate $6.8B in Net Patient Service Revenue (NPSR) and require nearly $813M in annual supply purchases. The network is opening two new hospitals in 2028.

Jones' team is deploying PAR Excellence's weight-based inventory automation technology at four of the current locations and plans to add two new sites as soon as possible.

Inova chose PAR Excellence in part because, with 350 hospital clients and 2.5M scales in use, they felt the technology is proven in its ability to provide real time inventory visibility, automated replenishment, and labor efficiencies that will allow Inova to manage supply operations more consistently across multiple sites, according to Jones. "This decision was driven

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by the need to build a repeatable, scalable inventory management model that could be deployed at existing hospitals today and extended to new facilities in the future, rather than continuing to invest in processes that were heavily manual and resource intensive," he noted.

"In short, we chose PAR scales to gain operational efficiencies and create a more resilient, data driven supply chain that positions Inova to effectively support both current operations and planned expansion," he added.

Inova serves as Northern Virginia's only Level 1 Trauma Center and Level 4 Neonatal Intensive Care Unit and earned the designation "2025 Health System of the Year" by Press Ganey, which recognized the IDN for its performance in safety, quality and patient experience.

INOVA VISUALIZED SUCCESS WITH KANBAN

Before choosing to invest in scales, Inova relied on Kanban to manage inventory and maintain product flow. Kanban appealed to Inova for a variety of reasons, according to Jones.

"Kanban was initially attractive because it provided a simple, visual replenishment model that was easy for frontline teams to understand and operate," he said. "It allowed us to establish basic PAR levels, create visual cues for reordering and introduce some structure to inventory management without significant technology investment or system integration. For a period of time, Kanban served as a practical way to manage supply flow in lower complexity environments."

Yet, as Inova grew and its operational demands increased, Jones' team recognized some of Kanban's limitations and acknowledged that the 2-bin methodology had outgrown its usefulness.

"The model relied heavily on manual observation, physical card movement and periodic checks, which made it difficult to maintain consistent accuracy across locations," Jones noted. "Data availability was limited — there was no real time visibility into true on hand inventory, consumption trends or usage variability. Tracking and tracing inventory movement was largely reactive, making it challenging to identify root causes of stockouts, overstocking or variability in practice.

"Because Kanban lacked robust data elements, it also constrained our ability to standardize processes, optimize par levels dynamically and optimize inventory management efficiently across multiple hospitals," Jones continued. "As a result, inventory accuracy depended heavily on individual execution and maintaining reliability required ongoing manual effort and oversight. These challenges ultimately highlighted the need for a more data driven, automated and scalable solution." This would come in handy as Inova planned to increase its number of facilities and expand operational coverage, specifically supply chain services.

MOTIVATION SCALED OVER TIME

As Inova expanded, these limitations drove the decision to move beyond Kanban and select PAR Excellence scales.

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"From an operational perspective, PAR Excellence has addressed notable inefficiencies by automating inventory monitoring and replenishment activities that previously required significant staff time," he continued. "This automation has allowed us to reduce time spent on routine inventory tasks."

Further, improved inventory accuracy and reliability have helped "reduce operational noise and downstream clinician complaints related to missing or inconsistent supplies," Jones said.

Christina Symons, R.N., BSN, CPN, BS, supervisor, Pediatric Emergency Department, spotted the improvements rather quickly, particularly around timing.

"The implementation of PAR Excellence has provided several key benefits to our unit," she said. "One of the most noticeable improvements is the ability for the materials team to monitor inventory levels in real time remotely. When items become low — especially overnight — the PAR system flags those SKUs for the materials staff who can then restock without requiring early morning phone calls from unit staff. This has helped ensure that essential supplies are available more consistently."

Symons also expressed appreciation for an updated stocking schedule.

"I have observed that our supply room is being restocked earlier in the day compared to before," she noted. "The automated system has improved efficiency for the materials team by eliminating the need to double-check inventory manually or make multiple trips. Instead of checking what is missing, retrieving items, and then returning to restock, they can address needs more proactively in a single step.

> *"Overall, the use of PAR Excellence has... contributed to more reliable supply management within our unit."*

Additionally, the PAR Excellence technology has enabled Symons' team to mesh more closely with Jones' team.

"Another important benefit is the improved collaboration between our unit and the materials team. PAR's software automatically makes recommendations on each SKU's ideal stocking level based upon usage, ordering frequency, unit of measure, etc. With access to real-time data, we can more effectively identify items that frequently run low and adjust par levels accordingly. This allows us to better maintain appropriate stock levels and reduce recurring shortages," she said.

"Overall, the use of PAR Excellence has enhanced efficiency, improved communication, and contributed to more reliable supply management within our unit," she added.

Jones indicates that PAR Excellence scales "enables a more data driven, expandable inventory management model — outcomes that were not achievable with Kanban alone."

OUTCOMES, RESULTS EMERGE

Across the two-and-a-half sites that currently use PAR Excellence scales, supply chain has seen "measurable and meaningful" results in inventory management compared to the previous operating model, both quantitatively and qualitatively, according to Jones.

"Quantitatively, these sites have achieved approximately a 40% reduction in on hand inventory at the par level, driven by real time visibility and automated replenishment," he observed. "This has reduced overstocking, improved on-hand accuracy and lowered the amount of capital tied up in carrying inventory. In addition, the efficiencies gained through scales have enabled us to permanently redeploy four FTEs into other critical supply chain roles, rather than adding resources as we expand.

"Qualitatively, scales have significantly improved how inventory is managed day to day," he continued. "Prior to implementation, inventory management relied heavily on manual counts, visual checks and reactive ordering. With the PAR weight-based technology in place, inventory levels are continuously monitored, which has reduced variability, improved reliability and minimized stockouts and excess inventory."

In fact, Inova's supply chain team recorded both hard- and soft-dollar savings with scales spanning both people and processes.

"This reduction in on hand inventory within clean holding rooms is massive", says Jones. "This directly reduces working capital tied up in supplies and minimizes waste related to expiration and overstocking," he added. "Improved inventory accuracy and par optimization also supports reduced emergency purchases and better contract compliance, further lowering supply expense over time."

With soft-dollar results, "as scales go live across care sites, we are able to focus more on operational support,

analytics, and scaling systemwide initiatives," he said. "Standardized workflows and improved visibility reduce time spent on counting, troubleshooting stockouts and reactive ordering, enabling teams to operate more efficiently without adding headcount."

Time savings allows Inova to redeploy supply chain assets when and where needed, according to Jones.

"Perhaps most importantly, the time saved by using inventory automation has allowed supply chain team members to shift their focus to areas that historically received limited supply chain oversight, such as non standard supply locations and emerging operational needs," he said. "This has improved overall supply chain engagement with clinical operations and enhanced our ability to proactively manage supply risk rather than react to it."

Beyond the obviously positive financial impact, Jones points to PAR Excellence scales as also delivering operational efficiencies by allowing Inova's supply chain team to scale support, improve service levels and focus resources where they add the greatest value.

Gretchen Bronson, R.N., BSN, PCCN, FDN, recognizes the efficiencies every day.

"PAR Excellence's weighted system provides an easy way to organize clean supply," she said. "It allows for the co-location of similar use supplies making it easier to find items when needed. It also improves overall space utilization of the room as well as timely resupply of high-turnover items."

For Erin Judy, BSN, RRT, CPFT, RRT-ACCS, RRT-NPS, R.N., director, Respiratory Care Services, PAR Excellence scales represents both a space saver and a workflow conduit.

"Transitioning to PAR Excellence didn't just reorganize our supplies — it revitalized our Respiratory Therapy Department," Judy noted. "By freeing our space and streamlining our workflow, we created room for what matters most: delivering exceptional, uninterrupted care to every patient who depends on us.

"With the ED transitioning to the PAR Excellence system, Dylan Hill, our director, Supply Chain, Inova Loudoun Hospital, was able to find a room specifically for Respiratory Therapy outside the ED to house our life saving equipment," according to Judy.

SMOOTH TRANSITION

Jones acknowledges that the implementation process has progressed smoothly with PAR Excellence's help.

"The integration between PAR scales and our IT environment was straightforward and efficient, with no significant technical barriers encountered," he said. "The PAR Excellence platform aligned well with our existing systems, allowing integrations to be completed without disruption to operations."

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Jones salutes PAR Excellence's support team as well.

"Beyond the IT integration, PAR Excellence has continued to be a strong implementation partner," he said. "Their team has provided ongoing technical and operational support, including responsiveness to optimization requests as we refine workflows based on real world use. In addition, PAR Excellence has remained actively engaged in the deployment process by providing dedicated onsite implementation support, which has been critical to ensuring successful go lives, staff adoption and process standardization at each care site."

Looking ahead, Jones highlights some product enhancements and improvements he'd like to see by further integrating Inova's Oracle ERP and the PAR platform.

"Configurable dashboards and reporting – such as turnaround time, fill rate, backlog, pick errors, productivity by zone/shift and easy export – makes performance visible and supports staffing and continuous improvement," he mused.

For those healthcare provider organizations – from IDNs to multihospital systems to single hospitals – intent on improving their operations and curious about PAR Excellence technology as an option, Jones offers six recommendations to achieve similar outcomes and success with scales and other PAR Excellence products.

- **Standardize workflows and clean your data first** (e.g., item master, units of measure (UOM), locations, PAR levels, naming conventions). "Automation will expose and amplify inconsistencies, so strong fundamentals drive faster stabilization and better outcomes."
- **Define success metrics up front** (e.g., fill rate, stockouts, expedite rate, pick accuracy, touches per line, cycle count accuracy, turnaround time). "This ensures the investment is measured on operational and financial outcomes, not just 'system uptime.'"
- **Design for exceptions, not just happy-path picking** (e.g., shorts, substitutes, backorders, recalls, lot/expiration, UOM mismatches). "Exceptions are where labor and delays pile up; strong exception workflows protect throughput."
- **Plan integrations early and test them hard** (e.g., enterprise resource planning/materials management information systems/warehouse management systems, receiving, replenishment signals). "Reliable interfaces reduce manual workarounds and prevent downtime when upstream/downstream systems change."
- **Pilot, then scale with a repeatable playbook.** "A controlled rollout surfaces workflow gaps, builds internal champions and reduces change fatigue."
- **Clarify long-term operational ownership** (e.g., who maintains pars, item master, replenishment rules, and daily queue management). "Sustained performance depends on governance, not just implementation."

Jones further indicates that PAR Excellence's scales can fare well in any healthcare supply chain environment, whether an organization operates a consolidated service center (CSC) or not.

"With a CSC, scales typically perform well because processes, inventory, and staffing are centralized – enabling standardization, higher volume efficiency, better slotting/pick optimization, and more consistent replenishment," he noted. "Benefits are usually maximized when the CSC has disciplined governance over item master and replenishment rules.

"But even with distributed storerooms across facilities, scales can still add tremendous value, but success depends more on system standardization with your site workflows and strong exception management from a core system team," he concluded.

PAR EXCELLENCE HIGHLIGHTS

Founded 1993	Headquarters CINCINNATI, OH	Locations 10,000+
Clients 1,300+	Inventory Under Management $4.6 BILLION	Scales shipped 2.5 MILLION