

Optimizing Comfort Cart Utilization for Delirium Prevention and Management in Older Adults within University Health Network Emergency Departments

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BACKGROUND AND CONTEXT FOR CHANGE

- Older adults are at high risk for developing delirium, which is associated with increased morbidity, longer hospital stays, and higher healthcare costs¹.
- To prevent or manage delirium, Comfort Carts contain sensory and communication aids, as well as other items to promote comfort, engagement, communication, and sleep hygiene², and were placed in the University Health Network's (UHN's) Emergency Departments (EDs) in 2022.
- However, based on a January/February 2025 survey, only 46% of ED staff (n=57) used the carts within a 3-month period.
- As limited staff awareness and restocking delays may have contributed to low cart usage, a project involving 3 tests of change was implemented in 2024/2025 to increase cart use within UHN's Toronto Western Hospital and Toronto General Hospital EDs.

AIM STATEMENTS

- To increase the percentage of UHN ED cart users or staff* who use the Comfort Carts within the past 3 months by 30% by August 2025.
- To increase the staff's perceived value of the Comfort Carts by 15% by August 2025.

*Note: ED staff include nurses, allied health, personal support workers, Most Responsible Providers and other staff.

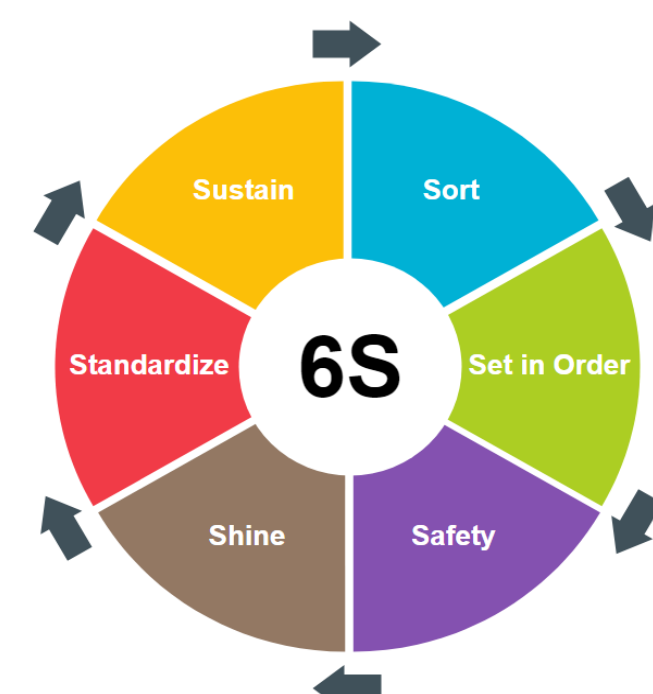
FAMILY OF MEASURES

OUTCOME MEASURES:

- Percentage of UHN ED cart users/staff within the past 3 months** (target increase: 30%)
- Perceived ratings of usefulness of the carts to clinical practice** (target increase: 15%)

PROCESS MEASURES:

- Staff survey responses on barriers to cart use**
- Trends in the number of Kanban cards & reorders submitted
- 6S audit scores using the 6S Method³ (target: score ≥ 90)
- UHN ED staff** and volunteer feedback



BALANCING MEASURES:

- UHN ED staff** and volunteer feedback regarding workloads.

**Note: Comparisons were made between pre-survey (Jan-Feb 2025) and post-survey (Aug 2025) results.

PROBLEM CHARACTERIZATION

- To identify possible contributing factors for decreased cart use, the Improvement Team (consisting of frontline staff and project team members) administered a staff survey and participated in root cause analysis sessions (see Figs. 1 & 2).

Figure 1: Using the Fishbone Diagram and 5 Whys, possible contributing factors for decreased use of the cart are shown below:

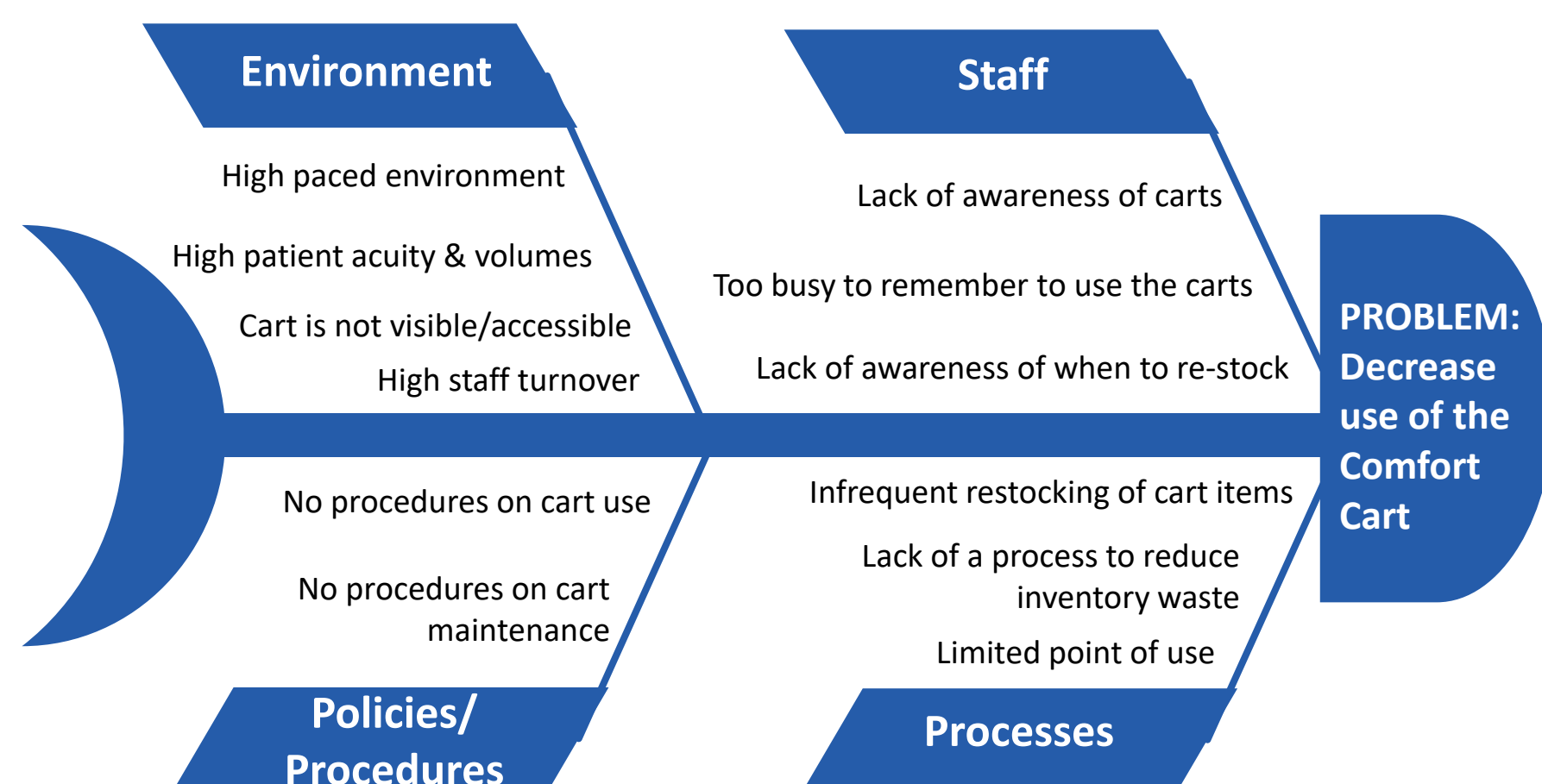
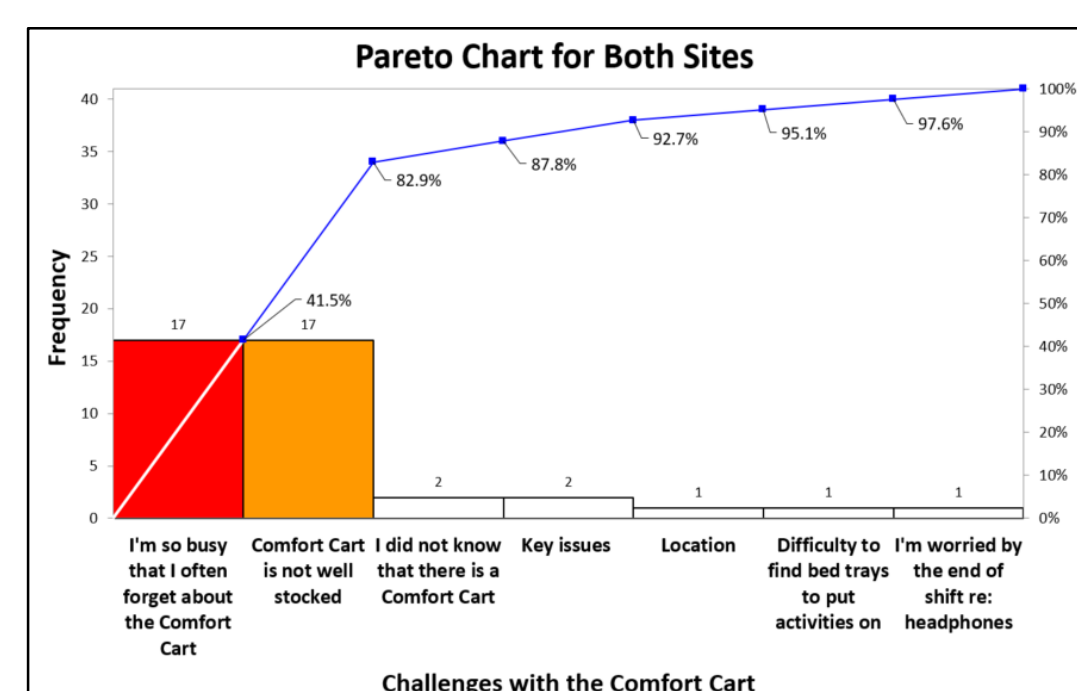


Figure 2: Based on pre-survey results (N=57), the top 2 issues were a lack of awareness and restocking issues.



INTERVENTION

Table 1: Based on PICK Chart results, prioritized change ideas are described below:

Change Ideas for 1 st Test of Change	Change Ideas for 2 nd Test of Change	Change Ideas for 3 rd Test of Change
<ul style="list-style-type: none">Application of the 6S Method to increase visibility of the cart and its itemsUse of the Kanban card system and 6S Method to reduce inventory waste <ul style="list-style-type: none">Staff education and remindersCreation of Standard Work instructions that were included in the Comfort Cart GuideIntegration of the Comfort Cart in delirium care processes and protocols	<ul style="list-style-type: none">Introduction of the Mobile Comfort Carts to increase Point of Use <ul style="list-style-type: none">Additional visual management aids (e.g., posters) and reminders	<ul style="list-style-type: none">Use of volunteers to support daily weekday inspections and the restocking of the cartEducation & remindersCreation of Standard Work instructions for daily checks and the restocking process

PLAN-DO-STUDY-ACT (PDSA) CYCLES

Table 2: Data and feedback helped guide decisions on whether to adapt, adopt, or abandon the change ideas.

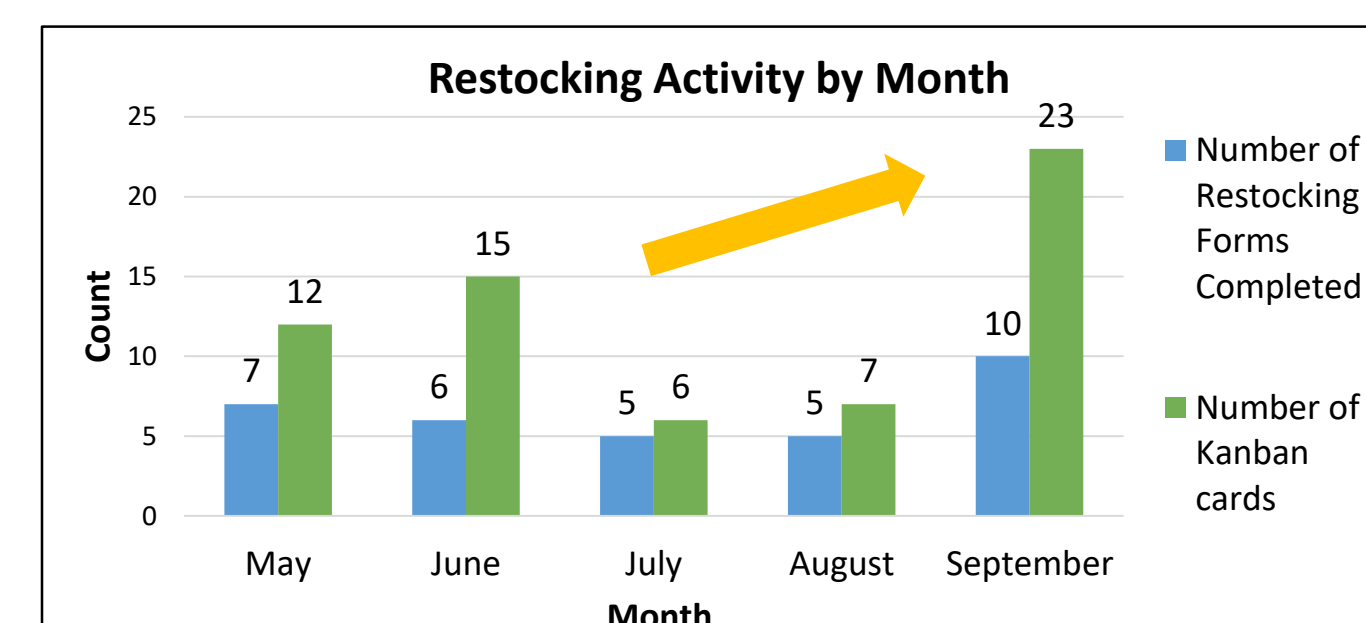
PDSA for 1 st Test of Change (April 2025)	PDSA for 2 nd Test of Change (May 2025)	PDSA for 3 rd Test of Change (July-Aug 2025)
What is working well? <ul style="list-style-type: none">See Figs. 4 & 7 What can be improved? <ul style="list-style-type: none">Use of more visual aids to support staff awareness of cart contentsReusable items were not returned to the cart during patient room turnover Actions based on feedback: <ul style="list-style-type: none">To increase staff awareness, additional visual aids and examples of its use were shared during team huddles and other meetingsEducation & reminders were passed to environmental services to support the return of reusable items	What is working well? <ul style="list-style-type: none">See Figs. 4 & 7 What can be improved? <ul style="list-style-type: none">Mobile Comfort Cart was left in multiple locations of the EDItems returned to the cart were being left on top of the cart as opposed to its proper drawer/bin Actions based on feedback: <ul style="list-style-type: none">Designated spots were allocated for the Mobile Comfort Cart and communicated to ED staffEducation, reminders & role modeling supported reinforcement of the Standard Work during existing team meetings	What is working well? <ul style="list-style-type: none">See Figs. 4 & 7 What can be improved? <ul style="list-style-type: none">A standard orientation process for volunteersMore resources to support new staff and learners Actions based on feedback: <ul style="list-style-type: none">A standard orientation package and process was developed for new volunteersA one-page tip sheet will be developed for new staff and learners

PROJECT RESULTS

PROCESS MEASURES

- Based on pre-survey (Jan-Feb 2025; N=57) and post-survey (Aug 2025; N=79) results, reported challenges in using the cart due to restocking issues decreased from 30% to 17%.
- From May to Sept 2025, the number of restocking forms and Kanban cards per month increased from 7 to 10 and from 12 to 23, respectively (see Fig. 3).
- 6S audit scores also increased from 40% (April 2025) to ≥ 90% (July 2025), indicating improved 6S compliance and achievement of targets (see Fig. 4).

Figure 3: This graph illustrates overall increases in restocking activity. Since July and August were impacted by low staff/volunteer resources, trend analysis will continue into the fall and winter months.

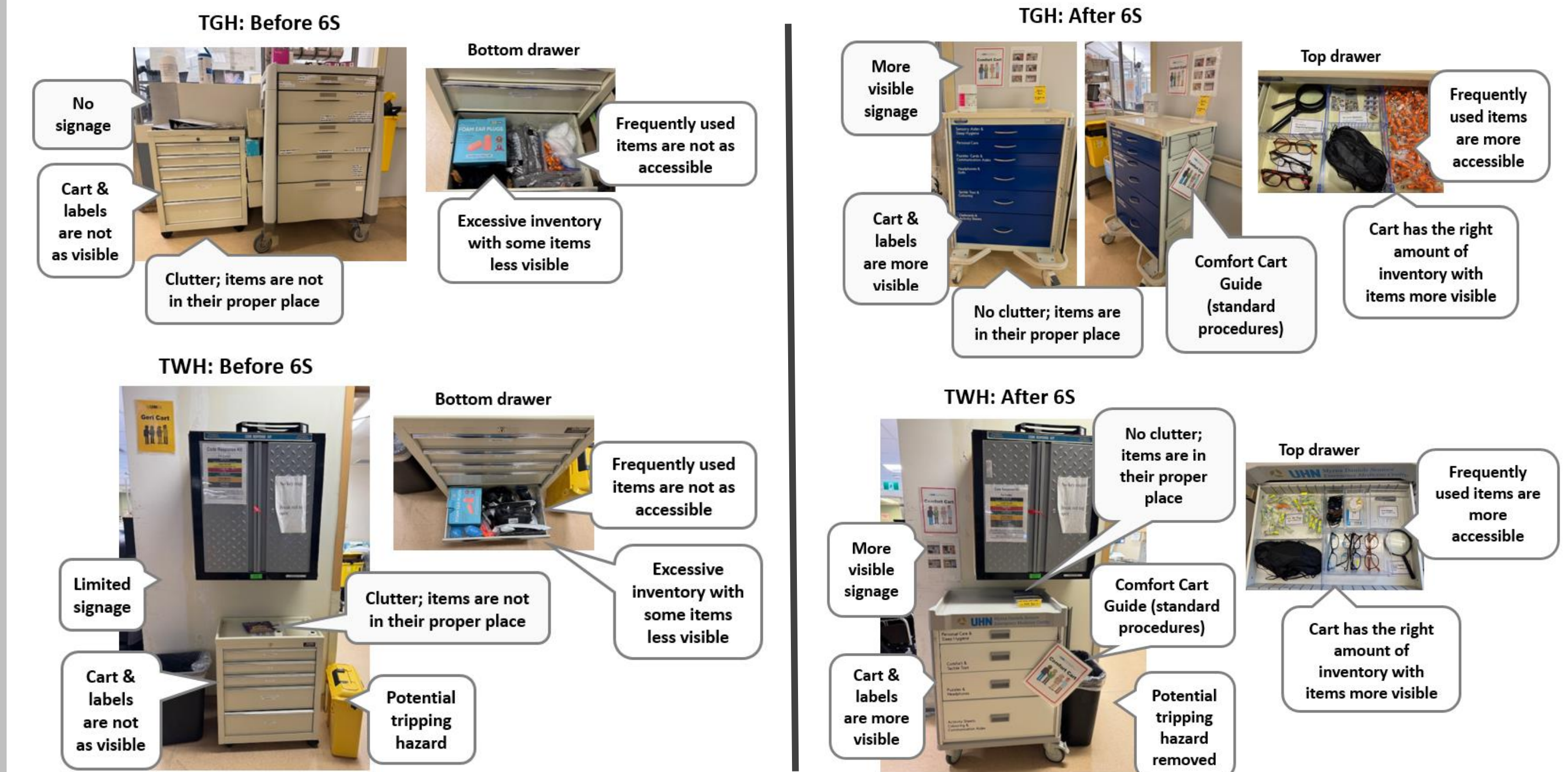


ACKNOWLEDGEMENTS

Authors would like to acknowledge contributions from the ED Delirium Taskforce, Seniors Emergency Medicine Centre (SEMC) Project Team, SEMC Program Leadership, UHN/ED Operational Leadership, UHN/ED Executive Leadership, SEMC Clinical Operations Committee, SEMC Planning and Integration Committee, SEMC Patient and Family Partners, UHN Volunteer Resources, UHN ED Community Advisory Council, and all UHN ED/SEMC clinicians and volunteers.

PROJECT RESULTS (Cont'd)

Figure 4: Before-and-after 6S audit images show improved cart visibility and reduced inventory waste.



OUTCOME MEASURES

- Based on the process changes, overall aims were achieved, with increases in the percentage of UHN ED cart users (from 46% to 78%; see Fig. 5) and in the average perceived value of the carts (from 3.9/5 to 4.5/5; see Fig. 6).

Figure 5:

The percentage of cart users across both sites within the past 3 months increased by 32%, indicating target achievement.

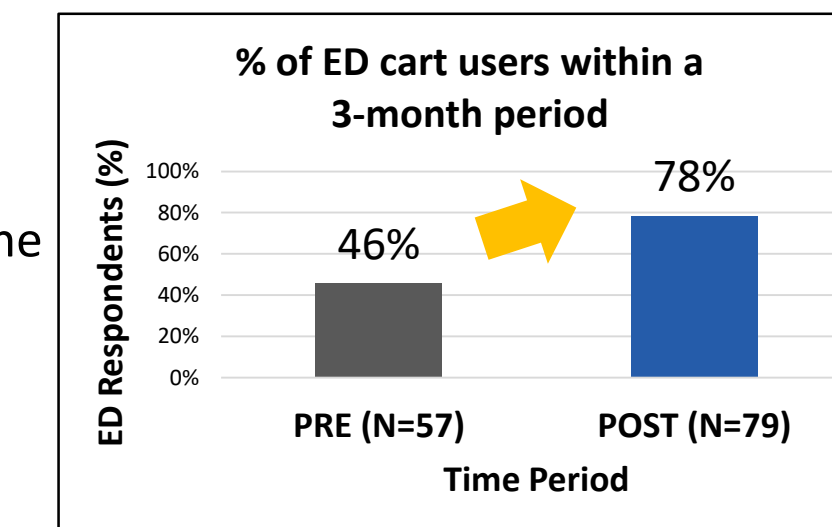
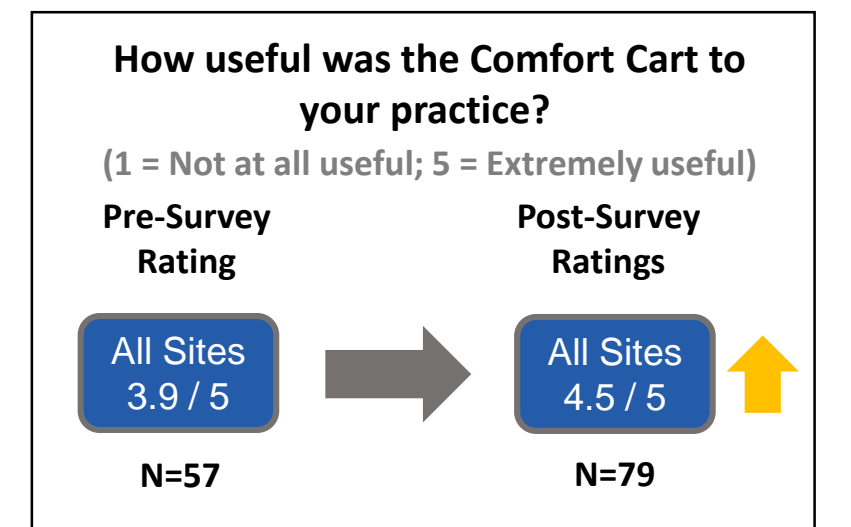


Figure 6:

The perceived value of the carts across both sites increased by 15%, indicating target achievement.



BALANCING MEASURES & FEEDBACK

- No concerns were reported regarding staff and volunteer workloads (see Fig. 7).

Figure 7: Examples of feedback from UHN ED staff are shown below:



CONCLUSIONS

- Aims were achieved, with increases in the number of ED cart users and improved perceived value of these carts to clinical practice.
- Key enablers in this project included:
 - Leadership and champion involvement
 - Embedding clinical examples in team meetings, and the integration of the Comfort Carts in delirium prevention and management protocols
 - Use of volunteers to sustain improvements and prevent staff overburden
- Work is in progress to develop orientation materials for staff and learners, and to continue to monitor and improve the restocking process, frequency of cart use, and its integration into usual practice.
- As the Comfort Cart can support seniors in other clinical areas, learnings will also be shared with other care settings and sites.

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