

SITE

Children's & Woman's Health Center of British Columbia, Vancouver B.C.

APPLICATION

Distribution and consolidation of supplies to two hospitals, a health center, an extended care facility, 11 clinics, 6 blood service centers, and 77 hospital nursing stations.

EQUIPMENT

Four Remstar horizontal carousels, Pick Light Towers.

SUMMARY

Reduced operating expenses, increased system throughput by 500%, increased storage density by 50%, increased inventory turns by 40%.



Increasing Throughput By 500% Cures High Cost of Distributing Hospital Supplies

"Any one of the warehouse workers can be assigned to operate it, and it's easy to train new pickers because the Pick Light Towers and put-lights make the work so obvious. It's actually more difficult to train someone to manually pick shelves and racks from paper lists."

Pressure to reduce health care costs is an ever-present reality. Children's & Woman's Health Center of British Columbia (C&W), Vancouver, and Richmond General Hospital, Richmond B.C., got together to respond in a significant way. They agreed to unify their separate medical supply warehousing activities under a central warehouse run by the Logistics Operations Department at C&W.

"The consolidated warehouse has become the central receiving, storage, and distribution point for all non-pharmaceutical supplies for C&W, Richmond General Hospital, Sunnyhill Health Centre for Children, and an extended care facility," reported Melinda Mui, Director of Logistics Operations at C&W. "It also provides warehouse and distribution services to a range of community health clinics and the Canadian Blood Service.

"By consolidating inventory, the health care facilities have increased

their bulk buying power and reduced overall storage space and manpower. Richmond General Hospital was also able to eliminate its on-site warehouse."

To distribute higher volumes from its modest — and not expandable — 12,000 square foot warehouse space, C&W Logistics elected to automate by installing a horizontal carousel system from Remstar International, Four carousels with 50 carriers, two Pick Light Towers, plus put lights on the workstation and a third party software package comprise the system.

The carousels store some 70% of SKUs handled by the warehouse, including bandages, needles, gauze, laboratory devices, catheters, masks, respiratory devices, etc., stored in totes and cartons. Prior to the consolidation and automation, C&W picked entirely manually from shelves and racks via paper pick lists.

Insufficient Space, Picking Speed

"We couldn't have served the other health care facilities without the high storage density and the rapid pick rate provided by the carousel system," Mui added. "We didn't have enough floor space available to house all the existing and new SKUs on shelves and racks, especially in the volumes required. And we couldn't have picked fast enough."

"I estimate that continuing with just shelf and rack storage, had room been available, would have required about 50% more floor space," Mui said. "The carousels are inherently more space efficient because aisles are unnecessary. Further, more of the overhead cube was utilized by specifying 9 and 10 foot high carriers to match the changing ceiling heights.

The carousel system throughput improved by as much as 500%. "While our manual pick rate, then and now, is only 35 or 40 lines an

The paperless picking carousel system increased throughput by as much as 500% while consolidating multiple facilities

hour, the pick rate from the carousel system is 150 to 200 lines an hour," Mui emphasized. "The increased efficiency allowed us to free up some of our resources to serve the other health facilities."

Inventory turns have also improved by more than 40%. The C&W Logistics Director said: "The warehouse's overall inventory turns have improved from an average of 12 per year to around 17. Although turns are low for such items as forms and stationery, they rise as high as 22 per year for some medical and surgical devices. The Remstar carousel system has helped boost turns



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because of its automated and paperless picking and replenishment and its direct link to the C&W inventory control host computer."

No Waiting to Pick

Only a single picker operates the workstation at the end of the four-

carousel cluster. Picking is rapid because supplies are brought to the picker, rather than the picker walking to the supplies. The software-driven carousels stay several picks ahead of the operator, automatically turning via the shortest path to pre-position and present the correct carriers for picking. The picker never needs to wait for a carrier. Pick Light Towers tell the worker which shelf on which carrier to pick from, and the quantity to assure maximum accuracy.

To speed picking and enhance worker ergonomics, the highest volume supplies are positioned in a golden zone (from knee-to-shoulder height) that minimizes operator stooping and ladder climbing.

Up to 10 orders are simultaneously batch-picked and placed in totes at the cluster's workstation. Put-lights direct the operator to place the correct quantity of supplies into each tote. When the batch of totes is complete, they are consolidated with the bulk items and transported to a marshalling area for delivery.

Replenishment Automated Too

The carousel system's control software is electronically linked to the inventory host system. The host provides both picking and replenishment inventory tracking, maintains the carrier and shelf location numbers, and processes incoming orders from the various health care facility clients. The carousel control software prints barcode labels that are affixed to the empty totes by the picker.

Replenishment is also automated — but in the reverse of picking. The carousel Pick Light Towers direct the operator to put away each SKU in turn on the indicated carousel carrier and shelf. While the operator is putting away one SKU, the other carousels are automatically being pre-positioned to allow the operator to work as fast as he can.

Busy All Day

Orders are electronically received from the regional health care facilities, and the supplies delivered, on set schedules of from one to five times a week. Orders also come



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directly from C&W nursing stations. All orders are picked between 4 pm and midnight for delivery by trucks leaving the next morning.

Richmond General Hospital is the most active outside client. A third-party carrier's five-ton truck leaves for this destination at 7 am Monday through Friday. Deliveries to the other clients are made by two smaller, C&W-owned vehicles. Cycle counting is done in the early morning, and, once complete, carousel replenishment begins. Picking does not start until replenishment finishes.

"The carousel system is very user-friendly," Mui explained. "Any one of the warehouse workers can be assigned to operate it, and it's easy to train new pickers because the PickLight Towers and put-lights make the work so obvious. It's actually more difficult to train someone to manually pick shelves and racks from paper lists."



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