

ALFRED HEALTH WEEK June 2018

Caulfield Hospital Research & Quality Improvement and Service Promotion Posters

Coordinated by Deandra Burrows
on behalf of the
Caulfield Hospital Research Committee

BOOK OF ABSTRACTS

INTRODUCTION

Caulfield Hospital staff were invited to submit posters for the eleventh annual Caulfield Hospital Research Week Poster Competition, to be held as part of Alfred Health Week in June 2018.

Posters produced were eligible for submission, in two categories:

- Posters describing a Research Project
- Posters describing a Quality Improvement, Project Initiative or Innovation in Service Promotion.

Posters are to be judged for their content, design and relevance to Caulfield Hospital.

The Research Week Poster Competition is a successful feature of a sustained research culture at Caulfield Hospital. Caulfield Hospital will continue to grow this research environment resulting in the implementation of effective translational research and interdisciplinary and person centred models of care with links to defined clinical outcomes in areas of greatest need.

The Caulfield Hospital Research Committee would like to sincerely thank all contributors for their continued effort and enthusiasm.

Please direct all enquiries to:

Deandra Burrows

Business and Strategy Unit

Rehabilitation, Aged and Community Care

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The Lived Experience of Health Professionals Working with Patients with a Disorder of Consciousness (DOC) In an Acquired Brain Injury Rehabilitation Unit

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Aim of investigation

Working with patients with a DOC is a specialised area of rehabilitation; patients are complex, have uncertain outcomes and with highly stressed families. Some literature point to professional burnout, emotional exhaustion, and stress when working with the catastrophically brain injured, but there is limited research into how health professionals experience their encounters with patients with a DOC. The aim of this project is to consider the lived experience of health professionals working with patients with a DOC in a sub-acute ABI setting so that support mechanisms for staff can be considered.

Methods

In-depth, semi-structured interviews (n=11) were completed with a convenience sample of Health Professionals from different disciplines working in the Alfred Health ABI Unit. Thematic analysis was undertaken.

Results

Analysis revealed staff experiences to be both highly challenging and highly rewarding. Prominent themes include 1) the intricacies of working with families 2) complexity of the ABI unit, separate to the patient with DOC 3) the benefit of having DOC work instructions, and 4) the need for formal and informal debriefing. The overarching theme was interdisciplinary team work which was at the centre of staffs' experience.

Conclusions

This research highlights the significance of interdisciplinary team work when working with patients with a DOC. Health Professionals viewed team work as fundamental in managing the intricacies of working with patients with a DOC and also essential in providing support to staff. This was a two-way relationship with the intricacies of working with these patients and the support the organisation and staff provide one another, helping to create a strong team environment. As an organisation we should continue to promote a culture that supports and nourishes team work so as to enable staff to undertake this highly challenging and emotional work.



Feasibility of Ballistic Strength Training in Sub-Acute Stroke: A randomized, controlled, assessor-blinded pilot study

Hendrey G,^{1,2,3} A Clark R A,⁴ E Holland A E,^{1,2} Mentiplay B F,^{5,6} Davis C,¹ Windfeld-Lund C,^{1,3} J Raymond M J,¹ Williams G.^{7,8}

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Aim

To establish the feasibility and effectiveness of a six-week ballistic strength training protocol in people with stroke.

Design

Randomized, controlled, assessor-blinded study.

Methods

Consecutively admitted inpatients to sub-acute rehabilitation with a primary diagnosis of first ever stroke with lower limb weakness, functional ambulation category score of ≥ 3 , and ability to walk ≥ 14 m were screened for eligibility. Thirty participants (11% of those screened) with mean age of 50 (SD 18) years were randomized to standard therapy or ballistic strength training three times per week for six weeks. The primary aim was to evaluate feasibility and outcomes included recruitment rate, participant retention and attrition, feasibility of the exercise protocol, therapist burden and participant safety. Secondary outcomes included measures of mobility, lower limb muscle strength, muscle power and quality of life.

Results

The median number of sessions attended was 15/18 and 17/18 for the ballistic and control groups respectively. Earlier than expected discharge home ($n=4$) and illness ($n=7$) were the most common reasons for non-attendance. Participants performed the exercises safely, with no study-related adverse events. There were significant ($p<0.05$) between-group changes favoring the ballistic group for comfortable gait velocity (mean difference (MD) 0.31m/s, 95% confidence interval CI: 0.08 to 0.52), muscle power, as measured by peak jump height (MD 8cm, 95% CI: 3 to 13) and peak propulsive velocity (MD 64cm/s, 95% CI: 17 to 112).

Conclusion

Ballistic training was safe and feasible in select ambulant people with stroke. Similar rates of retention and attrition suggest that ballistic training was acceptable to patients. Secondary outcomes provide promising results that warrant further investigation in a larger trial.



Do Trials of Resistance Training to Improve Mobility After Stroke Adhere to The American College of Sports Medicine Guidelines? A systematic review.

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Objective

To determine whether resistance training to improve mobility outcomes after stroke adhere to the ACSM guidelines, and whether adherence was associated with better outcomes.

Data sources

Online databases searched from 1975 to 30 October 2016.

Study Selection

Randomized controlled trials examining the effectiveness of lower limb strength training on mobility outcomes in adult stroke participants.

Data Extraction

Two independent reviewers completed data extraction. Quality of trials was determined using the Cochrane Risk of Bias Tool. Trials were scored based on their protocol's adherence to eight ACSM recommendations. To determine if a relationship existed between total adherence score and effect size, Spearman's rho (r_s) was calculated and between individual recommendations and effect size, Mann Whitney U or Kruskal Wallis tests were used.

Data Synthesis

Thirty-nine trials met the inclusion criteria and 34 were scored on their adherence to the guidelines. Adherence was high for frequency of training (100% of studies) but few trials adhered to the guidelines for intensity (32%), specificity (24%), and training pattern (3%). Based on the small number of studies that could be included in pooled analysis ($n = 12$), there was no relationship between overall adherence and effect size ($r_s = -0.39$, $p = 0.21$).

Conclusions

Adherence to the ACSM guidelines for resistance training following stroke varied widely. Future trials should ensure strength training protocols adhere more closely to the guidelines, to ensure their effectiveness in stroke can be accurately determined.



Longitudinal Associations of Antihypertensive Agent Choice and Brain Atrophy

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Introduction

The relationship between hypertension and an increased risk of dementia is well known. However, the effects of particular antihypertensive treatments on dementia risk are unknown. Data from animal models suggest angiotensin receptor blockers (ARB) may drive pathways beneficial to brain health and that angiotensin-converting enzyme inhibitor (ACEi) may drive pathways related to neurodegeneration. However, there have been few studies performed in humans and the results of these studies have varied widely. We aimed to study whether ACEi use was associated with greater decline in brain atrophy when compared to ARB use.

Methods

Community-dwelling volunteers aged 55-90 years were recruited into the Cognition and Diabetes in Older Tasmanians longitudinal study. Brain MRI (total brain volume) measurements were performed at 3 time points over 4.6 years. Medication lists were manually reviewed and antihypertensive class identified. Mixed models were used to examine longitudinal associations between antihypertensive class and MRI brain measures independent of vascular risk factors.

Results

There were 163 people taking ACEi (mean age 69.9 years) and 125 taking ARB (mean age 69.5 years) at baseline. There was an interaction between antihypertensive type and time ($p=0.03$) after adjustment for age, sex, education and vascular risk factors, such that people taking ACEi at baseline demonstrated greater decline in total brain volume than those taking ARB.

Discussion

Baseline use of ACEi was associated with greater rates of brain atrophy than those taking ARB drugs at baseline. The exact mechanisms underlying this association are unknown but warrant further investigation.



Melatonin to Treat Delirium in Older People – A feasibility study

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Introduction

Delirium is associated with disruption in the sleep-wake cycle leading some clinicians to use melatonin to manage delirium despite an absence of evidence to support this practice. We proposed a pilot, double-blind, randomized, placebo-controlled, trial of the use of 2mg Circadin nocte starting within 48 hours of admission for 7 days, measuring delirium severity and sedative use.

AIM: To assess the feasibility of recruitment strategies and protocol processes.

Methods

The study was performed in the department of General Medicine with the support of Pharmacy, Occupational Therapy and Aged Care. Delirium diagnosis was based on clinician diagnosis. A Caulfield Hospital Major Project Grant was used for pharmacy costs and to support a research nurse from Monday-Thursday. Other assessments were performed in clinician's spare time.

Results

We identified 60 potentially eligible people and recruited six participants between November 2017 and March 2018. As a result of regular research update meetings we trialled three distinct recruitment strategies: treating team informing research nurse of potentially suitable people; research nurse approaching treating teams daily to identify potentially suitable people; research nurse and two clinicians reviewing admission notes of all admissions daily and screening based on documentation of new confusion. The latter strategy identified more people but did not result in improved recruitment. The most common reasons for non-recruitment were: diagnosis not delirium (11/54,20%); use of melatonin or antipsychotics prior to screening (10/54,19%) and absence of funds to use an interpreter to perform additional screening and obtain consent (7/54,13%).

Conclusion

The small number of recruited people highlights the well-documented challenges of recruiting people with delirium into clinical trials. We suggest trial recruitment would be improved by additional resources to support clinicians to assist in delirium diagnosis and in the availability of interpreters to assist with delirium diagnosis and obtaining consent.



Evaluating Patient Satisfaction of New Medichef Menu at Caulfield and Sandringham Hospitals

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² Clinical Operations Lead, Caulfield Hospital, Alfred Health

Introduction

Caulfield and Sandringham Hospitals receive meals from Medichef Central Production Kitchen (CPK), which introduced a revised menu, implemented May 2017. Patient Experience Survey (PES) and Victorian Health Experience Survey (VHES) measure patient satisfaction of food which only ask "How do / would you rate the hospital food?" No current data was available on acceptability of specific meals to the patient population at Caulfield and Sandringham Hospitals. The research aimed to quantify levels of satisfaction with the menu and contributing factors.

Methods

Ethics was obtained to utilise an adapted Meal Quality Audit Tool (Rating scale 1-5) to obtain feedback from patients admitted on 8 wards at Caulfield and Sandringham Hospitals.

Results

Meal Quality Audit Tools were administered across 17 days and 34 meal times, and results collated for all survey responses (Aged Care and Sandringham n=343, Rehabilitation and ABI n=285). Average satisfaction scores were identified for meal item categories and ranged from 3.7 - 4.1 (Overall 3.8) in Aged Care/Sandringham and 2.6 - 4.3 (Overall 3.85) in Rehabilitation/ABI. Additionally, 10 main meals, 2 soups, 1 dessert and 7 side dishes were identified as rating poorly. Qualitative data collated from comments provided showed no difference in satisfaction ratings related to length of stay. Patients who did not make a menu selection and received a default meal, were less likely to rate their meals positively (63% vs 73%) in Aged Care/Sandringham, with Rehabilitation/ABI rating meals more negatively (26% vs 9%).

Discussion

The survey results indicated moderate level of satisfaction with meals provided at Caulfield Hospital. Detailed findings were generated allowing feedback to the CPK, as well as internal review and amendment of dishes available on the menu. Further, Quality improvement activities aimed at increasing patient opportunities to make a menu selection are being implemented in order to enhance menu satisfaction rates.



Understanding the Impact of Obesity on Hospital Outcome in an Inpatient Rehabilitation Setting

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Introduction

There is growing evidence that obesity is associated with poorer health outcomes and higher hospital costs. This study aimed to establish the prevalence of obesity in inpatient rehabilitation, examine the impact of obesity on hospital outcomes and explore staff perceptions regarding obesity.

Methods

A retrospective file audit of all inpatients admitted to rehabilitation was conducted between 1st January and 31st December 2015. Patients were stratified into four groups using their admission Body Mass Index (BMI): non-obese (BMI<30), obese class I (BMI 30.00-34.99), obese class II (BMI 35.00-39.99) or obese class III (≥40.00). Hospital outcomes of interest included length of stay (LOS), functional gain using the Functional Independence Measure (FIM) and discharge destination. All staff working across the rehabilitation wards were also invited to complete an *Impact of Obesity* survey exploring their perceptions on caring for obese patients.

Results

A total of 1313 patients were admitted during the 12-month period, 27.3% of patients were classified as obese, with 206 Obese Class I, 84 Obese Class II and 69 Obese Class III.

Preliminary results indicated that there were no differences between groups on hospital LOS, functional gain or discharge destination. A total of 112 hospital staff (response rate 71%) completed the *Impact of Obesity* survey. Most staff considered their current knowledge in caring for obese patient to be average (45%) or good (36%). They also rated their confidence in managing their care needs to be average (44%) or good (39%). However, 60% of staff perceived that obese patients did have longer LOS compared to non-obese patients.

Discussion

This study will provide an insight into the impact of obesity within a rehabilitation setting including staff perceptions about their care needs and potential barriers to discharge. Implications for broader quality improvement activities and research will also be discussed



How Does Impaired Self-Awareness Influence Clinicians' Selection of Cognitive Rehabilitation Interventions?

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Introduction

Self-awareness deficits following acquired brain injury (ABI) impact on rehabilitation outcomes. Intact self-awareness is believed to be a prerequisite for successful delivery of many cognitive rehabilitation interventions. While several practice frameworks have been recommended to guide cognitive intervention for various stages of awareness, little is known about how therapists evaluate changes in awareness over time and how this influences prescription of cognitive rehabilitation. The aim of this study is to explore the views, beliefs, and attitudes of clinicians on selecting and adapting cognitive rehabilitation strategies with patients after ABI who demonstrate impaired self-awareness.

Methods

Qualitative focus group study with seven occupational therapists. Stimulus questions explored current approaches to assessment and clinical reasoning, along with how assessment of patients' self-awareness impacts on selection of rehabilitation interventions in an inpatient rehabilitation setting. Results were analysed using a previously developed framework (directed content analysis).

Results

The adaptation of cognitive rehabilitation approaches when working with people with impaired self-awareness was influenced by the following main themes: timing of assessment of self-awareness; validity of assessment results; clinical reasoning around selection of cognitive rehabilitation treatment approaches; and beliefs around the ability for assessment results to predict future function.

Discussion

This study highlights that selection of a robust measure of self-awareness, and understanding about the efficacy of cognitive rehabilitation approaches in adults with self-awareness deficits is key. Best practice cognitive rehabilitation should include evaluation and re-evaluation of self-awareness over time to ensure that cognitive rehabilitation programs remain person-centred and targeted towards patients' changing needs.



Factors Impacting on Selection and Use of Cognitive Assessments by Occupational Therapists Working in an Inpatient Setting

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2. School of Allied Health (Occupational Therapy), College of Science, Health & Engineering, La Trobe University, Melbourne, Australia

Introduction

Screening and assessment of cognitive ability for persons admitted with neurological impairments assists with rehabilitation and discharge planning. Whilst International and National Guidelines recommend the completion of validated cognitive assessment during acute and subacute hospitalization, little is known about the barriers or facilitators impacting on occupational therapists' ability to translate these recommendations into their practise.

Aim

The objective of this study was to use the theoretical domains framework (TDF) to explore and understand what factors may influence occupational therapists' ability to consistently apply these recommendations.

Methods

Cross-sectional study with ethical approval. Occupational therapists across Alfred Health (N =81) were invited to participate in an online survey based on the TDF and COM-B ('capability', 'opportunity', 'motivation' and 'behaviour') model. Qualitative data was analysed for themes using theoretical domains described by Michie et al (2005).

Results

Forty occupational therapists (49%) responded to the survey. All (100%) indicated awareness of the Alfred Health occupational therapy recommended cognitive assessments. Participants identified cognitive assessment as a core component of their role, with over half completing cognitive assessments on at least a weekly basis (57%), however analysis using the COM-B showed barriers in the domains of environment and resources (Opportunity), and therapists' belief in their capability to interpret results and plan rehabilitation (Motivation). Of the thirty-two responses to clinical practice guidelines (CPG's) 25% answered with a known CPG.

Discussion

Our findings advance understanding of what facilitates and inhibits occupational therapists' adherence to guidelines in relation to cognitive assessment. Using the TDF and COM-B model provides a useful conceptual basis to identify challenges such as environmental resources and the clinicians' beliefs in their capabilities which affect the implementation of guideline recommendations. The next phase of this project will involve mapping results against TDF to develop interventions to improve staff adherence to implementing recommended cognitive assessments.

**“Mastery” of Cognitive Strategies and Changing Care Needs in the Community: The lived experience of an individual with ABI**Wilson S¹, Sansonetti D¹¹Acquired Brain Injury Rehabilitation Centre, Caulfield Hospital, Alfred Health.**Introduction**

The need for formal supports to achieve community living following an ABI results in considerable financial burden for individuals, their families/significant others, and the health system. Cognitive rehabilitation aims to minimise dependence on formal supports and maximise community participation. Access to cognitive rehabilitation is required over the longer term, with adaptation of strategies necessary to meet the changing needs of the individual. This paper aims to explore the implementation of cognitive strategies and associated change in care needs over time from the perspective of one individual (Adam) and his mother (Pam).

Methods

File audit to investigate cognitive strategies across Adam's rehabilitation. Semi-structured interviews completed with Adam and Pam and qualitative data analysed thematically.

Results

Across Adam's rehabilitation multiple cognitive strategies were implemented with varying levels of family and paid carer support required over a two-year rehabilitation timeframe. Adam and Pam shared both complementary and contrasting perspectives around Adam's cognitive rehabilitation. Adam and Pam shared similar perspectives on the level of support required early in Adam's rehabilitation, with an acknowledgement around the need for compensatory strategies and carers to manage even basic daily activities. Adam referred to his cognitive impairment in past tense, with no current need to apply cognitive strategies, while Pam referred to the issues with Adam's cognition and the ongoing need to apply strategies.

Discussion

Cognitive rehabilitation in ABI is a complex and dynamic process that requires continual evaluation and modification to strategies in order to meet an individual's changing needs over time and maximise independence. This case study reinforces the importance of an integrated approach and active engagement from the individual with an ABI and their family/significant others in the recovery pathway. Study findings suggest that consideration of patient and family perspectives around mastery of cognitive rehabilitation in clinical practice is of importance in achieving meaningful long term outcomes post-ABI.



Community Rehabilitation Program - Physiotherapy outcomes measures quality improvement project

Arden C¹, Simpson A¹, McAdam K¹

¹ Community Rehabilitation, Alfred Health

Introduction

Measuring a client's physical status using an outcome measure plays an important role in the management of the individual.

Despite this, outcome measures are often underutilised. There are a number of factors contributing to this including:

- Limited evidence related to frequently used measures
- Limited understanding of frequently used measures
- Limited awareness, and hence uptake, of new or more appropriate measures within certain client populations

If successful, the project will lead to improvements in the use and interpretation of outcome measures by Alfred Health community rehab physios.

Methods

Previously published work by Goulburn Valley Health in 2015 was used in combination with Alfred Health resources. We also undertook:

- A literature review
- Clinician engagement and consultation with other Melbourne health networks
- Online survey of Community Rehab staff in April 2017 and 2018

Results

Creation of resources:

- A register of all outcome measures found during the study, sorted both alphabetically and by their relevance to different clinical conditions;
- A norms table for the five most frequently used outcome measures and instructions for how to interpret their results;
- A list of eighteen outcome measures with details of healthy norms compared to that of stroke survivors
- A document dedicated to Parkinsons disease which included eight outcomes measures

Following its implementation, this project found that there was a:

- Increased confidence with using outcomes measures
- Discernible preference for the use of project-generated resources over open internet searches
- No significant increase in the amount or variety of measures selected by therapists

Discussion

The resources generated via this project have led to an increased confidence in the use of outcome measures amongst staff, as well as a more uniform and informed set of measures used by staff.



Sensitivity and Specificity of Two Malnutrition Risk Screening Tools to Identify Adult Inpatients with Malnutrition in a Subacute Hospital

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³ Clinical Dietitian, Alfred Hospital, Alfred Health

⁴ Manager of Nutrition Department, Alfred Health

Introduction

Malnutrition is defined as a state of deficiency or excess of nutrients. Malnutrition arising from nutrient deficiency is prevalent and under recognised in the clinical setting.

Aim

To measure performance of two malnutrition risk screening tools to identify inpatients with diagnosed malnutrition within the subacute setting.

Methods

In May 2017 a point prevalence survey was conducted on all adult inpatients. Malnutrition risk screening was completed by a dietitian using the Malnutrition Universal Screening Tool (MUST) and the Mini Nutrition Assessment (MNA). Malnutrition was diagnosed using the International statistical classification of disease, V2010 (ICD-10). Sensitivity, specificity, positive and negative predictive values (PPV, NPV) were calculated.

Results

Data was collected from 244 patients (Aged Care n=131, Rehab/ABI n=113). In total 73 patients (30%) were diagnosed with malnutrition (Aged Care n=55, Rehab/ABI n=18).

Both tools accurately predicted Malnutrition in the High Risk screening groups, with high sensitivity (83-89% MUST and 86-94% MNA) and high specificity (89-95% MUST and 93-96% MNA).

Greater variance was noted for patients screened as Moderate risk. Sensitivity remained similar (67-75% MUST and 67-70% MNA) but specificity was higher with the MUST (77-88% MUST and 43-47% MNA).

NPV was similar at 92-98% for both tools, meaning 2-8% of malnourished patients were not picked up by screening.

Discussion

A high risk MUST score showed high specificity and NPV, indicating few false positives, allowing targeted allocation of nutrition resources.

A smaller proportion of patients were screened as Moderate risk by the MUST, with a proportion of these having a diagnosis of Malnutrition. Changing the model of care so that patients with a moderate risk MUST are monitored and referred if indicated at ward level decreasing risk of missed malnourished patients. This study suggests MUST performs better than MNA for identifying malnutrition risk in the subacute setting.



The Lived Guardianship in Hospitals: A health services/OPA pilot program

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Introduction

This collaborative project between Alfred Health, Eastern Health, Monash Health and the Office of the Public Advocate Victoria (OPA), coordinated out of Caulfield Hospital, explores the impact of increased availability of guardians delegated by the Public Advocate on healthcare system sustainability and outcomes. The Victorian Civil & Administrative Tribunal (VCAT) appoints the Public Advocate as guardian for vulnerable individuals where evidence of a cognitive impairment indicates a lack of capacity to make important lifestyle and personal decisions. Delays in guardian allocation and contact with hospital-based patients have a negative impact on the needs of patients and hospital outcomes. Complexities in addressing guardianship resourcing include separate funding for OPA and healthcare, OPA's statutory independence and responsibility to consider individuals in need of guardianship equally, and growing demand for guardianship.

Aim

To identify the impact of increased availability of advocate guardians on patient health outcomes, healthcare system demand and the expertise of healthcare professionals regarding guardianship matters.

Methods

A multi-institutional, cross-sectional pilot program created a dedicated hospital guardian team within OPA, funded by the health networks, to reduce the time to guardian allocation for patients within each network. A historical control group design was used with initial data collection over 11 months. Data collection continued under the new model, with the 2017 cohort now complete and collection continuing through 2018.

Results

Since the introduction of the enhanced staffing model, the time from VCAT guardianship order lodgement to allocation has significantly decreased from 47.7 to 23.3 days. Estimated cost savings are \$10,253 per patient, or over \$3 saved per \$1 spent on increased staffing.

Conclusion

These preliminary findings demonstrate how collaboration and investment by healthcare providers in non-health areas can deliver substantial benefits for healthcare system sustainability in an area of patient vulnerability and growing demand.



Development of a Rehabilitative Approach to the Use of Incontinence Pads in an Acquired Brain Injury (ABI) Inpatient Rehabilitation Unit

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²La Trobe University School of Nursing and Midwifery, Melbourne

Background and Objective

In a quality and risk review on incontinence management in the ABI inpatient rehabilitation unit, it was identified that the primary incontinence pad used is the large capacity all-in-one pad (LCAP). LCAP has been observed to be a barrier to practising mobility, transfers, dressing, toileting and behaviour rehabilitation in the unit. The aim of this project is to create a clinical guide to types of incontinence pads available in the ABI inpatient rehabilitation unit.

Methods

A Medline search using the MeSH terms *incontinence pads* and *rehabilitation* was done. Electronic medical records of patients admitted from June 2014 to January 2015 (n=67) was reviewed to identify patient variables that may guide clinical decision making on incontinence pad usage. Expert advice from the ABI continence nurse consultant was sought to match the incontinence pads available in the unit to the patient variables identified.

Results

Literature search showed very limited research is published on the use of incontinence pads in rehabilitation settings (n=1). Analysis of clinical indications for pad use suggests that the patient variables that may guide the choice of incontinence pads include: 1) ability to report, 2) capacity to hold-on 3) frequency of pad change requirements and 4) individual preference. Expert advice suggests the product variables to be considered include: 1) volume capacity of the pad, 2) characteristics of the pad that impede rehabilitation activities and 3) cost. The clinical guide is presented in a traffic light colour coding system to aide implementation.

Discussions

This project generated a clinical guide that integrates rehabilitation principles in the choice of incontinence pads in an inpatient rehabilitation unit. Patient and product variables identified were significant in developing the guide. Research is recommended to explore clinical utility such as an aide to setting continence rehabilitation goals with patients.



A Change of Practice for Scalpel Blade Removal

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Introduction

The practice of changing scalpel blades during treatment of a patient was raised as a potential infection risk during a recent Infection Prevention audit in the Caulfield Community Health Podiatry Clinic.

A blade may need to be changed when it becomes blunt, multiple wounds are being debrided or a different sized blade is required.

Verbal confirmation has been gained from the LaTrobe University student clinic and some local Podiatry services that the practice of changing blades on the same handle during a patients' treatment is a common and accepted practice.

Methods

A bioluminescent gel was applied to a disposable scalpel handle with a loaded blade to simulate body tissues that would be transferred to the instrument during debridement.

The contaminated blade was then removed from the handle using a blade removal device. After which another blade was removed from a subsequent clean blade and handle unit.

Results

Contamination of the aperture of the scalpel blade removal device was seen which was then transferred to the clean handle upon subsequent blade removal.

Discussion

A change in practice within all Alfred Health podiatry services was swiftly brought into action.

Blades are no longer to be removed from scalpel handles and the entire disposable handle and blade unit is to be disposed of in a sharps bin. If a new blade is required, an entirely new handle and blade unit must be used.

This change in practice will prevent the cross infection of patients and reduce the risk of sharps injury that might occur during blade removal.

These findings have been shared with the LaTrobe University clinical school, local podiatry services and the AHPRA Podiatry Registration Board. They have been well received and recognised as an area that requires a change of practice. There has been commitment from the University and local health services to make this part of their guidelines and AHPRA has incorporated this specific process into their national recommendations for infection control.



Improved Discharge Planning Through a Community & Ambulatory In-Reach Model

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Introduction

Poor discharge planning can increase a patient's hospital length of stay and unplanned readmission rates, as well as lead to a decrease in patient and clinician satisfaction. A model was developed for community and ambulatory services to routinely in-reach into Caulfield Hospital wards with the aim of improving discharge planning.

Methods

A quality improvement activity was undertaken on two sub-acute inpatient wards to determine the effect of introducing an in-reach model on discharge planning. An intake worker from the community and ambulatory team attended journey board meetings on the two pilot wards to act as a resource for clinicians and assist in the discharge planning process. The model was implemented for a period of 6 months and outcome measures included length of stay, unplanned readmission rates and the impact on the timeliness and quality of referrals from inpatient wards to community & ambulatory services. Staff satisfaction with the in-reach model was also measured.

Results

In comparison to the non-trial wards, the in-reach model demonstrated a 25% – 39% reduction in unplanned readmissions on the trial wards but did not reduce length of stay. An improvement in the timeliness and appropriateness of referrals from the trial wards to community and ambulatory services was also seen. A staff satisfaction survey showed that 75 % of respondents found the in-reach model useful and reported an improved knowledge of the available community & ambulatory services that their patients could access.

Conclusion

The in-reach model can help to reduce unplanned hospital readmissions through improved discharge planning, which can result in improved efficiency within the hospital and increased availability of hospital beds. Length of stay was not reduced, but the trial was able to demonstrate an improved awareness of discharge resources in clinicians, as well as an improvement in the quality and timeliness in referrals to community and ambulatory services.



The CCHS Diabetes Service: Catching those falling through the cracks

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Introduction

Since August 2017 Caulfield Community Health Service (CCHS) has been piloting a new model of care with integrated care pathways to increase access to inter-disciplinary primary care services and optimize the ability and confidence of clients to self-manage their Type 2 Diabetes.

Methods

At baseline, clients complete an initial assessment with a Diabetes Nurse Educator (DNE) and Dietitian. A physical activity screening check is also completed with an Exercise Physiologist (EP). Clients also report prior access to a community based DNE, Dietitian or EP for diabetes management. Self-reported Problem Areas in Diabetes (PAID) and Self-Efficacy for Diabetes (SED) questionnaires are administered at baseline and at three-month follow-up.

Results

Available baseline data for 90 clients demonstrate that 90% have not had prior access to a community based EP, 88% no prior access to a community based DNE and 83% no prior access to a community based Dietitian for diabetes education and support.

Analysis of 77 completed baseline questionnaires show on average the greatest problems clients face is: not having clear and concrete goals for diabetes care, worrying about the future and possibility of developing serious diabetes complications (PAID). Self-efficacy data shows clients are least confident in their ability to undertake regular exercise (SED).

At three-month follow-up, analysis of 32 questionnaires demonstrates the service has been most effective in helping people feel more encouraged with their overall diabetes management plan (PAID). Engagement with the service is also reducing the problem of not having clear and concrete goals for their diabetes care (PAID). Client confidence has improved across all domains with the greatest improvements made in knowing what to do when blood sugar levels are higher and lower than desired, and when changes in their illness mean they should visit the doctor (SED).

Conclusion

Data shows the CCHS Type 2 Diabetes Service is filling a much needed gap in the local community by increasing access to primary interdisciplinary care services for clients with type 2 diabetes. The CCHS Diabetes service is helping improve client confidence to self-manage their type 2 diabetes.

**GEM at Home: Identifying medications errors in the community**

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Introduction

Medication errors are common in the community. They are often multifactorial and may not be recognised during a hospital admission. The aim of this project was to determine the incidence and types of medication errors in patients admitted to the GEM at home program.

Methods

A prospective audit of 100 consecutive patients admitted to GEM at home program was conducted. Demographic data, incidence and type of medication errors were collected. Intervention was provided as part of routine care. Post discharge, these patients were tracked for a further 6 months by medical records review to establish hospital readmission rates that could be attributed to medication errors.

Results

100 patients were audited. 55% of patients had at least 1 medication error. Common errors were administration (31), poor compliance (22) and discrepancies between discharge lists and administered medications (21). There were 6 episodes of missed medications, 6 episodes of wrong dosages and 6 episodes of no supply. There were 2 episodes where no discharge list was provided.

54% of patients were readmitted to hospital within 6 months of discharge from GEM at home a total of 78 times. 73 of these were emergency department presentations.

(Results from auditing readmissions to come)

Discussion

These results indicated a high number of medication errors were due to patients' administration issue and poor compliance. We also identified issues relating to the discharge process from hospital, including inaccurate medication lists, missing medication and wrong dosage. GEM at home program was effective in detecting these errors and able to intervene promptly to avoid complications and hospital readmissions.



Validation of a Combined Risk Score to Better Predict Hospital-Related Harms

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Introduction

Interventions to reduce the risk of inpatient falls, pressure injuries, and malnutrition are based on correctly identifying a person's risk, using risk assessment scores. The risk factors for these harms are multifactorial and frequently overlap. I aimed to validate a model combining hospital-related harm risk scores to predict harms.

Methods

Data relating to hospital risk scores for falls (Falls Risk Assessment Scoring System), pressure injury (Braden score), and malnutrition (Mini Nutritional Assessment-Short Form) was extracted and linked to incident falls, pressure injuries and malnutrition reported via Riskman software in all admissions to a sub-acute hospital from January 2014 to June 2016. A randomly-selected 50% of the sample was used to develop a logistic regression model combining all risk scores to predict individual harms. The remaining 50% of the sample was used as a validation dataset. For each harm outcome, I generated Receiver Operating Characteristic curves, calculated the Area Under the Curve (AUC), created classification cut points based on the sensitivity of the currently-used risk tools and calculated the proportions of people who would be reclassified based on the use of the combined score.

Results

Data was available for 4538 admissions (median age 83.0 years, 55% female). A total of 728 (16%) people had at least one fall, 501 (11.0%) at least one pressure injury and 20 (0.4%) malnutrition. When the combined score models developed in the training dataset were applied to the testing dataset, the AUC improved by 3.17% with regards to falls, 0.19% with pressure injury and 0.33% with malnutrition. Using the combined model resulted in minimal change of a person's risk classification.

Discussion

Combining risk screening tools did not substantially improve the ability to predict harms in older inpatients.



Hip Fracture Care at The Alfred

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Introduction

The Australian and New Zealand Hip Fracture Registry (ANZHFR) is a clinical registry that allows access to data to improve performance and optimise outcomes of people with hip fractures. Currently, Alfred Health does not contribute to the ANZHFR. We aimed to describe the characteristics and processes around hip fracture care at The Alfred and assess the feasibility of the orthogeriatric service to contribute data to the ANZHFR.

Methods

We performed a retrospective chart review of all patients with a hip fracture admitted to The Alfred from 1st August to 1st November 2016 and manually extracted ANZHFR data and additional data regarding patient-related outcome measures. Demographic, injury event and hospital-based outcomes were collected as was the time taken to collect each patient's ANZHFR minimum dataset.

Results

A total of 54 patients (mean age 85 years, 41% male) were admitted in three months. Pre-fracture, 67% lived at home and 61% were independent in performing personal activities of daily living. Intracapsular fractures occurred in 33% and 59% were per/intertrochanteric. The median time to surgery was 28 hours and the most common surgery performed was a sliding hip screw (52%). The median length of stay in The Alfred was 8 days and 54% were discharged to Caulfield Hospital. In this sub-acute facility, the median length of stay was 25 days. A total of 21 patients (39%) had an Alfred admission in the 12 months following hip fracture. The median time spent at home in the 12 months' post fracture was 346 days. The median time to collect the ANZHFR minimum dataset was 14 minutes.

Conclusion

The Alfred's experience of hip fracture care is similar to that described nationally in the ANZHFR. It is feasible for the orthogeriatric service to contribute data to the ANZHFR and is likely to be simpler to complete contemporaneously.



Screening for sleep apnoea in Cardiac Rehabilitation: Prevalence and Outcomes

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Introduction

Obstructive Sleep Apnoea (OSA), which affects 25% of men and 9% of women in Australia, increases risk for coronary artery disease, heart failure and stroke. It is associated with psychiatric comorbidities such as anxiety and depression. Despite this, it is often underdiagnosed in cardiac rehabilitation patients.

Aim

To establish OSA prevalence and outcomes in cardiac rehabilitation.

Methods

431 participants in an outpatient cardiac rehabilitation program completed the Berlin Sleep Questionnaire (BSQ), Hospital Anxiety and Depression Scale and 6 Minute Walk Test (6MWT). In addition, Body Mass Index (BMI), Body Fat % and risk factor history was noted. Participants scoring ≥ 2 on the BSQ were advised to undergo further investigation and their General Practitioners were contacted by letter requesting a referral for Sleep Study be made.

Results

Thirty-eight percent of participants scored highly on the BSA. High scorers were significantly more likely than low scorers to have a history of smoking, hypertension, dyslipidaemia or diabetes. Their BMI and body fat % were higher, and high scorers had a higher prevalence of depression and anxiety. Exercise tolerance was lower and they showed less improvement in 6MWT by discharge. Only five high scorers were referred by their GPs for further investigation.

Conclusion

Over one-third of cardiac rehabilitation patients have probable OSA, associated with features of metabolic syndrome and psychiatric comorbidities. Despite the risks of OSA and written requests, almost no GPs referred on for sleep studies. Cardiac rehabilitation units need to develop more effective means of managing this condition in their patients.



Role of early post-discharge phone call in the geriatric setting

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Aims

Geriatric patients have higher risk of adverse events post-hospital discharge. We sought to identify representation rates within 14 days of discharge from a geriatrics subacute hospital and analysed the impact of the structured early post-discharge phone call on risks associated with readmission.

Methods

Patients discharged home or to residential care from Geriatric wards at Caulfield Hospital received a phone call within 72 hours post discharge, conducted by a member of treating team. All eligible discharges over the 12-month period were reviewed to identify factors contributing to readmission. Statistical analyses on the impact of the phone call on risk of readmission were then conducted.

Results

Records of 1138 discharged patients were reviewed. 119 patients (10.5%) represented to hospital within 14 days. Phone calls had been conducted in 294 discharge episodes (25.8%), of which 34 ended up representing within the 14-day period. Receiving an early post-discharge phone call did not reduce the risk of readmission to hospital.

Of the 294 phone calls attempted, 250 were contactable. Issues were identified in 70 of these phone calls (28%). Identifying an issue in an early post-discharge phone call to a patient appears to be associated with risk of hospital representation ($p = 0.00023$).

Discussion

Early post-discharge phone calls do not appear to reduce the risk of readmission to hospital. However, phone calls can be used to identify issues patients encountered post-discharge. The presence of issues appears to be strongly associated with risk of representing to hospital. Further work surrounding feasible interventions when issues are identified is required.

The Lived Experience of Health Professionals Working with Patients with Disorders of Consciousness (DOC) in a Rehabilitation Setting

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Introduction

- The ABI Unit at Alfred Health (Caulfield) is a 42 bed sub-acute rehabilitation unit for patients with moderate to severe acquired brain injury. This includes patients with DOC.
- Patients with DOC are a complex cohort of patients who present with significant motor, physiological, and cognitive impairments.
- Existing literature points to professional burnout, emotional exhaustion, and stress when working with patients with brain injuries.
- There is limited research into how health professionals experience their encounters with patients with DOC in a sub-acute ABI setting.
- It is the aim of this research to consider the lived experience of health professionals working with patients with DOC in a sub-acute setting so that the necessary support mechanisms can be implemented.

What?	Qualitative Design Study
Who?	Convenience sample of Health Professionals Various Disciplines 11 participants
How?	In depth semi-structured interviews
Data Analysis	Interviews professionally transcribed Manually Coded Thematically analysed

Thematic Analysis

Team Work

“If I have issues there’s usually someone on the unit I’m able to approach...I certainly feel confident because there is the team support there”

Manage Intricacies

Provide Supports

The Complexities of the Unit

“You’re dealing with (patients with) DOC next to a patient who’s seriously behavioural. It’s impossible to separate the two.”

Debriefing

“That little quick check-in to see if everything’s okay,...really provides a lot of reassurance to everyone...I always think its really invaluable.”

Workings with Families

“You feel more like you’re working with the family than you do so maybe with the patient. You see their families more than you see your family.”

DOC Work Instructions

“I feel very guided by the practices and guidelines that are set within the unit.”

Results and Discussion

- Analysis revealed that health professionals’ experience of working with patients with DOC is highly challenging but also very rewarding.
- Interdisciplinary team work was considered to be at the centre of this experience.
- Team work was seen as fundamental in managing the intricacies of working with patients with DOC and also essential in providing support to staff.
- This was considered a two way relationship. The intricacies of working with these patients and the support the organisation and staff provided one another, helped to create a strong team environment.
- These intricacies included the highly challenging environment of the ABI Unit, which is intertwined with working with patients with DOC.
- A further intricacy was working with families of patients with DOC and the intimate relationship that develops between health professionals and families.
- Health Professionals valued team work because it provided them with opportunities to debrief and was a source of emotional support.
- Health Professionals were consistently positive and felt well supported by the ABI unit’s DOC work instructions. These provided a structured pathway for staff, when managing patients with DOC.

Conclusion

This research highlights the significance of interdisciplinary team work when working with patients with DOC and the importance of promoting a culture that supports and nourishes team work.

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Feasibility of ballistic strength training in sub-acute stroke: A randomized, controlled, assessor-blinded pilot study.

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Background

Weakness is the primary contributor to mobility deficits after stroke.¹ Studies of strength training in neurological populations have demonstrated improvements in muscular strength however there has been a limited translation of these gains into increased function.² The reasons for this remain unclear.

Strength training protocols aiming to improve mobility after stroke have typically involved functional-based strengthening exercises, often failing to address the key muscles primary responsible for forward propulsion,³ and seldom replicating the muscle function required for gait in terms of range of motion and rate of force production.⁴

In contrast, ballistic strength training (BST), a form of power training commonly implemented in healthy populations focuses on rate of force development (Figure 1).⁵ It requires the participant to exert force as rapidly as possible, and commonly includes a jump or non-contact component, such as a squat jump. It has demonstrated improvements in muscular strength, maximal power generation and task-specific performance. To our knowledge however, no randomized controlled trials have applied BST principles specifically in stroke.

The aims of this study were to establish the feasibility of a six-week BST program in adults with stroke and evaluate its effect of BST on mobility, muscle power, muscle strength and quality of life.

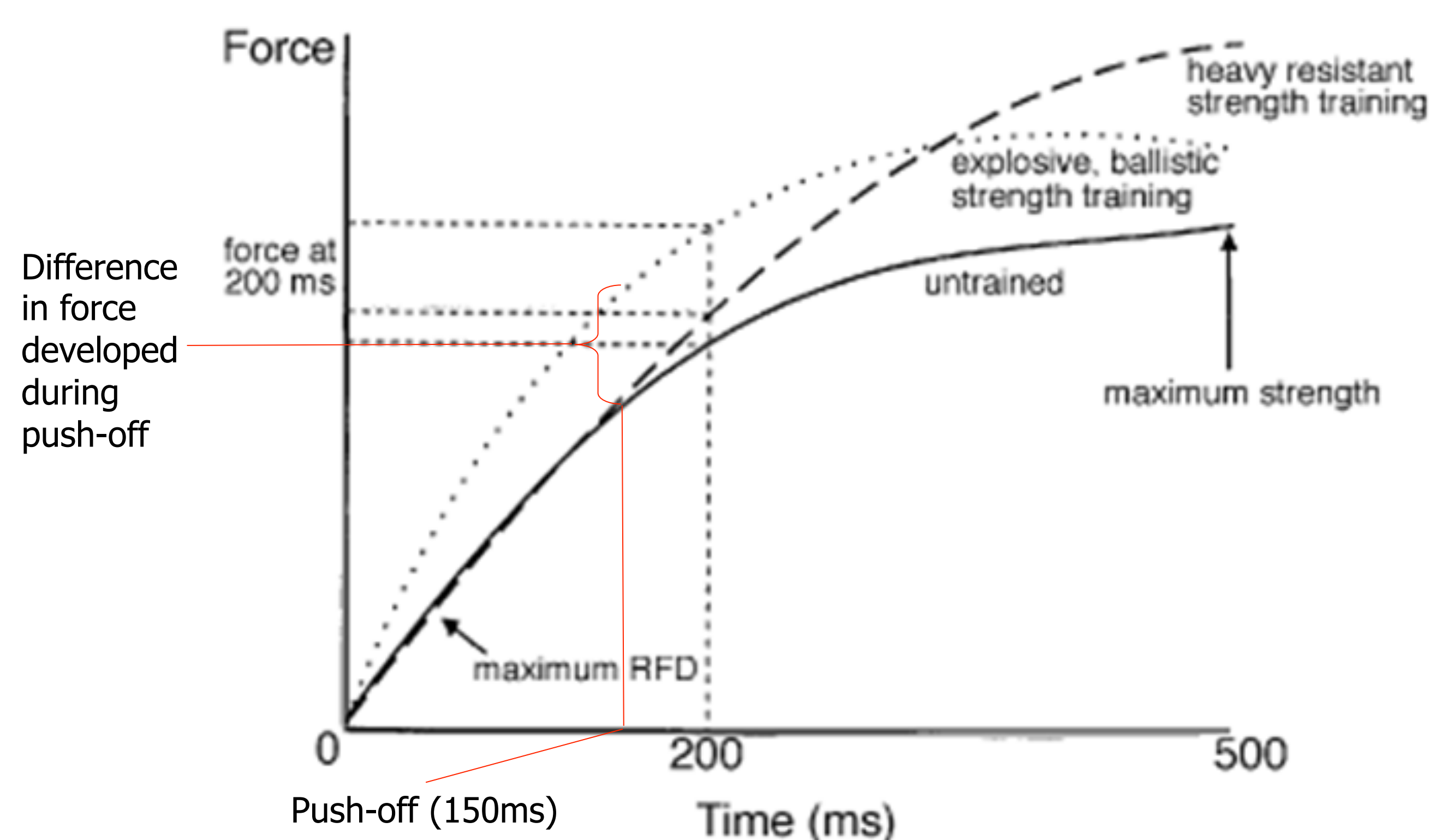


Figure 1 – Rate of force production⁶

Methods

Consecutively admitted inpatients to sub-acute rehabilitation with a primary diagnosis of first ever stroke with lower limb weakness, functional ambulation category score of ≥ 3 , and ability to walk ≥ 14 m were screened for eligibility to recruit 30 participants for randomization. Intervention was either standard therapy or BST three times per week for six weeks. Primary feasibility outcomes included recruitment rate, participant retention and attrition, feasibility of the exercise protocol, therapist burden and participant safety. Secondary outcomes included measures of mobility, lower limb muscle strength, muscle power and quality of life.

Participants randomized to 'control' performed exercises based on 'usual care.'

⁷ Participants randomized to BST completed a standardized exercise protocol (Figure 2) that focused on rate of force production and targeted the key muscles for forward propulsion within the active ranges required for gait. Both groups received three 45 minute sessions of training each week for six weeks whilst continuing to participate in their existing rehabilitation program.



Figure 2 – Ballistic Strength Training Exercises

Results

Thirty participants (11% of those screened), mean age of 50 (SD 18) years were randomized. The median number of sessions attended was 15/18 and 17/18 for the ballistic and control groups respectively. Participants performed the exercises safely, with no study-related adverse events. There was the need for more occasions of hands-on assistance for the exercises in the BST compared with the control group (60% versus 34%). There were significant ($p < 0.05$) between-group changes favoring the ballistic group for comfortable gait velocity (mean difference (MD) 0.31m/s, 95% confidence interval CI: 0.08 to 0.52), muscle power, as measured by peak jump height (MD 8cm, 95% CI: 3 to 13) and peak propulsive velocity (MD 64cm/s, 95% CI: 17 to 112). These results should be interpreted with caution due to the small sample size, lack of power calculation for secondary outcomes and the non-normal distribution of many of the secondary outcomes.

Discussion and Conclusion

Ballistic strength training is feasible in the early rehabilitation phase following stroke. Retention and attrition rates suggest that ballistic training was acceptable and the absence of study-related adverse events demonstrates it is a safe form of training to apply in future studies. Secondary outcomes demonstrated promising results, with significant improvements in both gait speed and muscle power.

Acknowledgements

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Do trials of resistance training to improve mobility after stroke adhere to the American College of Sports Medicine guidelines? A systematic review.

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Background

Muscle weakness is the main impairment contributing to mobility limitations after stroke¹ and resistance training is a primary intervention to address this². Despite demonstrating improvements in strength, there has been only a limited translation of strength gains as a result of resistance training into improved activity levels and physical function³.

The American College of Sports Medicine (ACSM) provides evidence-based recommendations (Table 1) for the implementation of resistance training⁴. To our knowledge, despite many randomized controlled trials investigating the effectiveness of resistance training in stroke, the extent to which these protocols adhere to the ACSM guidelines has never been reported.

Research Aims

To determine whether resistance training interventions to improve walking outcomes after stroke adhered to the ACSM guidelines and to determine if increased adherence to these guidelines was associated with superior mobility outcomes.

Table 1 – ACSM Principles of Exercise Prescription

PRINCIPLE	DEFINITION
Frequency	The number of days per week dedicated to an exercise program
Intensity	The percentage of 1 repetition maximum recommended
Type	The major muscle group most important to the task should be included in the exercise program*
Specificity	The muscle being trained must be specific to the goal of the training and should be exercised within the range of motion required for that task**
Repetitions	The number of repetitions within each set
Sets	The number of times the selected number of repetitions is repeated
Pattern	Rest intervals recommended between sets and between days
Progression	Exercise program should be progressed via an increase in resistance, repetitions or frequency of training

*Scoring was based on the program including the hip flexors and extensors and ankle plantarflexors⁵
**The goal of training was to improve walking

Methods

The protocol for this review was registered on PROSPERO (no. CRD42015017200). Online databases were searched from 1975 to 30 October 2016 and included studies examined the effectiveness of lower limb strength training on mobility outcomes in adult stroke participants.

Two independent reviewers completed data extraction. Quality of trials was determined using the Cochrane Risk of Bias Tool. Trials were scored based on their protocol's adherence to eight ACSM recommendations. To determine if a relationship existed between total adherence score and effect size, Spearman's rho (r_s) was calculated and between individual recommendations and effect size, Mann Whitney U or Kruskal Wallis tests were used.

Results

Thirty-nine trials met the inclusion criteria and 34 were scored on their adherence to the guidelines (Figure 1). Based on the small number of studies that could be included in pooled analysis ($n = 12$), there was no relationship between overall adherence and effect size ($r_s = -0.39$, $p = 0.21$).

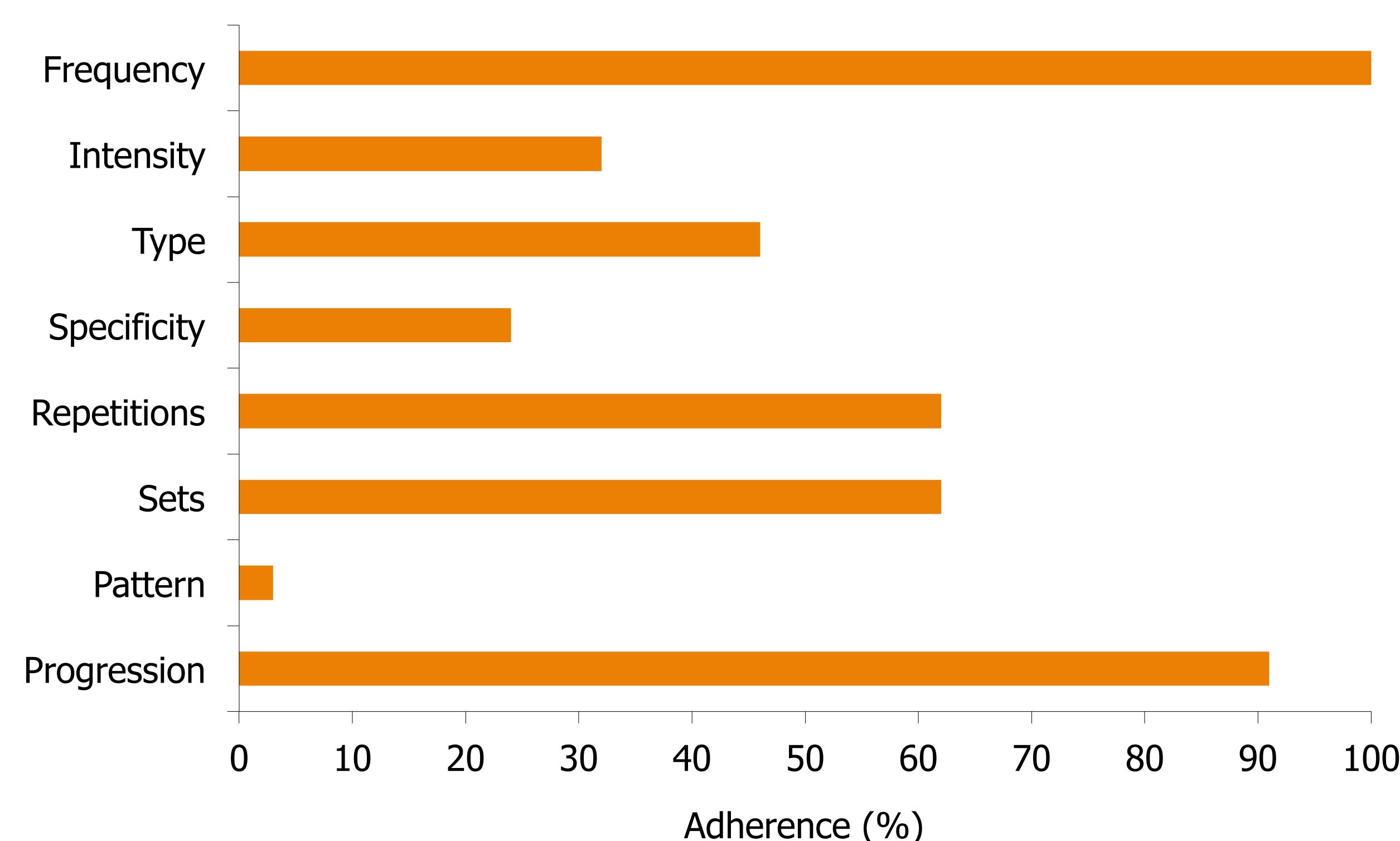


Figure 1– Percentage adherence to individual recommendations

Discussion & Conclusion

There was a wide variability in adherence to the ACSM guidelines and the reason for this remains unclear. Exercise selection was conservative in nature when compared with studies of healthy individuals. Many exercises used to strengthen the lower limbs failed to replicate the muscle function required for walking.

The lack of significant relationship found between adherence to the recommendations and effect size for walking variables was unexpected but could reflect the small number of trials analyzed for the secondary aim ($n = 12$), the small sample sizes in these studies (mean participant number 46 ± 33) and the reduced quality of these 12 trials.

The most effective means to treat muscle weakness in stroke populations to maximize functional gains remains unclear, and further research into strength training protocols which more closely adhere to the ACSM guidelines are recommended to determine the effectiveness of strength training in stroke populations.

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Longitudinal associations of Angiotensin Converting Enzyme inhibitors and Angiotensin Receptor Blockers with brain atrophy

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Background

Hypertension is associated with an increased risk of dementia

Blood pressure (BP) lowering trials to reduce dementia risk are inconclusive

Choice of blood pressure lowering agent may be important

Angiotensin II receptor blockers (ARB) may be particularly beneficial

Angiotensin Converting Enzyme inhibitors (ACEi) may be less beneficial

Aim

To study the association between ACE inhibitor or ARB use and longitudinal change in brain volume over time

Hypotheses

When compared to sample of people taking an ARB, those taking an ACE inhibitor will have accelerated loss of brain volume over time

Methods

Design - Longitudinal study

Participants

Study sample – from National Diabetes Service Scheme Database in Southern Tasmania, Australia (age >55).

Comparison sample –randomly selected from electoral roll in Southern Tasmania (age> 60).

Measurements at 3 time points

Clinical and Lifestyle measures

Weight, height, blood pressure, smoking

Medications

Nursing-reviewed all medications with participants

Manually categorized blood pressure medications according to drug class

Structural MRI

A 1.5T MRI brain scan.

Supratentorial volume measured using automated segmentation

Analysis

Linear mixed modelling to examine the relationship between BP lowering agents and brain volume across time points.

Interactions between BP lowering agents and time from first MRI were tested to examine for differences in rates of brain volume loss.

Models adjusted for baseline systolic and diastolic blood pressure, education, age, sex, obesity and apolipoprotein E4 (APOE4) status

Results

Table 1. Baseline sample characteristics

	No BP lowering	ACEi	ARB
	Mean (sd) n (%)	Mean (sd) n (%)	Mean (sd) n (%)
n	198	163	125
Age	68.9 (7.3)	69.9 (7.5)	69.6 (7.5)
Female Sex	84 (42)	67 (41)	60 (48)
Years of formal education	12 (4)	12 (3)	11 (3)
Systolic blood pressure	140 (20)	138 (21)	137 (20)
Diastolic blood pressure	80 (11)	78 (11)	77 (12)
APOE4 positive	50 (25)	42 (26)	32 (26)
Body Mass Index	27 (4)	30 (5)	30 (5)
Type 2 Diabetes	72 (36)	104 (64)	78 (62)

Table 2. Sample characteristics by time point

	Phase 1	Phase 2	Phase 3
	Mean (sd) n (%)	Mean (sd) n (%)	Mean (sd) n (%)
No BP lowering drug (n)	198	138	102
Age (years)	68.9 (7.3)	68.6 (7)	67.8 (6.8)
Female	84 (42)	59 (43)	40 (39)
ACEi (n)	163	96	77
Age (years)	69.9 (7.5)	69.0 (7.0)	68.3 (6.7)
Female	67 (41)	33 (34)	25 (32)
ARB (n)	125	79	60
Age (years)	69.6 (7.5)	68.3 (6.7)	68.5 (6.7)
Female	60 (48)	40 (51)	32 (53)

Results

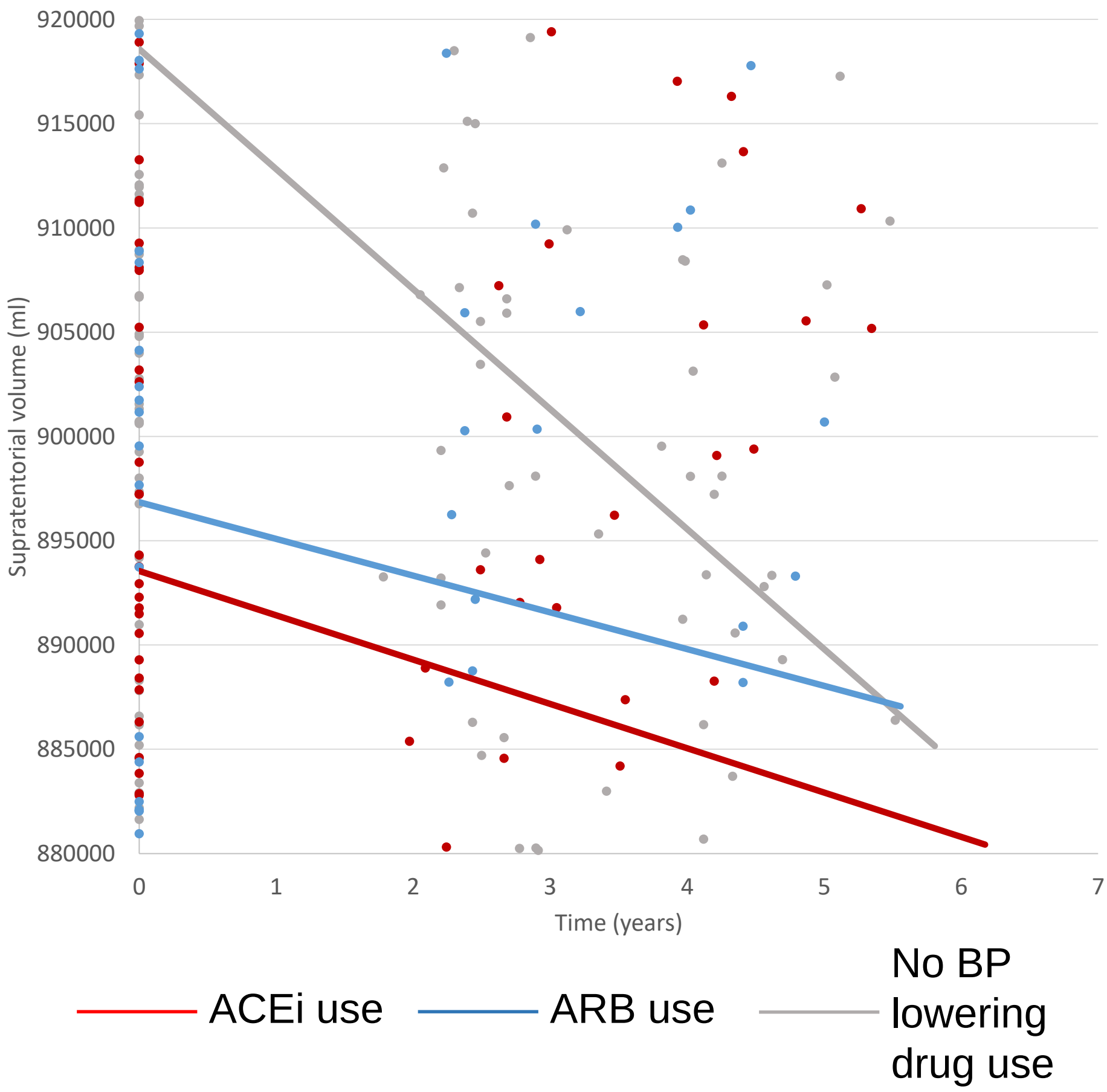
Median duration of follow up was 3.4 years

A total of 198 people were taking no BP lowering medications, 166 taking 1 agent, 117 taking 2 agents, 67 taking 3 agents, 17 taking 4 agents and 1 taking 5 agents

In those taking Renin Angiotensin System (RAS) inhibitors, there was no difference between ACEi and ARB on brain volume across time points ($\beta = -70$, $p = 0.99$)

There was an interaction between RAS inhibitors and time whereby those taking an ARB had a slower rate of brain atrophy than those taking ACEi ($\beta = 2055$, $p = 0.03$). See **Figure 1**.

Figure 1. Associations of ACEi use and ARB use on longitudinal changes in brain volume



Conclusions

Angiotensin Receptor Blockers may reduce rates of brain atrophy more than Angiotensin Converting Enzyme Inhibitors but the size of any effect sizes are small

Acknowledgements

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Dr Chris Moran is supported by an NHMRC-ARC Early Career Dementia Fellowship

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Melatonin To Treat Delirium In Older People: A Feasibility Study

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¹Department of Aged Care, Alfred Health; ²Academic Unit, Department of Medicine, Peninsula Health, Monash University; ³Department of General Medicine, Alfred Health; ⁴Department of Palliative Care, Alfred Health; ⁵Pharmacy Department, Alfred Health; ⁶Centre for Medicine Use and Safety, Faculty of Pharmacy and Pharmaceutical Sciences of Monash University

Background

- Delirium is associated with disruption in the sleep-wake cycle
- Some clinicians use melatonin to manage delirium despite an absence of evidence to support this practice.
- We proposed a pilot, double-blind, randomized, placebo-controlled trial of the use of 2mg Circadin nocte starting within 48 hours of admission for 7 days, measuring delirium severity and sedative use

Aim

To assess the feasibility of recruitment strategies and protocol processes.

Methods

Design: Pilot, randomized, double-blind, placebo controlled trial

Setting: General Medical patients admitted to wards 4 East and 4 West B at The Alfred

Inclusion Criteria:

- Aged 65 years and older
- Have a diagnosis of delirium on admission (based on the 4AT and physician assessment)

Exclusion Criteria:

- Current use of melatonin
- Current use of antipsychotic or benzodiazepine
- Contraindication to taking melatonin such as known allergy
- Unable to swallow capsules

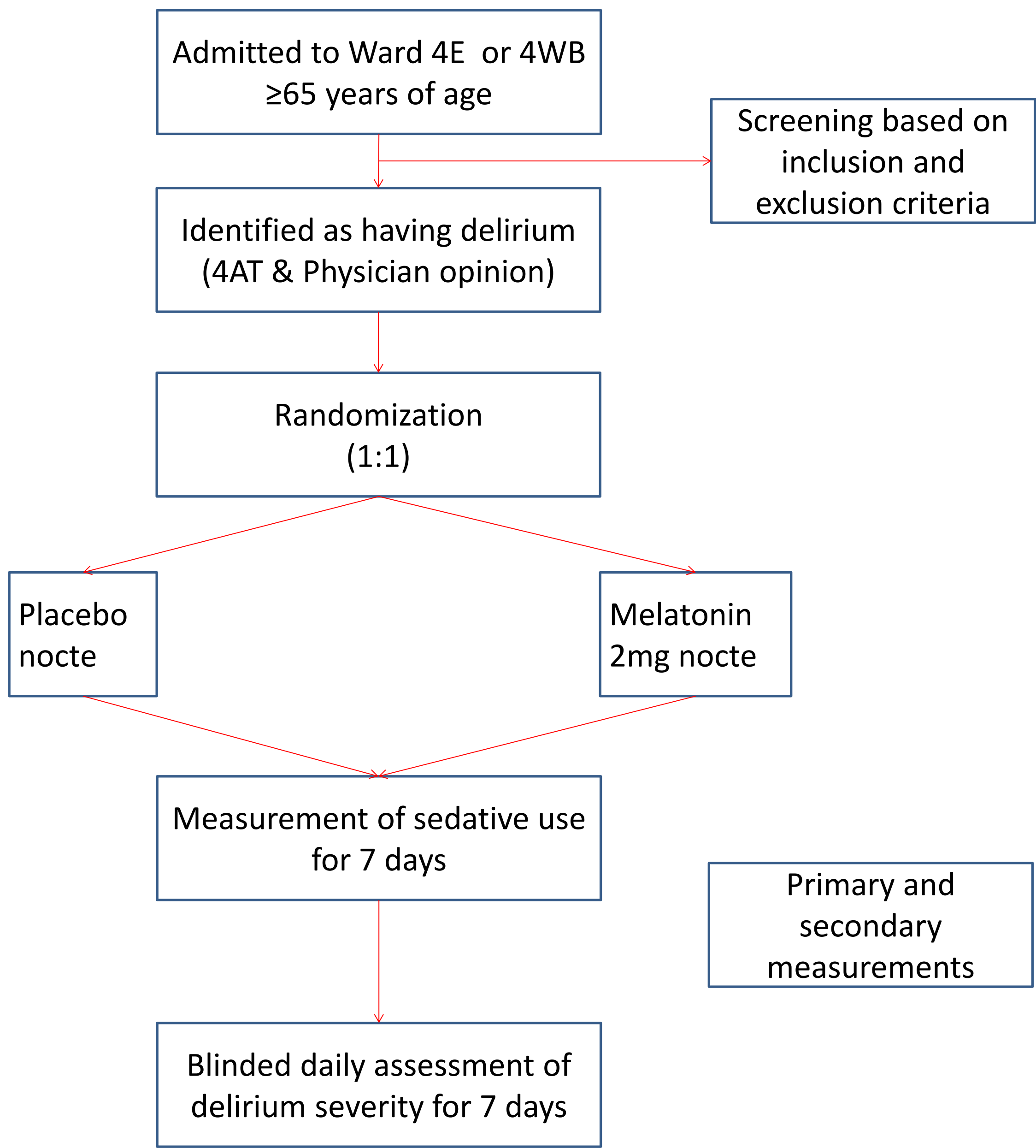
Intervention:

Methylcellulose capsule placebo or 2mg Melatonin placed inside methylcellulose capsule nocte for 7 days.

Outcome measures

- Sedative use for 7 days (at The Alfred or at Caulfield Hospital)
- Delirium severity using the validated Memorial Delirium Assessment Scale (MDAS)

Figure 1: Study design

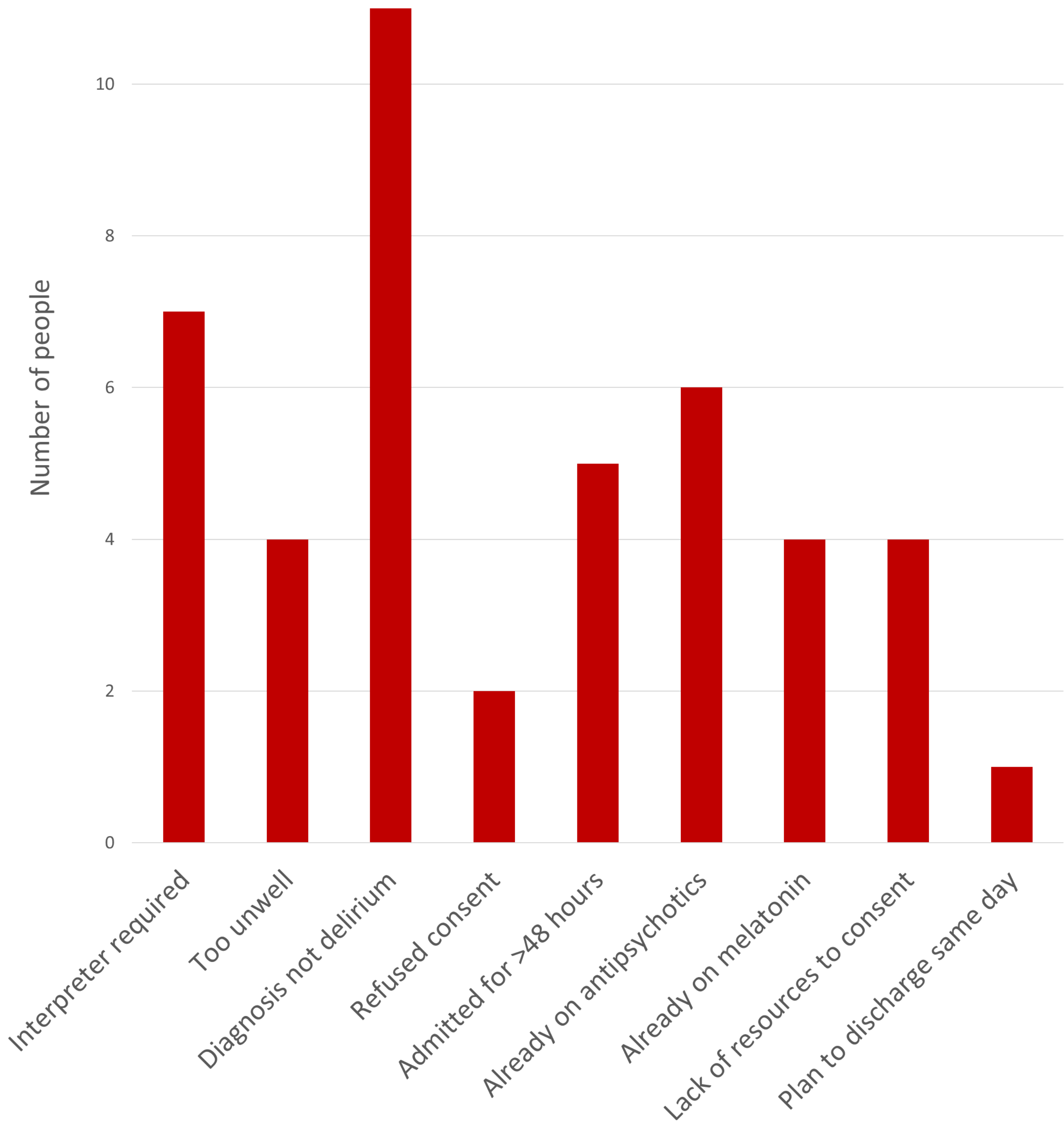


Results

Recruitment from November 2017- March 2018

- As a result of regular research update meetings we trialled three distinct recruitment strategies:
- treating team informing research nurse of potentially suitable people;
 - research nurse approaching treating teams daily to identify potentially suitable people;
 - research nurse and two clinicians reviewing admission notes of all admissions daily and screening based on documentation of new confusion.
- The latter strategy identified more people but did not result in improved recruitment.
 - A total of 60 eligible people identified, 6 were successfully recruited.
 - The reasons for non-recruitment are described in **Figure 2**.

Figure 2. Reasons for trial non-recruitment



Due to the small number of people recruited, detailed analysis was not possible. The characteristics of the people recruited and the time taken are reported in **Table 1**

Table 1. Sample characteristics and time to recruit and assess

	Mean (sd) n (%)
N	6
Age (years)	86.6 (7.0)
Male Sex	4 (67)
Live alone	3 (50)
Time to complete initial paperwork (mins)	20 (7)
Time to complete MDAS (mins)	10 (4)

Conclusions

Our experience highlights the well-documented challenges of recruiting people with delirium into clinical trials. Recruitment could be improved with additional resources to support clinicians diagnose delirium and in the availability of interpreters to assist with delirium diagnosis and obtaining consent.

Acknowledgements

This study was supported by a Caulfield Hospital Major Project Grant

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Evaluating Patient Satisfaction of New Medichef

Menu at Caulfield and Sandringham Hospitals.

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Alfred Health Nutrition Department

Introduction

- Caulfield and Sandringham Hospitals receive meals from Medichef Central Production Kitchen (CPK), which introduced a revised menu, implemented May 2017.
- Patient Experience Survey (PES) and Victorian Health Experience Survey (VHES) measure patient satisfaction of food which only ask "How do / would you rate the hospital food?"
- No current data was available on acceptability of specific meals to the patient population at Caulfield and Sandringham Hospitals.
- The research aimed to quantify levels of satisfaction with the menu and contributing factors.

Aim

To evaluate patient satisfaction of the newly implemented Medichef menu across Caulfield and Sandringham Hospitals

Methods

- An adapted Meal Quality Audit Tool (Rating scale 1-5) was utilised obtained feedback from patients admitted on 8 wards at Caulfield and Sandringham Hospitals.
- Approval was received from The Alfred Research & Ethics Committee to utilise an
- Verbal consent was received from patients who participated in the survey.

Results

- Meal Quality Audit Tools were administered across 17 days and 34 meal times, and results collated for all survey responses (Aged Care and Sandringham n=343, Rehabilitation and ABI n=285).
- Average satisfaction scores were identified for meal item categories and ranged from 3.7 - 4.1 (Overall 3.8) in Aged Care/Sandringham and 2.6 - 4.3 (Overall 3.85) in Rehabilitation/ABI.
- Additionally, 10 main meals, 2 soups, 1 dessert and 7 side dishes were identified as rating poorly.
- Qualitative data collated from comments provided showed no difference in satisfaction ratings related to length of stay.

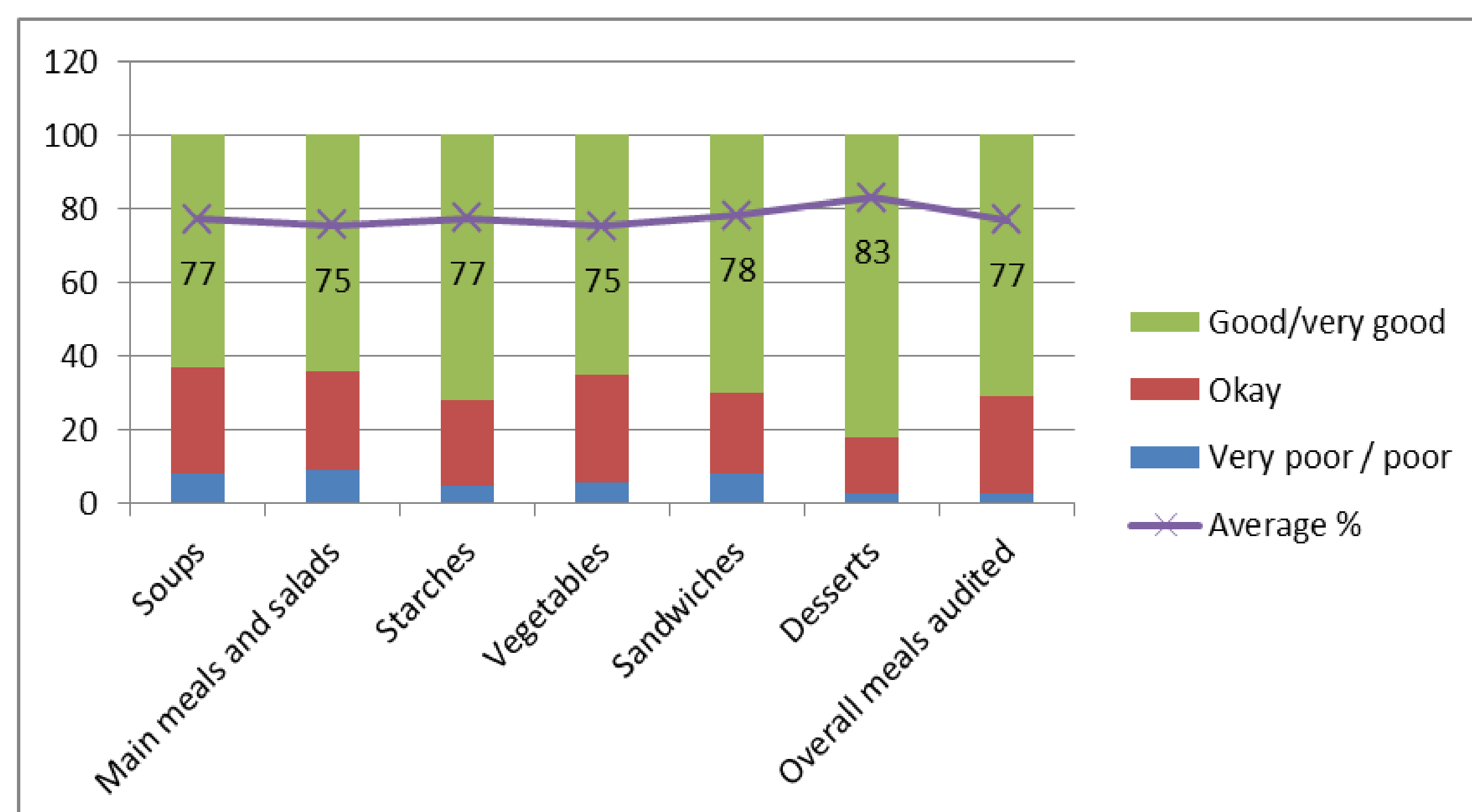


Figure 1.0. Average satisfaction scores for Aged Care

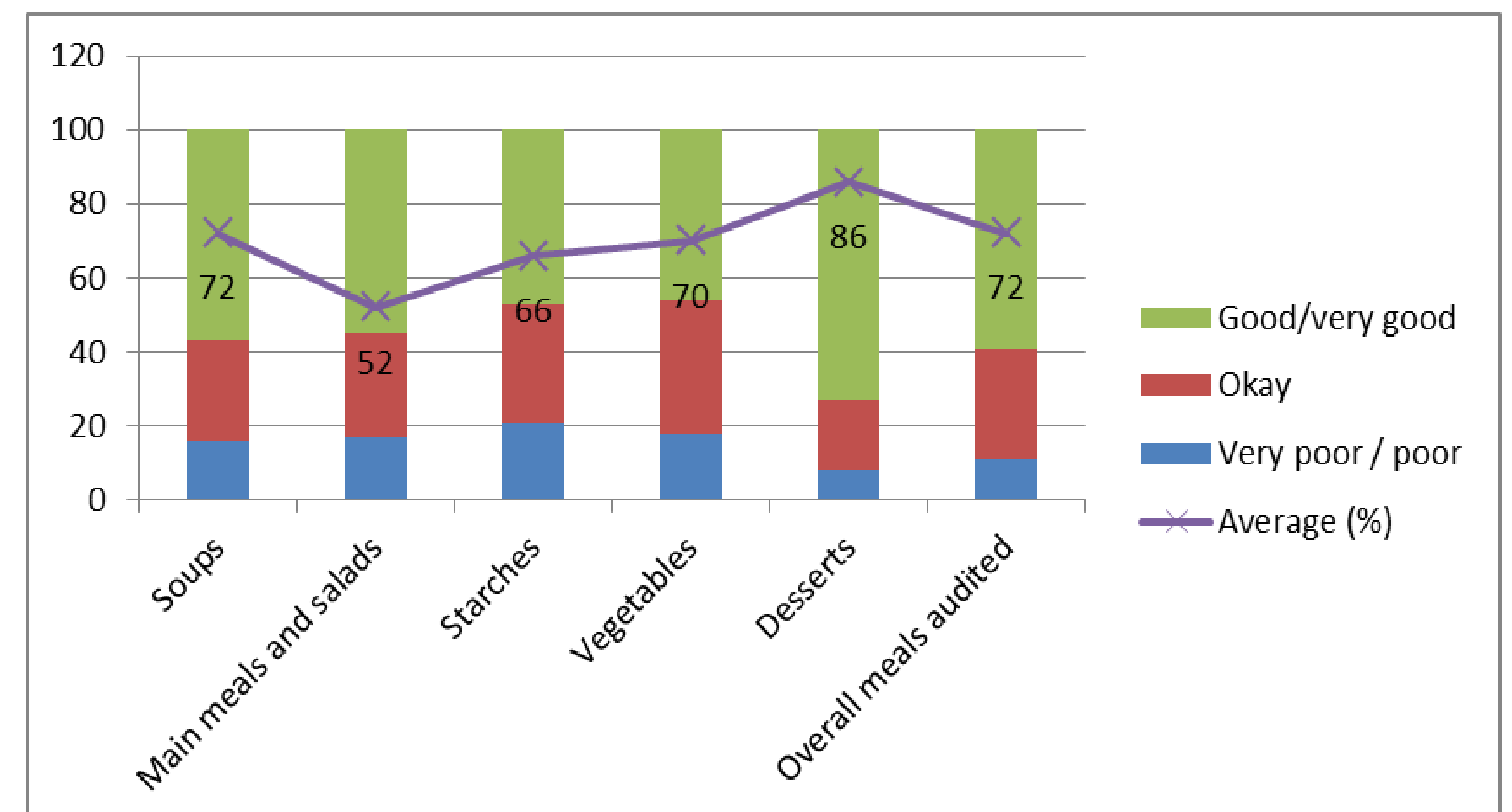


Figure 2.0. Average satisfaction scores for Rehabilitation

- Patients who did not make a menu selection and received a default meal, were less likely to rate their meals positively (63% vs 73%) in Aged Care/Sandringham, with Rehabilitation/ABI rating meals more negatively (26% vs 9%).

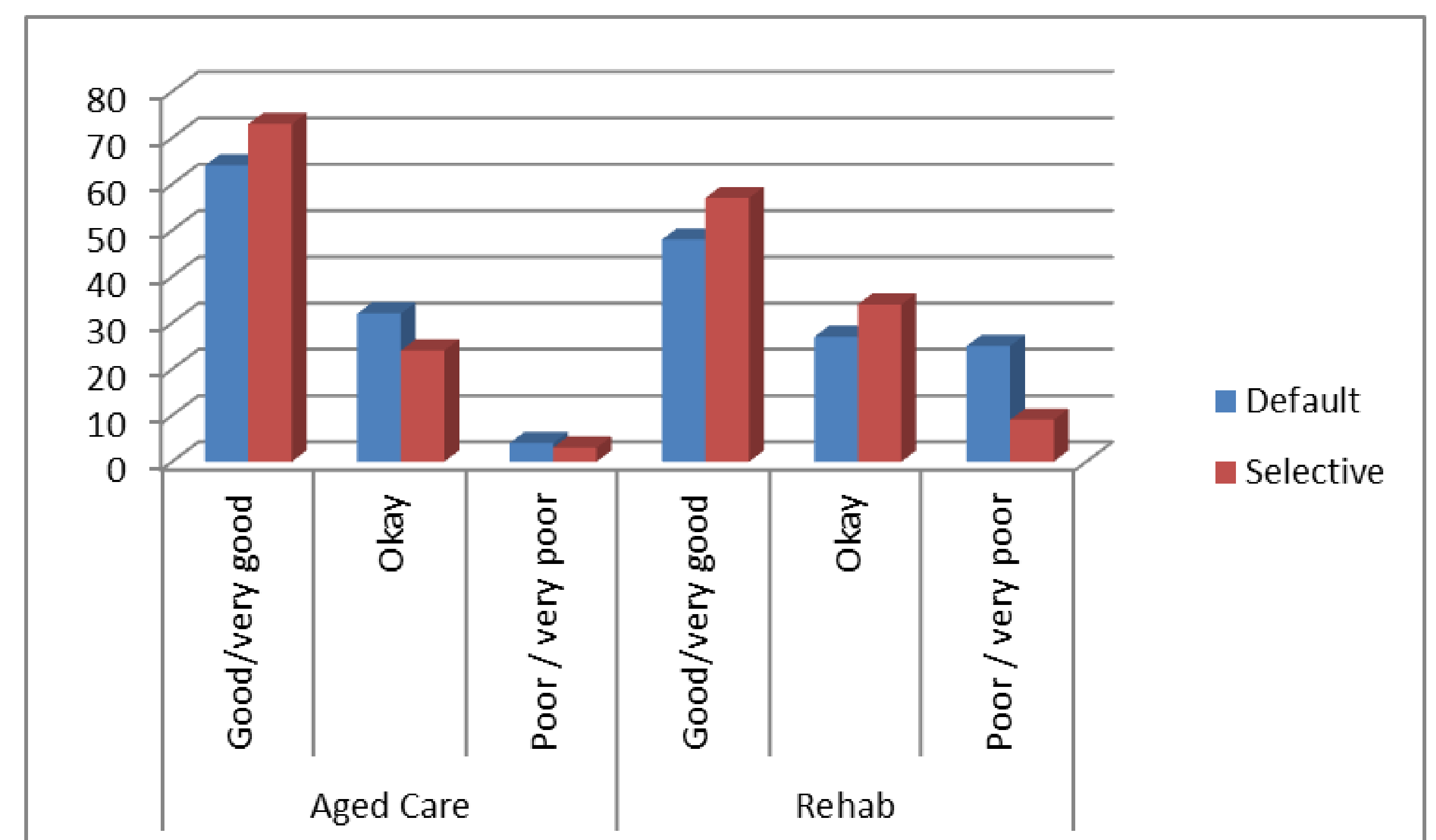


Figure 3.0. Percentage scores of selected vs default meals and effect on satisfaction

Discussion

- The survey results indicated moderate level of satisfaction with meals provided at Caulfield Hospital.
- Detailed findings were generated allowing feedback to the CPK, as well as internal review and amendment of dishes available on the menu.
- Further, Quality improvement activities aimed at increasing patient opportunities to make a menu selection are being implemented in order to enhance menu satisfaction rates.

Practice Implications

- ✓ If a patient receives a default meal, they are more likely to rate their meal poorly
- ✓ If a patient rates their meal poorly, they are less likely to consume the meal provided, increasing the risk of malnutrition

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Understanding the impact of obesity on hospital outcomes in an inpatient rehabilitation setting

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BACKGROUND

OUR AIMS AND OBJECTIVES

OUR METHODS

- ↑
The percentage of obese Australians is increasing
- Obesity is associated with poorer health outcomes and higher hospital costs
- ?
There is no Australian hospital prevalence study of this kind

- The overall aim of this study was to understand the impact of obesity on hospital outcomes in inpatient rehabilitation
- 1

To establish the prevalence of obesity in a subacute rehabilitation setting
- 2

To examine the impact of obesity on hospital outcomes
- 3

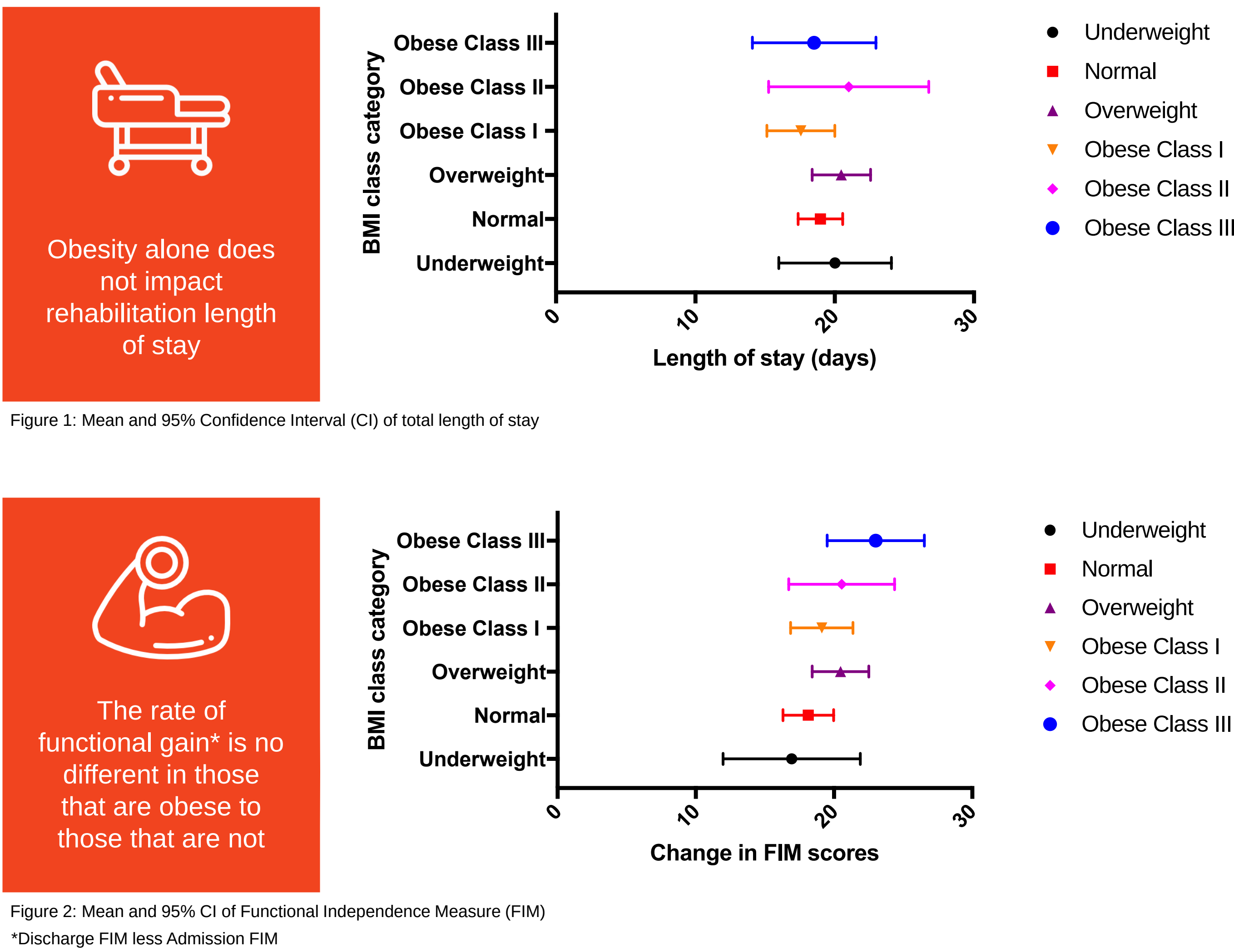
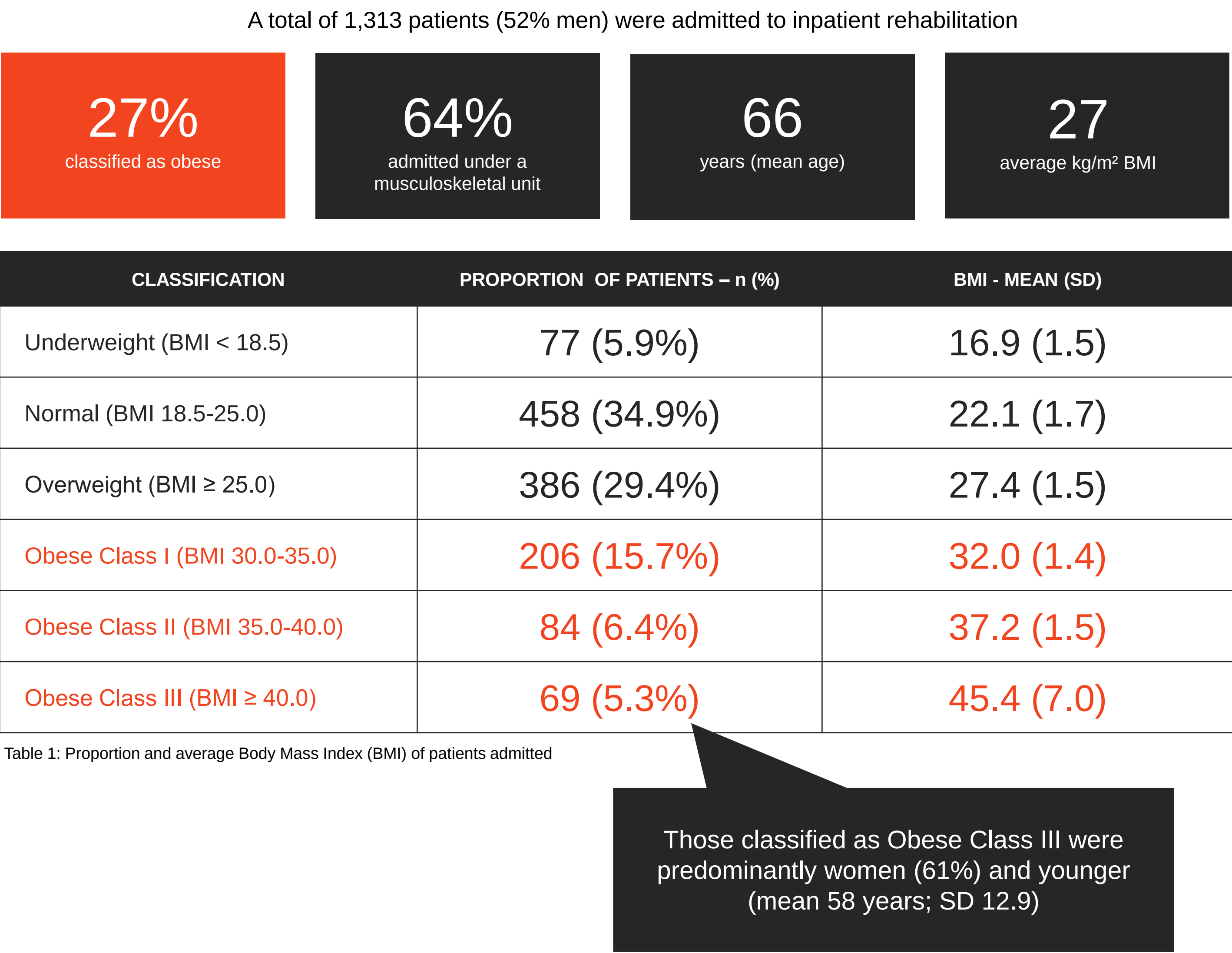
To explore staff experience, knowledge and perceptions of working with patients whom are obese

- A mixed methods study design was used to address all aims
- 

Retrospective file audit
An audit of computerized medical records was undertaken of consecutive inpatients admitted to rehabilitation between 1st January and 31st December 2015
- 

Staff clinical survey
All medical, nursing and allied health staff working across the rehabilitation wards at Caulfield Hospital were invited to complete an *Impact of Obesity* survey

WHAT WE SAW IN THE DATA

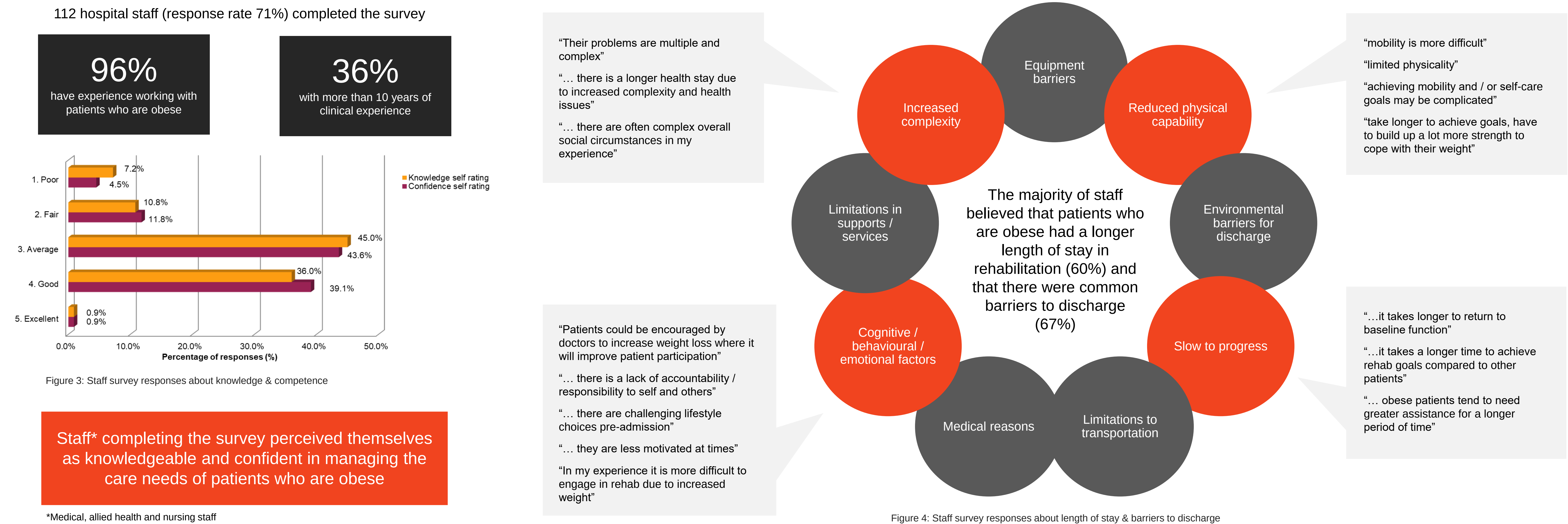




The rate of functional gain* is no different in those that are obese to those that are not

● Underweight
■ Normal
▲ Overweight
▼ Obese Class I
◆ Obese Class II
● Obese Class III

WHAT STAFF TOLD US



CONSIDERATIONS AND POSSIBLE NEXT STEPS

- 

Obesity does not impede functional improvement during rehabilitation or prolong the length of stay
- 

What are the reasons behind the staff misperception of a longer length of stay in rehabilitation?

Further in depth interviews into staff perceptions in addition to prospective data on service provision, service delivery and resource allocation may help answer this question
- 

Does a negative weight stigma impact staff communication and/or the delivery of care?

Further research and staff training in the care of the patient whom is obese may be warranted
- This research demonstrates the disparity between staff perception and the data analysed in regards to the impact of obesity on hospital outcomes.
- An overwhelming number of staff (91%) believe care needs are greater for those that are obese. Are staff working harder to assist clients to achieve comparable hospital outcomes to those that are not obese?
- This research begins an important conversation around weight stigma. Select staff responses highlight the presence of stereotypes and assumptions when working with those whom are obese.

How does impaired self-awareness influence clinicians' selection of cognitive rehabilitation interventions?

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¹Acquired Brain Injury Rehabilitation Centre, Alfred Health, Melbourne, Australia; ² Occupational Therapy Department, Alfred Health, Melbourne, Australia; ³ La Trobe University, Melbourne, Australia; ⁴ University of Queensland, Queensland, Australia; ⁵University of British Columbia, Canada

BACKGROUND AND OBJECTIVES:

Self-awareness deficits following acquired brain injury (ABI) impact on rehabilitation outcomes, with intact self-awareness believed to be a prerequisite for successful delivery of many cognitive rehabilitation interventions (Lucas & Fleming, 2005). While several practice frameworks have been recommended to guide cognitive intervention for various stages of awareness (Crosson, Barco, Velozo, & Bolesta, 1989; Toglia & Kirk, 2000), little is known about how therapists evaluate changes in awareness over time, and how this influences prescription of cognitive rehabilitation. The need for an individualised approach to treatment of awareness deficits has been identified through exploration of the client experience throughout the rehabilitation process (Dirette, 2002; Ownsworth, Turpin, Andrew, & Fleming, 2008), with clinicians' perspectives and clinical reasoning requiring further exploration.

The aim of this study is to explore the views, beliefs, and attitudes of clinicians on selecting and adapting cognitive rehabilitation strategies with patients after ABI who demonstrate impaired self-awareness.

METHOD:

Design: Qualitative focus group study with occupational therapists. Stimulus questions explored current approaches to assessment and clinical reasoning, along with how assessment of patients' self-awareness impacts on selection of rehabilitation interventions in an inpatient rehabilitation setting.

Participants: Seven Occupational Therapists who were currently working on an inpatient ABI Unit from a major metropolitan hospital in Melbourne, Australia.

"In the community they're less protected by the structure of the hospital...sometimes removing some of that structure can help build awareness...(OT4)"

"For someone who's quite low level that has reduced awareness, you might start off with a lot of assistance and external strategies...whereas you might have someone higher level who's taking on board your feedback and implementing some strategies...assessment really does guide what grade you set intervention at"(OT2)"

"Assessment gives you a good idea of where patients are in the stage of cognitive rehab and what strategies you should be using. So if they have got no awareness, you may need to give them more education...(OT1)"

"It [assessment] can be a useful tool for building insight, and some patients are quite receptive, but we are assessing for self-awareness, so you're going to find patients that are quite defensive and have trouble engaging in those conversations"(OT3)"

Data analysis: Interviews were recorded and transcribed. Thematic analysis was completed, and involved use of open, axial, and selective coding techniques (Liamputtong & Ezzy, 2005).

RESULTS:

Two main themes emerged from the data. These included "Dynamic evaluation process" and "Contextualised opportunities". See **Diagram 1** for themes and subthemes.

Theme 1: "Dynamic evaluation process" highlights the dynamic and interactive nature of self-awareness assessment that was reported to be an ongoing process over time. Clinicians identified a range of assessment methods used to measure awareness (See **Diagram 2**).

Structured feedback mechanisms: Assessment of self awareness was described to be characterised by structured feedback mechanisms that held both benefits and challenges.

Guidance for intervention: Self-awareness assessment outcomes were reported to inform the starting point for intervention, with targeted intervention strategies developed that considered patients' cognitive abilities in combination with level of demonstrated awareness.

Assessment as intervention: Self-awareness assessments were described to simultaneously serve as an intervention approach through opening up discussions around performance that may contribute to building awareness.

Continual process: Assessment was reported to be an ongoing process across rehabilitation, with the need to re-evaluate patients' levels of awareness as their abilities changed over time in order to provide an individualised and targeted approach to rehabilitation.

Part of **AlfredHealth**

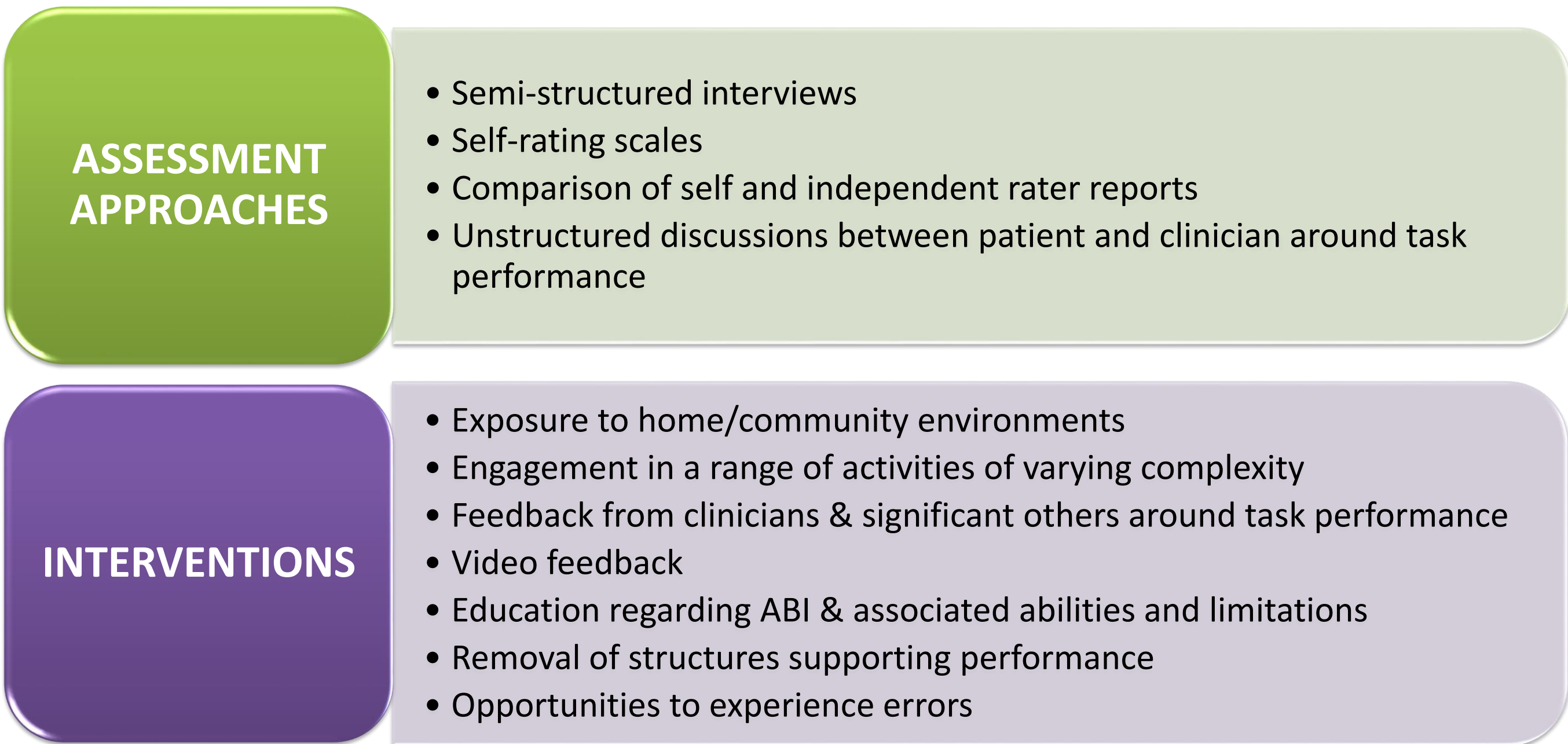


Diagram 2: Identified assessment and intervention approaches

Theme 2: "Contextualised opportunities" describes the identified need for a multicontext treatment approach to build awareness throughout rehabilitation. Specific intervention strategies reported by clinicians are listed in Diagram 2.

Task complexity: The importance of opportunity for exposure to a range of activities of varying complexity was raised by clinicians. The structured hospital setting was reported to limit the opportunity for the challenge required to build awareness for some patients, with simulation of more complex daily activities identified to be a barrier in this setting.

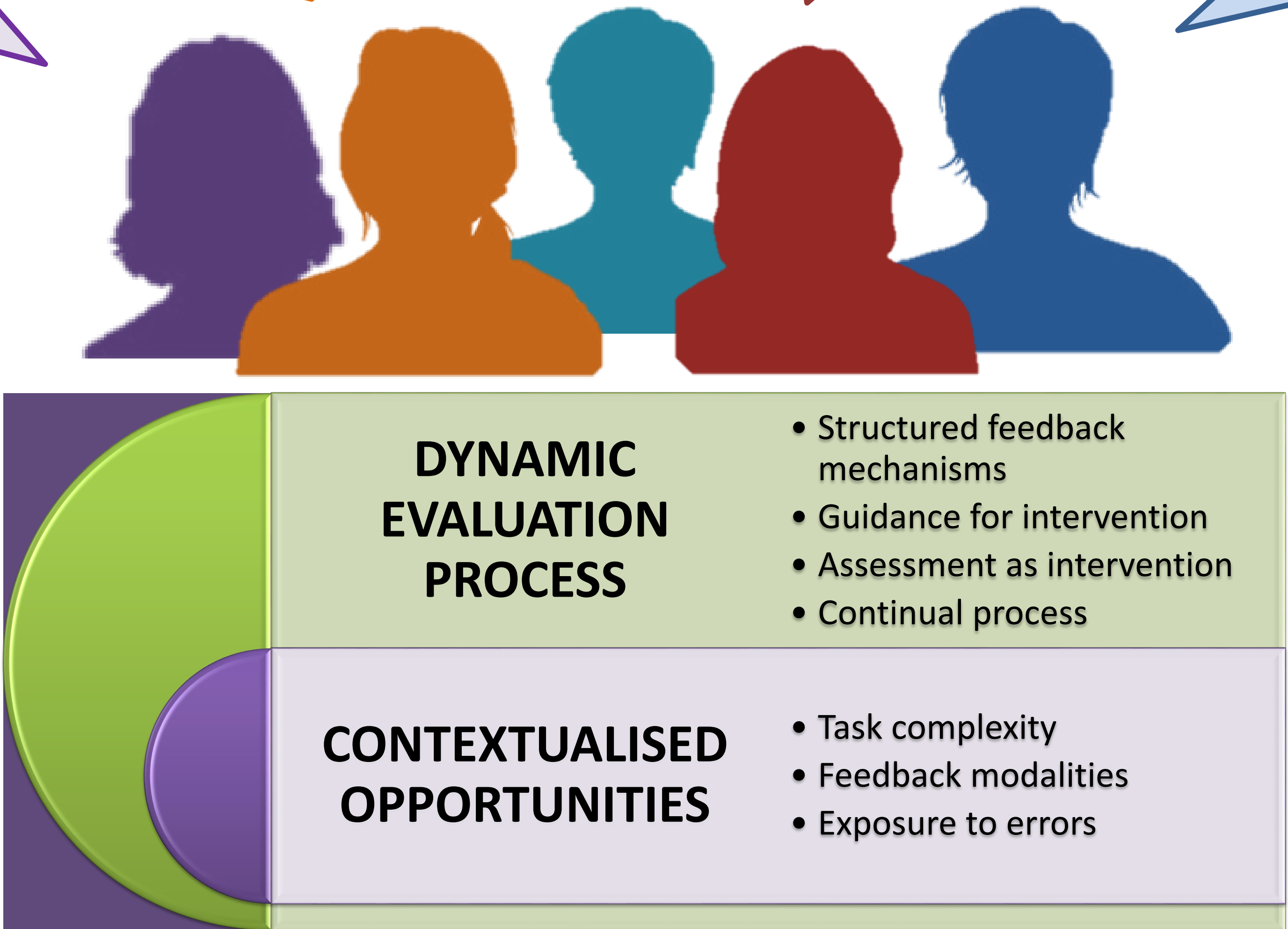


Diagram 1: Themes and subthemes

Exposure to errors: Supported opportunities for patients to experience activity errors in the community context was reported to be an important component of developing awareness, along with receipt of feedback from family or significant others.

Feedback modalities: Feedback was described to be delivered through environmental exposure, as well as direct feedback from both clinicians and significant others.

CONCLUSIONS:

This study highlights that selection of a robust measure of self-awareness, and understanding about the efficacy of cognitive rehabilitation approaches in adults with self-awareness deficits, is key. Best practice cognitive rehabilitation should include evaluation and re-evaluation of self-awareness over time to ensure that cognitive rehabilitation programs remain person-centred and targeted towards patients' changing needs.

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Factors impacting on selection and use of cognitive assessments by occupational therapists working in an inpatient setting

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Introduction: Screening and assessment of cognitive ability for persons admitted with neurological impairments assists with rehabilitation and discharge planning. Whilst International and National Guidelines recommend the completion of validated cognitive assessment during acute and subacute hospitalization, little is known about the barriers or facilitators impacting on occupational therapists ability to carry out these recommendations.

Aim: The objective of this study was to use the theoretical domains framework (TDF) to explore and understand what factors may influence occupational therapists ability to consistently apply these recommendations.

Method: Cross-sectional study completed within one area health network. Ethical approval was granted and occupational therapists across Alfred Health (N =81) were invited to participate in an online survey based on the Theoretical Domains Framework (TDF) and COM-B ('capability', 'opportunity', 'motivation' and 'behaviour') model. Qualitative data was analysed for themes using theoretical domains described by Michie and colleagues (2005).

Results: 40 occupational therapists (49%) responded to the survey. All (100%) indicated that they were aware of the Alfred Health occupational therapy suite of recommended cognitive assessments. Participants identified cognitive assessment as a core component of their role, with over half completing cognitive assessments on at least a weekly basis (57%). Of the thirty two responses regarding cognitive assessment recommendations and clinical practice guidelines (CPG's) 25% answered with a known CPG.

- Open statements on the survey coded under the TDF fell predominantly under two domains;
- Environmental context and resources (Opportunity)** noted both barriers; *“it is very difficult to complete the CAM in the acute setting due to noise and not enough space and privacy”* and enablers; *“the introduction of a written form to complete post a CAM has been extremely helpful.”*
 - Therapists’ **belief about their capabilities (Motivation)** also noted challenges; *“I feel confident with specific assessments that I have used and am familiar with, however a few of the assessments I have not administered and therefore do not feel confident with”.*

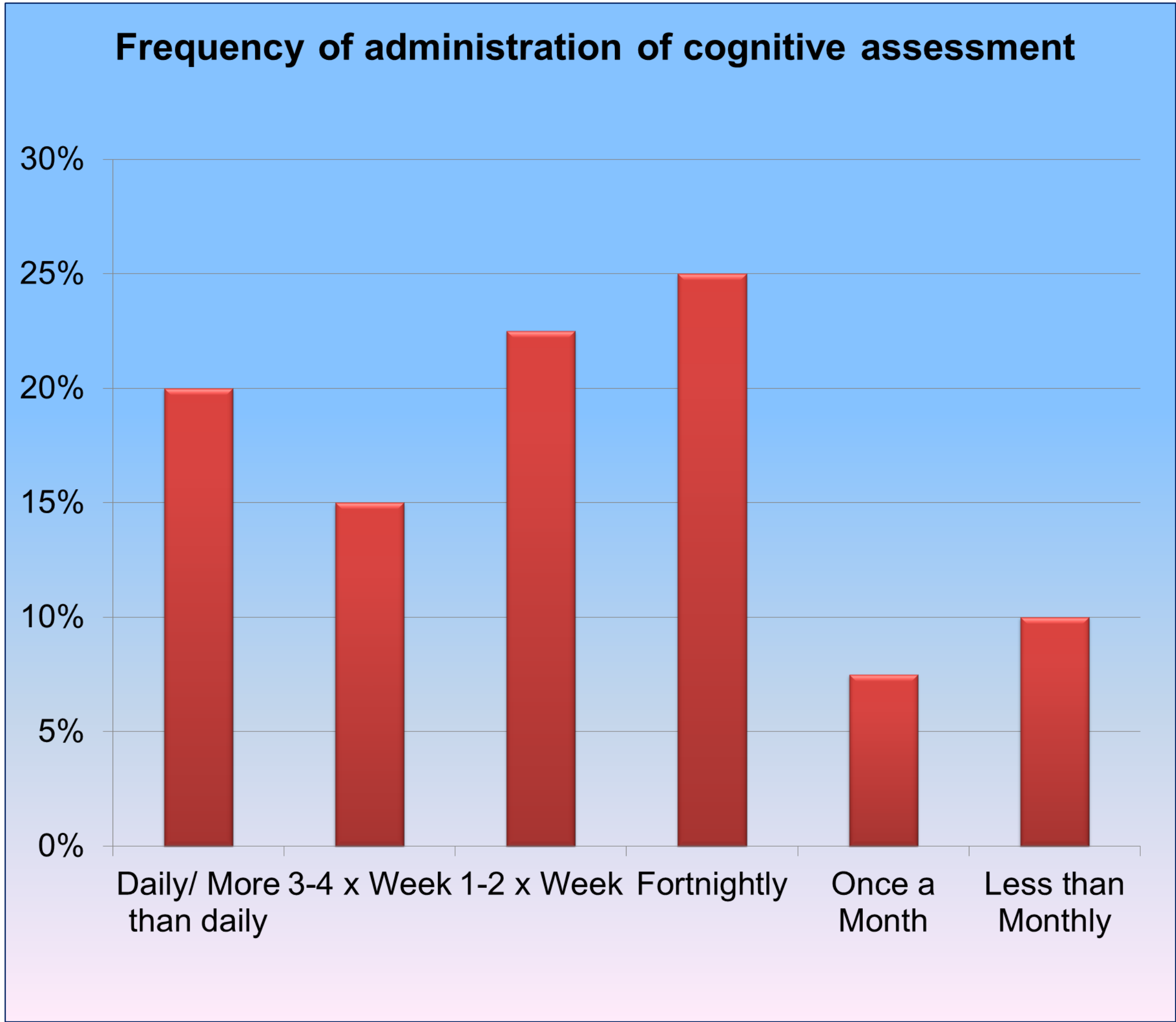


Table 1. Survey results mapped onto the COM-B and TDF Domains

COM-B	TDF Domains	Example Survey Questions * negative responses are reversed	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree
Capability <i>Clinician's physical and psychological capacity to engage in the behaviour</i>	Physical Skills	I have had the opportunity to develop my skills in administering cognitive assessments	53%	32%	7%	9%	2%
	Knowledge	I know how to administer cognitive assessments following the recommendations	57%	27%	7%	9%	0%
	Memory, Attention and Decision processes	I always consider administering standardised assessments when working with patients with cognitive impairments.	58%	29%	9%	4%	1%
	Behavioural Regulation	I have a clear plan for how I will administer the recommended cognitive assessments	54%	31%	8%	8%	0%
Opportunity <i>Factors outside the clinician that make performance of behaviour possible, or prompt it</i>	Social Influences	I can count on support and guidance from other clinicians if I am unsure about selecting or interpreting results from a standardised cognitive assessments	60%	15%	13%	10%	3%
	Environmental Context & Resources	In the organisation I work, all necessary resources are available to administer cognitive assessments which adhere to best-practice guidelines	54%	21%	8%	16%	3%
Motivation <i>All brain processes that energize and direct behaviour</i>	Beliefs about capabilities	For me planning the rehabilitation of cognition based on the results of the cognitive assessments is very easy	26%	38%	21%	15%	2%
	Optimism	When I administer cognitive assessments I feel optimistic	23%	23%	43%	10%	3%
	Beliefs about consequences	If I deliver a recommended cognitive assessment I will be able to tailor a person's cognitive rehabilitation more accurately	38%	36%	18%	5%	3%
	Intentions	I plan to always administer cognitive assessments following the recommendations	48%	35%	18%	0%	0%
	Goals	Other assessments or interventions are often more urgent than administering cognitive assessments*	13%	33%	13%	25%	18%
	Social/Professional Role & Identity	Administering standardised cognitive assessments which are listed by the managers is part of my work as an occupational therapist	88%	13%	0%	0%	0%
	Reinforcement	When I administer cognitive assessments, I get recognition from my peers	10%	18%	35%	28%	10%
	Emotion	When I administer cognitive assessments I feel nervous*	3%	10%	21%	31%	36%

Conclusion: Our findings advance understanding of what facilitates and inhibits adherence to cognitive assessment recommendations. The TDF and COM-B provided a useful conceptual basis which identified areas such as environment and resources (Opportunity), as well as therapists’ belief in their own capability to interpret results and plan rehabilitation (Motivation). Findings also suggest the need to build clinicians' awareness of the evidence underpinning the selection of cognitive assessments. The next phase of this project will involve mapping the results of this survey and focus group data against TDF to develop interventions to improve staff adherence to implementing recommended cognitive assessments in clinical practice.

Reference: Michie, S., Johnston, M., Abraham, C., Lawton, R., Parker, D., & Walker, A.(2005). Making psychological theory useful for implementing evidence based practice: a consensus approach. Quality & Safety in Health Care, 14(1), 26–33.

“Mastery” of cognitive strategies and changing care needs in the community: The lived experience of an individual with ABI

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Background and Aims

- The need for formal supports to achieve community living following an ABI results in considerable financial burden for individuals, their families/significant others, and the health system¹.
- Cognitive rehabilitation is a treatment standard, with cognitive strategies aimed towards minimising dependence on formal supports and maximising community participation².
- Access to cognitive rehabilitation is required over the longer term, with adaptation of strategies necessary to meet the changing needs of the individual³.
- There are few rehabilitation programs in the community that can provide an ongoing and long-term service to meet the changing needs of those with cognitive difficulties post-ABI.
- Further exploration is required around what constitutes “mastery” and sustainability of cognitive rehabilitation strategies in order to rationalise rehabilitation service delivery in the chronic phase post-ABI.
- This paper aims to explore the implementation of cognitive strategies and associated change in care needs over time from the perspective of one individual (Adam) and his mother (Pam).

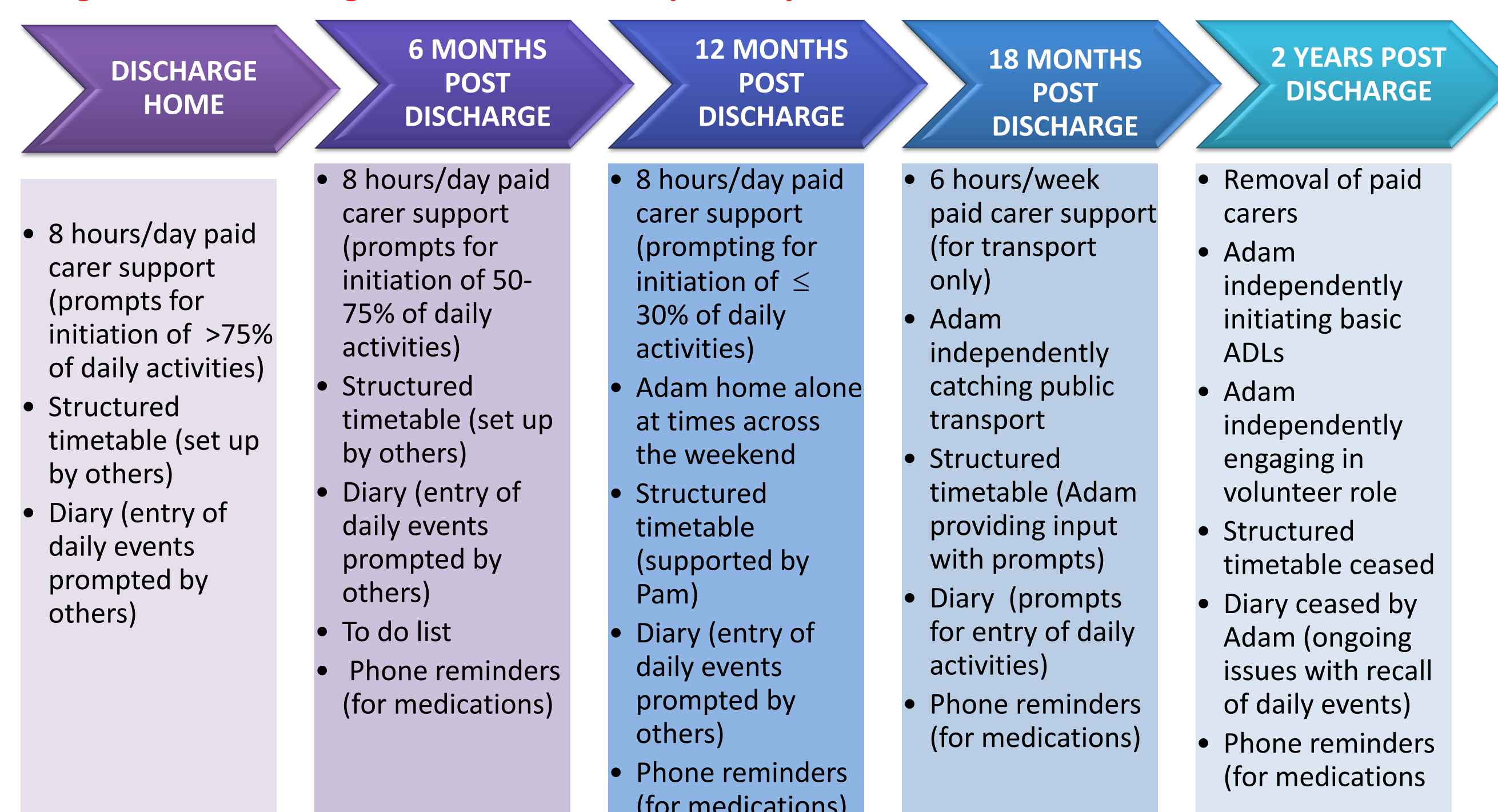
Method

- A file audit was completed to investigate the cognitive rehabilitation strategies that were implemented across Adam’s inpatient, community, and residential rehabilitation.
- Two separate semi-structured interviews were completed with Adam, and his mother Pam, to explore the process of adaptation of cognitive strategies and community supports across a two year rehabilitation timeframe. Questions focused on cognitive strategies and the need for support over time.
- Qualitative data were synthesised thematically, with open, axial and selective coding techniques.

Results

- File audit: Across Adam’s rehabilitation multiple cognitive strategies were implemented with varying levels of family and paid carer support required over a two year rehabilitation timeframe. See **Figure 1** for details.
- Interviews: Adam and Pam shared both complementary and contrasting perspectives around Adam’s cognitive rehabilitation. See **Figure 2** for themes and subthemes.

Figure 1: Adam’s cognitive rehabilitation pathway



Support (recipient versus collaborative):

Pam described the collaborative partnership with Adam’s rehabilitation team and carers over the years, referring to the shared decision making in modification of strategies and gradual weaning of carers. In contrast, Adam’s responses suggested that he held a passive role in community rehabilitation, reporting benefits of the service to be around being “monitored” and being “allowed to be left alone” over time.

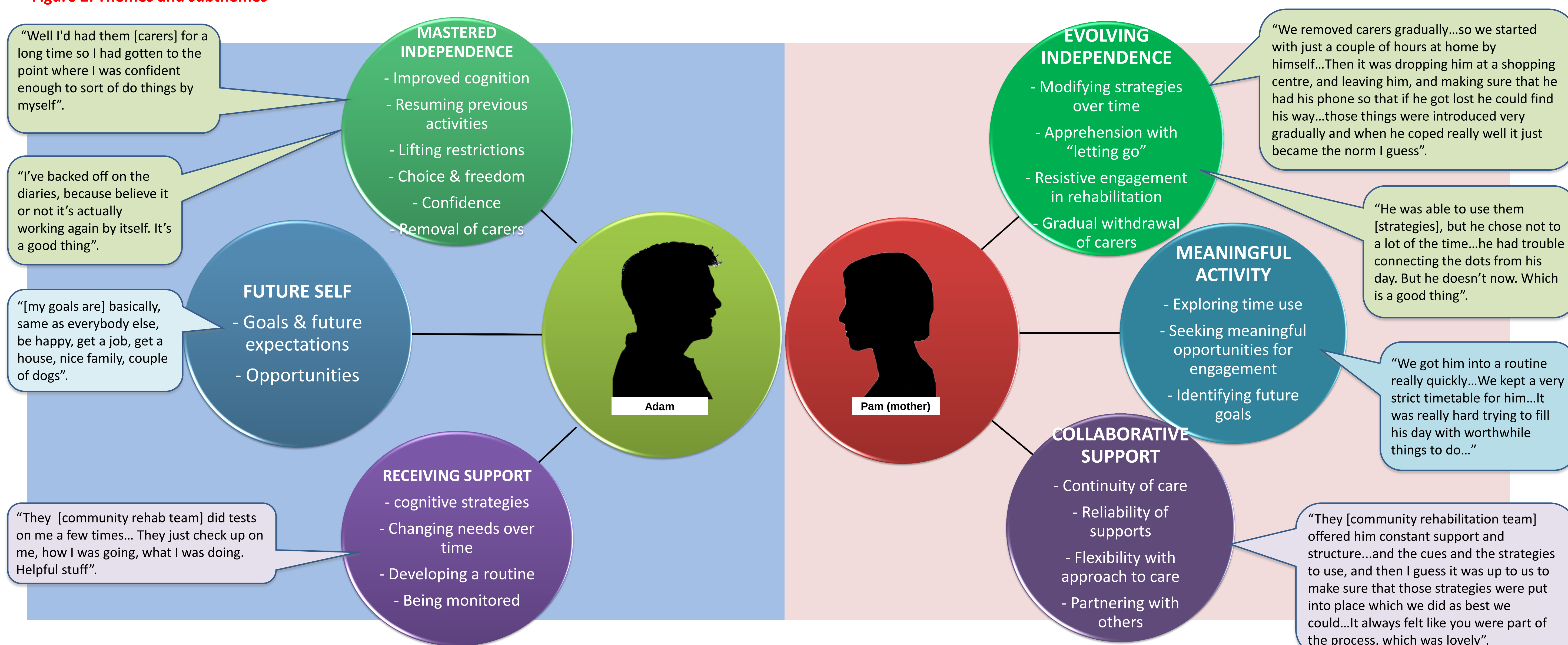
Meaningful activity:

Pam expressed ongoing challenges with keeping Adam engaged in activities across the week, with a structured timetable developed to support more meaningful time use. Adam did not raise any concerns with boredom or lack of meaningful activity, and instead reported enjoying the freedom of no longer having carers around.

Future self:

Adam described his pathway to recovery, and referred to improvements in his cognition and reduced need for cognitive strategies. He spoke of restored confidence when carers were removed, with future life goals including paid employment and relationships.

Figure 2: Themes and subthemes



Themes:

Independence (evolving versus mastered):

- Adam and Pam shared similar perspectives on the level of support required early in Adam’s rehabilitation, with an acknowledgement around the need for compensatory strategies and carers to manage even basic daily activities.
- When exploring Adam’s changing abilities and associated level of independence over time, Adam referred to his cognitive impairment in past tense, with no current need to apply cognitive strategies, while Pam referred to the issues with Adam’s cognition and the ongoing need to apply strategies.
- While Pam described her journey from apprehension to acceptance of the gradual removal of carers, Adam described feeling like his “own little master” when accessing the community independently.

Conclusions

- Cognitive rehabilitation in ABI is a complex and dynamic process that requires continual evaluation and modification to strategies in order to meet an individual’s changing needs over time and maximise independence.
- This case study reinforces the importance of an integrated approach and active engagement from the individual with an ABI and their family/significant others in the recovery pathway.
- Study findings suggest that consideration of patient and family perspectives around mastery of cognitive rehabilitation in clinical practice is of importance in achieving meaningful long term outcomes post-ABI.

References:

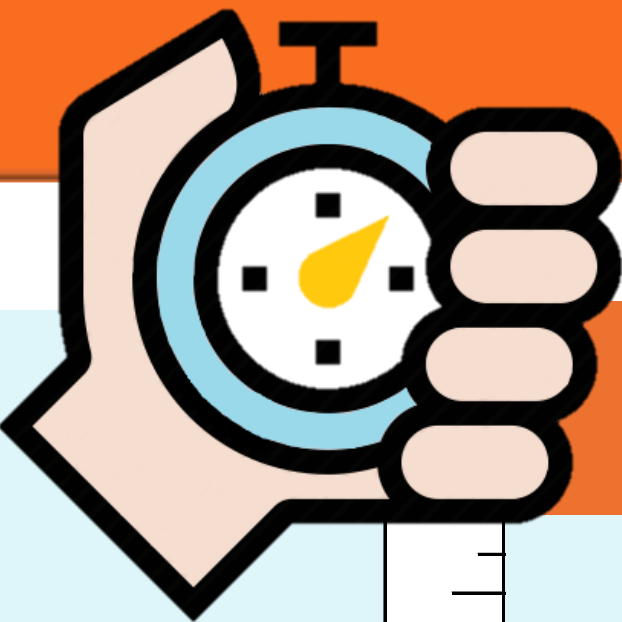
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Community Rehabilitation Program – physiotherapy outcomes measures quality improvement project

Clare Arden, Ashleigh Simpson, Kirby McAdam



Purpose



Example of ‘Timed up and go’ cut-off scores

Measuring a client’s physical status using an outcome measure plays an important role in the direct management of the individual. As outlined by Hill et al (2010), outcome measurement is important for several reasons:

1. To identify specific problems which may benefit from intervention
2. To identify change in performance over time
3. To use as a motivation tool to feedback to client on their performance
4. To assist with decision making when a client’s performance has deteriorated over time
5. To assist therapist to determine effectiveness of an intervention
6. To evaluate cost effectiveness of interventions

Despite this, outcome measures - and the systems and processes used to collect, analyse and interpret the underpinning results – are often underutilised. There are a number of factors contributing to this including:

- Limited availability of data relating to frequently used measures
- Limited understanding amongst the profession of frequently used measures
- Limited awareness, and hence uptake, of new or more appropriate measures within certain client populations

This project aimed to address the above listed factors in order to improve the use of outcome measures by physiotherapists within the Alfred Health Community Rehabilitation Program.

Cut-off scores indicating risk of falls by population	Cut-off score (seconds)	Author
Community dwelling adults	> 13.5	Shumway-Cook et al, 2000
Older stroke patients	> 14	Andersson et al, 2006
Older adults already attending a falls clinic	> 15	Whitney et al, 2005
LE amputees	>19	Dite et al, 2007
Frail elderly	> 32.6	Thomas et al, 2005
Parkinson's Disease	> 11.5 > 7.95	Nocera et al, 2013 Dibble et al, 2006
Hip Osteoarthritis	> 10	Arnold et al, 2007
Vestibular Disorders	> 11.1	Whitney et al, 2004

Shirley Ryan, AbilityLab. (2013)

The project team employed the use of a before and after survey to measure the effectiveness of the resources created. This included assessing how the following behaviours or activities changed amongst Alfred Community Rehabilitation staff:

- Confidence in using outcome measures
- Where outcome measures resources were being sourced
- The variety of outcome measures being employed

Method

Previously published work by Goulburn Valley Health (O’Callaghan et al 2015) was used in combination with Alfred Health resources, a literature review and clinician engagement with an online survey. We undertook a benchmarking consultation with a range of community rehabilitation networks in metropolitan Melbourne to develop a list of the most relevant and frequently used outcome measures in their services. We were then able to create relevant resources to share among staff. A brief example of the resources for the most commonly used measures are listed below (6 minute walk test, and timed up and go test)

Examples of published ‘6 minute walk test’ norms

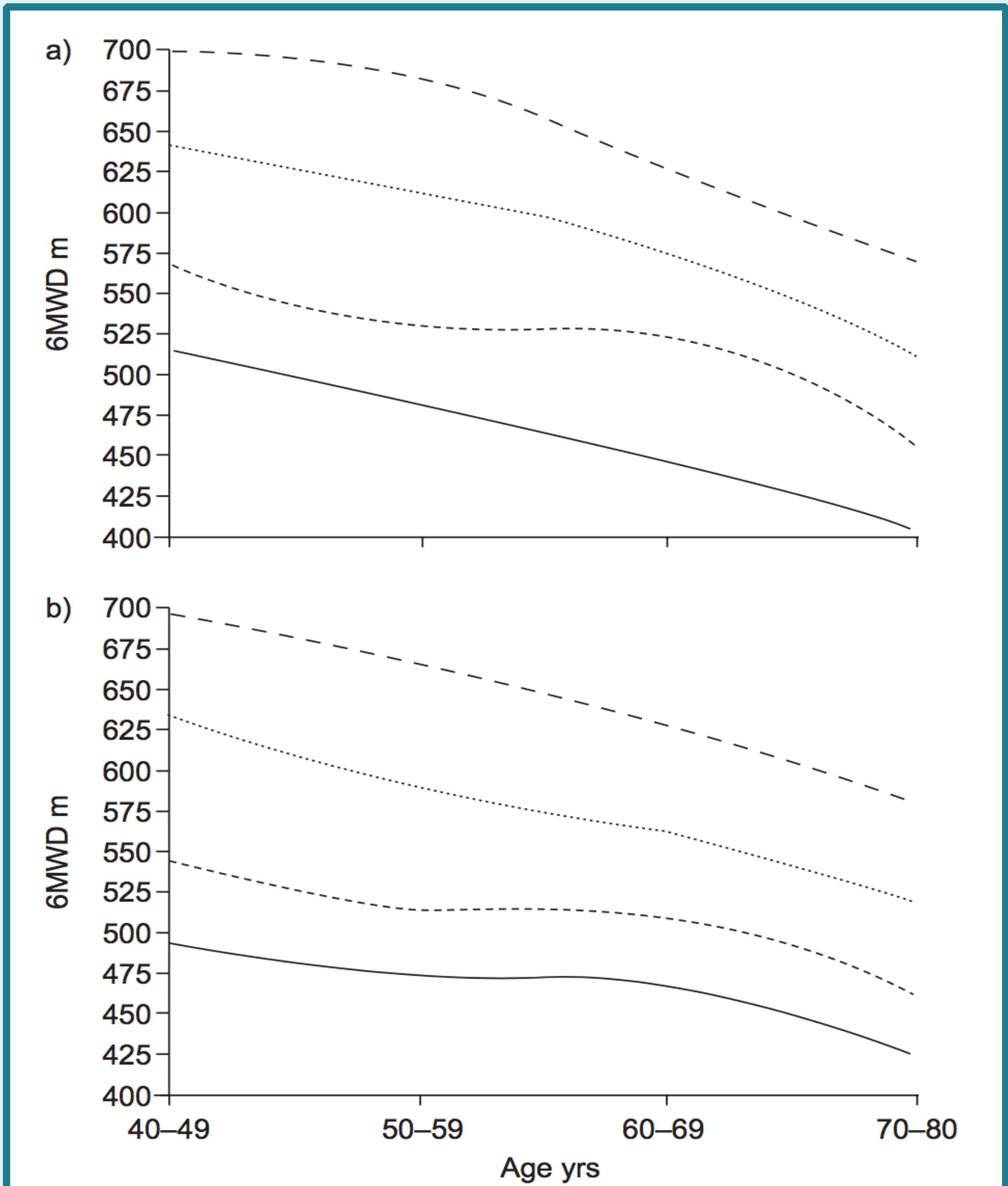


FIGURE 1. Age-based reference curves for 6-min walk distance (6MWD) in normal a) males and b) females divided into 10th (—), 25th (---), 50th (.....) and 75th (---) percentiles.

Results

Via this process, the following resources were created:

- A register of all outcome measures found during the study, sorted both alphabetically and by different diagnostic groups;
- A norms table for the five most frequently used outcome measures and instructions for how to interpret their results;
- A list of eighteen outcome measures with details of healthy norms compared to that of stroke survivors;
- A document dedicated to Parkinson’s disease which included eight outcomes measures.

The use of outcome measures by physiotherapists within the Alfred Health Community Rehabilitation Program were found to improve in the following ways:

- Confidence with using outcomes measures
- A discernible preference for the use of project-generated resources over open internet searches or outdated resources
- More meaningful interpretation of measure results with normative tables

There were no significant increases in the amount or variety of measures selected by therapists; however general observations of the department indicate a willingness to try new measures and discuss results among team members.

Conclusion

The resources generated via this project have led to increased confidence and a more unified set of outcome measures used amongst physiotherapy staff.

Further benefits from this project could be achieved through adopting consistent utilisation of physiotherapy outcome measures across all Alfred Health physiotherapy areas.

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- O’Callaghan, N. (2015) Goulburn Valley Health Allied Health Outcome Measurement Tools Survey: Results. Goulburn Valley Health, January 2015.

- Shirley Ryan AbilityLab. (2013, November 6). *Timed up and go*. Retrieved from <https://www.sralab.org/rehabilitation-measures/timed-and-go>

Healthy subjects referenced standards from seven countries. (Casanova, et al. 2011)

Sensitivity and specificity of two malnutrition risk screening tools to identify adult inpatients with diagnosed malnutrition in a sub-acute hospital

Browne J, Jackson S, Connell K, Nyulasi, I
Alfred Health Nutrition Service

Introduction

- Malnutrition is defined as a state of deficiency or excess of energy, protein and nutrients causing adverse effects on body tissue, function and clinical outcome¹.
- Malnutrition arising from nutrient deficiency is prevalent and under recognised in the clinical setting.
- The prevalence of malnutrition in Australia is reported at 30-50% for sub-acute hospitalised patients¹.
- Nutrition risk screening aims to identify patients who may require dietetic assessment and further intervention due to nutrition deficiency. Although it is quick and easy to implement and can be completed by non-dietetic staff, reliability of screening tools varies.

Aim

To measure performance of two malnutrition risk screening tools to identify inpatients with diagnosed malnutrition within the sub-acute setting.

Method

- In May 2017 a point prevalence survey was conducted on all adult inpatients in a sub acute hospital.
- Verbal consent was received from patients who participated in the survey and approval was received from The Alfred Research & Ethics Committee for retrospective analysis of results.
- A dietitian performed:
 - Malnutrition Universal Screening Tool (MUST)**
 - 3 questions: Body Mass Index (BMI), weight loss and acute disease effect.
 - 3 risk categories: Low (score = 0), Medium (score = 1), and High (score ≥ 2).
 - Mini Nutrition Assessment (MNA)**
 - 7 questions: recent poor intake, weight loss, psychological stress as well as neuropsychological problems, mobility and BMI.
 - 3 risk categories: No risk (score = 12-14), At-risk (score = 8-11) or Malnourished (score = 0-7).
 - Malnutrition diagnosis** using the International statistical classification of disease (ICD-10)²:
 - BMI <18.5kg/m² or
 - Unintentional loss of weight (≥5%) WITH evidence of suboptimal intake resulting in loss of subcutaneous fat and/or muscle wasting.

The following were calculated for each screening tool against malnutrition diagnosis:

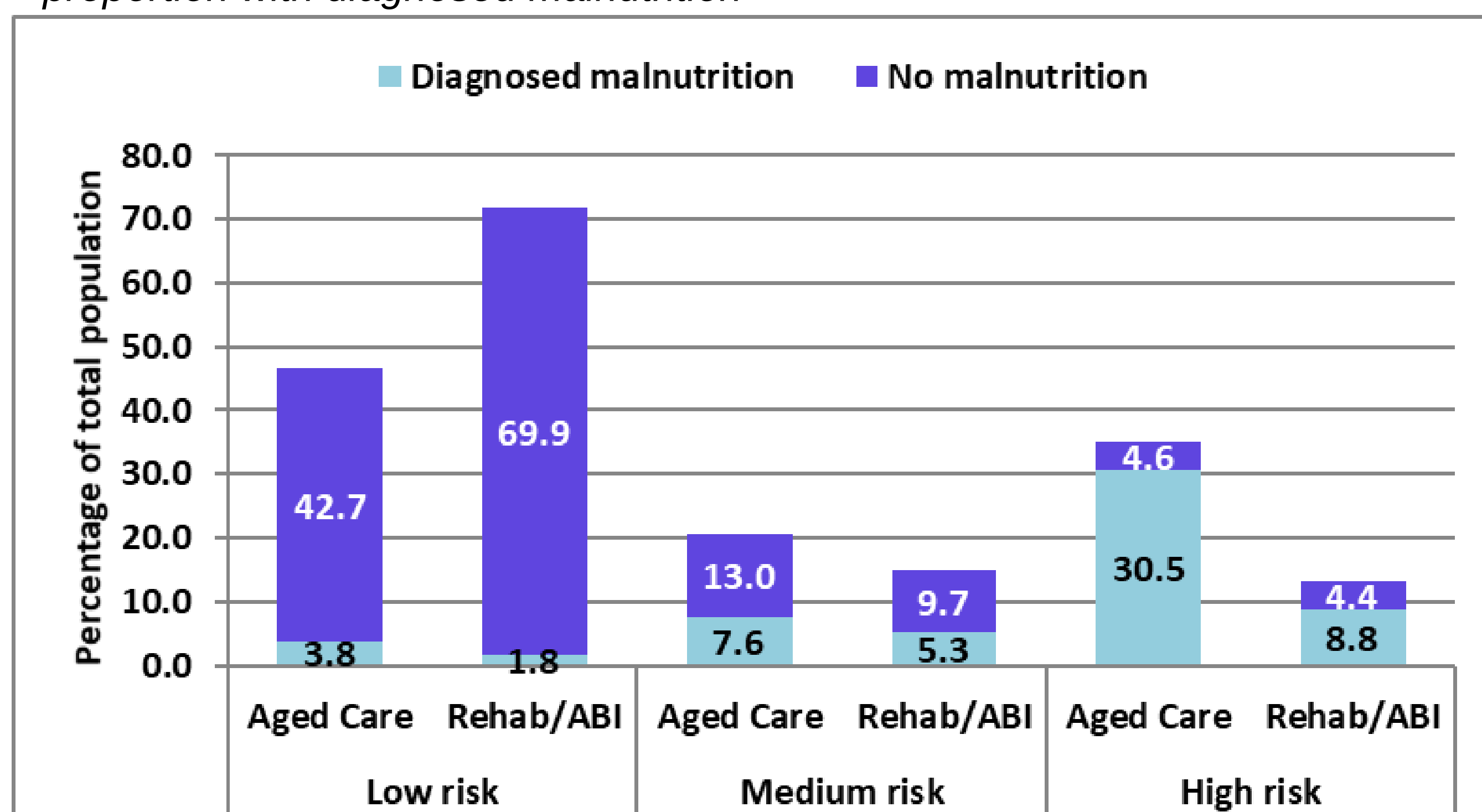
- Sensitivity:** the proportion of positive screens which correctly identifies diagnosed malnutrition.
- Specificity:** the proportion of negative screens which correctly identifies those who do not have diagnosed malnutrition.
- Positive predictive value (PPV):** how likely it is to have diagnosed malnutrition when screened as being at-risk.
- Negative predictive value (NPV):** how likely it is not to have diagnosed malnutrition when screened as being not at-risk.

Results

- 244 patients participated in the survey (58% male, mean age 61.4 ±19.5 years). There were 131 participants surveyed in Aged Care and 113 in Rehab and ABI combined.

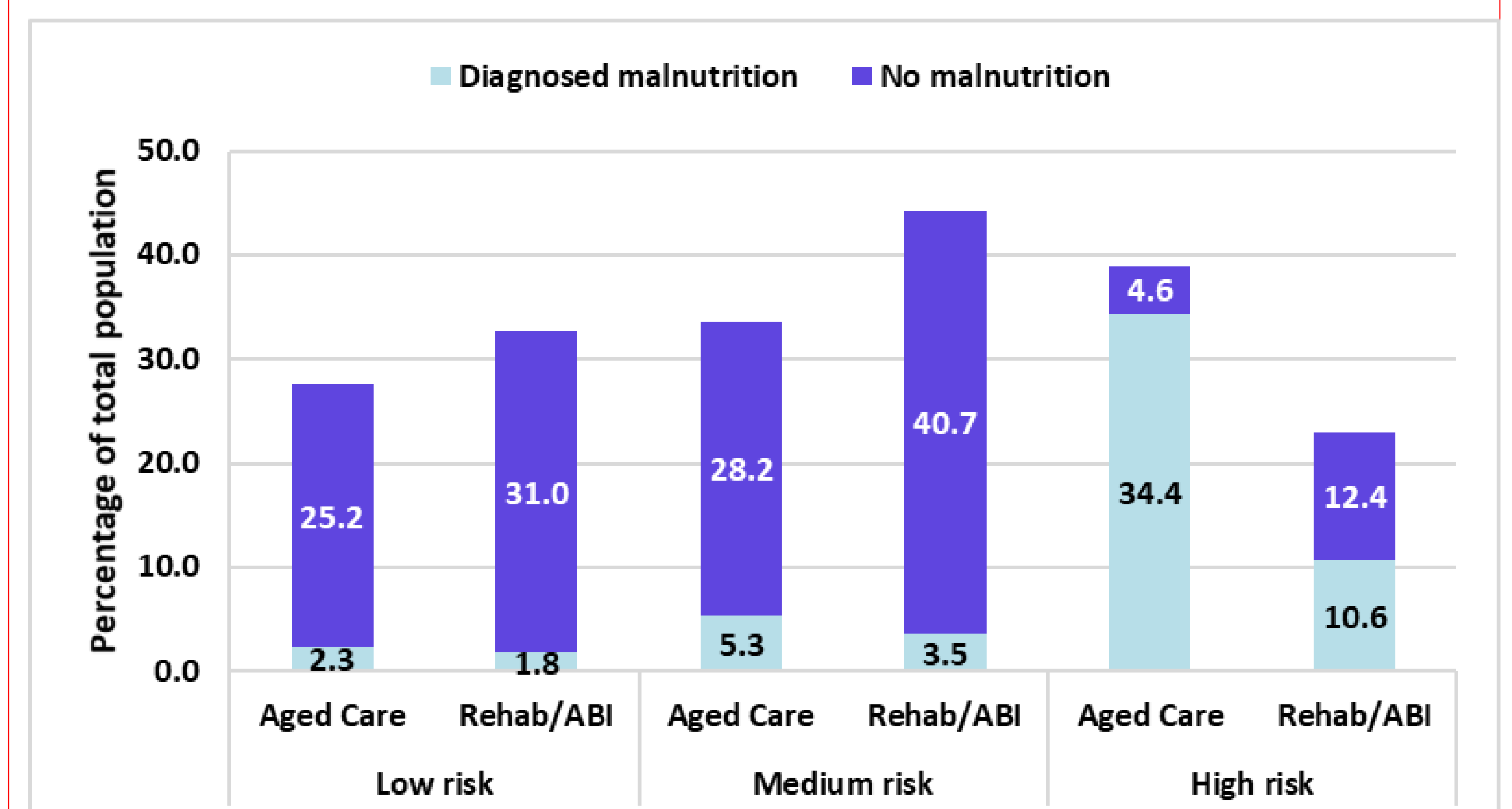
30% (n=73) were diagnosed with malnutrition using ICD-10

Figure 1: Percentage of patients at-risk of malnutrition using **MUST** and proportion with diagnosed malnutrition



- The majority of high risk patients had diagnosed malnutrition.
- One-third of medium risk patients had diagnosed malnutrition.
- Almost all low risk patients did not have diagnosed malnutrition

Figure 2: Percentage of patients at-risk of malnutrition using **MNA** and proportion with diagnosed malnutrition



almost half of those in rehab/ABI were not malnourished despite screening as high risk.

- Almost all low and medium risk patients did not have malnutrition.

Table 1: Comparison of sensitivity, specificity, PPV & NPV of MUST and MNA

Screening Tool	Sensitivity		Specificity		PPV		NPV	
	Aged Care	Rehab/ABI	Aged Care	Rehab/ABI	Aged Care	Rehab/ABI	Aged Care	Rehab/ABI
MNA (Moderate)	70	67	47	43	16	8	92	95
MNA (High)	94	86	92	96	88	46	92	95
MUST (Moderate)	67	75	77	88	37	34	92	98
MUST (High)	89	83	95	94	87	67	92	98

Both tools accurately predicted malnutrition in the high risk screening groups, with high sensitivity (83-89% MUST and 86-94% MNA) and high specificity (89-95% MUST and 93-96% MNA).

- Greater variance was noted for patients screened as Moderate risk. Sensitivity remained similar (67-75% MUST and 67-70% MNA) but specificity was higher with the MUST (77-88% MUST and 43-47% MNA).
- PPV was higher for the MUST in both patients screened as high risk (67-87% vs 46-88%) and moderate risk (34-37% vs 8-16%).
- NPV was similar at 92-98% for both tools, meaning 2-8% of malnourished patients were not picked up by screening.

Conclusions

- This study suggests MUST performs better than MNA for identifying malnutrition risk in the sub-acute setting.
- A high risk MUST score showed high specificity and NPV, indicating few false positives, allowing targeted allocation of nutrition resources.
- A smaller proportion of patients were screened as Moderate risk by the MUST, yet a proportion of these have a diagnosis of Malnutrition.
- At other Alfred Health hospital sites, patients with a moderate risk MUST are monitored at ward level with food charts and weekly weights and referred to the Dietitian if indicated, reducing the risk that patients are missed.

Practice Implications

- ✓ Implications of a high false positive rate are inefficient use of resources and unnecessary assessments.
- ✓ Changing the screening tool to the MUST decreases unnecessary referrals.
- ✓ The MUST is quick and simple to administer.
- ✓ Changing the model of care for patients screened at moderate risk of malnutrition to ward level monitoring (food chart and weekly weight) aligns practice across Alfred Health sites, and minimises the risk that malnourished patients in the moderate risk group are missed.

References:

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- National Centre Classification in Health (2008). Australian Coding Standards ICD-10.

Guardianship in Hospitals

A Health Services/OPA Pilot Program

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Background

This collaborative pilot program between Alfred Health, Eastern Health, Monash Health, Monash University and the Office of the Public Advocate Victoria (OPA) explores the impact of increased availability of guardians on healthcare system sustainability and outcomes.

The Victorian Civil & Administrative Tribunal (VCAT) appoints the Public Advocate as guardian for vulnerable individuals where evidence of a cognitive impairment indicates a lack of capacity to make important lifestyle and personal decisions. Typical cases involve dementia or acquired brain injury, often in a context of family absence of conflict. Guardianship powers are delegated to an OPA officer, but growing demand and complexity has meant increasing waits for allocation of a guardian. OPA policy considers community applicants to be at greater risk than those considered 'safe' in hospital, leading to longer wait times for hospital cases – time not necessarily required for inpatient treatment.

Aim

The primary aims of this pilot are to reduce the:

- Time between registration of VCAT order with OPA, guardian allocation, first contact and decisions;
- Total length of hospital stay and cost of bed days of patients needing guardianship;
- Likelihood of hospital readmission within 28 days of recent discharge; and
- Referral of patients awaiting guardian allocation to Transitional Care Program (TCP) and TCP length of stay.

Methods

A dedicated hospital guardian team was established within OPA, funded by the health services, to reduce the time patients within each service waited for a guardian to be allocated and to increase the accessibility of OPA staff to health practitioners.

The impact of increased guardianship resourcing on patient outcomes, system sustainability and health professional expertise has been assessed in an historically controlled trial.

- Patients from the participating health networks receiving guardianship orders are tracked from admission through discharge and any potential re-admission, encompassing the full hospital-based guardianship process.
- Historical control group design used with initial data collection over 11 months across 2015-16 ($n = 64$).
- Post-implementation data collected through 2017 ($n = 86$).
- Data collection continuing as project progresses into next phase.

This design enables assessment of increased guardianship staffing against a clear baseline.

Results

Control group data reflects pre-implementation patient experience. Mean total length of stay for this cohort was 162.7 days. Within the target period from order lodgement to guardian allocation, the mean time spent waiting was 46.5 days (SD 25.2), consisting of 3.7 days in acute care, 26.1 days in sub-acute care and 16.7 days in transitional care programs (**Figure 1, Table 1**).

Figure 1: Mean bed days by admission period

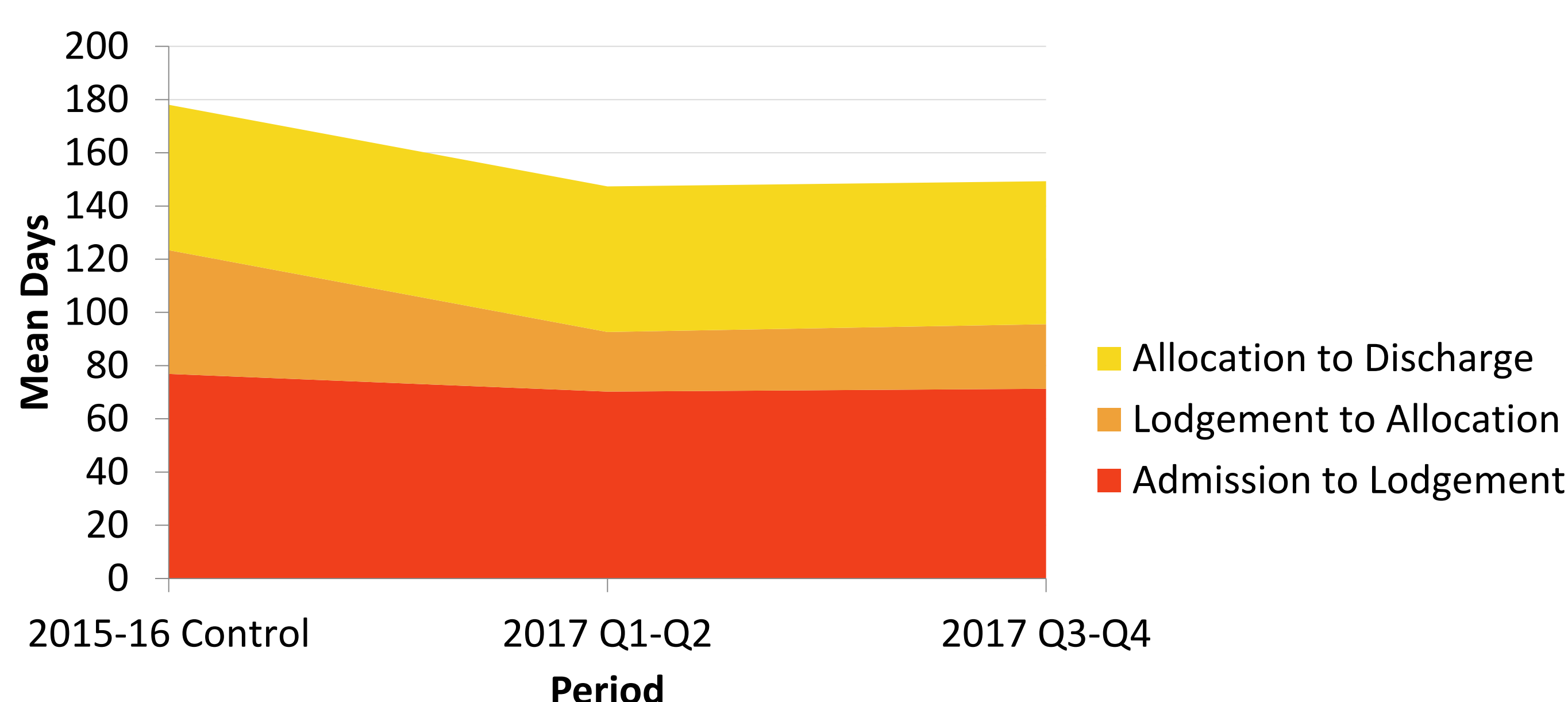


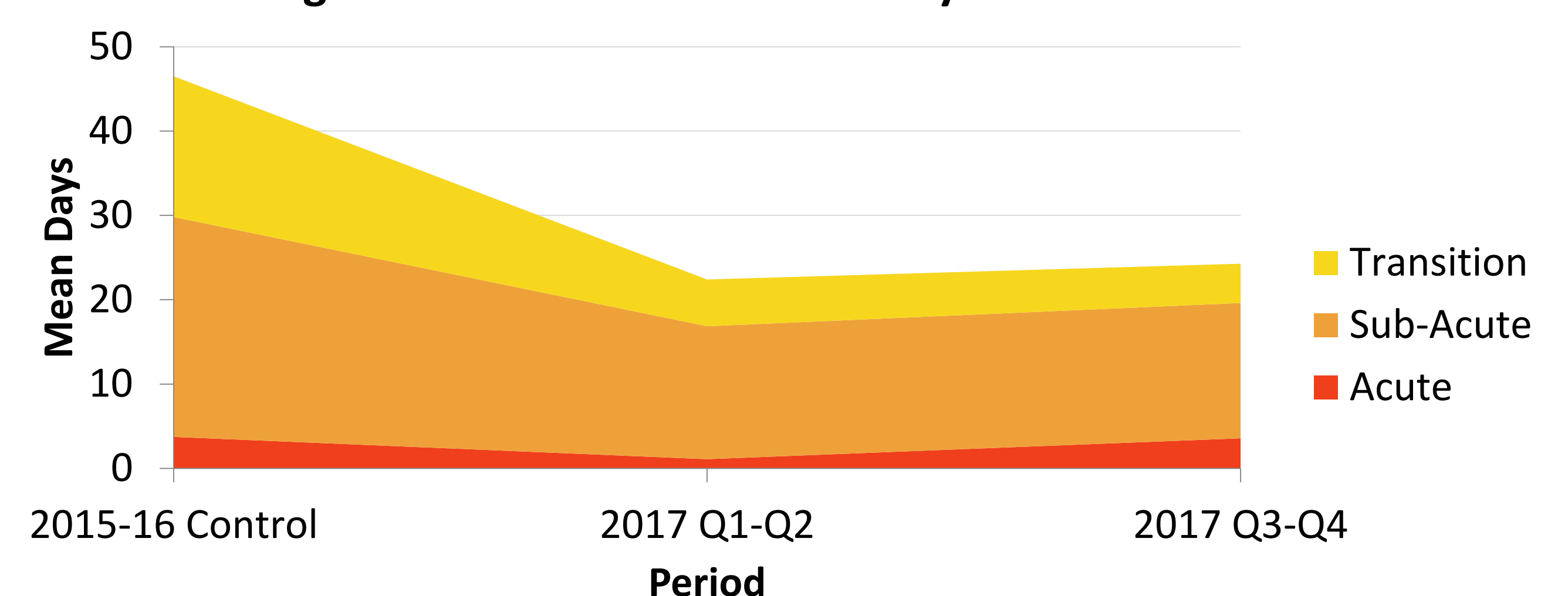
Table 1: Mean bed days by period and location of care.

	Admission to Lodgement	Lodgement to Allocation	Location of care within Lodgement to Allocation period:			Allocation to Discharge
			Acute	Sub-acute	Transition	
2015-16 Control	76.9	46.5	3.7	26.1	16.7	54.7
2017 Q1-Q2	70.2	22.4	1.1	15.8	5.5	54.7
2017 Q3-Q4	71.3	24.3	3.6	16.0	4.7	53.8

Under this pilot mean total length of stay has decreased from 162.7 to 147.2 days (**Figure 1, Table 1**). In the target lodgement to allocation period the decrease is from 46.5 to 23.4 days (SD 20.4), representing a statistically significant decrease of 23.1 days per patient (95% CI: 15.8 to 30.5 days less, $p < 0.0001$).

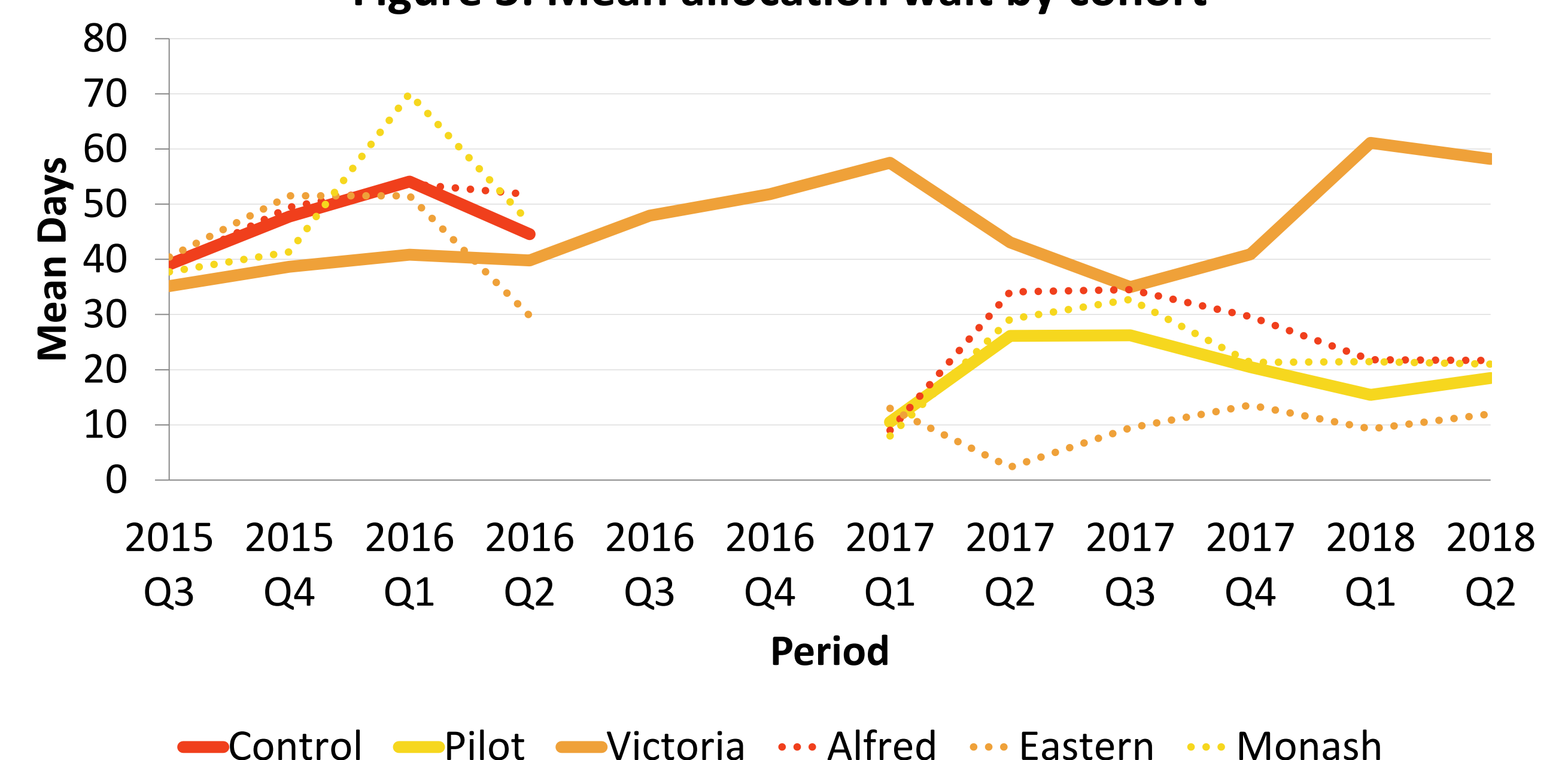
Within this target period time spent in all locations of care decreased – from 3.7 to 2.4 days in acute care, 26.1 to 15.9 days in sub-acute care and 16.8 to 5.1 days in transition care (**Figure 2, Table 1**).

Figure 2: Mean allocation wait by location of care



These trends are consistent across all participating health services, and the impact of the pilot has been sufficient to temporarily mitigate increasing allocation wait times across OPA's operations (**Figure 3**).

Figure 3: Mean allocation wait by cohort



Financial Impact

Financial outlay for the pilot so far is \$261,933.70 for FY 2016-17 and \$289,170.30 for FY 2017-18, split equally across the partner services. Using cost estimates of \$1,261 per day of acute care, \$1,070 per day of sub-acute care and \$258 per day of transition care, the mean cost of care within the target lodgement to allocation period has decreased from \$36,918 to \$21,311 per patient, for an estimated saving of \$15,607 per patient. Across the 86 patients in the 2017 cohort, the total estimated cost saving is \$1,342,202.

Conclusions

This pilot demonstrates how collaboration with non-health partners to improve practice and re-allocate funding can deliver benefits to patients and their families, the broader public and health system sustainability. Increasing guardianship resourcing reduces the burden on vulnerable patients and their families. By easing the healthcare-guardianship bottleneck, this pilot also frees up resources for public use, increasing access to inpatient services within the partner services and to existing guardianship resources for applicants within the community and non-participant health services.

Development of a Rehabilitative Approach to the Use of Incontinence Pads in an Acquired Brain Injury (ABI) Inpatient Rehabilitation Unit

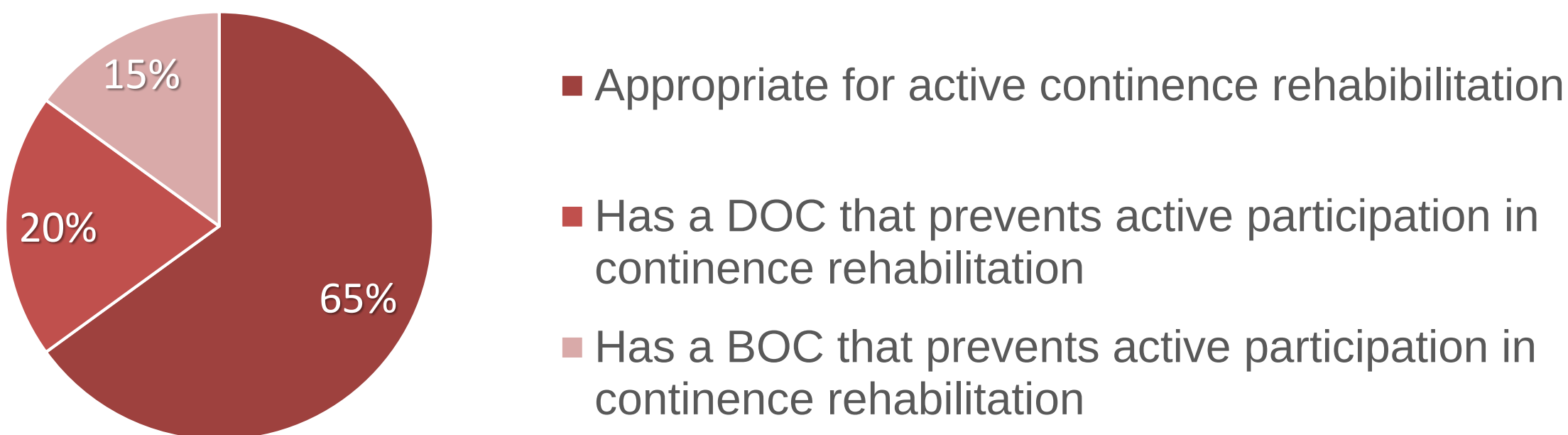
Enrique Cruz^{1,2} and Irish Arvin Garcia¹

¹Acquired Brain Injury Rehabilitation Centre, Caulfield Hospital, Alfred Health, ²School of Nursing and Midwifery, La Trobe University

Background and aim

- In a quality and risk review on incontinence management in the ABI inpatient rehabilitation unit, it was identified that the primary incontinence pad used is the large capacity all-in-one pad (LCAP).
- A cross-sectional audit in January 2015 demonstrated 68% (n=21) of patients in the ABI inpatient rehabilitation unit were using incontinence pads during the day due to a new-onset urinary or faecal incontinence post brain injury.
- Among those who were using incontinence pads during the day, 95% used LCAP (Molicare® super plus) and 5% used pull-up pads (Tena® pants normal).
- Among those using LCAP:
 - 70% were actively participating in mobility and transfer rehabilitation.
 - 75% have dexterity to use the nurse call-button system.
 - 35% are not appropriate to engage in active continence rehabilitation due to disorder of consciousness (DOC) or behaviours of concern (BOC).

Ability of LCAP users to participate in continence rehabilitation



- LCAP has been observed to be a barrier to rehabilitation practising mobility, transfers, dressing, toileting and behaviour rehabilitation in the unit.
- The pad and reusable pants (PARP) system is an alternative to the LCAP that has the potential to engage users in active continence rehabilitation.
- Supplies to implement the PARP system are available in the unit.
- The aim of this project is to create a clinical guide to the types of incontinence pads available in the ABI inpatient rehabilitation unit.

Method

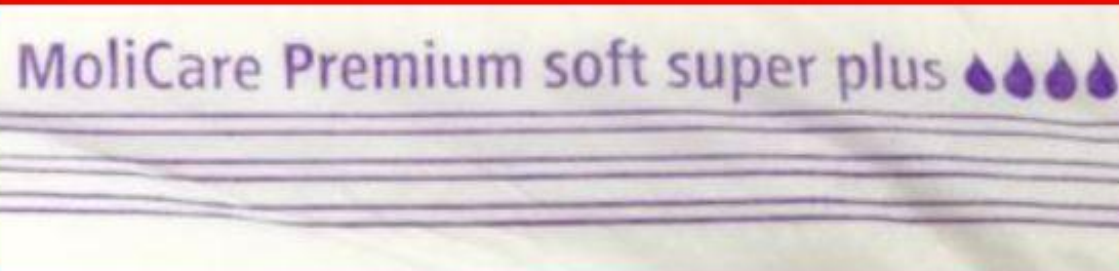
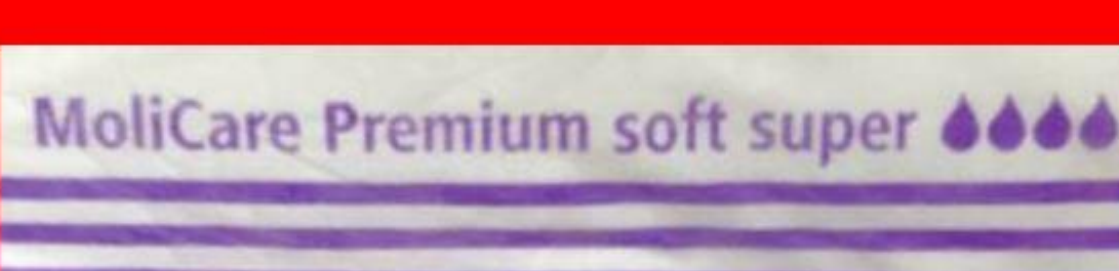
- A Medline and CINAHL search using the terms *incontinence pads* and *rehabilitation* as keywords and MeSH terms was done. Electronic medical records of patients admitted from June 2014 to January 2015 (n=67) was reviewed to identify patient variables that may guide clinical decision making on incontinence pad usage.
- Expert advice from the ABI continence nurse consultant was sought to match the incontinence pads available in the unit to the patient variables identified.

Results

- Literature search showed very limited research is published on the use of incontinence pads in rehabilitation settings (n=54). None of the studies found were directly related to the aim of this project.
- Analysis of clinical indications for pad use suggests that the patient variables that may guide the choice of incontinence pads include: 1) ability to report, 2) capacity to hold-on 3) frequency of pad change requirements and 4) individual preference.
- Expert advice suggests the product variables to be considered include: 1) volume capacity of the pad, 2) characteristics of the pad that impede rehabilitation activities and 3) cost.
- The clinical guide is presented in a traffic light colour coding system to facilitate implementation.

Discussions:

- This project generated a clinical guide that integrates rehabilitation principles in the choice of incontinence pads in an inpatient rehabilitation unit.
- Patient and product variables identified in the analysis were considered in the development of the rehabilitative approach in the management of incontinence.
- Education sessions were provided and laminated copies of the guide were placed in bedside folders.
- Research is recommended to explore clinical utility such as an tool to set continence rehabilitation goals with patients.

GUIDE TO THE CHOICE OF CONTINENCE AIDES IN ABI REHABILITATION			
Very High Level of Continence Aide	High Level of Continence Aide	Moderate Level of Continence Aide	Low Level of Continence Aide
  	 	 	
For patients who are not yet able to report both prior to AND after they have passed urine/ opened bowels. Continence rehabilitation goals often include establishing ways to report either before or after being incontinent.	For patients who are able to report after they have passed urine/opened bowels. Continence rehabilitation goals may include establishing a regular toileting routine to minimise incontinence. Patients aim to keep the re-usable pants from soiling for use with multiple pads.	For patients who are able to report before they pass urine/open bowels. Continence rehabilitation goals typically include prevention of bowel and bladder accidents. Patients aim to keep the re-usable pants from soiling for use with multiple pads.	For patients who do not require frequent changes of continence aides (less than 3 per day). Continence rehabilitation goals often include increasing confidence to return to the use of regular underwear.
Product of choice: Day: Molicare Super Night: Molicare Super Plus	Product of choice: Day: Moliform Super Plus + Molipants Night: Molicare Super Plus	Product of choice: Day: Moliform Normal (or Molimed Maxi) +Molipants Night: Molicare Super Plus	Product of choice: Day and Night: Pull-ups

Blade removal change of practice

Andrew Holland¹, Albert Zorzanello¹, Liz Perry²

¹Podiatrist, Caulfield Community Health Service, Alfred Health ²Podiatry Manager, Alfred Hospital, Alfred Health

Introduction

During an annual Infection Prevention audit in 2017, the practice of changing scalpel blades during the treatment of a podiatry patient was raised as a potential infection risk.

A scalpel blade may need to be changed when:

- it becomes blunt with heavy use
- to avoid cross contamination of wound sites when multiple wound sites are being debrided
- a different sized blade is required

It was confirmed following benchmarking with staff from the La Trobe University student clinic and other community based Podiatry services that the practice of changing blades on the same handle during a patients' treatment is a common and accepted practice.

This resulted in an investigation to test the hypothesis that changing scalpel blades on the same scalpel handle during the treatment of a patient could produce a cross infection risk.

Methods

The investigation was undertaken by Alfred Health Infection Prevention with assistance from Podiatrist Albert Zorzanello. Conditions replicated a realistic simulation of common practice when undertaking debridement of a patients' foot. Standard PPE was used and aseptic technique guidelines followed.

A disposable scalpel handle was loaded with a disposable scalpel blade (blade/handle unit). A bioluminescent gel was then applied to the blade/handle unit to simulate body tissues and/or microbiological organisms that would be transferred to the instrument during debridement of patient A.

The contaminated blade was then removed from the handle using a non-sterile multi use scalpel blade removal device (Fig.1). Following this, a new clean blade/handle unit was loaded, and the blade from this was removed in the same blade removal device to simulate removal during treatment of patient B.



Fig.1 – Scalpel blade/handle unit with gel applied engaged with device

Results

Contamination of the aperture of the scalpel blade removal device was seen when visualised under UV black light (Fig.2). This contamination is then shown to be transferred to the clean handle upon subsequent blade removal (Fig.3).



Fig.2 – Contamination on aperture of device after blade removed

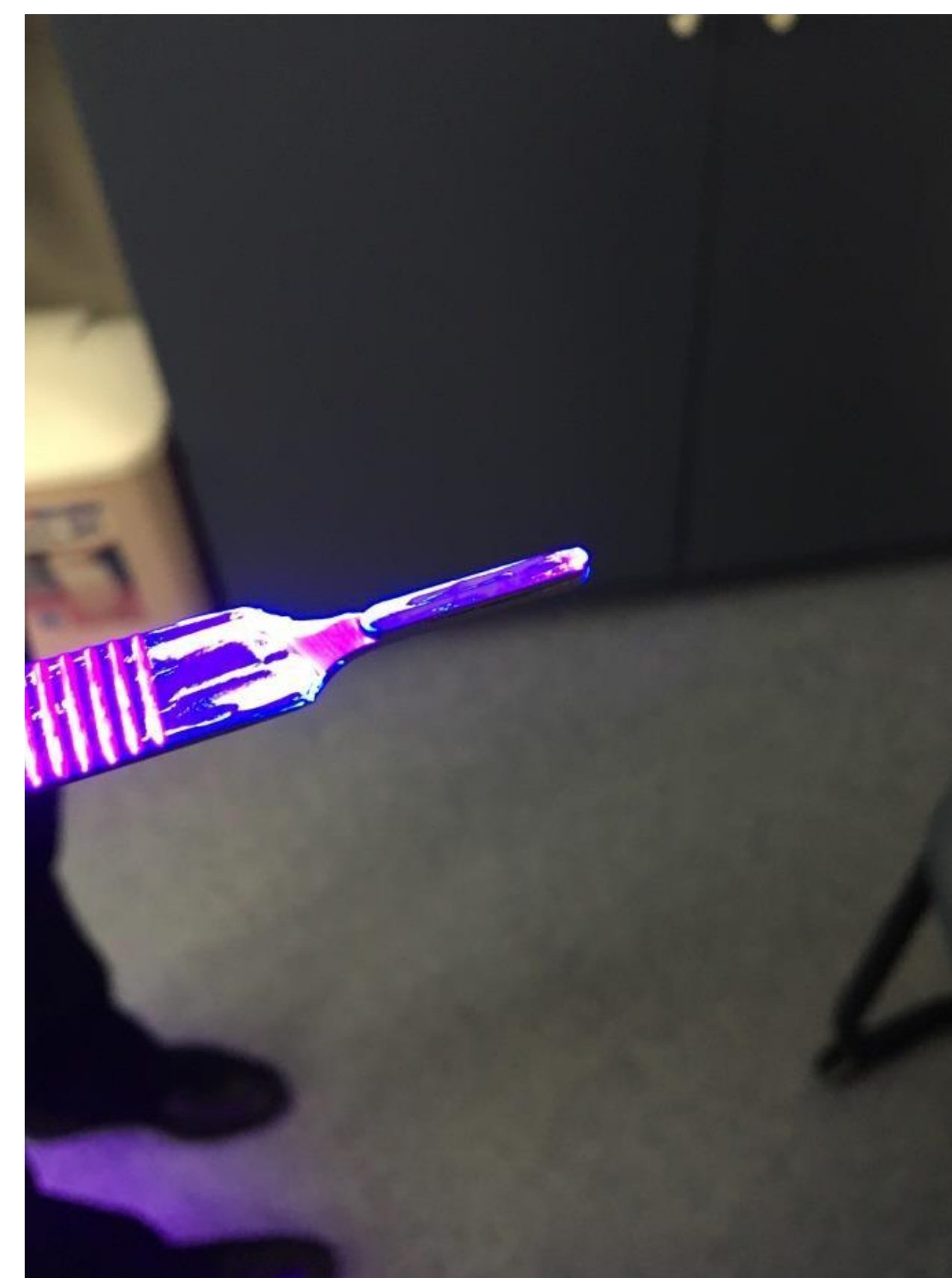


Fig.3 – Contamination transferred to clean scalpel handle

Discussion

This testing proves the hypothesis that changing scalpel blades on the same scalpel handle during the treatment of a patient could produce a cross infection risk via the contaminated handle.

This finding has led to a practice change within all Alfred Health Podiatry services:

- ✗ Scalpel blades are no longer to be removed from disposable scalpel handles
- ✗ Blade removal devices are no longer to be used and have been removed from Alfred Health Podiatry clinics
- ✓ Mandated practice is now to dispose of the entire disposable blade/handle unit into a sharps bin
- ✓ If a new blade is required during treatment of a patient an entirely new blade/handle unit must be used

This change in practice will prevent the cross infection of patients, and eliminate the risk of sharps injury during blade removal.

Findings have been shared with the La Trobe University clinical school, local podiatry services and the National Podiatry Registration Board AHPRA. These insights have been well received and recognised as an issue that requires awareness and a change of practice

Following the outcome of this testing, AHPRA has now incorporated this issue into their Infection Control Self Audit Tool document (Item 5.4) as of November 2017.

IMPROVED DISCHARGE PLANNING THROUGH A COMMUNITY & AMBULATORY IN-REACH MODEL

Haria Lambrou¹, David Harrower², John Ashfield³, Ilanit Whiteman¹

¹Caulfield Community Health Service, Alfred Health, ²Community Rehabilitation Program, Alfred Health, ³Community & Ambulatory Services, Alfred Health

Introduction

Poor hospital discharge planning has been shown to increase a patients' length of stay and unplanned readmission rate, as well as lead to a decrease in patient and healthcare professional's satisfaction¹. Poor communication between hospital staff and community services, as well as delayed engagement with these services, are thought to be contributing factors to poor discharge planning.¹ The literature, however, does not tell us which planning model is the most effective in facilitating this transition from hospital into the community². Due to this, we decided to trial a hybrid version of two in-reach models in two sub-acute inpatient wards at Caulfield Hospital, with the aim of improving discharge planning.

Methods

Prior to the commencement of the project an audit was conducted to determine the quality & timeliness of referrals from Caulfield aged care and rehabilitation wards to community and ambulatory services. A clinician from Caulfield Access (intake and referrals department) attended journey board meetings on one aged care and one rehabilitation ward twice a week for 6 months, to act as a resource for clinicians for information about available community services and their waiting times. Outcome measures included length of stay, unplanned readmission rates and timeliness and quality of referrals from the two wards. Staff satisfaction with the in-reach model was also measured.

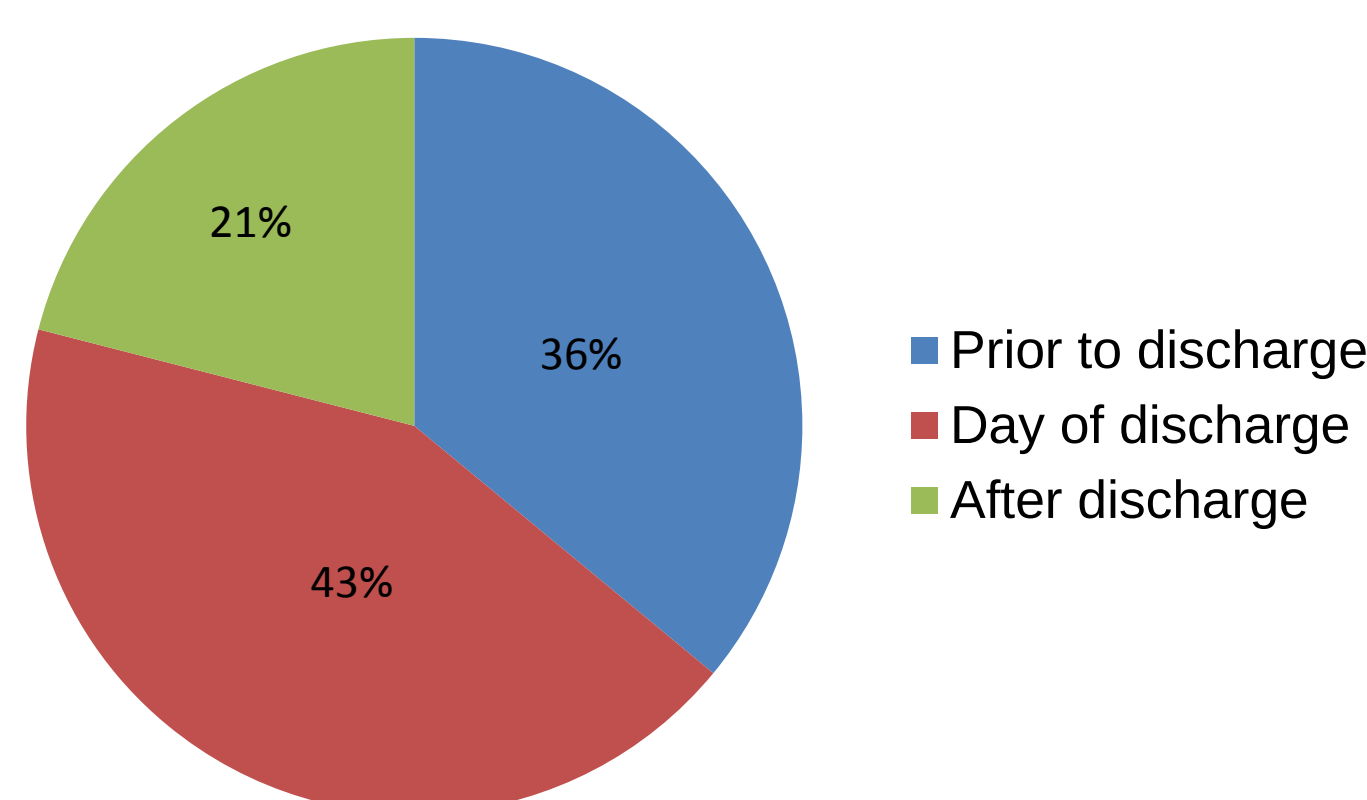


Figure 1. Audit of referrals pre project

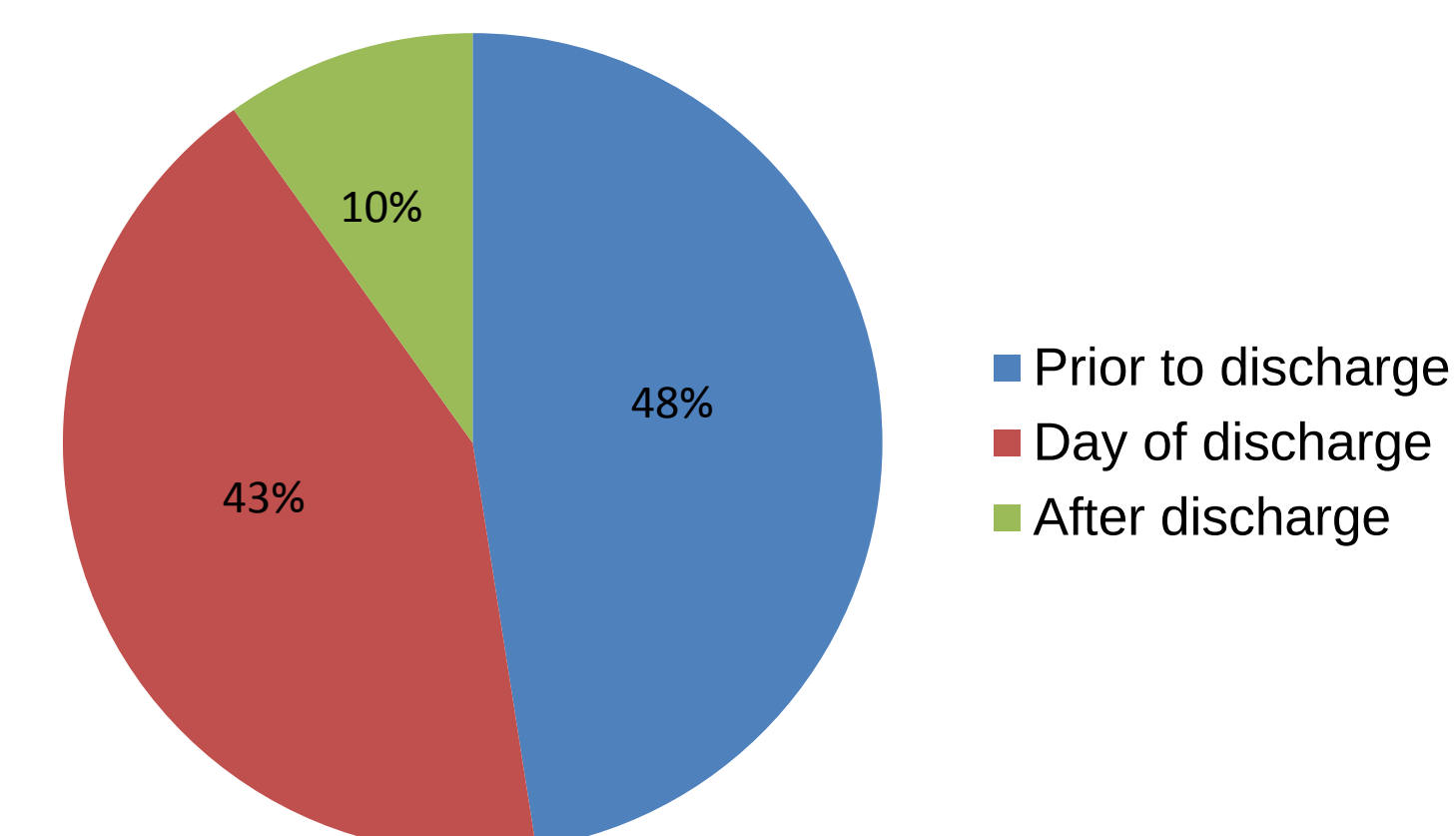


Figure 2a. Referrals post project - AGED CARE ward

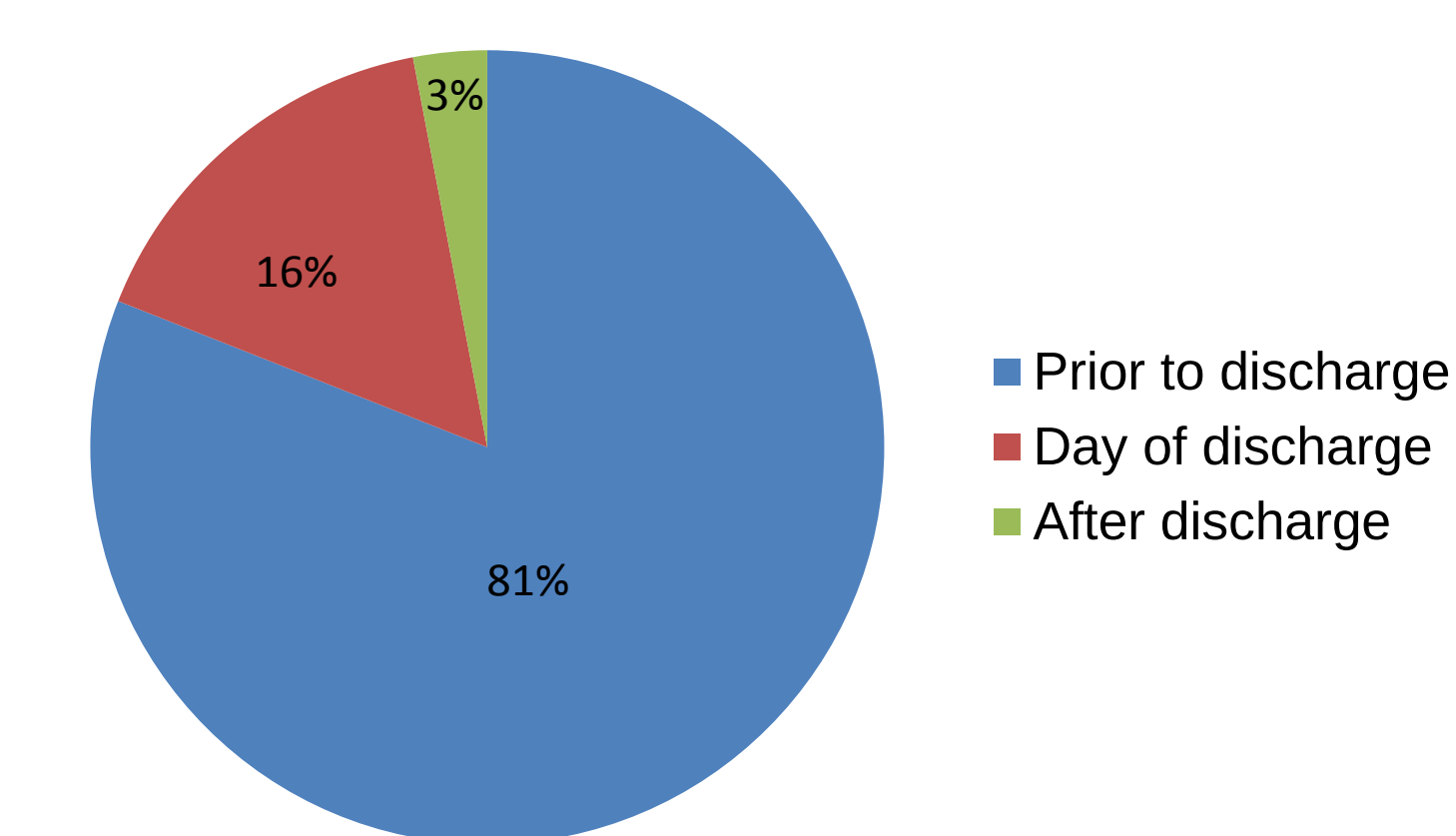


Figure 2b. Referrals post project - REHAB ward

Results

- Audit **prior** to the project revealed that only 71% of referrals being made from Caulfield subacute inpatient wards to community & ambulatory services were appropriate and only 36% of referrals were being made prior to discharge. (Figure 1)
- On **completion** of the 6-month pilot project, an average of 85% of referrals from the two wards were appropriate.
- On **completion** of the project, 90% of referrals to community and ambulatory services were made before discharge on the aged care ward and 97% before discharge on the rehabilitation ward. (See Figure 2a & b)
- Average length of stay did not improve on either ward (see Figure 3) but in comparison to the non-trial wards, the in-reach model demonstrated a 25% – 39% reduction in unplanned readmissions (see Figure 4).
- Staff satisfaction survey showed that 75% of respondents found the in-reach model useful and reported an improved knowledge of the available community & ambulatory services that their patients could access.

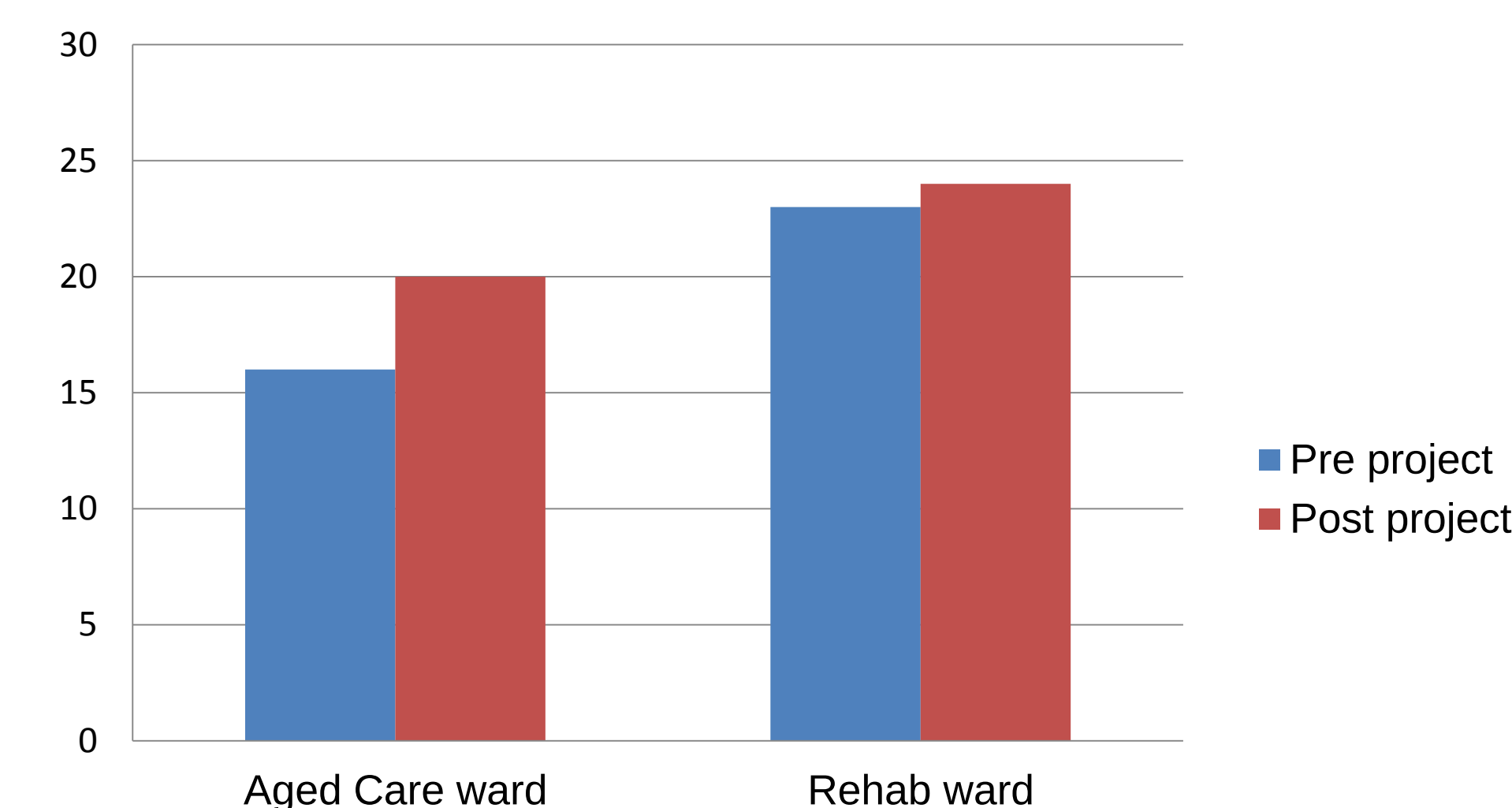


Figure 3. Average length of inpatient stay (days)

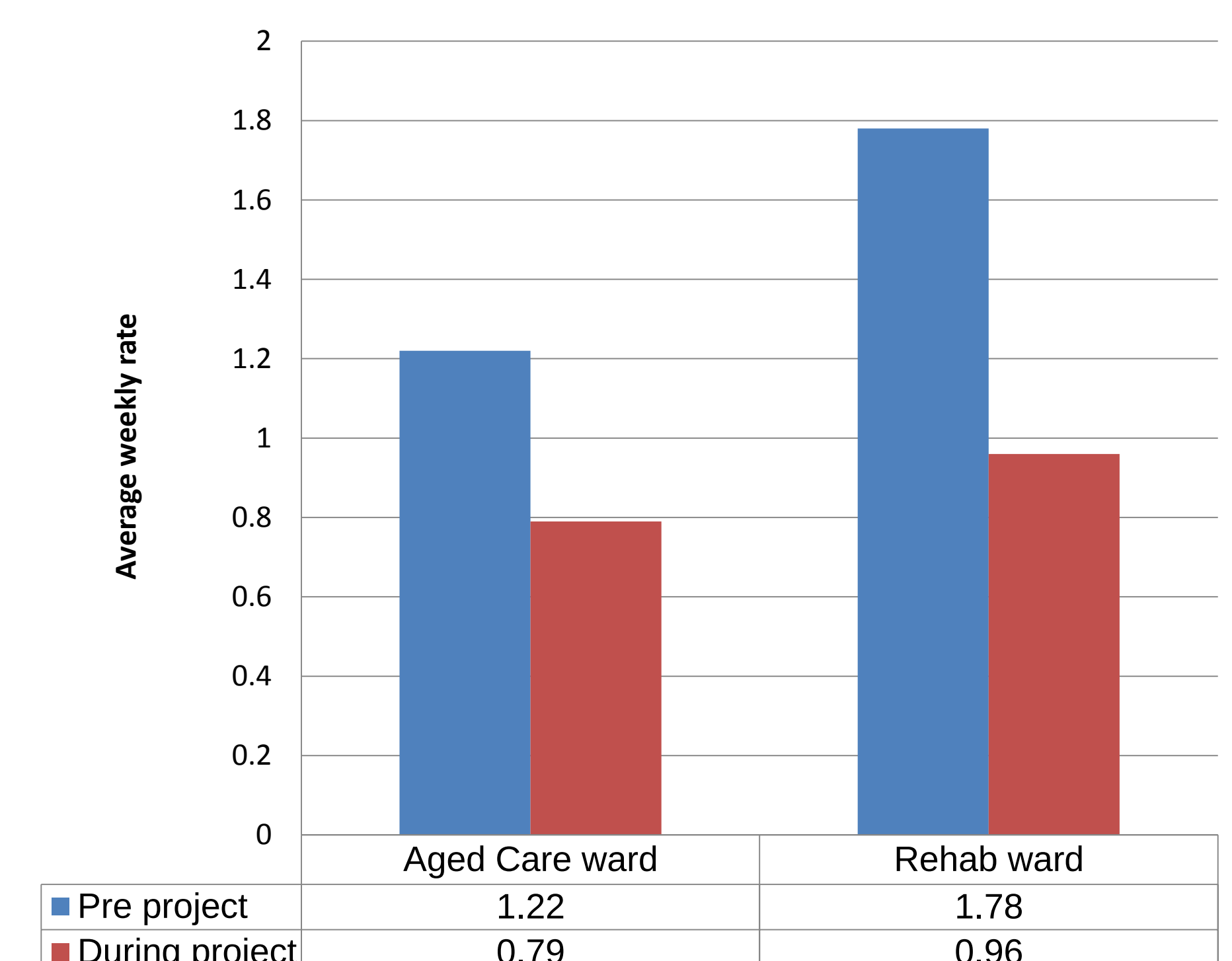


Figure 4. Unplanned readmission rate < 28 days

Discussion

The Caulfield in-reach model was able to demonstrate a reduction in unplanned readmissions on the trial wards, which not only improves patient care, but results in improved efficiency. The trial also showed that an improved awareness of discharge resources in clinicians can improve the quality and timeliness of referrals to community and ambulatory services. Such improvements in the discharge planning process are also likely to improve patient and clinician satisfaction. A potential limitation of this project was that not all of the patients on the trial wards were eligible for referral to Caulfield community and ambulatory services. Staff turnover on the wards is also likely to have impacted the ability of the Access clinician to educate ward staff about relevant discharge information.

Conclusion

The Caulfield in-reach model can help improve discharge planning, reduce unplanned readmissions and result in better quality and more timely referrals from inpatient wards to community and ambulatory services.

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The CCHS Diabetes Service: Catching people falling through the cracks

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Aim:

- Increase access to inter-disciplinary primary care services for clients with Type 2 Diabetes
- Optimise the skills and confidence of clients to self manage their Type 2 Diabetes

Method:

Establishment of CCHS Type 2 Diabetes inter-disciplinary team (August 2017)

Diabetes Nurse Educator (DNE)
Dietitian (Diet)
Exercise Physiologist (EP)



Baseline

Comprehensive inter-disciplinary joint assessment & care planning



Clients report prior community access to diabetes services

Questionnaires administered :

- Problem Areas In Diabetes (PAID)
- Self-Efficacy for Diabetes (SED)



Individualised program

DNE/Diet/EP
Referrals to other services



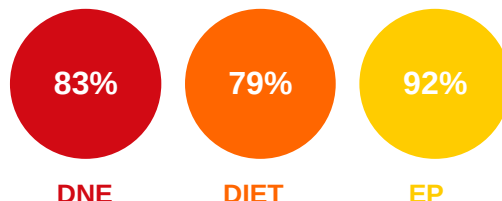
3 month team review

PAID & SED re-administered
Client Satisfaction survey

Results:

Baseline (n = 137)

- 68% of referrals from Alfred Health
- % of clients with no prior community access to:



- X Greatest problem identified was a lack of clear goals for diabetes care (PAID)
- X Worrying about the future and possibility of serious diabetes complications (PAID)
- X Least confident in ability to exercise regularly (SED)

3 month review (n=57)

- ✓ Feeling more encouraged with diabetes management plan (PAID)
- ✓ Clear goals for diabetes care (PAID)
- ✓ Confidence improved in all areas (SED)
- ✓ Greatest change in: (SED)
 - Confidence in managing blood sugar levels
 - Ability to exercise regularly
 - Managing blood glucose levels when exercising
 - Knowing when to see the doctor for diabetes related issues



Client
Satisfaction

Net Promoter
Score = 85 *

* 50+ excellent; 70+ world class

Conclusion:

- CCHS is filling the gap in the local community, by increasing access to primary care diabetes services
- Clients have improved confidence to self-manage their diabetes

GEM at Home:

Identifying medications errors in the community

Dr Brenton Tay, Robyn Stell, Victoria Lee and Kate Gledhill

Aims

- Medication errors are common in the community, particularly when patients transition between healthcare settings¹. They are often multifactorial and may not be recognized during a hospital admission.
- Poor medication management immediately after hospital admission increased the risk of readmissions by 28%².
- The aim of this project was to determine the incidence and types of medication errors in patients admitted to the GEM at Home program.

GEM at Home

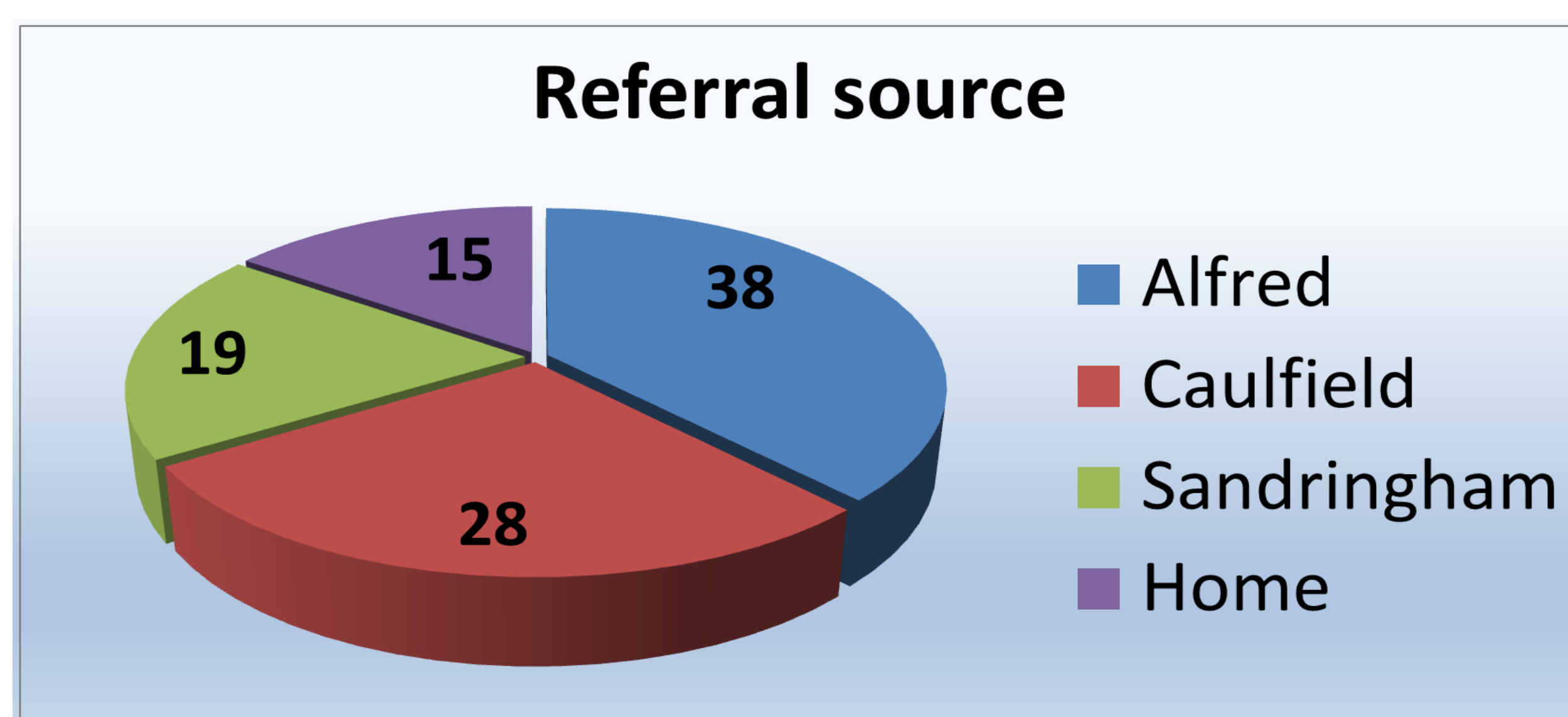
- GEM at home was established in 2015 to provide personalised and multidisciplinary care for older patients in their own homes.
- It is goals directed and time limited.
- Team members include geriatricians, geriatric registrars, pharmacists, nurses and allied health staff.

Methods

- A prospective audit of 100 consecutive patients admitted to GEM at home program was conducted.
- Demographic data, incidence and type of medication errors were collected.
- Intervention provided as part of routine care.
- Post discharge, these patients were tracked for a further 6 months by medical records review to establish hospital readmissions that could be attributed to medication errors.

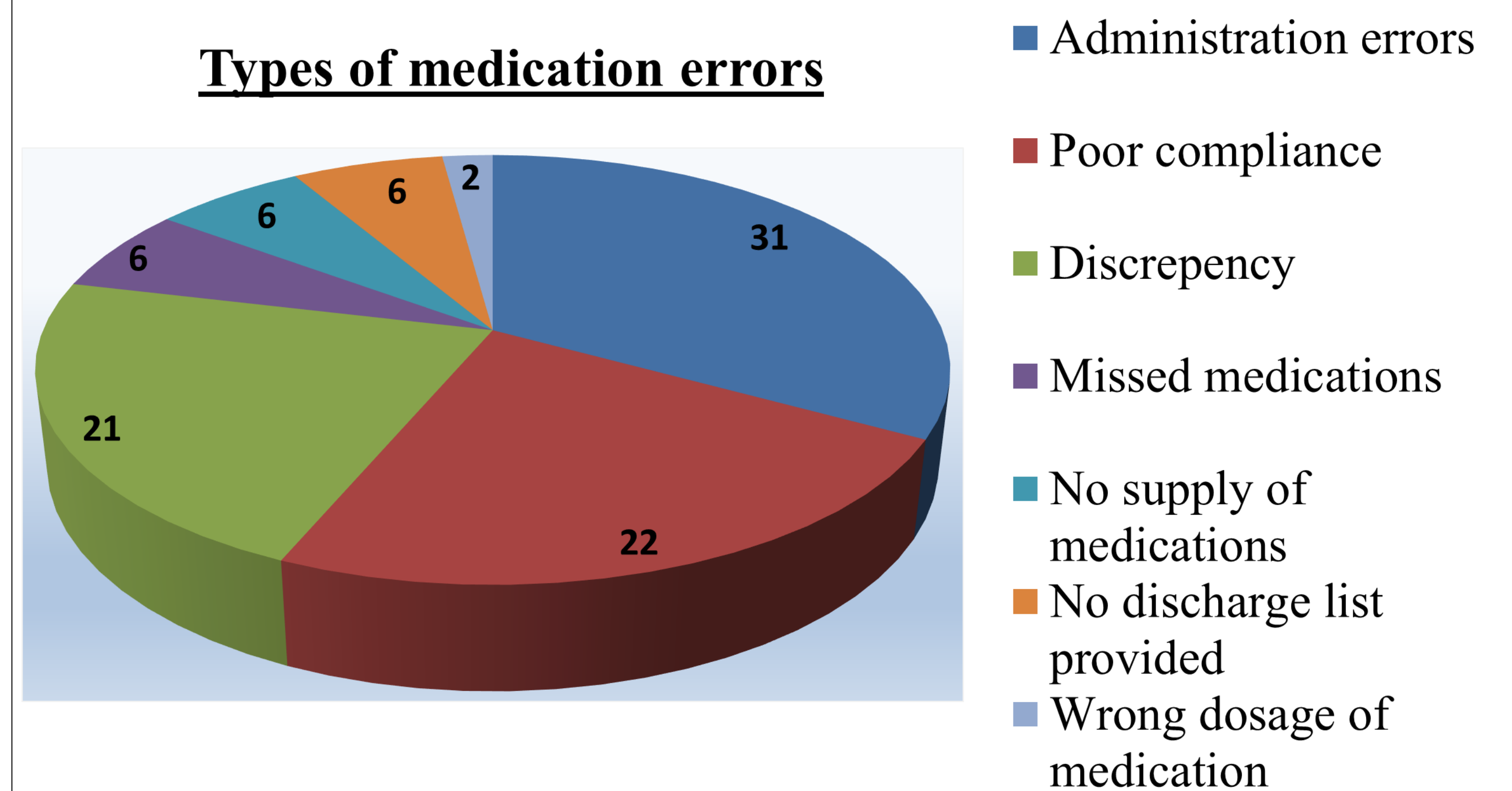
Results

- 100 patients audited between April and August 2017
- Female 57%; living alone 49%
- Average age - 82.6 years old
- With dementia - 26%
- Length of stay - 12.75 days

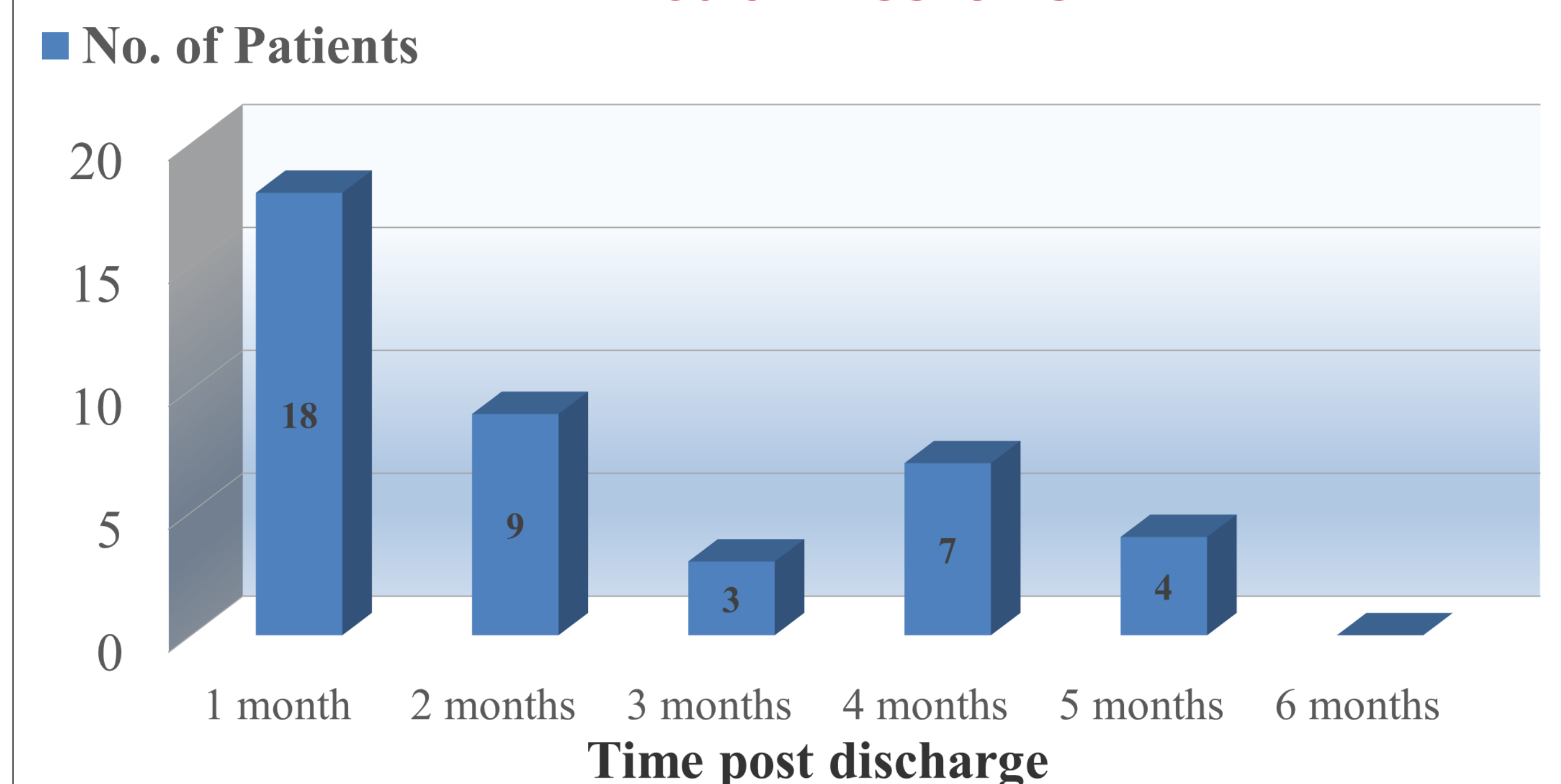


- 55% of patients had at least 1 medication error
- Total count of errors: 103

Types of medication errors



Readmissions



- 42 patients readmitted to hospital within 6 months post discharge.
- Only 3 could potentially be related to medications errors.

Interventions

- Reconciliation of medications, supply and removal of medications as needed, medication administration, organization of DAAs, education, pharmacy home visits, updating GP and local pharmacies, referrals to RDNS.

Conclusions

- GEM at home is an inpatient substitution model that provides multidisciplinary care for older patients at home.
- The service is effective in detecting a high number of medications errors at home that are not recognised in hospital.
- Daily home visits from staff enable us to provide effective strategies to improve medication management at home.

References

- ¹ Wheeler A, Scahill S, Hopcroft D & Stapleton H, 2018, Reducing medication errors at transitions of care is everyone's business. Australian Prescriber; 41:3: 73-77
- ² Feigenbaum P, Neuwirth E, Trowbridge L, Teplitisky S, Barnes CA & Fireman E, 2012, Factors contributing to all-cause 30 day readmissions: a structured case series across 18 hospitals. Med care; 50:599-605

Validation of a Combined Risk Score to Better Predict Hospital Related Harms

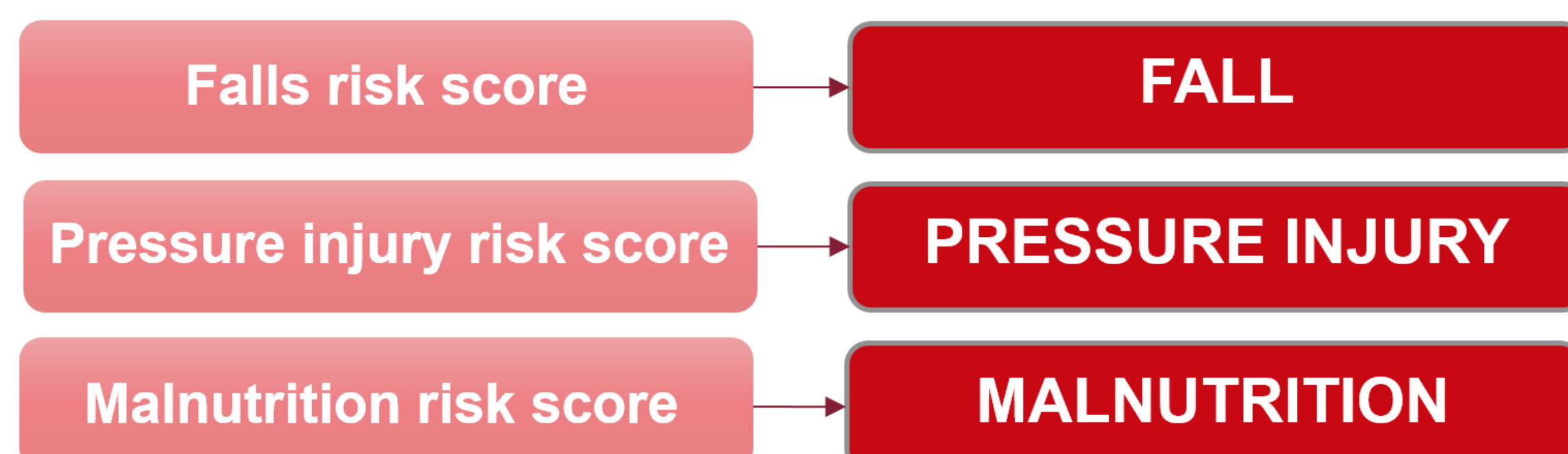
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Background

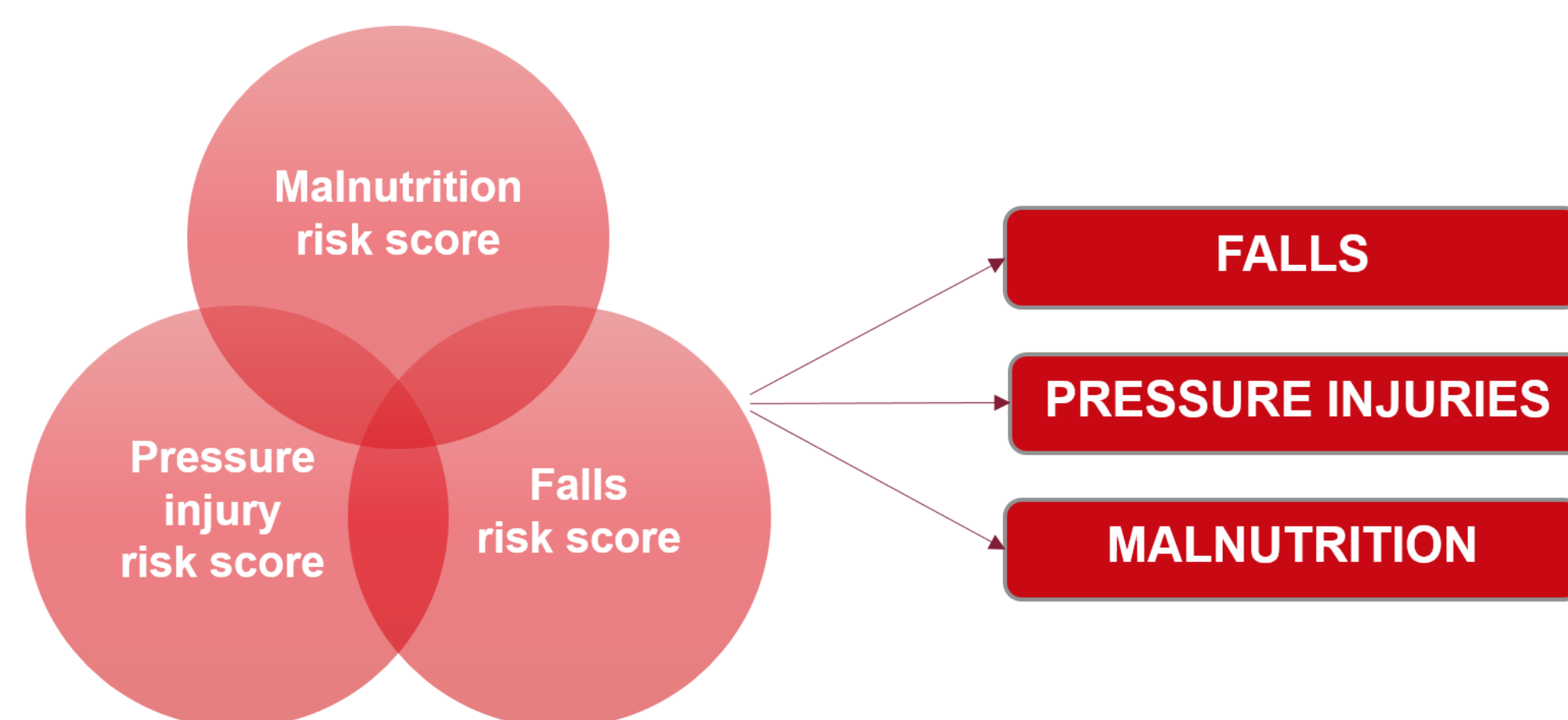
- Admission to hospital can be associated with a number of adverse clinical events such as falls, pressure injuries, and malnutrition
- To help target interventions that reduce the risk of hospital related harms, a number of risk scores are used
- Each risk scores aims to identify a single harmful outcome

Figure 1. Current risk score practice



However, risk factors for these harms may overlap.

Figure 2. Overlapping risk factors for harmful outcomes



Previous work

Regression models combining falls, pressure injury and malnutrition risk scores were used to generate risk of harm scores in a training dataset.

Aim

To validate whether the previously developed model combining hospital-related harm risk scores to predict occurrence of harms was a better predictor than the currently used individual risk assessment tools.

Methods

Design: Retrospective cohort study

Sample: Patients aged 65 years and over admitted to Aged Care and Rehabilitation wards at a subacute Victorian hospital from January 2014 to June 2016. A randomly-selected 50% was used to develop a logistic regression model combining all risk scores, with the remaining half reserved for model testing.

Risk measurements: Routinely-collected, locally-used hospital-related harm risk predictor tools for falls, pressure injury and malnutrition was extracted (see Table 1 below).

Table 1. Score domains used to assess risk of fall, pressure injury and malnutrition at Caulfield Hospital

Falls Risk Assessment Scoring System (FRASS)	Braden Scale	Mini Nutritional Assessment–Short Form (MNA-SF)
Age	Sensory perception	Has food intake declined ?
Mental status	Moisture	Involuntary weight loss in the last 3 months?
Emotional status	Activity	Mobility
Toileting	Mobility	Psychological distress or acute disease last 3 months
Fall in last 6 months	Nutrition	Neuropsychological issues
Sensory impairment	Friction and shear	Body mass index
Activity		
Medications		

Outcome measurements: Occurrence of first fall, pressure injury and malnutrition recorded from Riskman incident reporting software and linked to exposure data.

Analysis:

- Calculated Receiver Operating Characteristic (ROC) curves of currently-used individual risk scores were compared against those of the combined risk score.
- Using the sensitivity of the individual risk tool cut points, classification cut points for the combined risk score were created and proportions of people that would have their risk category changed with use of the combined score were calculated.

Results

Table 2. Sample Characteristics

	Training dataset	Testing dataset
	N=2243	N=2244
	Median (IQR) or N(%)	Median (IQR) or N(%)
Age (years)	83 (76-88)	83 (76-88)
Female sex	1196 (53%)	1233 (55%)
FRASS Score (Range 0-29)	11 (8-15)	11 (8-15)
Braden Score (Range 6-23)	17 (15-19)	17 (15-19)
MNA-SF Score (Range 0-14)	10 (8-12)	10 (8-12)
Fall	315 (14.0%)	352 (15.7%)
Pressure Injury	252 (11.2%)	247 (11.0%)
Malnutrition	8 (0.4%)	12 (0.5%)

Figure 3. ROC curves comparing original risk scores and the combined risk score on the occurrence of falls

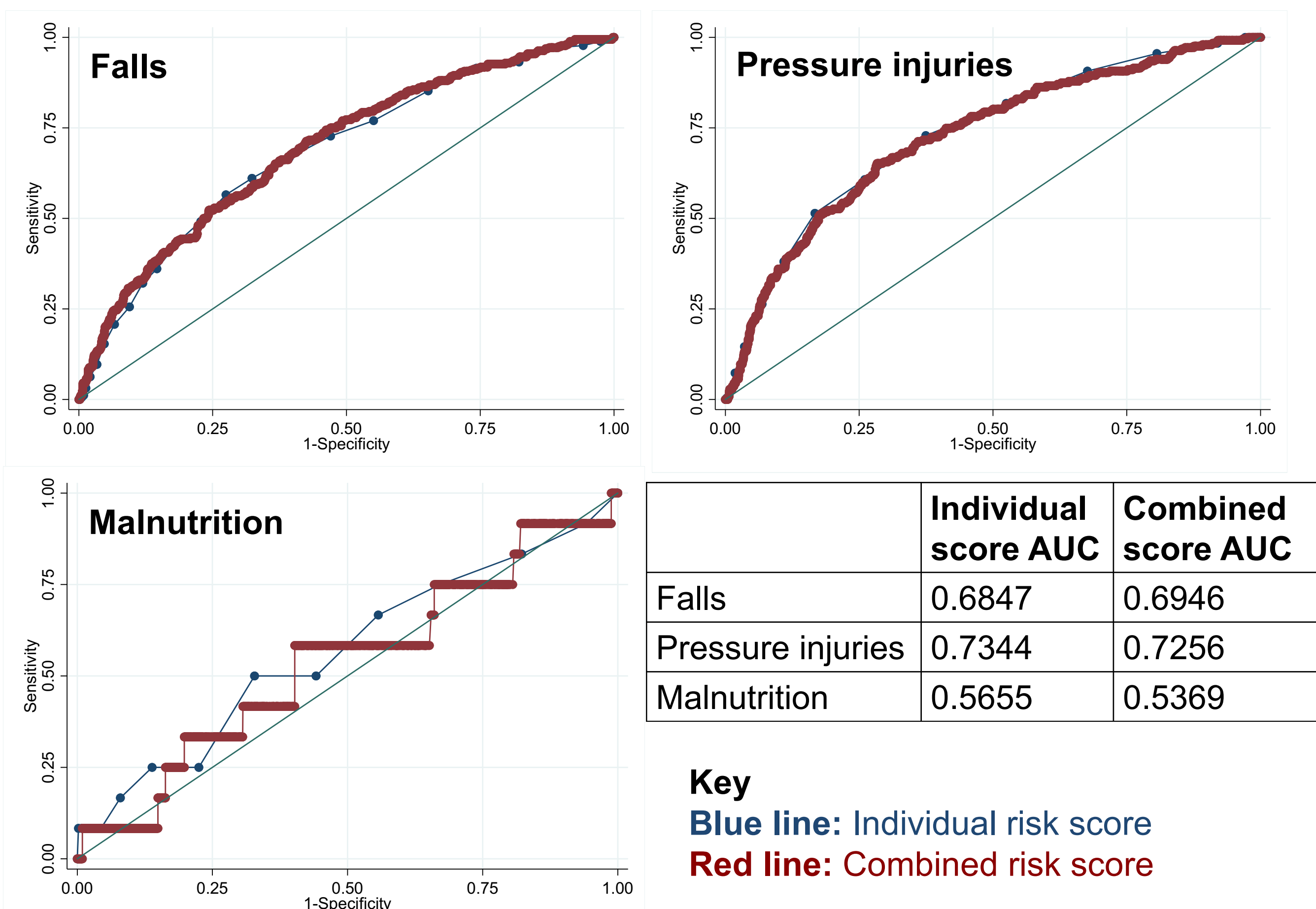


Table 3. Incidence of fall and classification of risk category using FRASS and combined risk score models

		Risk category		
		Low (n/%)	High (n/%)	Super high (n/%)
Cut points	FRASS	<8	8-14	≥15
	Combined	> -2.4	≥ -2.4 and <-1.46	≥ -1.46
No fall	FRASS	487 (26)	974 (51)	431 (23)
	Combined	607 (32)	952 (50)	333 (18)
	Reclassified	+120	-22	-98
Fall	FRASS	30 (9)	149 (42)	173 (49)
	Combined	42 (12)	162 (46)	148 (42)
	Reclassified	+12	+13	-25

Discussion

- Combining hospital-related harm did not substantially improve the ability to predict hospital related harms in older inpatients in subacute care
- This study demonstrates the reasonably poor performance of currently used harm risk tools and highlights the difficulties in identifying a person's true risk of developing a hospital-related harm

Hip Fracture Care at The Alfred

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Introduction

The Australian and New Zealand Hip Fracture Registry (ANZHFR) is a clinical registry that allows access to national data to improve performance and optimise outcomes of people with hip fracture.

Aims

To describe the characteristics and processes around hip fracture care at The Alfred.

Assess the feasibility of the orthogeriatric service to contribute data to the ANZHFR.

Compare the performance of The Alfred to National performance measures.

Methods

Design: Single centre, retrospective study

Setting: Inpatients ≥ 65 years of age with a single hip fracture admitted to the orthopaedic unit at The Alfred between 1st August and 1st November 2016.

Measurements: ANZHFR minimum data set was collected for each patient. Time taken to collect ANZHFR minimum data set was recorded. Additional data on length of stay (LOS) in sub-acute care, use of bone protection medication on discharge and 12 months follow up of subsequent admissions were included.

Results

A total of 54 people were admitted with hip fracture during the data collection period. **Table 1** describes some of the characteristics of those admitted and compares them to published ANZHFR results.

Table 1. Comparison of The Alfred and ANZHFR performance

Variable	The Alfred, ANZHFR n=54	
Pre-admission		
Mean Age (years)	85	82
Male	41%	30%
Live at home	67%	71%
Normal cognition	57%	62%
Perioperative		
Intracapsular fracture	33%	45%
Median time to surgery (hours)	28	29
Post-operative		
Unrestricted post-op weight bearing	85.2%	95%
Opportunity to mobilise on first day	78%	89%
Post op geriatrician assessment	Nil	95%
Median LOS in The Alfred (days)	8	7.7
Transferred to rehabilitation	67%	53%
Discharged directly to RACF	17%	25%
Died during acute admission	3.7%	3.6%
Bone protection prescribed on acute discharge	7%	16%

RACF: Residential Aged Care Facility

The median length of time required to collect data retrospectively for the ANZHFR was 14 minutes (IQR 5-44).

Table 2 presents other important data that is not routinely collected as part of the ANZHFR.

Table 2. Characteristics of patients with hip fractures attending The Alfred (comparative data from ANZHFR not available)

Variable	% or median (IQR)
Pre-fracture	
Independent with Activities of Daily Living	61%
Operative Management	
Sliding hip screw	52%
Hemiarthroplasty	24%
Intramedullary nail	19%
Inpatient sub-acute care	
Length of stay (days)	25 (5-59)
Discharged to private residence	47%
Discharged to nursing home	31%
Anti-osteoporosis medication on discharge	17%

Table 3 presents the experience of people discharged from The Alfred in the 12 months following hip fracture

Table 3. Alfred Health encounters subsequent to discharge

Variable	% or median (IQR)
In subsequent 12 months post fracture	
At least 1 Alfred Health admission	39%
Cumulative Alfred Health LOS post fracture (days)	25 (1-89)
Number died in Alfred Health	11%

Conclusions

The Alfred's experience of hip fracture care is similar to that described nationally in the ANZHFR.

Additional data around Patient Related Outcome Measures may also provide helpful insights into a person's post-operative experience.

It is feasible for the orthogeriatric service to contribute data to the ANZHFR and is likely to be simpler to complete contemporaneously.

Screening for Sleep Apnoea in Cardiac Rehabilitation

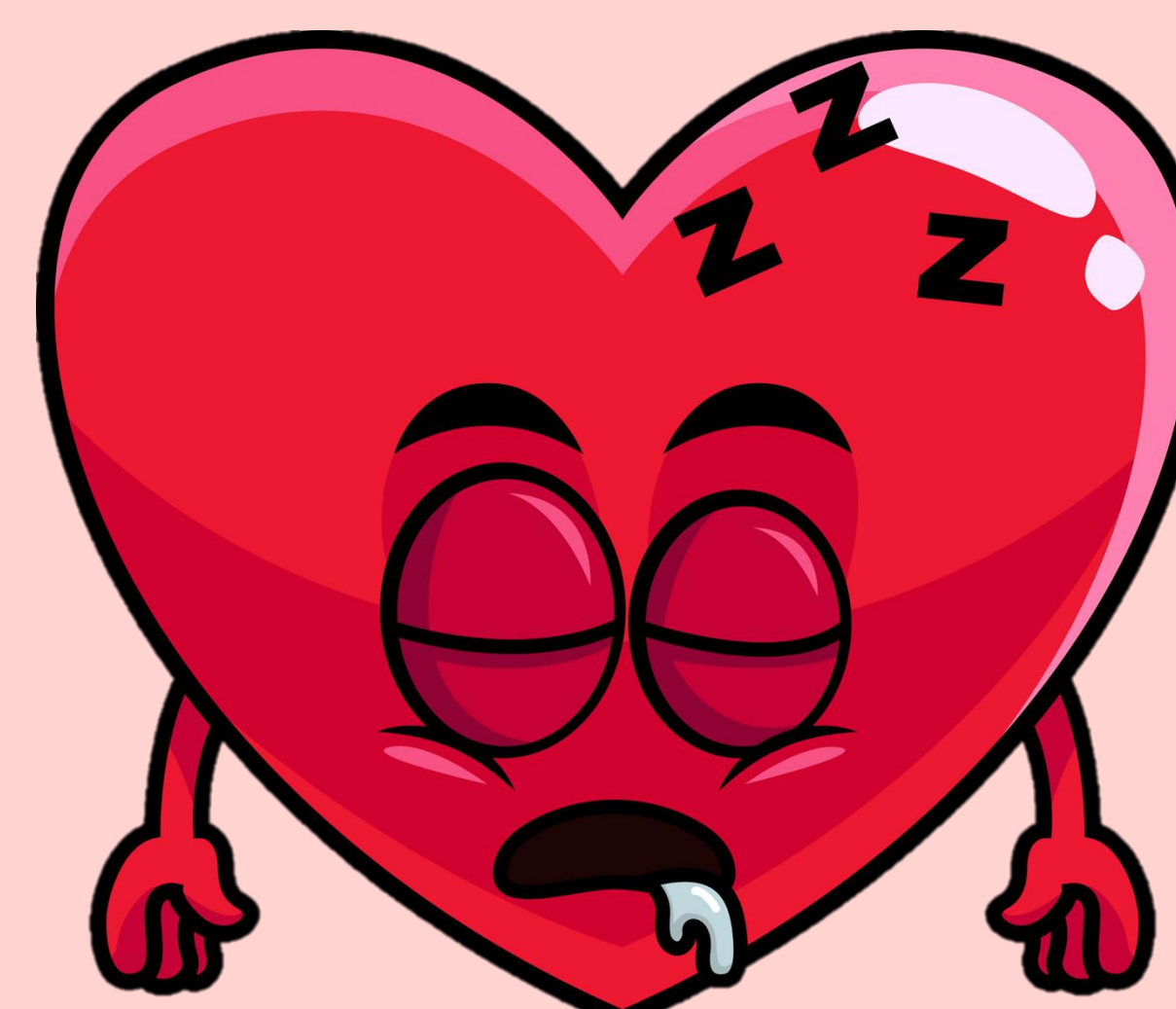
WISE FM^{1, 2} BEER MA¹ SHEPPARD R¹

1.CARDIAC REHABILITATION UNIT, CAULFIELD HOSPITAL, ALFRED HEALTH

2.EPWORTH MONASH REHABILITATION MEDICINE UNIT

What was the
aim of the
study?

1. To establish Obstructive Sleep Apnoea (OSA) prevalence and outcomes in cardiac rehabilitation.



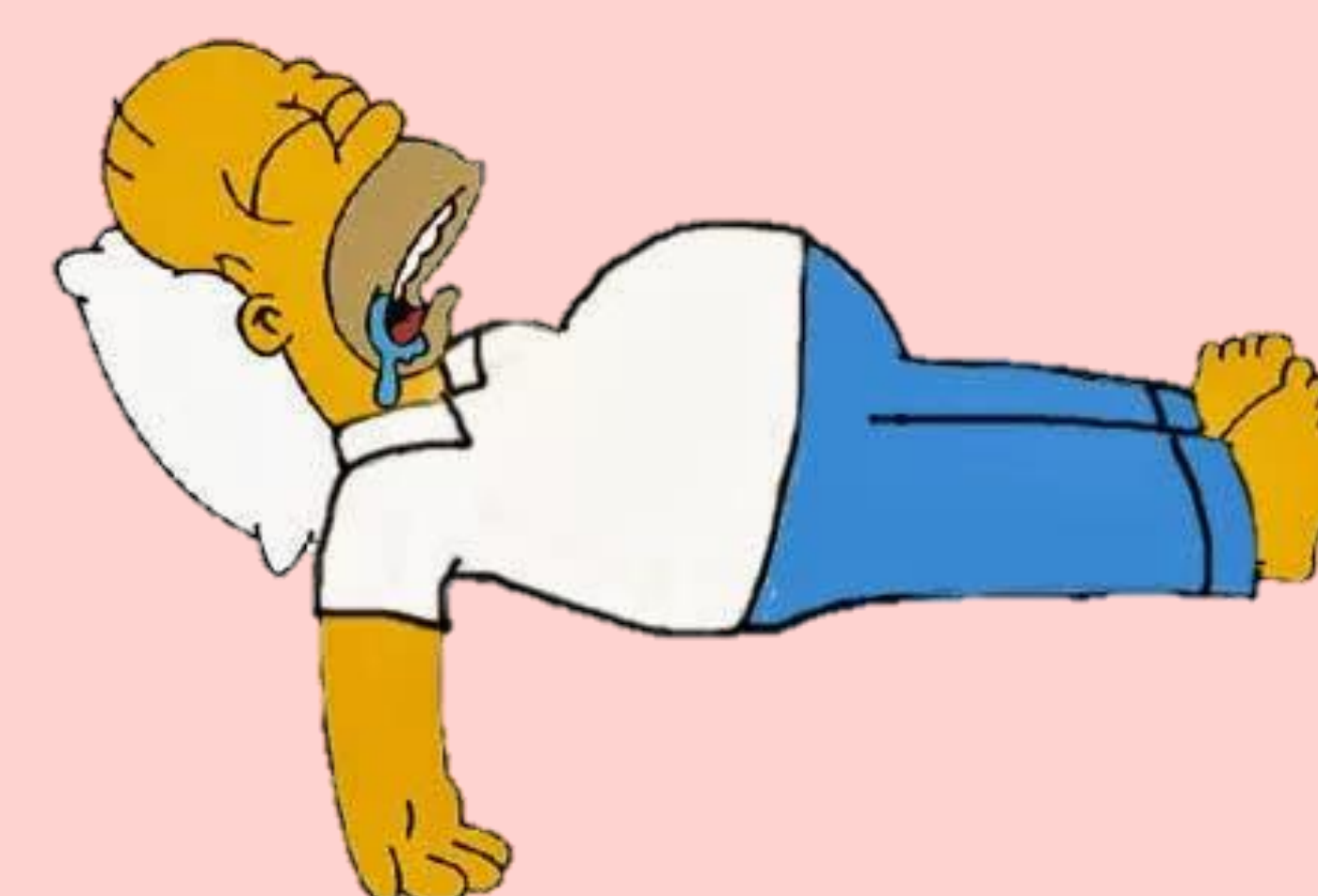
2. To examine the rate of sleep studies done in cardiac rehabilitation patients who need them.

Why is it
important now?

OSA

- affects **25% of men** and **9% of women** in Australia,
- increases risk for coronary artery disease, heart failure, cognitive impairment and stroke,
- is also associated with psychiatric comorbidities such as anxiety and depression.

Despite this, it is often underdiagnosed in cardiac rehabilitation patients



What did we
do?

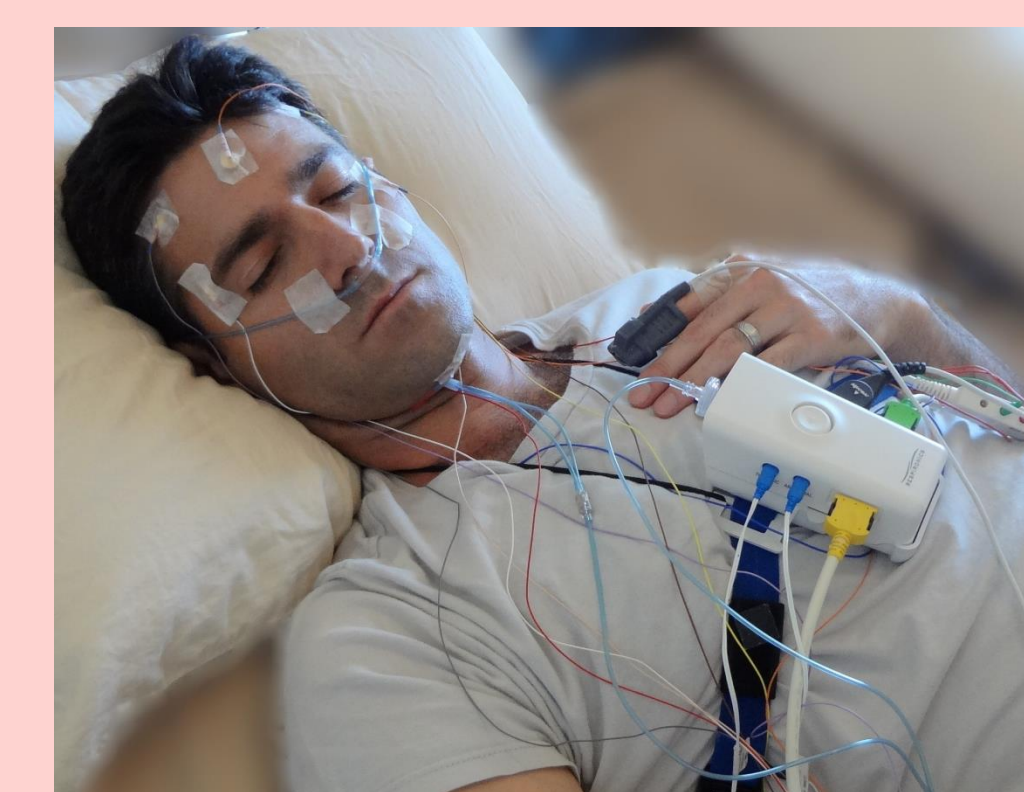
431 participants in an outpatient cardiac rehabilitation program completed:

- the Berlin Sleep Questionnaire (BSQ),
- Hospital Anxiety and Depression Scale
- 6 Minute Walk Test (6MWT).

In addition, Body Mass Index (BMI), Body Fat % and risk factor history was noted.



Participants scoring **≥2** on the BSQ were advised to undergo further investigation and their General Practitioners were contacted by letter requesting a referral for Sleep Study be made.



What did we
find?

38% (n = 164) of participants scored high on BSQ and needed sleep studies.

- High scorers were significantly more likely to have a history of smoking, hypertension or diabetes.
- High scorers had higher BMI, body fat % and higher prevalence of depression and anxiety.
- Exercise tolerance was lower and there was less improvement in 6MWT by discharge.

	High Scorers	Low Scorers
AGE, MEAN	63.7	63.6
SEX, MALE, %	72.2	77
SMOKER, %	13.4*	9
HYPERTENSION, %	68.9*	42
DIABETES, %	28.4*	17.7
BMI, MEAN	30.2*	26.9
% BODY FAT, MEAN	31.2*	27.1
WAIST MEASURE, MEAN, CM	104.5*	97
HADS, % WITH ANXIETY	35.5*	21.7
HADS, % WITH DEPRESSION	32.2*	13.8
EXERCISE >150MINS/WEEK, %	54.2	57.7
6 MINUTE WALK, M, ADM	478*	501
6 MINUTE WALK, M, DC	634.7*	717

* p < .05

Conclusions

- Over one-third of cardiac rehabilitation patients have probable OSA, associated with features of metabolic syndrome and psychiatric comorbidities.
- Despite the health risks associated with OSA and written requests by our Unit, almost no GPs referred for sleep studies.

What are the Next Steps?

- Cardiac rehabilitation units need to develop more effective means of managing Obstructive Sleep Apnoea in their patients.
- Our Unit is developing a protocol to initiate direct referral to sleep clinics, with examination of outcomes including Quality of Life

Only FIVE high scoring patients (probable OSA) were referred by their GPs for sleep studies.



Role of an Early Post-discharge Phone Call in the Geriatric Setting

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Background

- Geriatric patients have higher medical co-morbidity, frailty, & poly-pharmacy use
- A significant proportion have ongoing health, medication or service related issues post-discharge
- These issues can lead to early representation and readmission back to hospital

Aims

We sought to identify representation rates within 14 days of discharge from a geriatrics subacute hospital and analysed the role of a structured early post-discharge phone call in identifying contributors to readmission

Methods

From Mar 2017 – Feb 2018, eligible patients discharged from the Aged Care wards at Caulfield Hospital to either home or residential aged care facility received a structured post-discharge phone call performed by a member of the treating team within 72 hours post-discharge

Using a pre-specified questionnaire, issues related to patient's health, medication or service were collected

Electronic medical records were then used to identify those that represented back to Alfred Health within 14 days post-discharge, excluding those with planned readmission

Data was analysed using either Pearson's Chi-square test or Fisher's Exact test (if sample data value is less than five), with cut-off value of $p < 0.05$ being statistically significant

Results

- 1138 patients were discharged across Aged Care wards
- 119 (10.4%) represented within 14 days (see Fig. 1), with the median being 5 days
- 44 represented within first 72 hour post-discharge (37% of those that represented)
- 250 patients received post-discharge phone call, 23 (9.2%) of which represented (see Fig. 2)
- Out of 250 phone calls, 70 (28%) had one or more issues identified during the phone call
- 14 (20%) of patients with issues identified by phone call represented within 14 days (see Fig. 3)
- Majority of issues are medical/health-related (see Fig. 4)

Figure 1 – Number of pt. represented

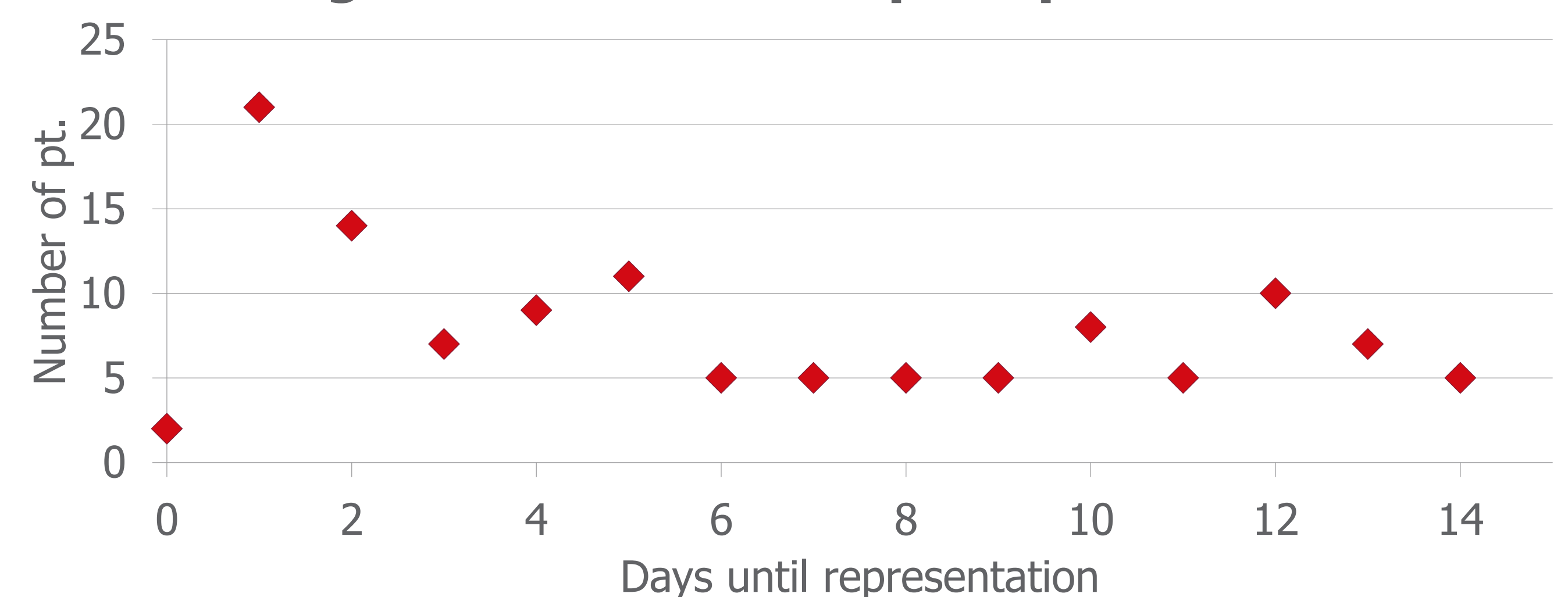


Figure 2 - % represented with vs without phone call

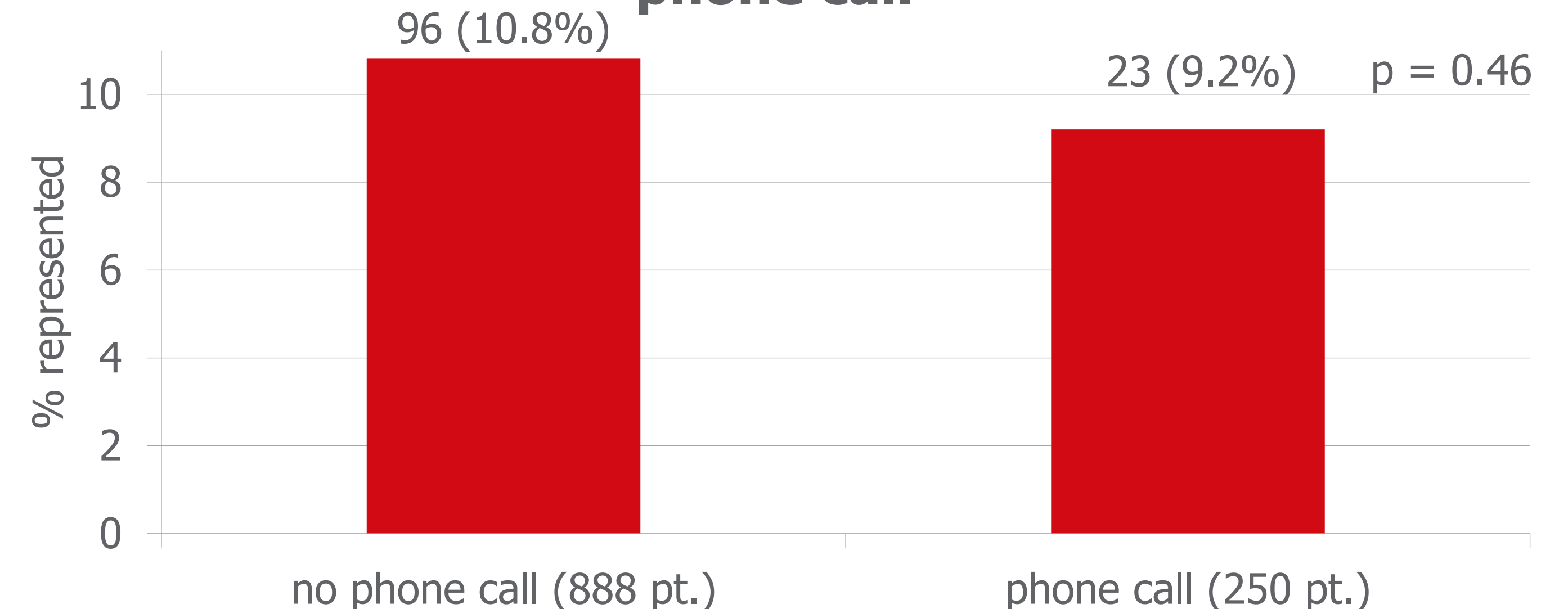


Figure 3 - % represented with vs without issues identified

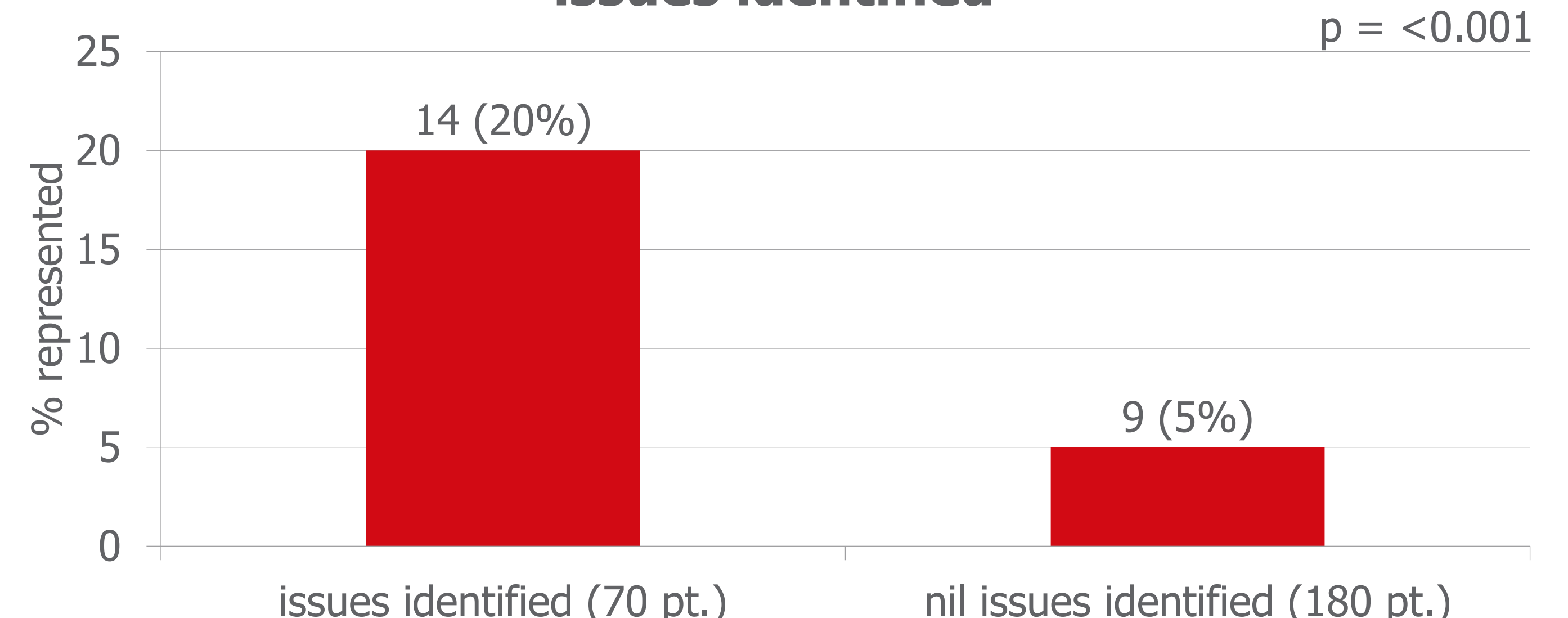
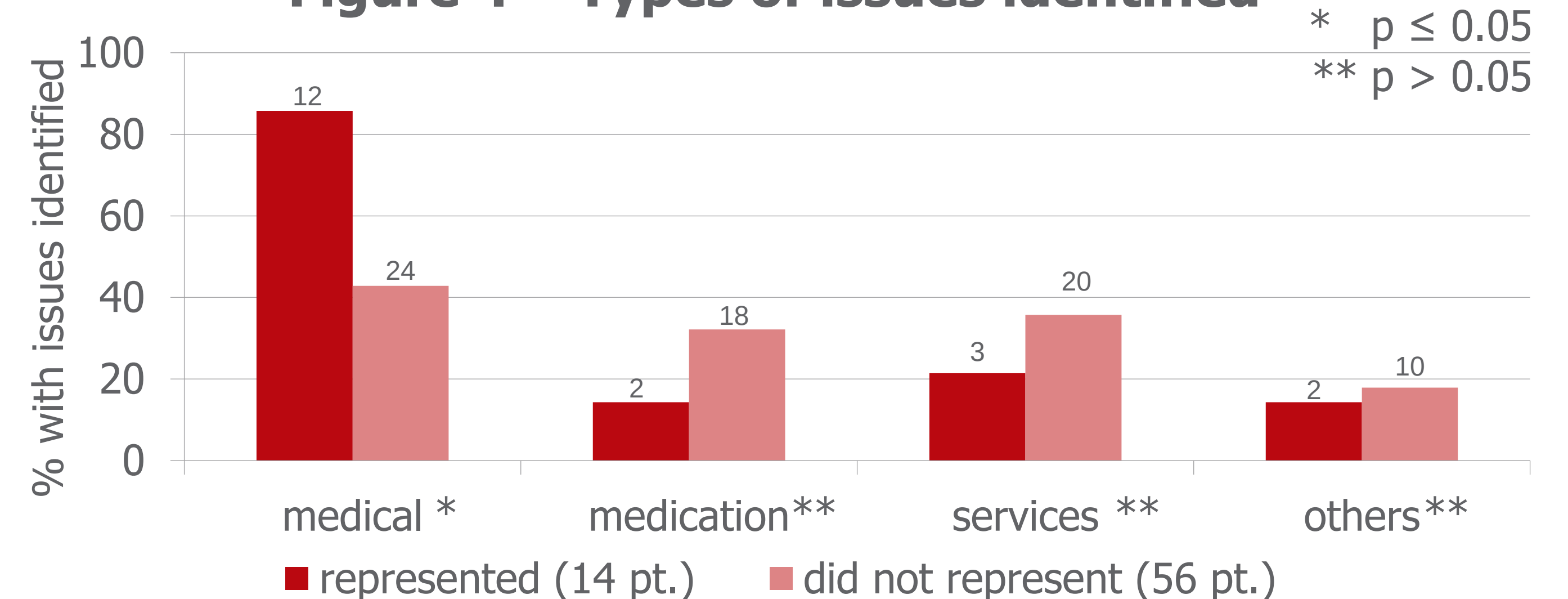


Figure 4 – Types of issues identified



Conclusions

An early post-discharge phone call

- Can successfully identify issues encountered by patients following discharge from hospital
- May be able to reduce risks of representation, particularly when issues are identified
- Highlights potential for collaborative approach with other community-based hospital program
- Allows better continuity of care for patient post-discharge as part of hospital quality improvement