



Singapore Healthcare
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Improving Inventory Accuracy with Staff Reskilling and Upskilling

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1. BACKGROUND

Pharmacy embarked on a new warehouse automation system in Q4 2020. This system entails the use of new technology eg: touch screen function, ipads for daily operations. Besides managing inventory, batch management of inventory is also an important component of this system. Logistic associates reported facing challenges in adapting to automation and digitalised work processes. This led to ineffective batch picking which resulted in inventory inaccuracies. Inventory discrepancies has impact on the supply chain downstream eg traceability of affected batches in the event of product recalls, inventory discrepancies at Pharmacy sub-stores or clinics. Hence, it is critical to close this gap by emphasizing on reskilling and upskilling the team.

2. MISSION STATEMENT

To reskill and upskill warehouse logistic team to achieve 30% reduction in line item adjustment during stock take in a year (From 2021 to 2022)

3. ANALYSIS

Fish bone diagram was used to identify root causes for the numerous inventory discrepancies. The result is presented in Figure 1.

Main root causes identified:
Staffs are unfamiliar with warehouse management system, resulting in wrong putaway and wrong picks

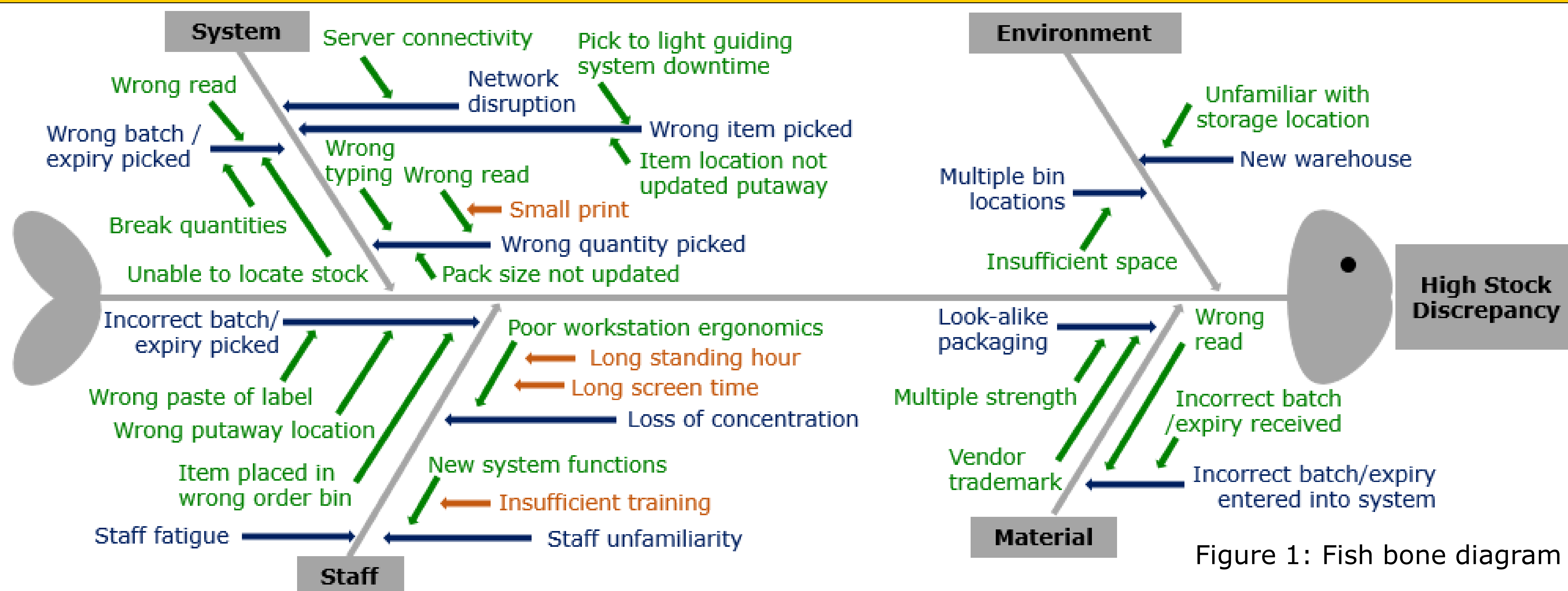




Figure 1: Fish bone diagram

4. INITIATIVES

Based on the root causes identified, we have come up with a few initiatives:

Initiatives	Training of Staffs	Analysis of Wrong Picks	Housekeeping																																																																																																																																																																					
Solutions	<ul style="list-style-type: none">Small group training was conducted to emphasize on correct methods.User guides were provided and stored in shared drive for reference.Roll call conducted daily to re-enforce work instruction and best practice. <div></div>	<ul style="list-style-type: none">During checking process, staff to report and document any near miss discovered in the table below (Table 1).Data were collated and analyzed monthly to identify gaps and staffs who require re-training. Wrong picks data were also shared during roll call. <table><tr><th>Location</th><th>Type of activity</th><th>Type of Error</th><th>Order No.</th><th>Picking ID</th><th>Item code</th><th>Product Description</th><th>Details</th><th>Product Bin</th><th>Reported By</th><th>Reported Date</th><th>Resolved By</th><th>Resolved Date</th><th>Remarks</th><th>User</th></tr><tr><td>ASRS</td><td>Putaway</td><td>Wrong Location</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>PTL</td><td>Picking</td><td>Wrong Drugs</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Manual Store</td><td>Consolidation</td><td>Wrong Qty</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Receiving</td><td>Staging</td><td>Wrong End User</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>Delivery</td><td>Wrong Packing List</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>E-kit</td><td>Omission</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>Receiving</td><td>Wrong Batch</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td>Picking</td><td>Wrong Order Bin</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>Wrong Expiry</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td>Wrong GRN label</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> <div>Table 1. Wrong Picks Report in shared drive</div>	Location	Type of activity	Type of Error	Order No.	Picking ID	Item code	Product Description	Details	Product Bin	Reported By	Reported Date	Resolved By	Resolved Date	Remarks	User	ASRS	Putaway	Wrong Location													PTL	Picking	Wrong Drugs													Manual Store	Consolidation	Wrong Qty													Receiving	Staging	Wrong End User														Delivery	Wrong Packing List														E-kit	Omission														Receiving	Wrong Batch														Picking	Wrong Order Bin															Wrong Expiry															Wrong GRN label													<ul style="list-style-type: none">5S concept of Housekeeping was introduced to improve workplace efficiency and productivity.Logistic associates are tasked to perform system verification for quantity, batch, expiry against physical inventory on a weekly basis.Audit is conducted fortnightly to close loop for discrepancies discovered. <div></div>
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5. RESULTS

With the upskilling effort, staff are cognizant of the importance of accurate inventory management and gained competency in using the automated warehouse system. Number of wrong picks reported have reduced from an average of 37 to 19 over the year (Table 2). Inventory accuracy has improved significantly, with a reduction of number of stock item adjusted from 428 to 236 over the year (Table 3). A 44.8% reduction in line items adjustment during stock take over one year was achieved.

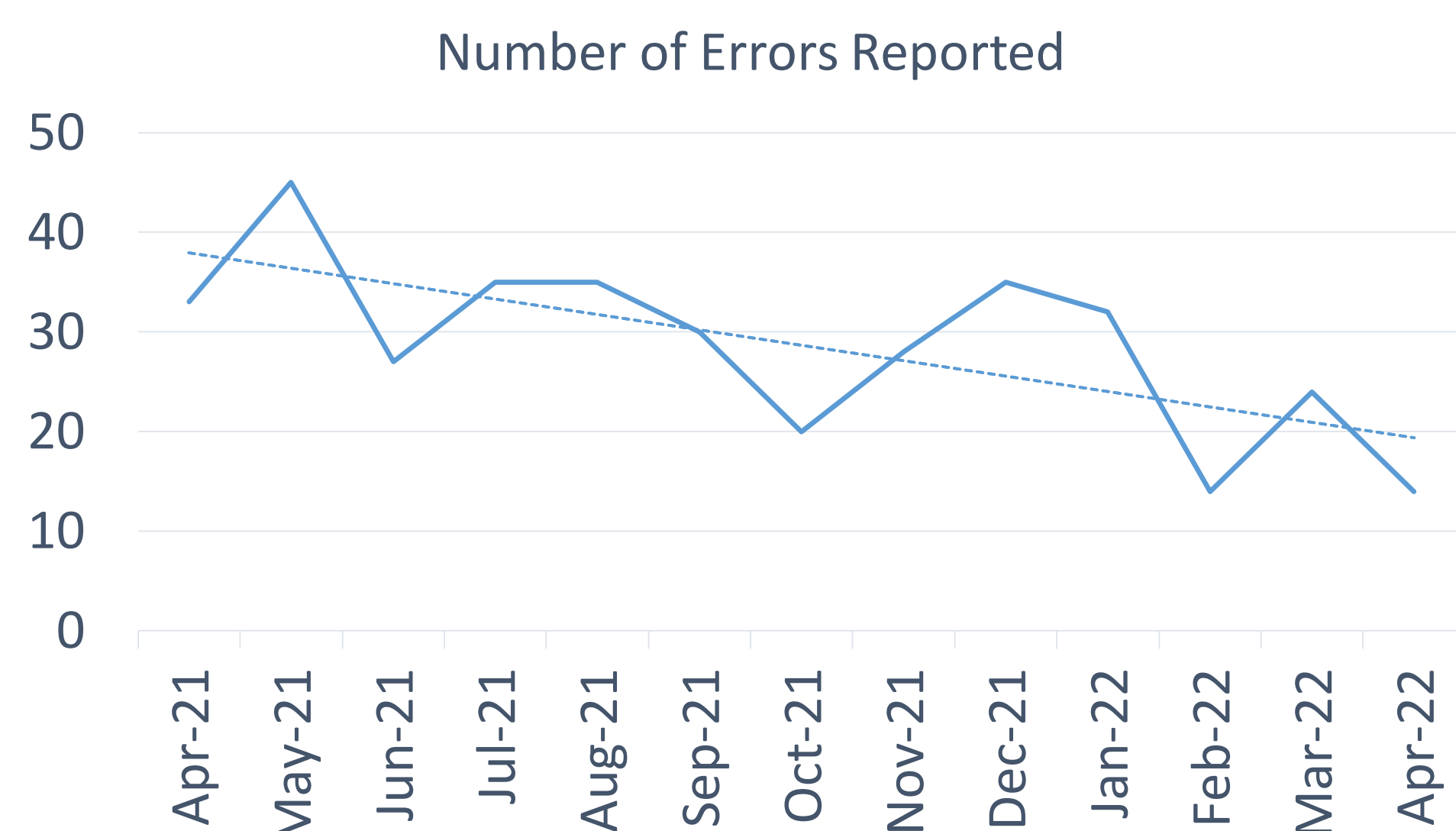


Table 2. Number of errors reported

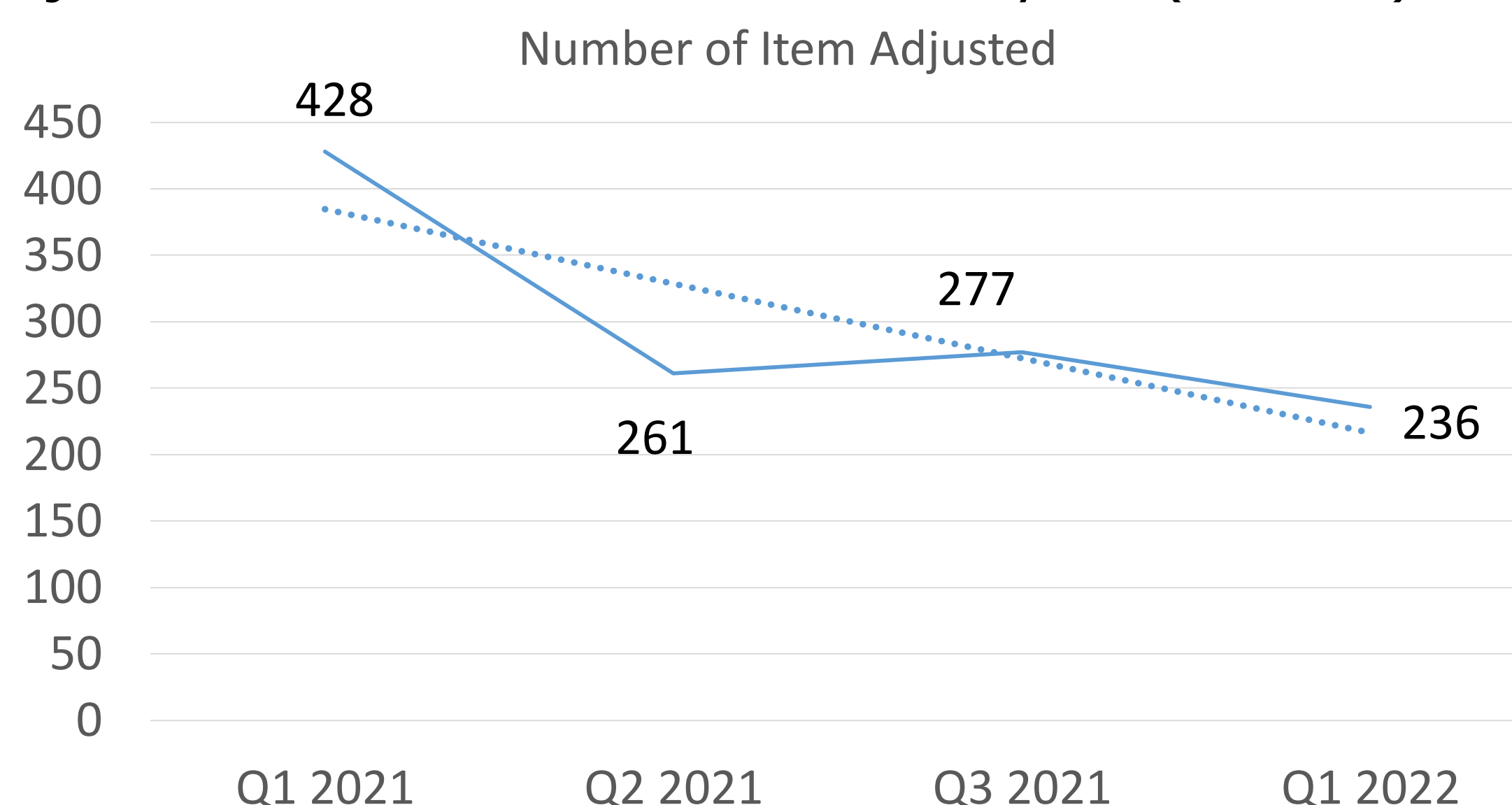


Table 3. No of line item adjusted during stock take/cycle count

6. CONCLUSION

Upskilling and re-skilling of logistic associates to be competent in warehouse inventory management has helped in optimizing inventory management. Inventory accuracy is crucial in supply chain management as the supply of medications goes beyond the warehouse to patients. In order to maintain optimal inventory, a yearly system competency training for staff will be conducted, on-going housekeeping efforts and audits will be maintained to sustain the results achieved.