

Improving and Sustaining Comfort Cart Use in Emergency Departments to Support Delirium Prevention and Management Among Older Adults: A Quality Improvement Initiative

Sylvia Quant^{1,2}, Camille Therese Bugo^{1,3}, Andrea Hong¹, Linda Liu¹, Inderjeet Singh¹, Kristen Lee¹, Victoria Dishman¹, Lauren Lapointe-Shaw^{1,4}, Tessa Ringer^{1,5,6}, & Nazek Abdelmutti¹

¹Myrna Daniels Seniors Emergency Medicine Centre, Emergency Medicine, University Health Network (UHN); ²Department of Physical Therapy, University of Toronto (U of T); ³Toronto Western Hospital, UHN; ⁴Department of Medicine & Institute of Health Policy, Management and Evaluation (IHPE), U of T; ⁵Mount Sinai Hospital, Sinai Health System; ⁶Department of Family and Community Medicine, U of T

BACKGROUND

- Older adults with dementia presenting to the Emergency Department (ED) are at **increased risk of delirium and responsive behaviours**, which can lead to greater use of restraints, longer lengths of stay, and higher healthcare costs¹.
- To prevent or manage delirium, **Comfort Carts provide sensory tools, communication aids, and other resources that promote patient comfort, engagement, and sleep hygiene**². The carts were introduced in University Health Network (UHN) EDs in 2022.
- However, a 2025 survey found that **only 46% of ED staff (n=57) had used the carts** within a three-month period.
- To address potential barriers, including **limited staff awareness and restocking delays**, a quality improvement initiative was implemented to increase Comfort Cart use in the EDs at UHN's Toronto Western Hospital (TWH) and Toronto General Hospital (TGH).

AIM STATEMENTS

- To increase the **percentage of UHN staff* using the Comfort Carts** within the past 3 months by **30 percentage points** by August 2025.
- To increase **staff-perceived cart value** by **15% from baseline** by August 2025.

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

FAMILY OF MEASURES

OUTCOME MEASURES

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

PROCESS MEASURES

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



BALANCING MEASURES

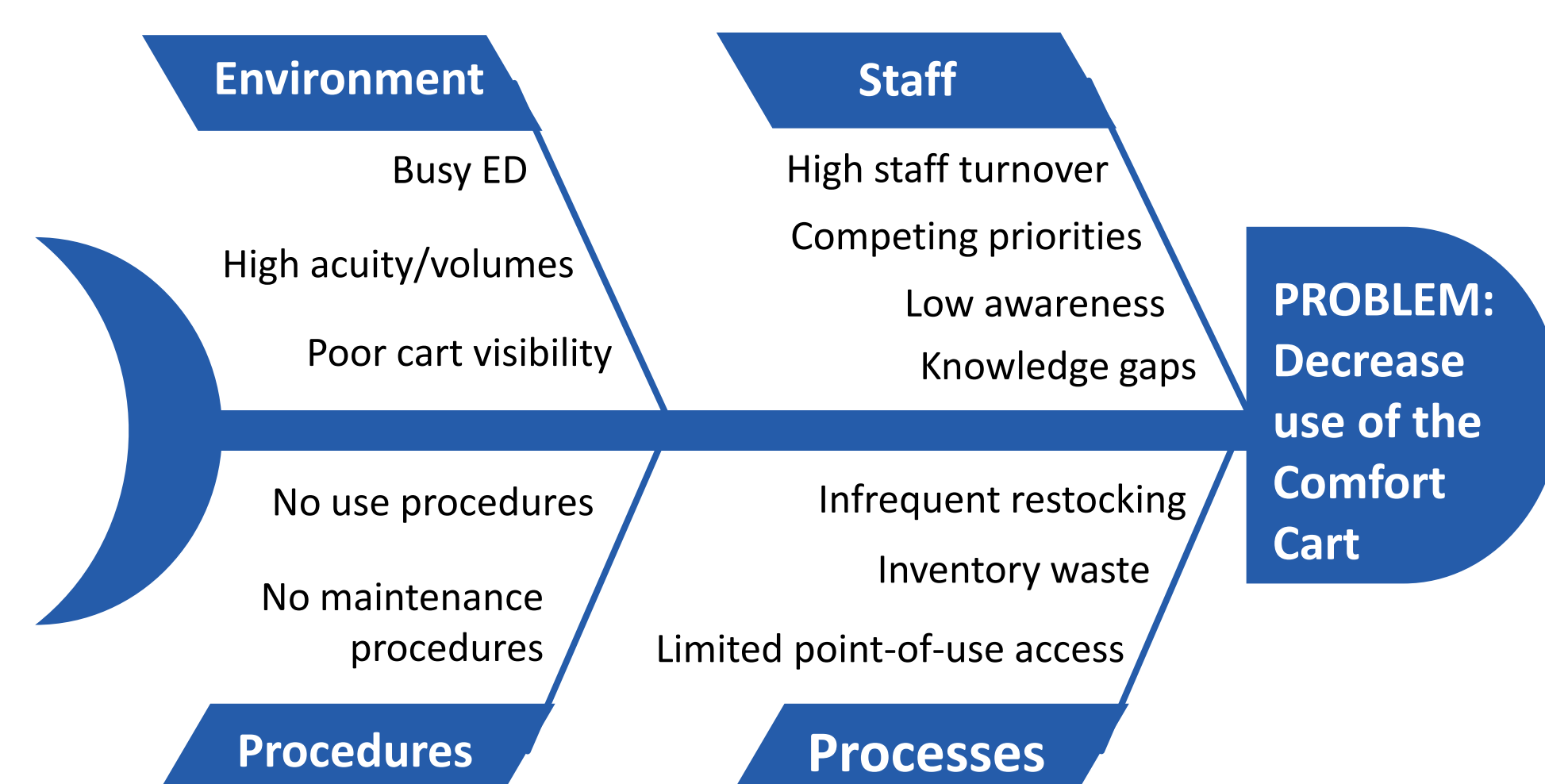
- UHN ED staff** and volunteer feedback** regarding workloads

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

PROBLEM CHARACTERIZATION

- The Improvement Team (frontline staff and project team members) conducted a root cause analysis to identify potential contributors to decreased cart use (see Fig. 1).
- Staff survey results (N = 57) and Pareto analysis identified competing priorities and restocking challenges as the top two contributing factors.

Figure 1. Using the Fishbone Diagram and 5 Whys, possible contributing factors for decreased use of the cart were identified.



INTERVENTIONS

1st TEST OF CHANGE

- 6S Method to improve visibility and organization
- Kanban card system and 6S Method to reduce inventory waste



- Staff education and reminders
- Standard work instructions (Comfort Cart Guide)
- Integration of cart into delirium care protocols

2nd TEST OF CHANGE

- Mobile Comfort Carts to enhance point-of-use access
- Visual management aids (e.g., posters)

Mobile Comfort Cart



3rd TEST OF CHANGE

- Volunteer-supported cart inspections and restocking

PLAN-DO-STUDY-ACT (PDSA) CYCLES

Table 1. Data and feedback informed decisions to adapt, adopt, or abandon the change ideas.

PDSA for 1 st Test of Change (April-May 2025)	PDSA for 2 nd Test of Change (May-June 2025)	PDSA for 3 rd Test of Change (July-Aug 2025)
What was working well? See Figs. 5 & 7	What was working well? See Figs. 5 & 7	What was working well? See Figs. 5 & 7
What can be improved? - More visual reminders - Reusable items not returned	What can be improved? - Mobile Comfort Carts were left in multiple locations - Reusable items not returned to designated locations	What can be improved? - Volunteer orientation process - Resources for new staff and learners
Actions taken: - Added visual aids and use examples during huddles - Reinforced reminders with Environmental Services	Actions taken: - Assigned designated locations - Reinforced standard work through education, reminders, and role modeling	Actions taken: - Developed volunteer orientation package - Created tip sheet for staff and learners

PROJECT RESULTS

OUTCOME MEASURES

- Between May to August 2025, Comfort Cart use increased from 46% to 78% across both ED sites (see Fig. 3). Average perceived value of the carts also increased from 3.9/5 to 4.5/5 (see Fig. 4).

Figure 3. Cart use increased by 32 percentage points, exceeding the target.

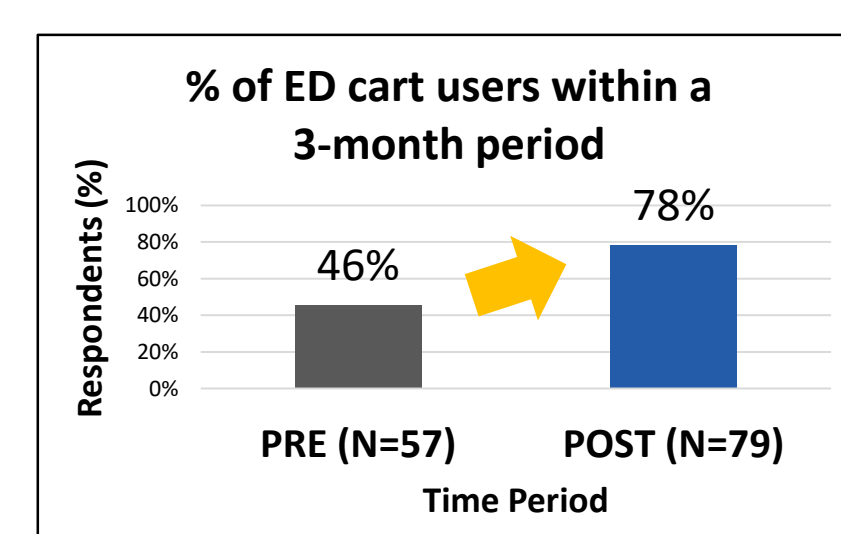
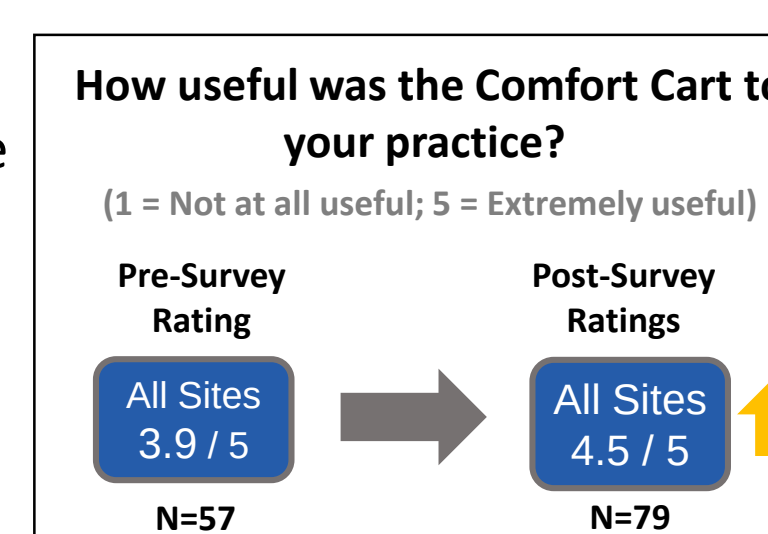


Figure 4. Perceived value increased by 15%, achieving the target.

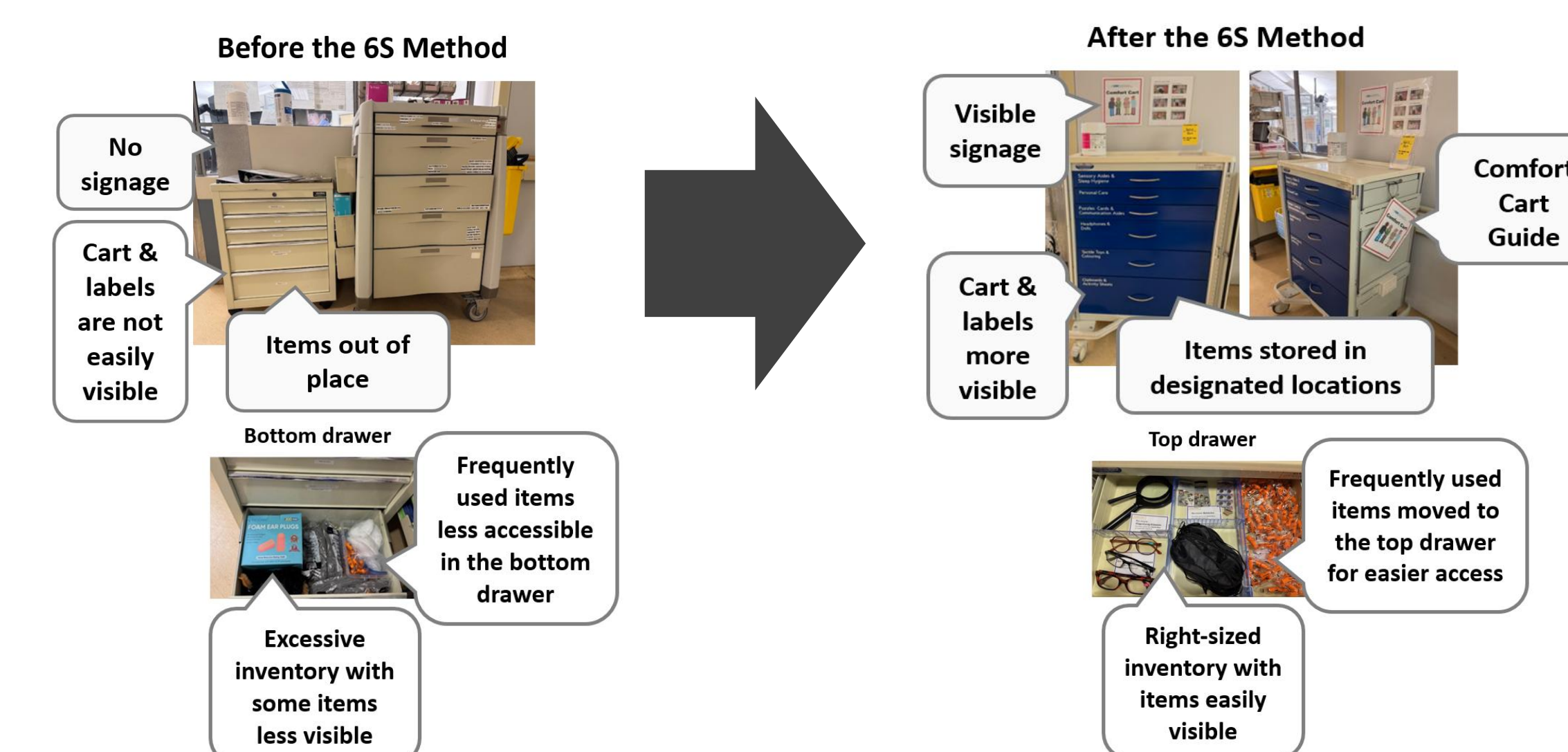


PROJECT RESULTS (Cont'd)

PROCESS MEASURES

- Based on pre-survey (Jan-Feb 2025; N = 57) and post-survey (Aug 2025; N = 79) results, reported challenges in cart restocking decreased from 30% to 17%.
- 6S audit scores improved from 40% (April 2025) to **≥ 90%** (July 2025), indicating improved 6S compliance and target achievement (see Fig. 5).

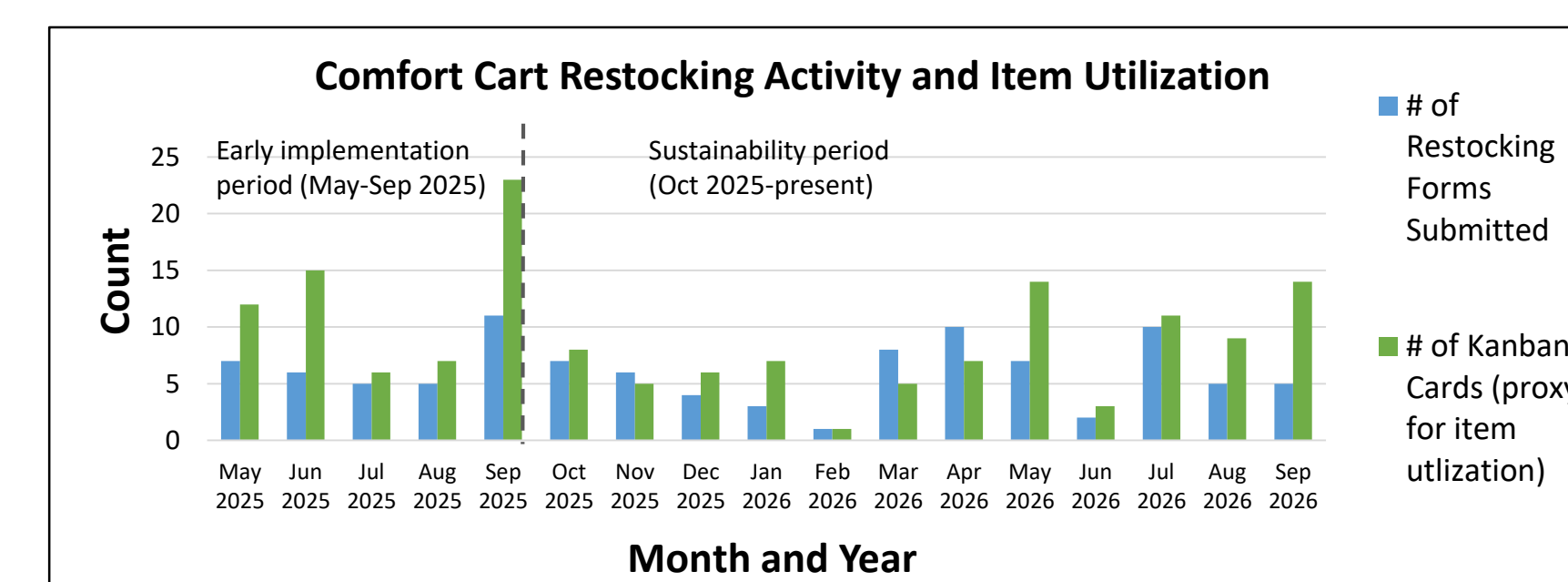
Figure 5. Before-and-after 6S images show improved cart visibility and reduced inventory waste.



- Comfort Cart activity increased during the early implementation period (see Fig. 6). Sustained activity suggests ongoing restocking and cart utilization.

Figure 6.

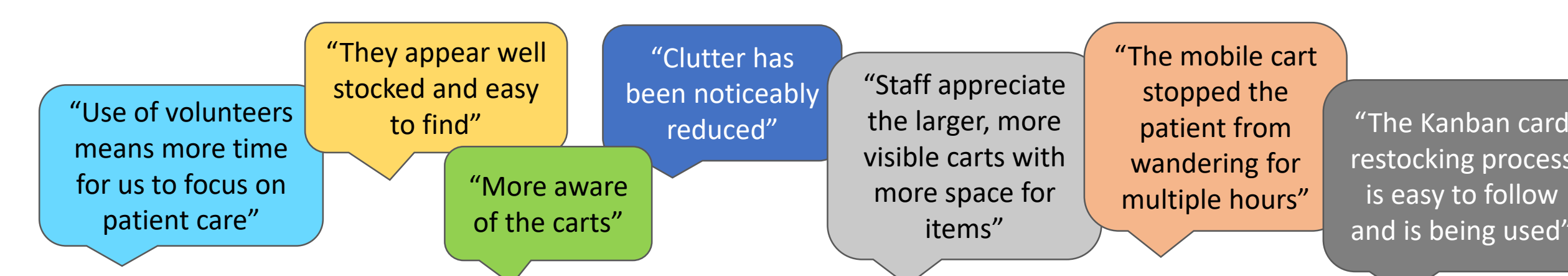
Peak activity occurred in September 2025, with continued uptake despite month-to-month variability.



BALANCING MEASURES

- No staff or volunteer workload concerns were identified (see Fig. 7).

Figure 7. Examples of staff and volunteer feedback on Comfort Cart use and workload.



CONCLUSIONS

- The project achieved its aims by increasing Comfort Cart use in the ED and improving perceived value. Continued uptake despite operational variability suggests integration into routine ED practice.
- Key enablers** included:
 - Leadership and champion engagement
 - Integration of Comfort Carts into delirium prevention and management
 - Volunteer involvement to reduce staff burden and support sustainability
- Continuous improvement efforts** focus on integrating Comfort Cart use into dementia and delirium care and strengthening volunteer and staff engagement.
- Lessons learned** are informing similar comfort-focused resources in inpatient settings and may support broader adoption in other care settings.

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