

A quality improvement project to improve the monitoring of fluid intake on older persons' wards.

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Background and Aim

Dehydration has been reported as the most common fluid and electrolyte imbalance in older adults; hospitalised older adults with markers of dehydration have mortality rates of 45% (Hodgkinson B et al, 2003).

The current method of measuring fluid intake on wards is to record this hourly on fluid balance charts however this is often poorly documented (Jeyapala S et al, 2015). The main reasons for fluid balance charts being poorly completed have been reported as staff shortages, lack of time, and inadequate training (Reid et al, 2004).

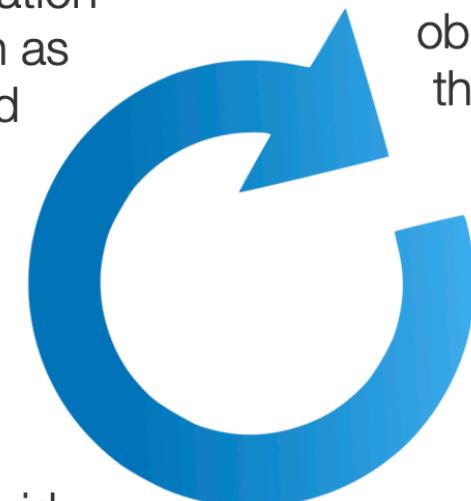
We wished to improve the accuracy of recording the oral fluid intake of older adults by introducing a simplified bedside chart which could identify those at risk of dehydration.

Methods

PDSA methodology was employed.

4. A second observation day was undertaken as before; guided interviews obtained qualitative feedback from nursing staff.

3. New bedside fluid intake charts were devised. A new chart (Figure 1) was trialled in a bay on the ward to allow staff to become familiar with its use.



1. Doctors directly observed and recorded the oral fluid intake of patients in a 6-bed bay for 8 continuous hours.

2. The collected data was compared to that recorded on pre-existing fluid balance charts from the same time period. The mean difference in observed versus charted fluid intake was calculated.

Patient Fluid Intake Chart

Patient Name: _____		Date: ___ / ___ / ___		
Polystyrene Cup 200ml	Kenco Coffee Cup 150ml	Sip Cup 200ml	Fortisip / Fortijuice 125ml	Drinks from Home: ___ ml
20ml	50ml	100ml	125ml	200ml
Subtotal: _____	Subtotal: _____	Subtotal: _____	Subtotal: _____	Subtotal: _____
Total Today: _____				

Results

Mean difference in observed versus charted fluid intake:

Pre-intervention
287.5 ml
SD = 152.27
n = 6

Post-intervention
95 ml
SD = 94.21
n = 5

Analysis with an unpaired two sample t-test demonstrated a significant difference in the mean differences ($p = 0.0367$).

Qualitative feedback from nursing staff:

Good to have smaller volumes given older patients often drink small amounts

Easier to use and more likely to be correctly completed

Conclusion and Further Steps

The redesigned fluid intake chart led to a statistically significant improvement in the accuracy of recording fluid intake.

A further PDSA cycle across a whole ward will inform feasibility on a larger scale of the early identification of dehydration. The tool may also allow assessment of the effectiveness of hydration aids.

Figure 1 (left): fluid intake chart, an A4 size dry-wipe chart accessible in each patient bed space with pictorial examples of fluid volumes commonly used on wards and tick boxes to allow easy recording.