



THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA

CREATE CHANGE



# Management of malnutrition in hospital and post-discharge

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# Acknowledgements & disclosures

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- Allied Health Professions Office, Queensland
- AusHSI
- Canadian Frailty Network
- TPCF Foundation

*Travel support*

Canadian Nutrition Society

I have no actual or potential conflict of interest in relation to this presentation

S  
I  
M  
P  
L  
E

Systematized  
Interdisciplinary  
Malnutrition  
Program  
Implementation and  
Evaluation



Australian Government  
Department of Health



## Observations and reflections



# The Skeleton in the Hospital Closet

*As awareness of the role of nutrition in recovery from disease increases, physicians are becoming alarmed by the frequency with which patients in our hospitals are being malnourished and even starved. One authority regards physician-induced malnutrition as one of the most serious nutritional problems of our time.*

by CHARLES E. BUTTERWORTH, Jr., M.D.

Butterworth, 1974



Why are the  
skeletons still  
hiding in the  
hospital closet?

Because they had no body waiting for them at home.

Dad Joke, 2020

Is our inpatient model of care failing?

Increased inpatient acuity

Demographic changes

Increased life expectancy

Decreased length of stay

Value not volume

Unfunded service demands

Digital transformation: ↑screening & referral

**EMR-GEDDON**

## Are 'at risk' inpatients receiving timely, appropriate nutrition care?

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SIMPLE sites baseline audit findings preliminary data: n=350; 6 (%)

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sites

### Audit

at risk with documented malnutrition diagnostic assessment 56%

at risk receiving food and nutrition prescription 67%

### PREMS

'Somebody has told me that I am at risk of malnutrition' 34%

'I have received information about being at risk of malnutrition' 22%

'I mostly receive help with my meals when I need it' 44%

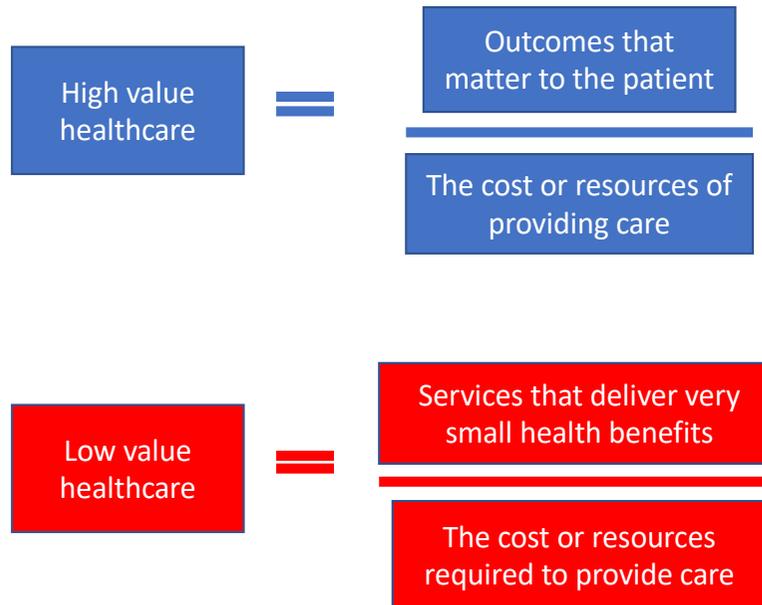
'I have a plan for ongoing nutrition care' 28%

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**Patients receiving comprehensive malnutrition care: 23%**

# Is our care high value or high volume?

## Values based healthcare



**Value-based healthcare – shifting from volume to value**

**17-18 March 2016**  
**Meeting report**

**Royal on the Park, Brisbane**

Queensland Clinical Senate– Meeting Report March 2016



- 1 -

## What do our inpatient dietitians think about this?



5.2

The time I spend in this ward represents high value for taxpayers and healthcare funders:



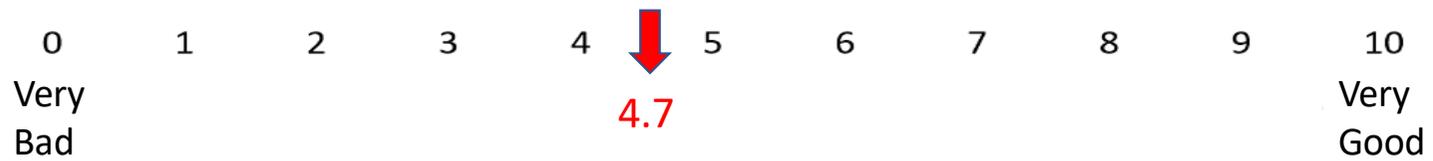
6.2

My skills, knowledge, and intellectual abilities are under-used in this ward:



Are our inpatient dietitians enjoying their work?

**Average dietitian workforce experience score**



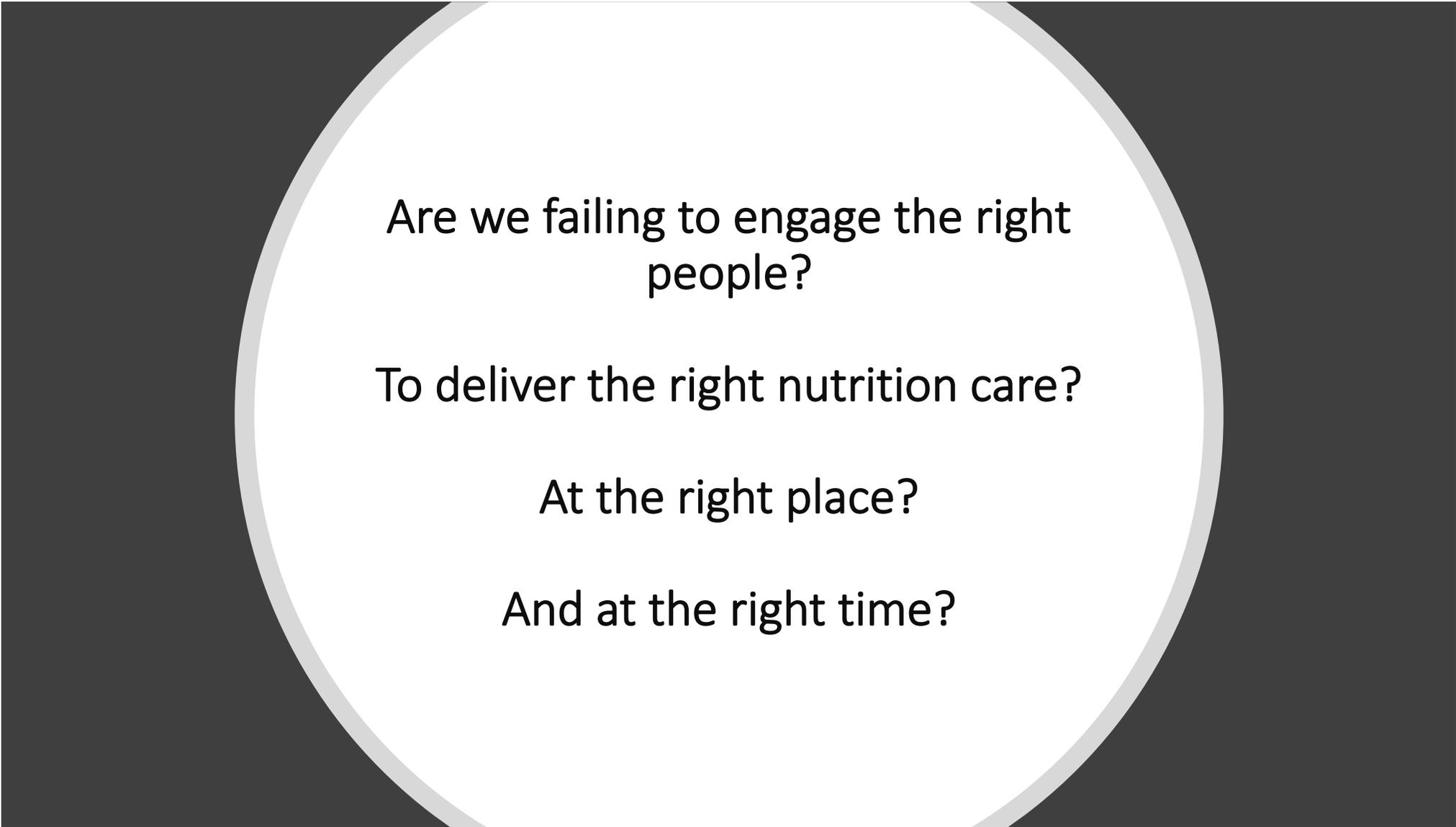
## Are there any low value care opportunities for potential disinvestment?

- 9 nominal group technique workshops conducted across eight sites.
- Dietitians (51) and assistants (12) identified 101 low value dietetic actions considered suitable to replace with systematised, interdisciplinary alternatives.
- Spread across screening (n=5), assessment (n=31), diagnosis (n=2), intervention (n=45), and monitoring and evaluation (n=18) domains of the nutrition care process.
- Actions that received the highest number of nominal group technique votes were:
  - comprehensive dietitian assessments for low risk referrals (n=50)
  - dietetics follow-up reviews where unlikely to add substantial benefit (n=32)
  - individualised inpatient educations by dietitian where specialised education or counselling were considered low-value (n=28)
  - individualised food and fluid support for patients who do not require specialised dietitian care (n=22)

## Should we be reinvesting outside the 4 walls of the hospital?

- Screening and malnutrition care hospital focussed
- Resources for malnutrition care stacked in hospitals
  - 2% the total malnutrition burden is accounted for by hospital patients at any one time
  - 90% of malnutrition originates and exists outside of hospitals and residential aged care homes
- > ½ 'at risk' do not report awareness of a post-discharge nutrition care plan
- Post-hospital nutrition care and dietetics follow-up is only provided for a select few

Elia, 2015  
Laur et al, 2018  
Laur et al, 2017  
Keller et al, 2017  
Bell et al, 2019



Are we failing to engage the right  
people?

To deliver the right nutrition care?

At the right place?

And at the right time?

# Is it because nobody cares?



489

ARTICLE

Barriers to nutritional intake in patients with acute hip fracture: time to treat malnutrition as a disease and food as a medicine?<sup>1</sup>

Jack Bell, Judith Bauer, Sandra Capra, and Chrys Ranjeev Pulle

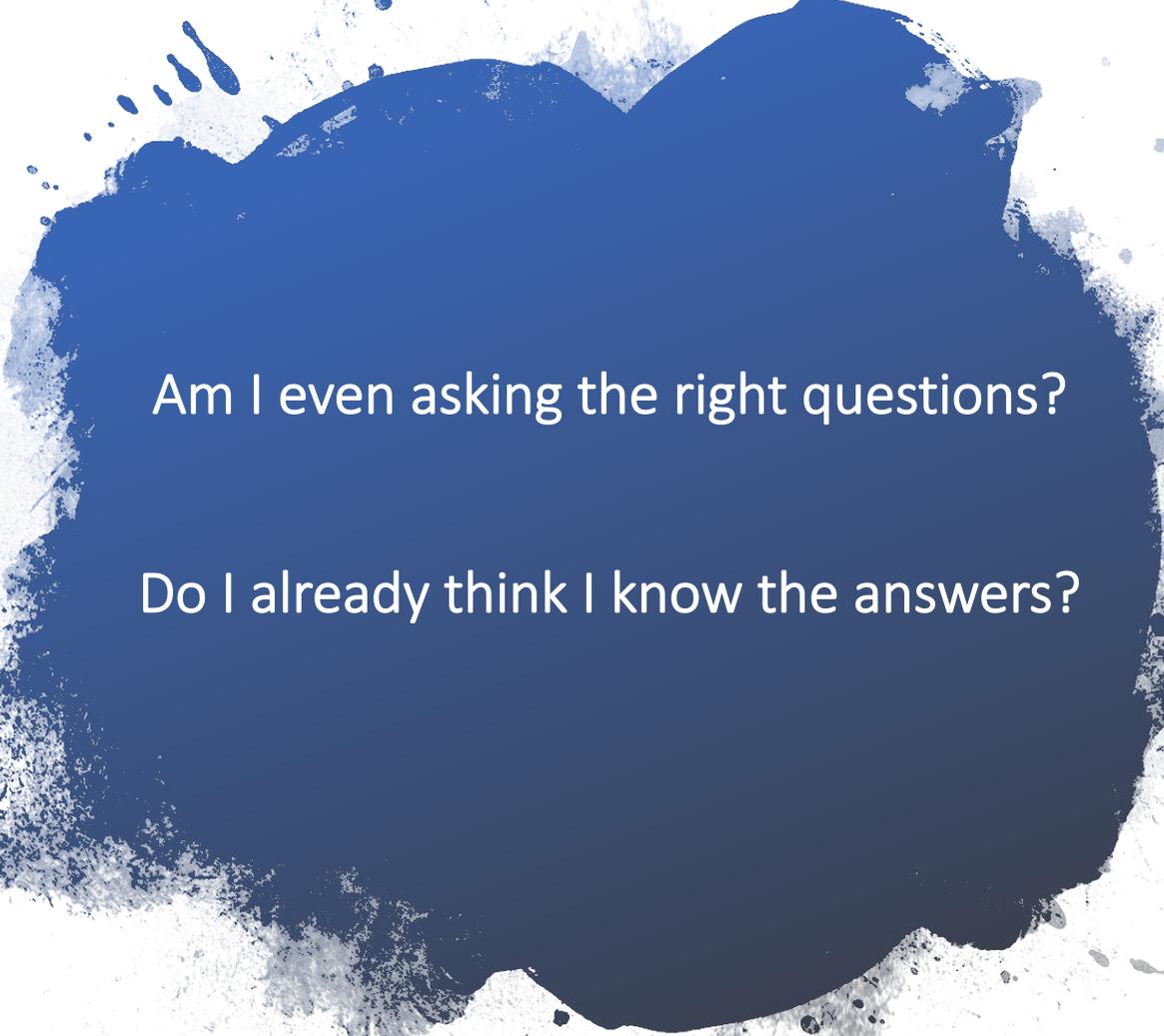
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*“the culture... hospital wide is very task oriented and nutrition is one of those things down the bottom”*

*“We’re forgetting the basics; it’s all about the bling, bling, kind of things”*

Bell et al, 2013  
Laur et al, 2015

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Am I even asking the right questions?

Do I already think I know the answers?

# Malnutrition is a wicked problem

No gold standard screen or diagnosis

Multiple aetiologies

No single, clear intervention

Socially complex

Not the responsibility of single stakeholder / professional group

Characterised by chronic policy failure

Solutions require behaviour change across complex systems

Rittel & Webber, 1973  
Young et al, 2015



Wicked  
problem

? wrong answers to the wicked problem of malnutrition

- Relying on single screening tools or focal points of identification
- Assuming knowledge of the underlying cause and the best treatment option
- Applying 'one size fits' all approach to interventions
- Relying on a specialist dietitian to deliver nutrition care for all 'at risk' patients
- Focusing just on the patient in front of you instead of local and global policy and practice
- Stacking all eggs into a single [hospital] basket

## Some key steps to improving wicked problems...

- Articulate key problems, barriers and enablers
- Engage all relevant players from the start – ? experience-based co-design approaches
- Identify and support leaders, facilitators, and change champions
- Build strong relationships within teams
- Build in sustainability and spread from the start
- Consider and synthesize existing knowledge
- Measure the right things
- Build reasons to change

## Some key steps to improving wicked problems...

- Apply, tailor, and/or develop models that 'manage' wicked problems
- Target individual, inner, and outer behaviour changes across interventions, policy and practice
- Leverage data and technology opportunities
- De-implement to reinvest elsewhere
- Break bad habits and build good ones
- Actuate opportunities, offers, cash and in-kind support
- Consider, measure and evaluate feasibility, implementation, and process measures
- Apply multiple measures from multiple angles to demonstrate outcomes and sustain change
- Educate, communicate, market, and disseminate
- Abandon linear approaches and embrace a messy world

## Real world examples

1. Multi-modal, multidisciplinary nutrition care in hip fracture
2. SIMPLE
3. More-2-Eat



The acronym SIMPLE is displayed vertically, with each letter and its corresponding word to its right. The letters are S, I, M, P, L, and E. The words are Systematized, Interdisciplinary, Malnutrition, Program, Implementation and, and Evaluation.

S Systematized  
I Interdisciplinary  
M Malnutrition  
P Program  
L Implementation and  
E Evaluation

# Articulate key problems, barriers, enablers to improving nutrition care for patients

Laur et al. BMC Health Services Research (2017) 17:498  
DOI 10.1186/s12913-017-2409-7

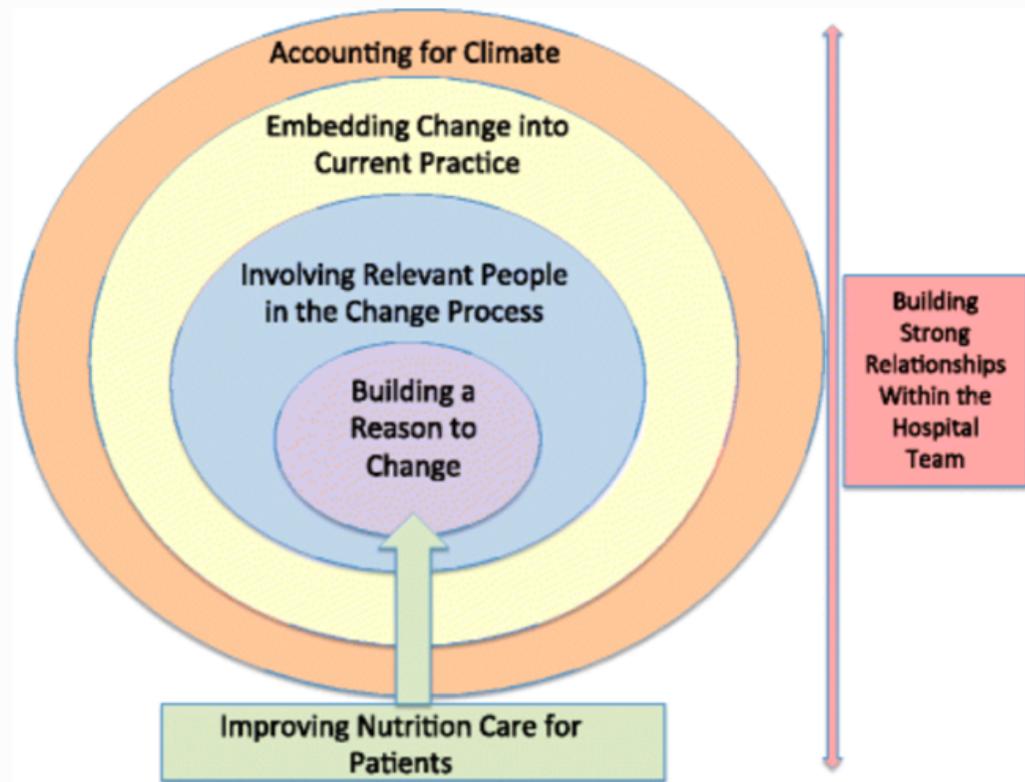
BMC Health Services Research

## RESEARCH ARTICLE

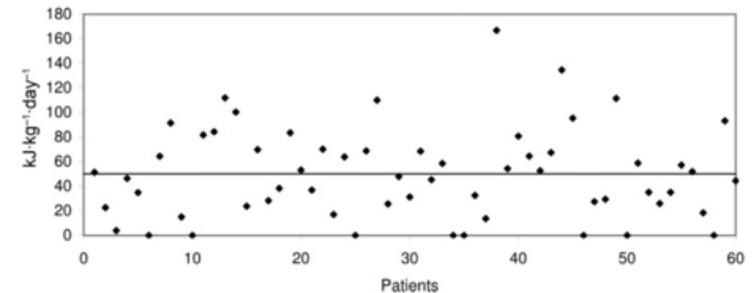
Open Access

### Changing nutrition care practices in hospital: a thematic analysis of hospital staff perspectives

Celia Laur<sup>1</sup>, Renata Valaitis<sup>1</sup>, Jack Bell<sup>2</sup> and Heather Keller<sup>3,4\*</sup>



## Articulate key problems, barriers, enablers



- Only 2 patients met requirements for protein and energy
- Malnutrition >50% with additional 11% incidence
- Patient perceptions that malnutrition and (or) inadequate intake were not a problem
- Patient and clinician perceptions that treatment for malnutrition was not a priority.

# Engage all relevant players from the start

Original Communication

## “I Wouldn’t Ever Want It”: A Qualitative Evaluation of Patient and Caregiver Perceptions Toward Enteral Tube Feeding in Hip Fracture Inpatients

Patricia C. King, MDietSt<sup>1</sup>; Sally E. Barrimore, MNutDiet<sup>2</sup>; Ranjeev C. Pulle, MBBS, FRACP<sup>2</sup>; and Jack J. Bell, PhD<sup>1,2</sup>

An inductive qualitative study exploring the perceptions of hip fracture inpatients and caregivers toward Enteral Tube Feeding

**Journal of Parenteral & Enteral Nutrition**  
wileyonlinelibrary.com/journal/jpen • ISSN: 0148-0071 Volume 43 • Number 4 • May 20

**JPEN**

An International Journal of Clinical Nutrition and Metabolic Support

aspEN LEADING THE SCIENCE AND PRACTICE OF CLINICAL NUTRITION  
American Society for Parenteral and Enteral Nutrition

WILEY

**Perceived Quality of Life**

**Necessity of tube**

**Perceived Consequences**

**Knowledge and Understanding**

*Attitude towards life duration*

*Acceptance of tube*

*Importance of nutrition*

*Ability to cope*

*Value of nutrition*

*Personal perception of situation*

**ORIGINAL COMMUNICATIONS**

- AGREEd on Guidelines for Nutrition Management of Adult Severe Burn Patients
- Optimization of Nutrition Therapy with the Use of Calorimetry to Determine and Control Energy Needs in Mechanically Ventilated Critically Ill Patients: The ONCA Study, a Randomized, Prospective Pilot Study
- Poor Social Support and Unemployment Are Associated With Negative Affect in Home Parenteral Nutrition-Dependent Patients With Chronic Intestinal Failure
- Close Relationship Between Immunological/Inflammatory Markers and Myopenia and Myosteatosis in Patients With Colorectal Cancer: A Propensity Score Matching Analysis
- Cost, Time, and Error Assessment During Preparation of Parenteral Nutrition: Multichamber Bags Versus Hospital-Compounded Bags

Cover Art Note: In this issue of JPEN, a model is proposed to illustrate the interrelationships of factors influencing the acceptance of enteral tube feeding among hip fracture inpatients and caregivers.

# Engage all relevant players from the start

Keller et al. *Nutrition Journal* (2015) 14:63  
DOI 10.1186/s12937-015-0051-y



RESEARCH

Open Access

## The Integrated Nutrition Pathway for Acute Care (INPAC): Building consensus with a modified Delphi



Heather H Keller<sup>1\*</sup>, James McCullough<sup>2</sup>, Bridget Davidson<sup>3</sup>, Elisabeth Vesnaver<sup>4</sup>, Manon Laporte<sup>5</sup>, Leah Gramlich<sup>6</sup>, Johane Allard<sup>7</sup>, Paule Bernier<sup>8</sup>, Donald Duerksen<sup>9</sup> and Khursheed Jeejeebhoy<sup>10</sup>

Modified Delphi process allowed consensus to be developed based on better practices

Evidence-informed, consensus based pathway for nutrition care

Attention to feasibility has created a pathway with greater implementation potential

External validation with practitioner groups promoted a conceptually easy to use format.

## Australasian Journal on Ageing

Research Article | [Full Access](#)

### Development of an 'Enteral tube feeding decision support tool' for hip fracture patients: A modified Delphi approach

Aye Su Mon , Chrys Pulle, Jack Bell

Established multidisciplinary clinician consensus and support for an 'Enteral tube feeding decision support tool' to be applied across acute hip fracture settings

## Clinicians as novice facilitators: a SIMPLE case study

Young, Adrienne M; Keller, Heather H; Barnes, Rhiannon; Bell, Jack J.

*Journal of Health Organization and Management*; Bradford Vol. 33, Iss. 1, (2019): 78-92.



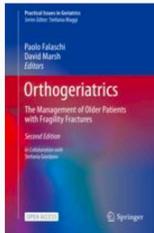
Identify and support leaders, facilitators, and change champions

“Key functions of the facilitator role were:

- building relationships and trust;
- understanding the problem and stimulating change through data;
- negotiating and implementing the change; and
- measuring, sharing and reflecting on success.

Facilitators can support iterative improvements through building trust and relationships, co-designing strategies with champions and teams and developing internal capacity for change”

## Build strong relationships within teams



[Orthogeriatrics](#) pp 311-329 | [Cite as](#)

### Nutritional Care of the Older Patient with Fragility Fracture: Opportunities for Systematised, Interdisciplinary Approaches Across Acute Care, Rehabilitation and Secondary Prevention Settings

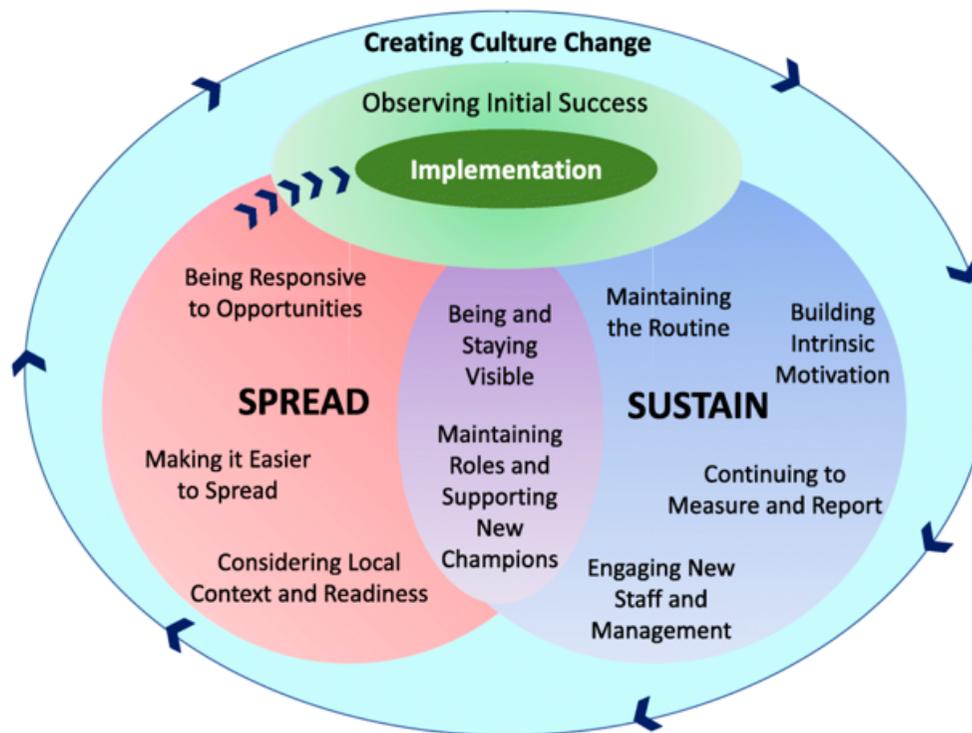
[Authors](#)

[Authors and affiliations](#)

Jack J. Bell , Ólöf Guðný Geirsdóttir, Karen Hertz, Julie Santy-Tomlinson, Sigrún Sunna Skúladóttir, Stefano Eleuteri,

Antony Johansen

## Build in sustainability and spread from the start



RESEARCH ARTICLE

Open Access



The Sustain and Spread Framework: strategies for sustaining and spreading nutrition care improvements in acute care based on thematic analysis from the More-2-Eat study

Celia Laur<sup>1</sup>, Jack Bell<sup>2</sup>, Renata Valattis<sup>1</sup>, Sumanta Ray<sup>1</sup> and Heather Keller<sup>1</sup>

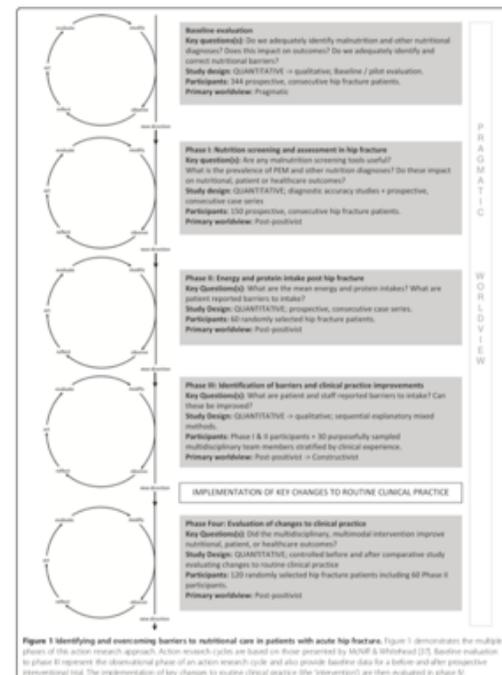
# Build in sustainability and spread from the start

Pragmatic action research enables:

- Research to be conducted as part of routine clinical practice
- Engagement of the multidisciplinary healthcare workers as co-researchers to identify and implement practical, sustainable solutions
- An effective vehicle for complex organisational change
- Demonstrated improvements in related patient and healthcare outcomes at the bedside
- High translation validity and relevancy to clinical practice

Developing and evaluating interventions that are applicable and relevant to inpatients and those who care for them; a multiphase, pragmatic action research approach

Jack J Bell<sup>1\*</sup>, Tony Rossi<sup>2</sup>, Judith D Bauer<sup>2</sup> and Sandra Capra<sup>2</sup>



# Consider and synthesize existing knowledge

Systematic review:

Nurses are well placed to lead the essential processes of nutritional care to older adults, and can safely provide:

- oral nutritional supplements
- food/fluid fortification or enrichment
- dietary counselling and education to older adults



The image shows a screenshot of a journal article title page. At the top, there is a yellow and blue header for 'JCN Journal of Clinical Nursing' with the tagline 'The International Voice of Nursing Research, Theory and Practice'. Below the header, it says 'SPECIAL ISSUE REVIEW' and 'Full Access'. The main title is 'Interventions to prevent and treat malnutrition in older adults to be carried out by nurses: A systematic review'. The authors listed are Debbie ten Cate MSc, RN, Roelof G. A. Ettema PhD, RN, Getty Huisman-de Waal PhD, RN, Jack J. Bell PhD, AdvAPD, Remco Verbrugge MSc, MANP, RN, Lisette Schoonhoven PhD, RN, and Marieke J. Schuurmans PhD, RN, on behalf of the Basic Care Revisited Group (BCR).

ten Cate et al, 2020

# Measure the right things



Research Paper | Full Access

## The Malnutrition Screening Tool versus objective measures to detect malnutrition in hip fracture

J. J. Bell , J. D. Bauer, S. Capra

*All tools failed to predict a considerable number of patients with malnutrition.*

*This may result in the under-diagnosis and treatment of malnutrition, leading to case-mix funding losses.*



Contents lists available at [ScienceDirect](#)

Injury

journal homepage: [www.elsevier.com/locate/injury](http://www.elsevier.com/locate/injury)

Comparison of the Charlson Comorbidity Index with the ASA score for predicting 12-month mortality in acute hip fracture

Lucian H. Quach<sup>a,\*</sup>, Sophie Jayamaha<sup>a</sup>, Sarah L. Whitehouse<sup>a,b</sup>, Ross Crawford<sup>a</sup>, Chrys R. Pulle<sup>a</sup>, Jack J. Bell<sup>a</sup>

- *The ASA score is independently associated with 12-month mortality; this was not replicated using either version of the CCI.*
- *The data does not suggest using the CCI in registry level datasets for the purposes of predicting 12-month mortality.*

## Build reasons to change

European Journal of Clinical Nutrition (2014) 68, 358–362  
© 2014 Macmillan Publishers Limited All rights reserved 0954-3007/14  
www.nature.com/ejcn

### ORIGINAL ARTICLE

## Concurrent and predictive evaluation of malnutrition diagnostic measures in hip fracture inpatients: a diagnostic accuracy study

JJ Bell<sup>1,2</sup>, JD Bauer<sup>2</sup>, S Capra<sup>2</sup> and RC Pulle<sup>1</sup>

- Malnutrition is associated with time to mobilise, favourable discharge destination, and mortality



ORTHOPAEDICS

## Impact of malnutrition on 12-month mortality following acute hip fracture

Jack J. Bell , Ranjeev C. Pulle, Alisa M. Crouch, Suzanne S. Kuys, Rebecca L. Ferrier, Sarah L. Whitehouse

- Logistic regression analysis demonstrated that malnutrition independently predicts 12-month mortality

# Apply and develop models that 'manage' wicked problems



ORTHOPAEDICS

## Dedicated hip fracture service: implementing a novel model of care

Brahman Shankar Sivakumar , Luke Michael McDermott, Jack Joseph Bell, Chrys Ranjeev Pulle, Sophie Jayamaha, Michael Carl Ottley

... more comprehensive preoperative assessment, shorter times to theatre, reduced post-operative complications and diminished mortality rates when the principles undermining this unit are instituted



Clinical Nutrition  
Volume 33, Issue 6, December 2014, Pages 1101-1107



Original article

## Multidisciplinary, multi-modal nutritional care in acute hip fracture inpatients – Results of a pragmatic intervention ☆

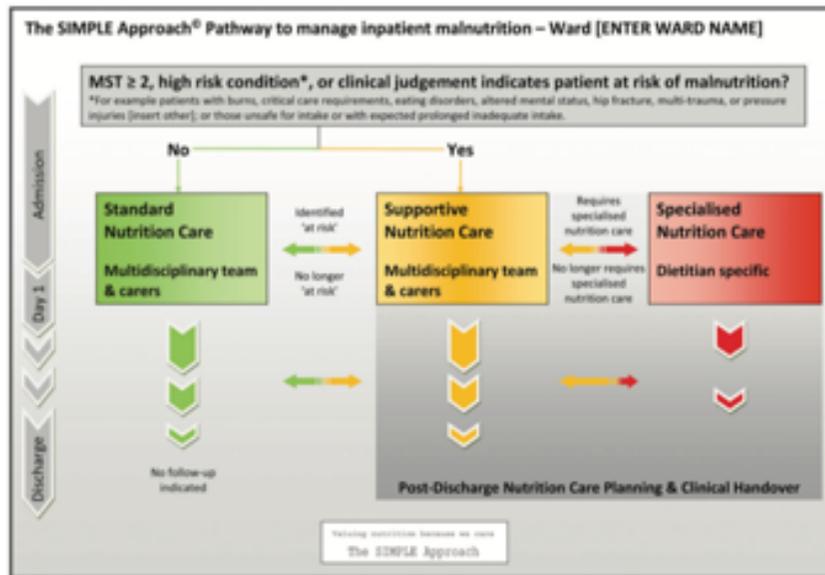
Jack J. Bell <sup>a, b</sup> , Judith D. Bauer <sup>b</sup> , Sandra Capra <sup>b</sup> , Ranjeev Chrys Pulle <sup>a</sup> 

A multidisciplinary, multi-modal nutritional care model:

- Reduces barriers to intake
- Improves total protein and energy intake
- Reduces malnutrition incidence
- Increases home discharge rates

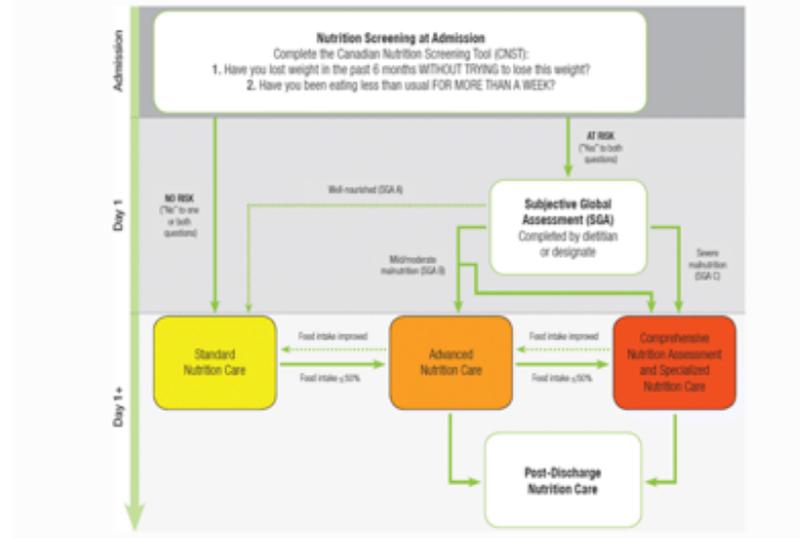
# Apply and develop models that 'manage' malnutrition in the inpatient setting

## SIMPLE



## INPAC & More-2-Eat

From: [Update on the Integrated Nutrition Pathway for Acute Care \(INPAC\): post implementation tailoring and toolkit to support practice improvements](#)



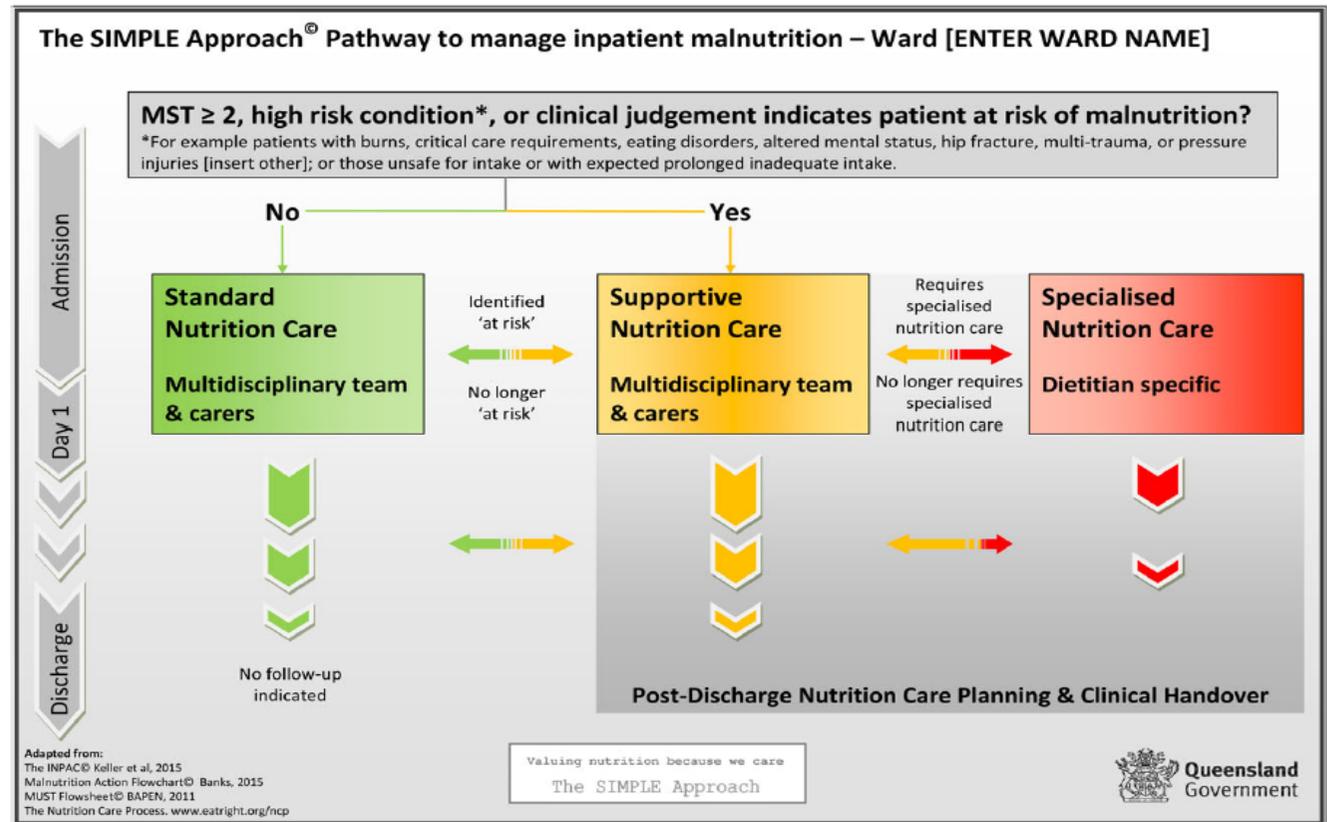
S  
Systematized  
I  
Interdisciplinary  
M  
Malnutrition  
P  
Program  
I  
Implementation and  
E  
Evaluation

A locally tailorable, complex healthcare intervention.

- More appropriate nutrition care to more patients
- Higher value care
- Better workforce experience
- Increased opportunities for full and expanded scope of practice
- Standard V bonus points

S  
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L  
E

Systematized  
Interdisciplinary  
Malnutrition  
Program  
Implementation and  
Evaluation



## Actions

### Standard Nutrition Care:

Multidisciplinary team & carers

#### Food & nutrient delivery

Avoid prolonged NBM  
Limit unnecessary mealtime interruptions  
Selective high quality menu  
Assist with menu selection  
Pre-meal preparation  
Feeding assistance & encouragement  
Adequate time to eat  
Support food intolerances, allergies or specific requirements  
Avoid unnecessary dietary restrictions  
Identify ongoing poor intake / nutritional deterioration during admission

#### Education

High quality nutrition education materials  
Nutrition care marketing / communications  
Staff inservices / professional development

#### Coordinated nutrition care

Nutrition care procedures / guidelines  
Minimise medical related barriers to intake  
Manage swallowing & dentition issues  
Nutrition audits, quality activities and research  
Nutrition governance processes



### Supportive Nutrition Care

Multidisciplinary team & carers

*Standard nutrition care +*

#### Food & nutrient delivery

High protein/energy appropriately textured menu  
Selective mid-meal trolley  
After hours special meals  
80mls TDS 2 cal/ml supplement  
Standard tube feeding protocols

#### Education

Basic inpatient education provided

#### Coordinated nutrition care

Individualised mealtime encouragement  
Medication review  
Co-morbidity optimisation  
Malnutrition diagnosis & documentation  
3 day food chart  
Weekly weight  
Team delegate documents & provides discharge plan to patient + care provider

***Refer for specialised nutrition care if specialised nutrition care criteria met***



### Specialised Nutrition Care

*A medical nutrition therapy (Dietitian / Nutrition Support team or Medical specialist) inpatient referral or review is indicated for:*

*Supportive nutrition care +*

#### Food & nutrient delivery

Patients commenced on standard feeding protocols  
Supportive nutrition care patients with ongoing inadequate protein/energy intake who are considered appropriate for enteral or parenteral tube feeding  
Other patients with complex nutritional needs who will benefit from highly specialised nutrition care

#### Education

Acute inpatient education that is not medically appropriate to be delivered in an outpatient or community setting

#### Coordinated nutrition care

Dietitian documents & provides discharge plan to patient + care provider for any patient still under specialised nutrition care at time of discharge  
Dietitians / Nutrition Support Teams should discharge patients back to Supportive Nutrition Care once Specialised Nutrition Care Criteria are no longer met. This must be documented in the medical record.

# Model & toolkit

Nutrition & Dietetics 2018; 75: 226–234

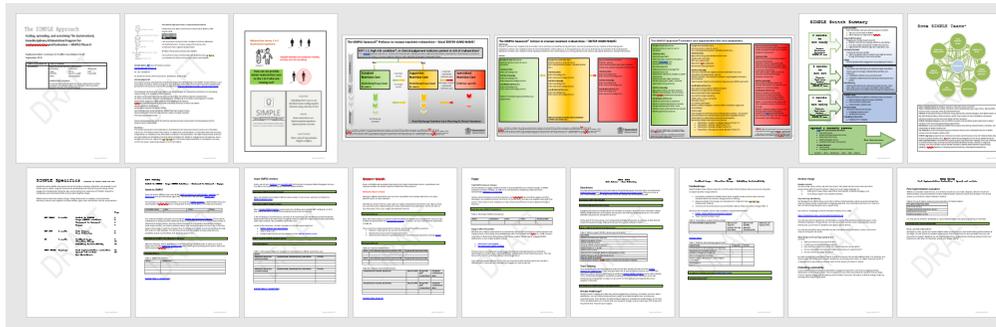
DOI: 10.1111/1747-0080.12406

## ORIGINAL RESEARCH

### Rationale and developmental methodology for the SIMPLE approach: A Systematised, Interdisciplinary Malnutrition Pathway for implementation and Evaluation in hospitals

Jack J. BELL<sup>1,2</sup>, Adrienne YOUNG<sup>3,4</sup>, Jan HILL<sup>5</sup>, Merrilyn BANKS<sup>3,4</sup>, Tracy COMANS<sup>6</sup>, Rhiannon BARNES<sup>7</sup> and Heather H. KELLER<sup>8,9</sup>

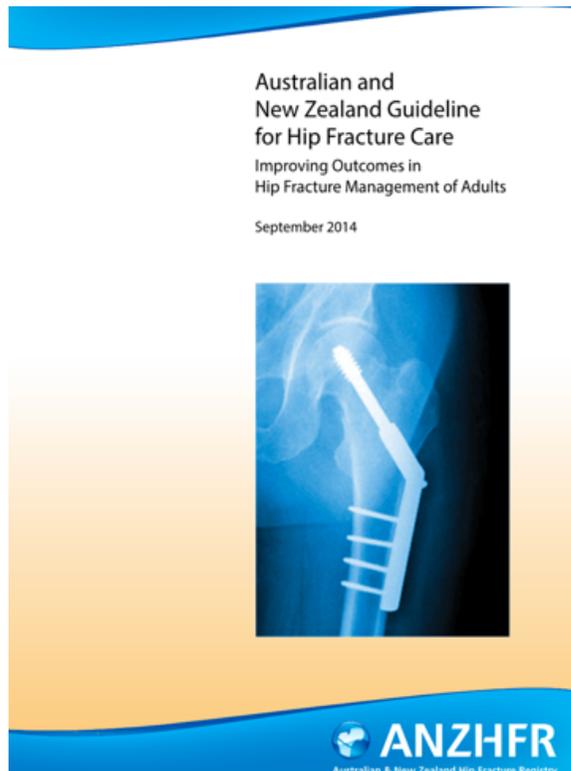
<sup>1</sup>School of Human Movement and Nutrition Sciences, The University of Queensland, <sup>2</sup>Allied Health Research Collaborative, The Prince Charles Hospital, <sup>3</sup>Department of Nutrition and Dietetics, Royal Brisbane and Women's Hospital, <sup>4</sup>School of Exercise and Nutrition Science, Queensland University of Technology, <sup>5</sup>Department of Nutrition and Dietetics, Princess Alexandra Hospital, <sup>6</sup>Metro North Hospital and Health Service District and Menzies Health Institute Queensland, Griffith University and <sup>7</sup>Queensland Health, Brisbane, Queensland, Australia and <sup>8</sup>Faculty of Applied Health Sciences and <sup>9</sup>Schlegel University of Waterloo Research Institute for Aging, University of Waterloo, Waterloo, Ontario, Canada



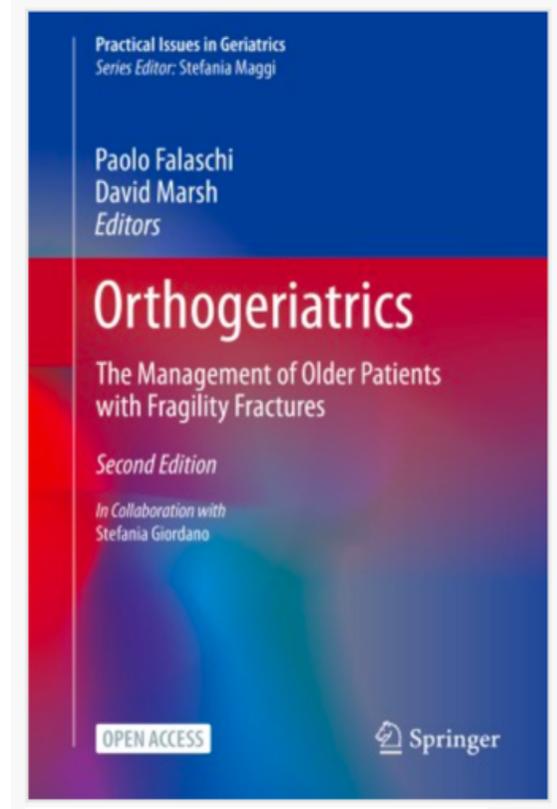
A screenshot of the 'The SIMPLE Approach: Implementation resources' website interface. The page is titled 'The SIMPLE Approach: Implementation resources' and features a search bar. Below the title, there are navigation tabs for 'Home', 'Implementation resources', 'Toolkit', and 'Contacts'. The main content area is titled 'Implementation Summary &amp; Toolkit and Timeline' and lists several resources, including 'Draft Implementation summary &amp; toolkit', 'Gariff chart timeline\_template', and 'Gariff chart timeline\_example'. There are also sections for 'Get Ready Resources' and 'Go Resources' with lists of links and documents. The page is part of the Metro North Hospital and Health Service website, specifically for The Prince Charles Hospital.

simple@health.qld.gov.au

# Target behaviour changes across policy, guidelines and practice



Practice point	Nutritional status should be assessed early in the hospital stay and reassessed during the course of the admission. Tailored interventions should be implemented.	-	7.1
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**Nutritional Care of the Older Patient with Fragility Fracture: Opportunities for Systematised, Interdisciplinary Approaches Across Acute Care, Rehabilitation and Secondary Prevention Settings**

**18**

Jack J. Bell, Ólöf Guðný Geirsdóttir, Karen Hertz, Julie Santy-Tomlinson, Sigrún Sunna Skúladdóttir, Stefano Eleuteri, and Antony Johansen

## Leverage data and technology

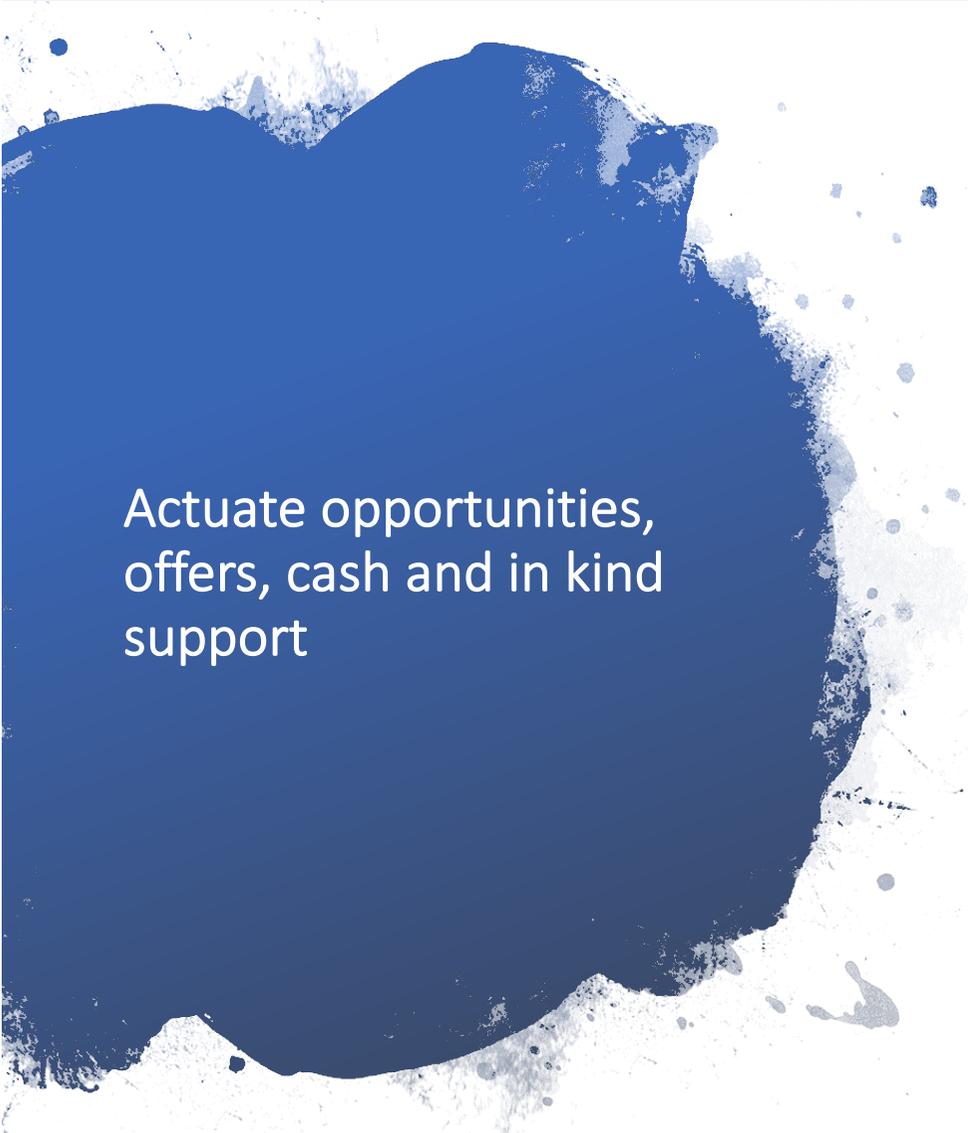


**FIGURE 40**  
**CLINICAL MALNUTRITION ASSESSMENT**

*Under embargo*

# De-implement to re-invest

*Rushton et al, 2021*



Actuate opportunities,  
offers, cash and in kind  
support

Local and global networks and teams

Students, HDRs, Post-docs

Partners and collaborators

Funders

- MRFF
- AusHSI
- AHPOQ
- TVN Canada
- Canadian Frailty Network
- The Common Good

# Consider and evaluate feasibility

International Journal of Clinical Trials  
Barrimore SE et al. *Int J Clin Trials*. 2019 Aug;6(3):89-95  
<http://www.ijclinicaltrials.com>

pISSN 2349-3240 | eISSN 2349-3259

## Original Research Article

DOI: <http://dx.doi.org/10.18203/2349-3259.ijct20193212>

### **Even preoperative carbohydrate loading is too hard? Why RCT's should not be considered the gold standard for nutrition research in acute hip fracture: results of a feasibility study**

Sally E. Barrimore<sup>1</sup>, Ivan L. Rapchuk<sup>2,3</sup>, Ranjeev Chrysanth Pulle<sup>4</sup>, Ross Crawford<sup>5</sup>,  
Rebecca Ferrier<sup>1,6</sup>, Scott Crawford<sup>7</sup>, Jack J. Bell<sup>8\*</sup>

Researchers should consider a 'silver standard' of research and practice evaluation such as pragmatic, registry-based cluster randomised trials to ensure feasibility, relevancy and applicability when evaluating nutritional interventions in this cohort.

# Apply multiple measures – patient and healthcare outcomes



Clinical Nutrition  
Volume 33, Issue 6, December 2014, Pages 1101-1107



Original article

Multidisciplinary, multi-modal nutritional care in acute hip fracture inpatients – Results of a pragmatic intervention ☆

Jack J. Bell <sup>a, b</sup>, Judith D. Bauer <sup>b</sup>, Sandra Capra <sup>b</sup>, Ranjeev Chrys Pulle <sup>a</sup>

A multidisciplinary, multi-modal nutritional care model:

- Reduces barriers to intake
- Improves total protein and energy intake
- Reduces malnutrition incidence
- Increases home discharge rates



Clinical Nutrition  
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Original article

Multi-site implementation of nutrition screening and diagnosis in medical care units: Success of the More-2-Eat project

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Implementation of nutrition screening and diagnosis is feasible and leads to appropriate care.

INPAC promotes efficiency in nutrition care while minimizing the risk of missing malnourished patients

## Apply multiple measures - cost

**Journal of the  
American Geriatrics Society**

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Healthcare  
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### Quick and Easy Is Not without Cost: Implications of Poorly Performing Nutrition Screening Tools in Hip Fracture

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- The estimated cost effect of poor screening tool sensitivity on a 16-bed hip fracture unit ranged from AUS\$46,506 to AUS\$228,896 per year.
- Routine nutrition assessment should replace nutrition risk screening in hip fracture settings with a high prevalence of malnutrition reliant on case-mix funding.



## Educate, communicate, market, and disseminate

- >30 related manuscripts, book chapters
- >50 presentations eg. Joint CNS and ASPEN Malnutrition week
- Advocacy and representational roles
  - Canadian Malnutrition Task Force
  - Canadian Nutrition Society
  - Fragility Fracture Network (Global)
  - Dietitians Australia
  - ANZ Hip Fracture Registry
  - NNEdPro

Advancing education through global knowledge networks, collaboratives and advocacy

The screenshot displays the website for the NNEdPro Global Centre for Nutrition and Health. At the top, the logo features a stylized book and a line graph. The text reads: "NNEdPro Global Centre for Nutrition and Health" and "Advancing and implementing nutrition knowledge to improve health, wellbeing and society". A navigation menu includes "Our Work", "Key Outputs", "Events", "Blog", and "Get Involved". Below this, a dark blue bar contains "Home of NNEdPro", "Vision, Mission & Aims", "Members", and "Regional Networks".

The main content area is titled "REGIONAL NETWORKS" with a horizontal line underneath. The text states: "Good nutrition is at the foundation of good health. We see healthcare and public health practitioners as key knowledge brokers that can promote nutrition to achieve better public health. To do this, NNEdPro convenes regional networks across six continents. Click on parts of the map to read more about our regional networks."

A world map is shown with colored pins indicating regional networks. A legend at the bottom lists the following regions:

- Australia & New Zealand
- Italy
- United Kingdom & Ireland
- Canada
- Mexico
- United States
- South East Asia
- Morocco
- Switzerland

Abandon linear approaches and accept complexity as the uncomfortable reality

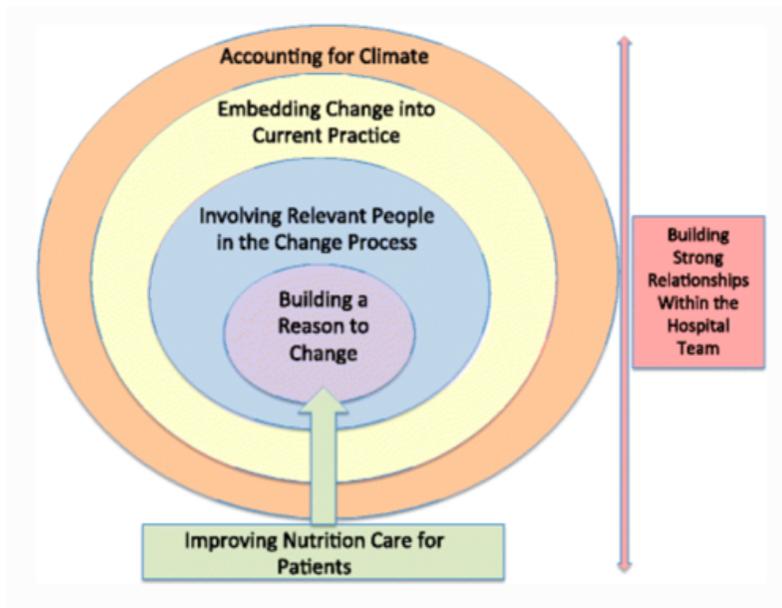
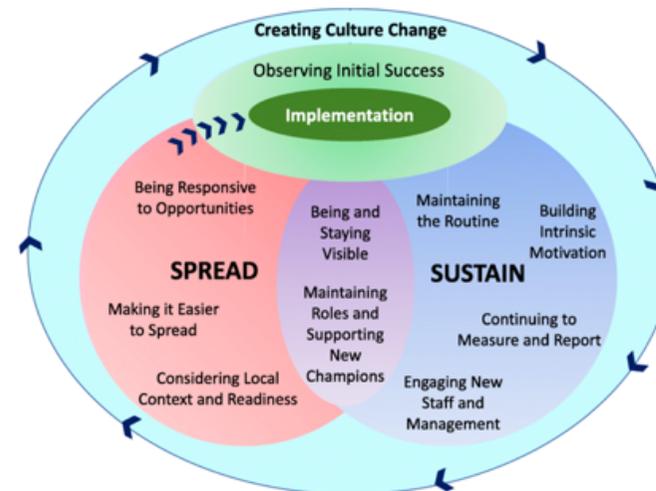


Fig. 1

From: The Sustain and Spread Framework: strategies for sustaining and spreading nutrition care improvements in acute care based on thematic analysis from the More-2-Eat study



Bell et al, 2018  
 Keller et al, 2017  
 Laur et al, 2017; 2018

Summary of my reflections on top of a mountain...



There is no perfect solution to the wicked problem of malnutrition

- Can we resolve malnutrition in hospital? Probably not in most cases
- Can we manage malnutrition in hospital? The answer might be SIMPLE...
- Should we be doing more than inpatient chocolate and strawberry waitressing? Survival of our patients and profession depends on ditching the latter...
- Should we be looking to outside the 4 walls of the hospital? Tune in to Heather Keller tomorrow.

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