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Supply Chain Modernization: How to Align Your Approach with the Customer Experience

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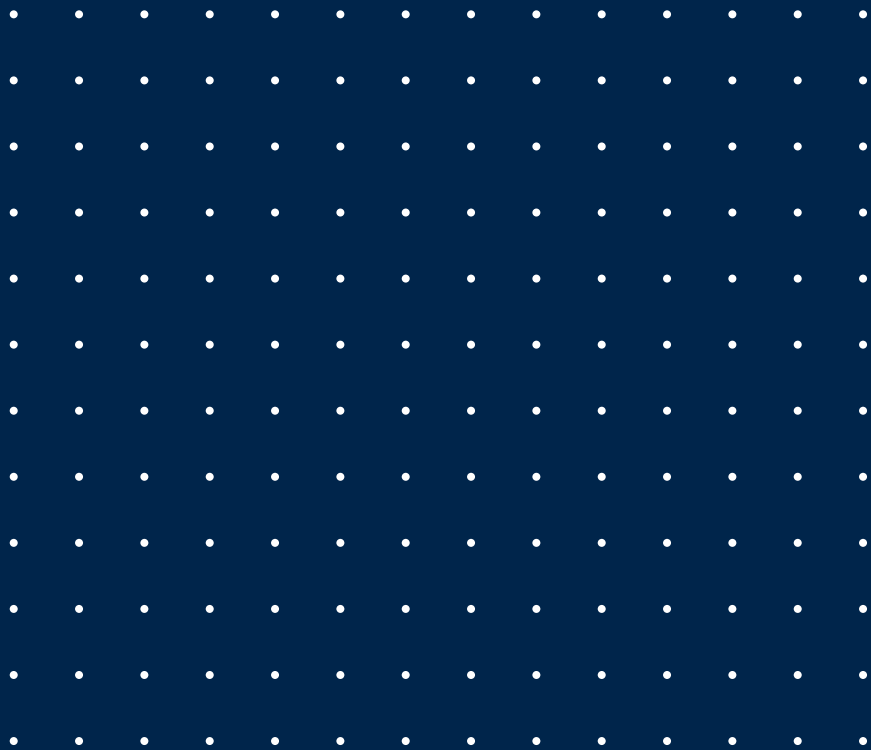
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INTELLIGENCE THAT WORKS



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Health First—Central Florida’s only fully integrated delivery network, operating four hospitals, and a multispecialty physician group—is pivoting to a consumer-centric culture with a primary focus on the customer experience. To deliver exceptional care in a dynamic environment, clinicians and support staff alike must have the necessary supplies. In practice, this involves supply rooms being appropriately stocked and easily navigable and assurance that supplies are safe for patient use. Supply Chain Operations (SCO) team members are critical for the care continuum, and well-executed inventory management processes benefit the patient.

Product availability throughout the supply chain continues to be a challenge post-pandemic, which creates a burning platform for reviewing the traditional PAR (Periodic Automatic Replenishment) inventory method. Health First prioritized implementing innovative ways to better manage and optimize its inventory processes and align with the customer experience.

The typical approach to inventory management involves a supply staff member (or inventory technician) scanning and counting nursing supplies with a handheld device or documenting with a clipboard and paper. The inventory tech notes supplies that need to be replenished, or “brought up to PAR,” and then refills the bins on another trip, usually within the same day. However, this method is usually assessed and replenished based on the experience of the inventory tech, or “gut feel,” which leads to counting all supplies and overstock. Additionally, this process leads to product expirations and inability to manage the PARs. This can lead to stockouts, where someone will notify the material management department to have them make an accelerated delivery of the supplies (a “demand call”), or nursing staff will search and pull supplies from another location.



Product stockouts



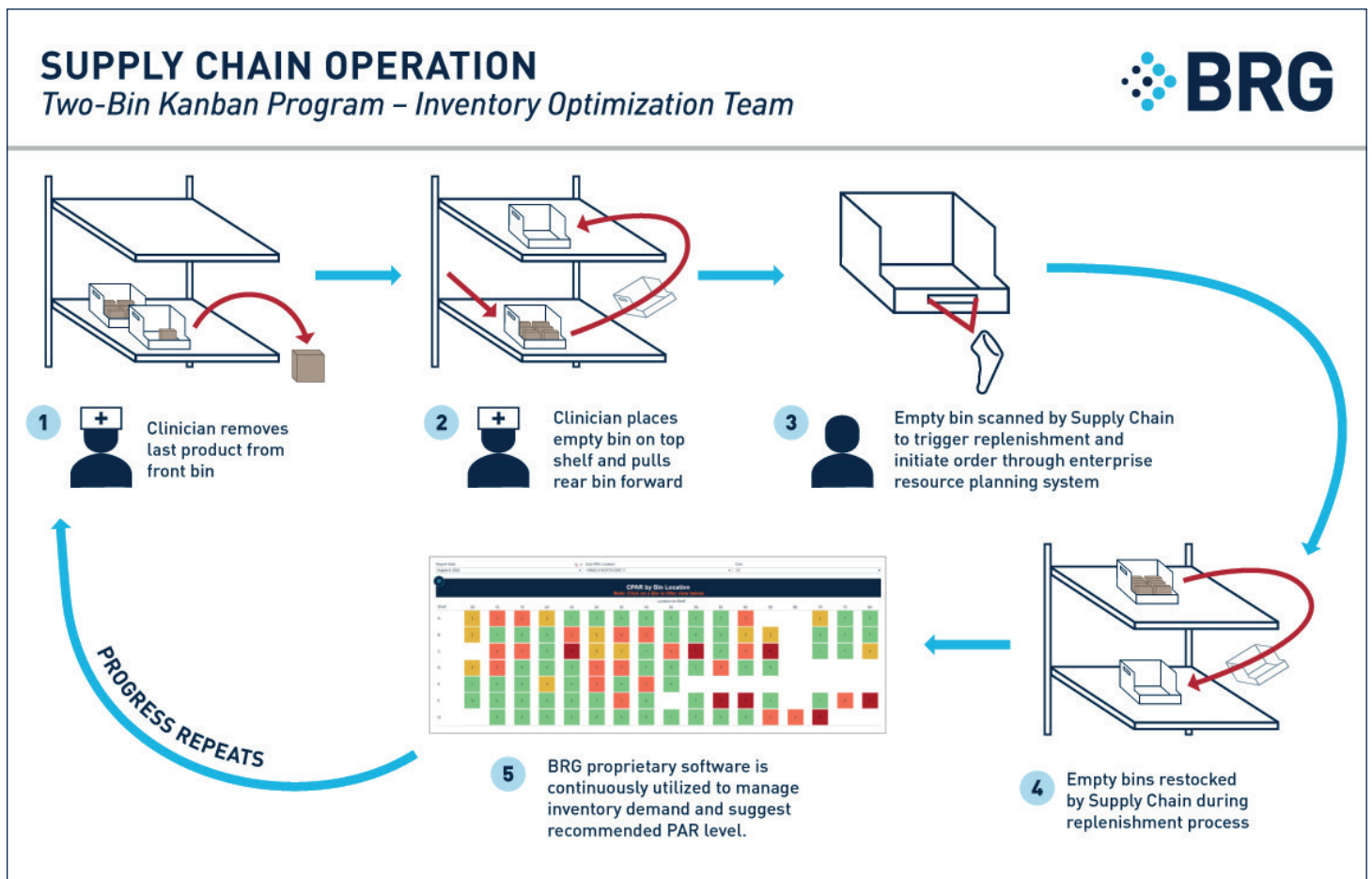
Overstock

Health First determined that it needed to deploy a new, innovative approach to manage supplies due to the amount of excess inventory, expired products, and lack of process and communication. Berkeley Research Group (BRG) professionals, along with the Health First SCO team, developed a program known as the Supply Chain Modernization Initiative, focusing on refining the organizational structure, rewriting job descriptions, developing standard operating procedures, establishing and measuring key performance indicators (KPIs), and deploying analytical tools that provide real time inventory insights.

Most important, the program involved implementation of a Lean Manufacturing approach (Two-Bin Kanban and 7S) to develop and maintain an efficient process and workplace. The Two-Bin Kanban (2BK) System process eliminates or reduces waste and focuses on the timely replenishment of supplies, creating an effective way of maintaining enough stock of high-consumption items near patient care areas. This approach blends process benefits and analytical measures to improve product availability and optimize inventory management practices. The 7S (Sort, Set in order, Shine, Standardize, Sustain, Spirit, Safety) approach creates a disciplined process with the staff to organize and maintain a safe, clean, and productive workplace while reducing waste and improving efficiency and quality.

Two-Bin Kanban Process

The two-bin inventory control, often referred to as Kanban, is a system used to determine when resources or inputs should be restocked. This method comprises two identical plastic bins alternately utilized: once the first bin is used, the staff will start using the second bin. The empty one will function as a visual cue to signal SCO staff that a restock is needed prior to running out. Ideally, by the time a Clinical staff member reaches the end of a second bin, the stock will be replenished. As with the PAR process, it is important to continue to monitor the amount of stock and days on hand needed to support the clinical needs of customers.



Organizational Readiness

An important part of the program involved increasing staff and manager engagement with a commitment to integrating a change management strategy early in the initiative, which significantly improved the success of implementation.

A structured approach to change management was developed and implemented throughout the 2BK transformation. The team ensured timely communication with senior leadership and met individually with unit-based leadership to provide consistent communication on what to expect and the benefits of the transformation; and to quantify change readiness pre-, during, and post-supply room transformation. These implementation meetings helped strengthen the partnership between clinical areas and SCO, and feedback from each nursing unit helped improve the approach and strategies for subsequent units. During the implementation introduction meetings, the SCO team requested identification of unit-based champion(s) to serve as subject-matter experts and provide insight into item placement tailored to each unit's workflow and patient population. This expertise and engagement had far-reaching impacts, predominately in sustainability of the improvements. Universally, Clinical leadership and clinicians on the unit recognized the need for change—critical activities included proactively walking through the change systematically and establishing the partnership prior to the transformation.

Analytics Insights and Continuous Improvement

To help Operations monitor and maintain the 2BK implementation, a PAR heat map was implemented to provide SCO staff with inventory demand planning insights to optimize inventory proactively across the organization. This data provides real-time insight of inventory opportunities and displays the velocity in which items have stocked out with recommended PAR levels.

“The simplicity of the Kanban approach is what makes it very adaptable and sustainable, bringing staff efficiency to the Supply Chain and Clinical teams. The real-time analytics dashboards are also very user friendly and help our Supply Chain team proactively adjust PARs and align our practices with patient acuity.”

India Randerson
Health First, SVP,
Supply Chain Management

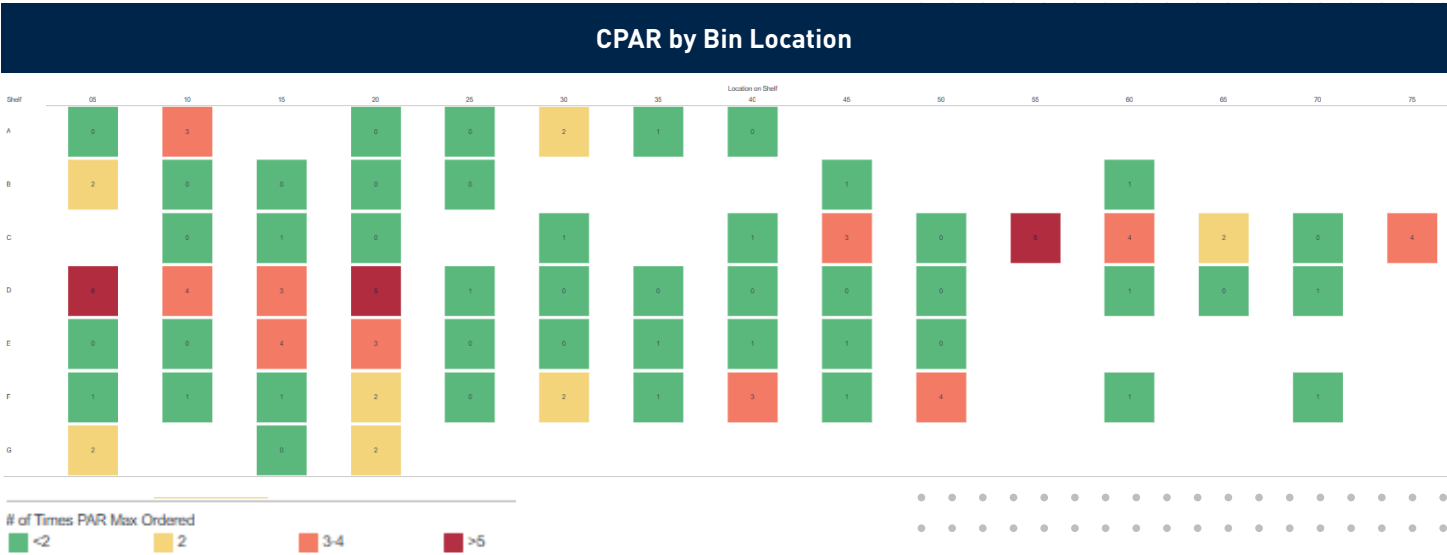
“Implementing the Two-Bin Kanban system has been a tremendous opportunity to build the relationship between Supply Chain Operations and Clinical staff. The increased collaboration and analytics have allowed Operations staff to gain a greater understanding of the needs on each unit and have allowed nursing clinicians to better serve our patients.”

Corbin Brosious
Health First, Optimization Supervisor

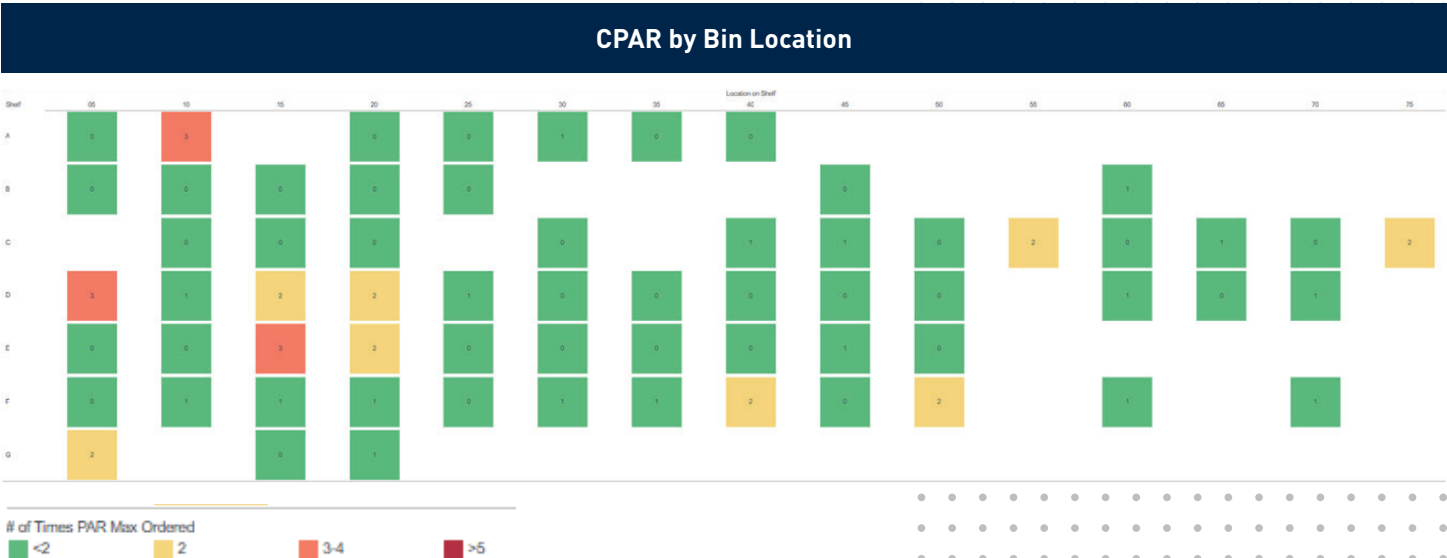
BRG Proprietary Heat Map

Contractor Performance Assessment Reports:

PAR period: 3 months



PAR period: 1 month



Benefits of Using the Two-Bin Kanban Supply System

The 2BK System promotes staff efficiency by optimizing the ordering and replenishment process (reducing line counts by 30 percent). Not having to count every product can save a considerable number of hours per year in counting and replenishing supplies.

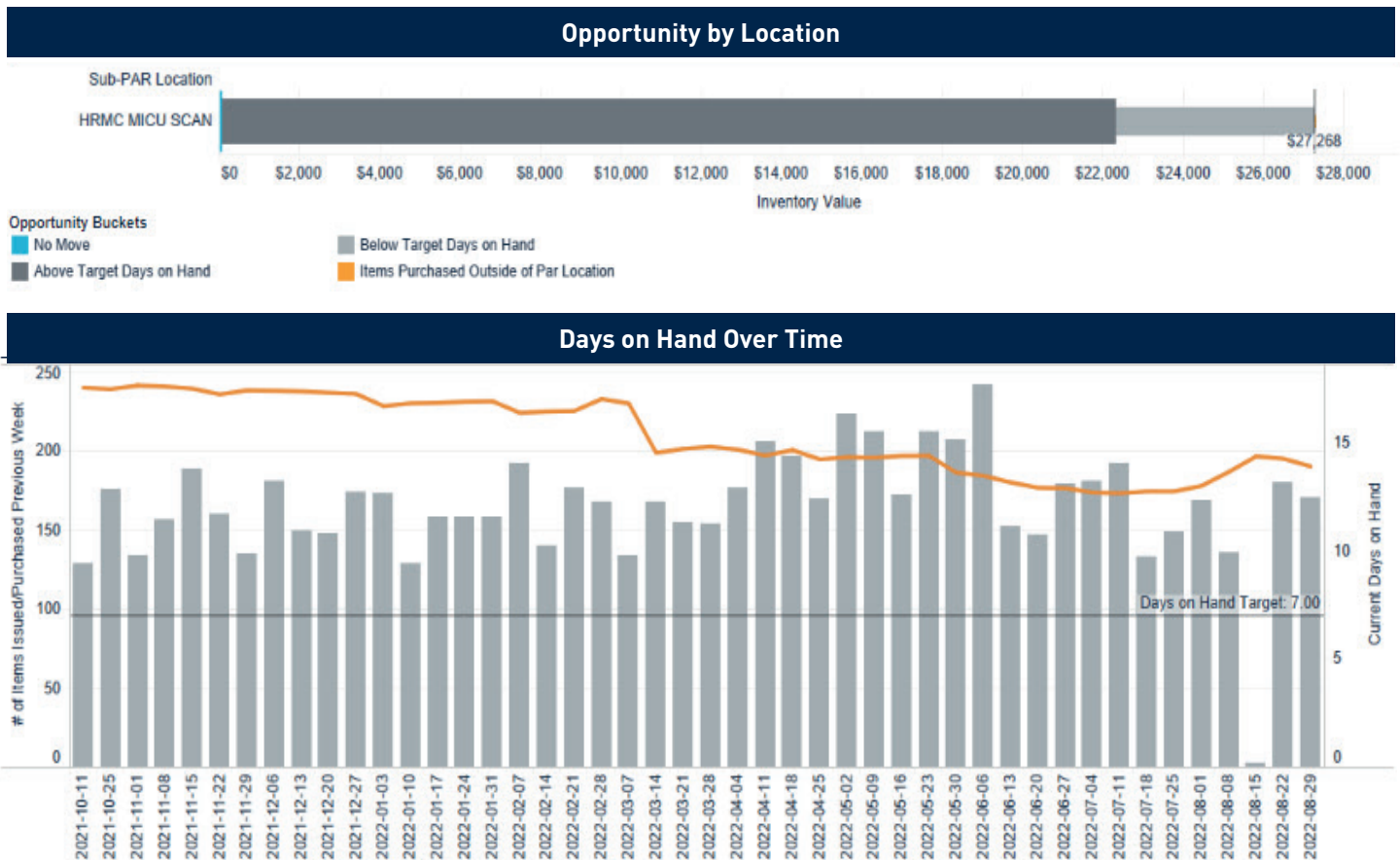
With the use of analytics, the Supply Chain Modernization Initiative has transformed Health First's supply chain and aligned its efforts with clinical and patient needs.

"The availability of the right supplies at the right time is vital to support the workflow of our associates in providing patient care. Prior to the Two-Bin system, we would often run out of products and have products we did not need occupying valuable space.

This would result in emergency calls to general stores, which essentially stopped workflow. The opportunity to be a pilot for the Two-Bin system was very appealing, and we welcomed the change. Post-implementation, the supply rooms are neater and visually appealing. The bins are organized by body systems identified by a colored dot on the clear bin. With the two bins, we have fewer emergency calls to general stores for running out of products and will continue to adjust PAR levels as needed. We have more real estate for the items we do need and can clearly visualize items. The collaboration and continued follow up with the supply team and nursing has been key in the process."

Angelic Dixon
Health First, Nursing Manager

Performance Optimization Analytics





Before Two-Bin Kanban



After Two-Bin Kanban

Measure	Prior Operation	Post-Two-Bin Implementation
Clinical Staff		
Clinical time spent searching for supplies/restocking	Supplies not effectively managed and stocked (frequent empty bins)	Removal of clinicians from the stocking process
SCO Staff		
Ordering and replenishment of supplies (nursing units and materials distribution)	Daily counts for each item in supply area	SCO staff typically reduced by 30% to 50% in like-size facilities; visual cues significantly reduce the ordering and replenishment process
Staff searching for product/demand calls	Lack of effective communication between SCO and clinicians	Inventory metrics enable proactively communicating and managing against clinical demand trends
Analytics to support optimization	No visibility to product demand and utilization	Ability to proactively and continuously manage and adjust to inventory demand
Patient Satisfaction/Safety		
Stockouts/expired supplies	Lack of product creates added demand on clinicians and delay to patient care	Review of inventory trends to properly optimize PAR levels and eliminate expirations
Overstock kept throughout facility	Excess supplies create budget and space constraints	Increased communication between nursing and SCO removes need for overstock and manages days on hand
SCO staff collaborating with clinicians to optimize inventory	Inability to discuss clinical trends that drive necessary inventory-level adjustments	Initiative-taking rounding with clinicians utilizing analytics to properly manage and adjust inventory
Supply room standardization	Inconsistencies in product location design throughout facility	Lean methodology to organize and manage supplies
Operating Expense Reduction		
Inventory expense	Inability to manage supplies with clinicians leads to overstock	Average 50% reduction in supply expense for nursing areas (>\$350,000)
Supply space requirements	Overstock and inability to manage inventory levels	Average of 25% in space availability per location

Conclusion

Health First used the 2BK system, along with supply chain best practices and analytics, to organize and standardize supplies, improve clinical staff efficiency and satisfaction, decrease inventory dollars on hand, and decrease Supply Chain Operations labor costs. Health First's ability to invest in the modernization of the supply chain has led to a customer-centric culture focusing on the customer experience.

An important part of post-implementation is to measure the project's success to ensure that the benefits and project outcomes are achieved. Below are the results of surveys conducted before, during, and after implementation:

Post-Implementation Outcomes

- 21 units
- 48 storerooms
- 30 Nursing Leadership Associates

Results of Surveys

- 200% increase in "Awareness and Positivity" toward the project
- 200% increase in "Desire and Need for Change" in the storerooms
- 50% increase in the Supply Chain/ Nursing Management
- 125% increase in overall project engagement and satisfaction



About BRG

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