

Phase 1 Implementation of Nutrition Screening in a Dublin Acute Teaching Hospital.

Nutrition Screening Steering Group, Beaumont Hospital, Dublin, Ireland.



INTRODUCTION

Nutrition Screening Week results from 2010 and 2011 indicated that one in three to four patients admitted to Irish Hospitals are at risk of disease-related malnutrition, 74-75% of whom are at high risk¹. Nutrition screening tools are used to screen for malnutrition risk. One such tool, the Malnutrition Universal Screening Tool (MUST)² is a practical, easy to use tool that often takes ≤5 minutes to complete. MUST has been validated across care settings and across patient populations, and has been recommended for use in Irish Hospitals by the Department of Health and Children as part of standard care³. The National Institute for Health and Clinical Excellence in the UK has demonstrated significant financial savings associated with the use of routine nutrition screening, in part due to reduced length of hospital stay⁴. The Irish Society for Clinical Nutrition and Metabolism (IrSPEN) has also demonstrated this⁵.

AIMS

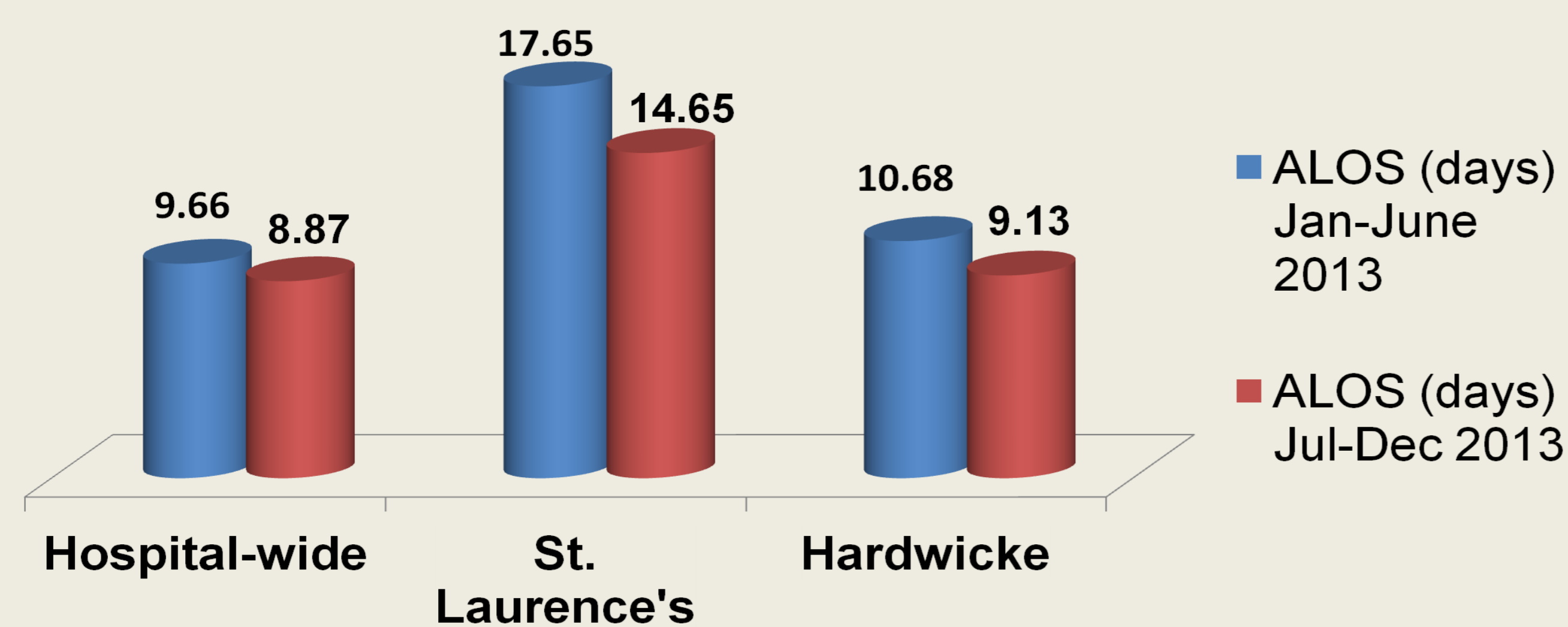
- To introduce the Malnutrition Universal Screening Tool (MUST) on one medical and one surgical ward as an initial step for introducing Hospital-wide.
- To determine impact on length of hospital stay as the primary outcome.
- To assess effects on secondary outcomes: dietetic activity levels and use of nutritional products (oral nutritional supplements and enteral feeds).
- To seek nursing feedback on introduction and use of MUST.
- To work within current staffing and budget constraints.

METHODS

- A multidisciplinary Nutrition Screening Steering Group was set up.
- Approval was obtained from the Hospital's Ethics Committee, Clinical Governance Manager/Clinical Audit Co-ordinator, Quality and Standards Manager, and Nursing Executive.
- Nutricia Advanced Medical Nutrition provided MUST education and training on wards, in liaison with the Department of Nutrition and Dietetics and Nursing Continuing Education Co-ordinator.
- Beaumont Hospital Foundation financed hoist weighing scales attachments.
- Catering provided extra snacks for patients with MUST scores ≥1.
- Average length of stay (ALOS) data was obtained from Management Information.
- Financial data was supplied by Management Accounts, and Supplies Department.
- Data on Hospital-wide initiatives to reduce ALOS was supplied by Patient Flow.
- Dietetic activity data was supplied by the Department of Nutrition and Dietetics.
- Audit subgroup and medical student audited charts for MUST compliance.
- Intervention period: July to December 2013 on St Laurence's (Gastroenterology core ward) and Hardwicke (Surgical core ward).

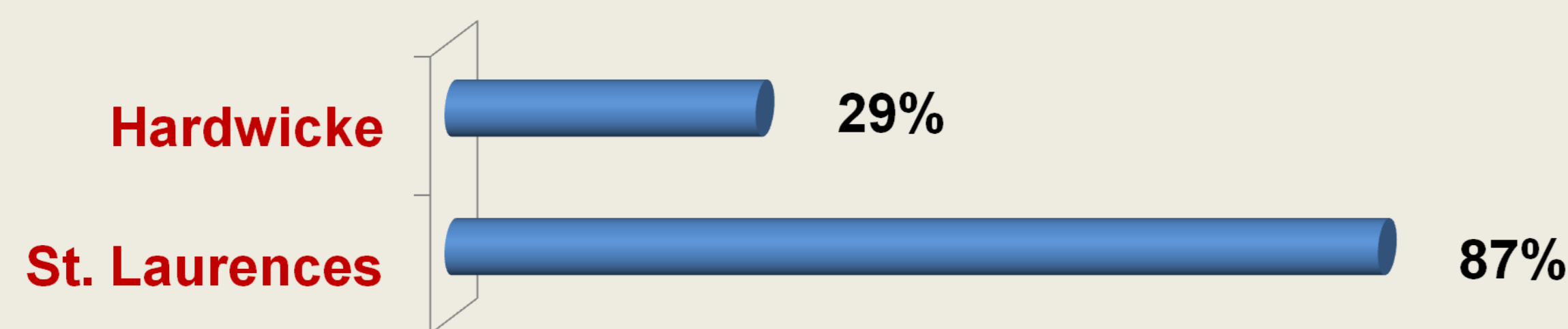
RESULTS

1. Primary Outcome Average Length of stay (ALOS)



Parameter	January-June 2013	July-December 2013
Beaumont Hospital: hospital-wide		
ALOS (days)	9.66	8.87
ALOS difference in intervention period		- 0.79 days
St. Laurence's Ward		
Discharges	360	436
ALOS (days)	17.65	14.65
ALOS difference in intervention period		- 3 days
Hardwicke Ward		
Discharges	527	635
ALOS (days)	10.68	9.13
ALOS difference in intervention period		- 1.55 days

MUST Compliance based on audit of 109 patient records



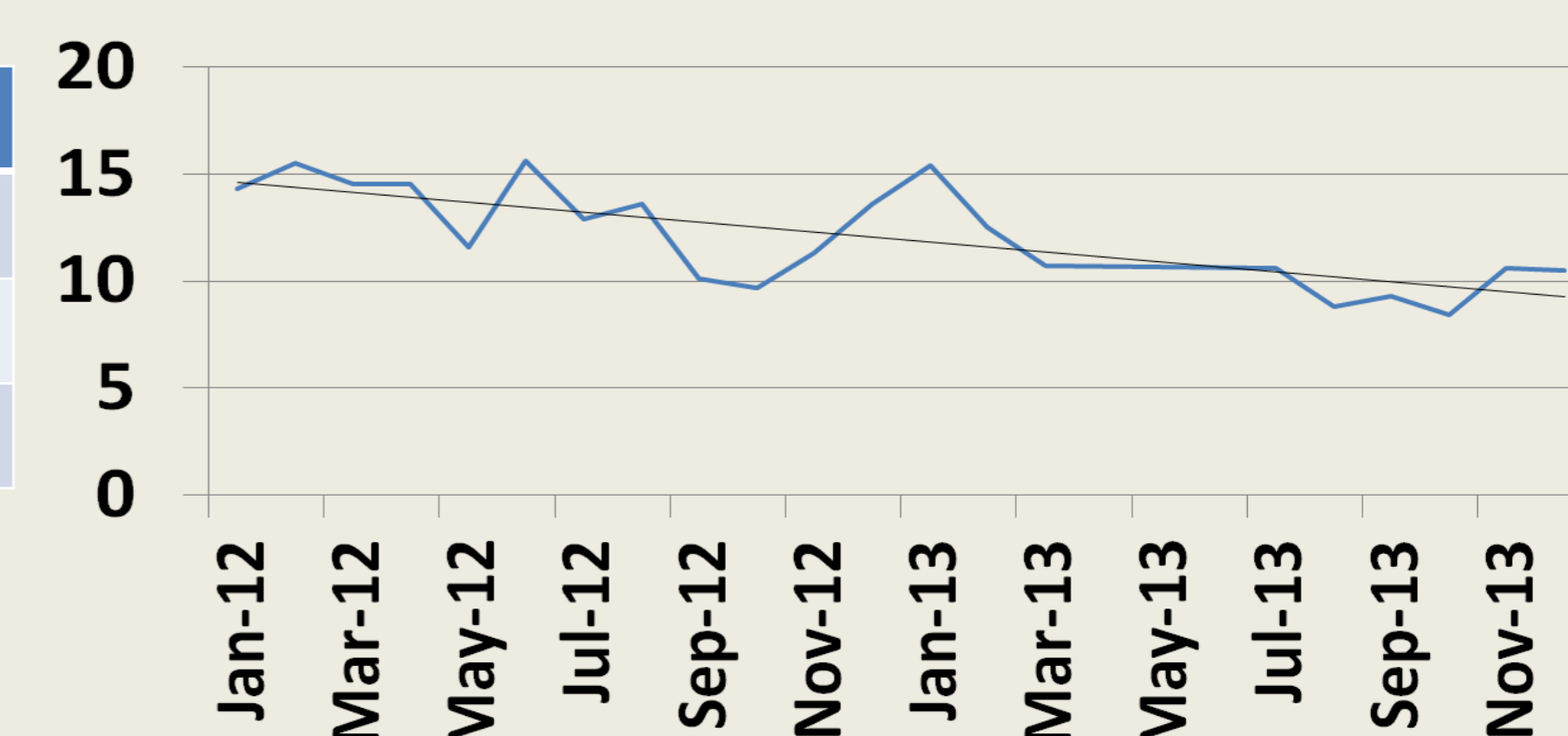
REFERENCES

1. BAPEN Nutrition Screening Week 2010 and 2011 www.bapen.org.uk/screening...malnutrition/nutrition-screening-week
2. Elia M. The "MUST" report. Nutritional screening of adults: a multidisciplinary responsibility. Worcestershire, BAPEN Advancing Clinical Nutrition;2003.
3. Food and Nutritional Care in Hospitals. Guidelines for preventing under-nutrition in acute hospitals. Department of Health and Children, Ireland, 2009.
4. National Institute for Health and Clinical Excellence (NICE). Nutrition support in adults: oral nutrition support, enteral tube feeding and parenteral nutrition. Clinical Guideline 32, Costing Report, NICE, February 2006.
5. Malnutrition in Disease. The clinical and economic case for implementation of a national screening programme. The Irish Society for Clinical Nutrition and Metabolism (IrSPEN), 2014 (in prep).

Long stay patient numbers Hospital-wide Compstat Med ALOS 2012-2013

2013	>65yr*	<65yr	Total
Jan-Jun	12,855	1,094	13,949
Jul-Dec	14,276	919	15,195
Total	27,131	2,013	29,144

*Pearson chi2(1) = 36.4353 Pr < 0.001

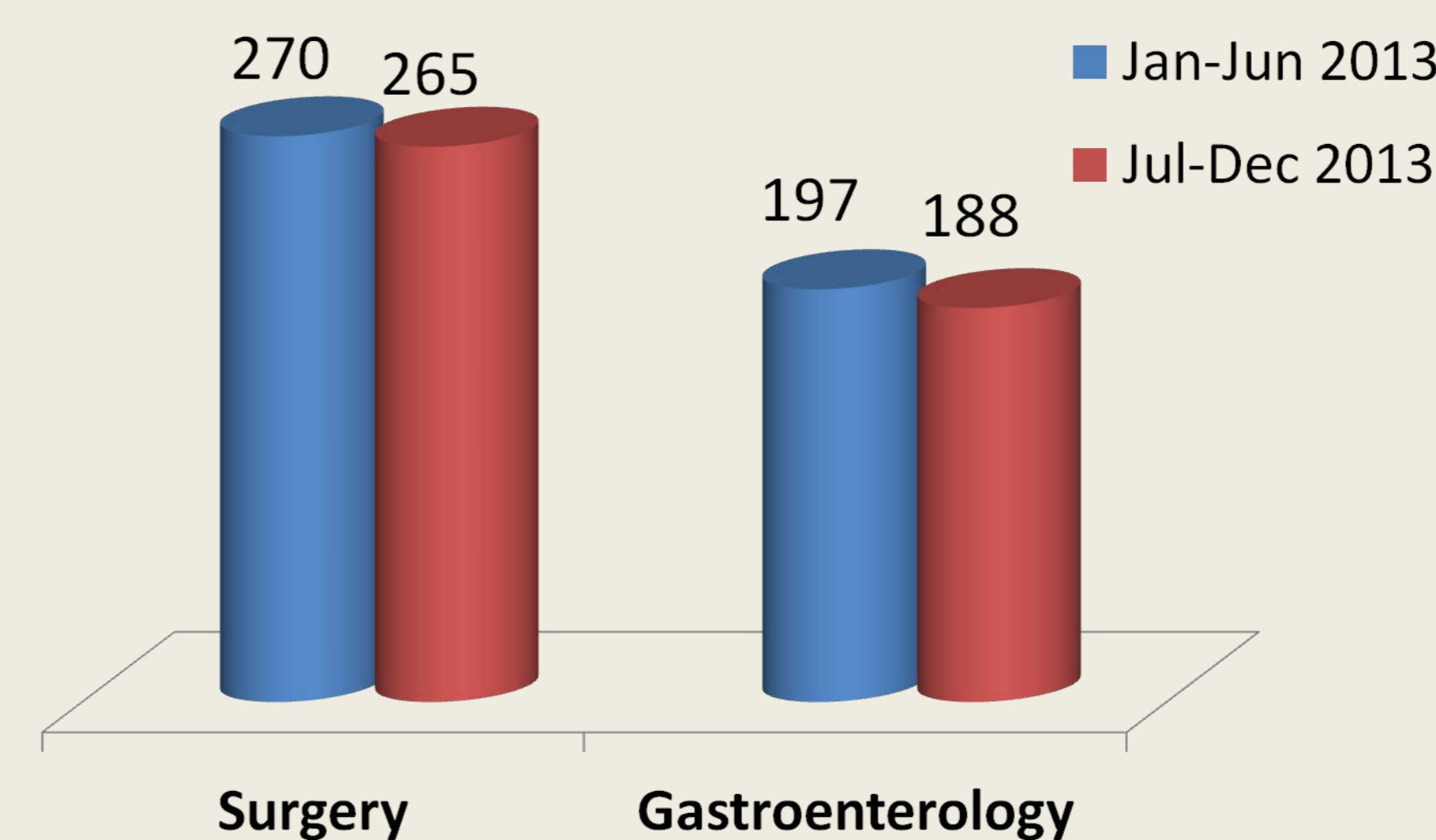


Initiatives impacting on ALOS Hospital-wide in 2013

2013	Initiative
January	Long Term Care project (LTC) got underway (Patient Flow and Social Work collaboration) - part of the Visual Hospital to standardise pathways.
July	1. Re-design of the Acute Medical Assessment Unit (AMAU) pathways to facilitate ≥50% of all emergency medical patients for admission to support rapid turnover and more appropriate management. 2. A Winter Workshop - improved action plans based on the learning from the previous year.
August	Visual Hospital and SDU High Impact Changes - enhanced focus on achieving 30% - 40% of all daily discharges before 11:00 hours.
Sept/Oct	Reactivation of the Care Of The Elderly (COTE) ward to pull appropriate patients from Emergency Department and AMAU to receive appropriate and skilled expertise.
December	14 LTC patients were relocated from various medical wards across the hospital to another ward opened as additional capacity, to support core ward ethos.

2. Secondary Outcomes

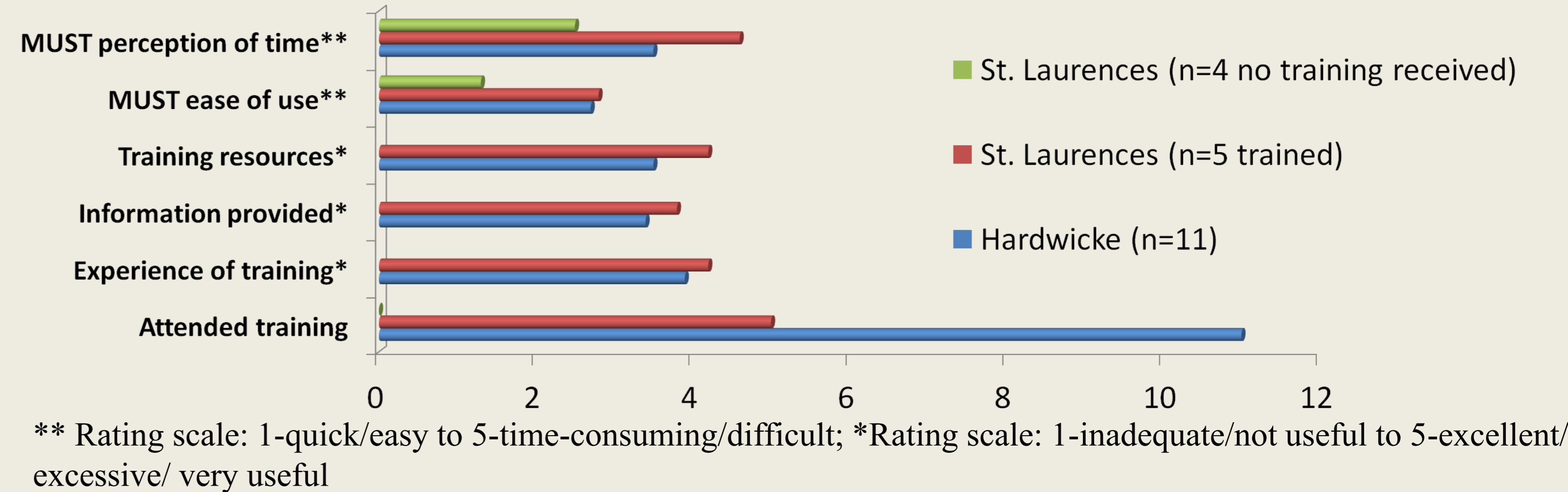
Effects on dietetic activity



Effects on nutritional product use

2013	Jan-Jun	Jul-Dec
St. Laurence's ward (euro)		
Standard stock	1427.13	1216
Specials	980.85	958.44
Hardwicke ward (euro)		
Standard stock	245.96	491.97
Specials	283.67	486.54

Nursing Feedback



CONCLUSION

The medical ward showed 87% compliance with use of the MUST tool and showed a 3 day reduction in ALOS during the intervention period. Nurse champions were evident on this ward and motivation was high. Although the hospital ALOS reduced over the intervention period, the reduction on St. Laurence's was significantly above the hospital average. The percentage of >65year old long stay patients hospital-wide rose from just under 92% to just under 94% during 2013 (p < 0.001), but ALOS still reduced. A number of hospital-wide initiatives may have influenced this as outlined above, but nutrition screening may have been a significant contributor on St. Laurence's ward. The surgical ward showed lower compliance (29%) with MUST. A higher turnover, a shorter lead-in period and a reduction in key nursing staff, may have impacted on this. A smaller decrease in ALOS was seen compared with the medical ward, although this was still above the hospital average.

Dietetic activity levels were similar before and during the intervention period. Additional MUST referrals were received (at least 28, but underestimated due to lack of MUST scores on referrals). Lower priority referrals may have been deferred to dietetic OPD, leaving inpatient activity levels similar. This may have resulted in higher priority patients being seen earlier and possibly more appropriate use of nutrition support. Delay in organising direct nursing referrals may have had an effect here also. No significant difference was noted in the cost of nutritional products used on St Laurence's over the intervention period. Differences on Hardwicke cannot be attributed to nutrition screening alone (lower compliance). Nursing satisfaction survey results reveal that nurses perceive MUST as relatively time-consuming. More training and experience with the tool may help improve this perception.

Nutrition screening may have allowed for more efficient use of beds particularly on the medical ward, driving down LOS, thereby freeing up capacity. This in turn may have a potential impact on the Emergency Department extra capacity which currently costs €71,000 per week to have open. It is hoped that the tool will become part of standard nursing admission documentation and will be rolled out hospital-wide.

Nutrition Screening Steering Group Alphabetical order (*co-ordinators)	Consulting to Steering Group
Elaine Bradley; Grainne Corrigan; Susan Hawkshaw; Marie Hennigan*; Caroline Lardner; Frank Lydon; Carol Lyons; Elaine Moloney; Professor Frank Murray; Paula O'Connor; Carmel O'Hanlon*; Amy Shaw; Simon Wembridge (& colleague).	Fiona Rafferty (Director of Medical Affairs and Business Development, Nutricia Advanced Medical Nutrition); Valerie Caffrey (Patient Flow Lead); Patrick O'Kelly (Statistician); Sinead McNamara (Management Information); Ali Al-Tuama (Medical Student) and Dr. Stuart Lee (Medical Student's Supervisor).