Sydney Local Health District

Reducing Malnutrition and Frailty Risk Through Dietitian Intervention

Centre for STRONG Medicine
Concord Hospital

2nd May 2025

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Dietitian

Background

Ageing Population
Increasing

+

Chronic Disease Burden
Increasing

+

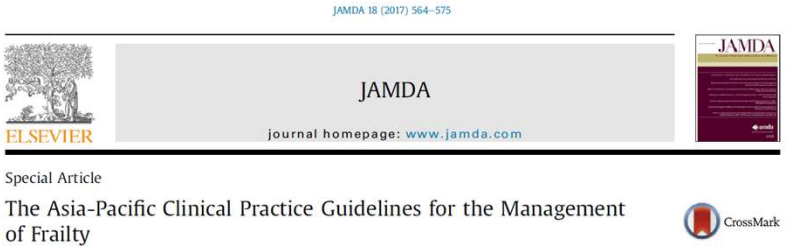
Hospitalisations due to Falls
Increasing

=

Modifiable risk management!
Outpatient MDTs

Falls & Frailty

- Frailty is a significant, modifiable risk factor for falls in older adults.
- Falls and frailty share the same risk factors.


JAMDA 18 (2017) 564–575

JAMDA

journal homepage: www.jamda.com

Special Article

The Asia-Pacific Clinical Practice Guidelines for the Management of Frailty

2017 Asia Pacific Clinical Practice Guideline

*"**Recommendation 2:** We strongly recommend that older adults with frailty be referred to a progressive, individualized physical activity program that contains a resistance training component"*

*"**Recommendation 3:** We strongly recommend that polypharmacy be addressed by reducing or deprescribing any inappropriate medications."*

*"**Recommendation 5**: We conditionally recommend that older adults with frailty who exhibit unintentional weight loss should be screened for reversible causes and considered for food fortification/ protein and caloric supplementation."*

Dent et al., JAMDA, 2017.

Malnutrition

- Increasingly prevalent: **25%** of community-dwelling older adults are at risk of malnutrition or malnourished.
- Refers to deficiencies, excesses or imbalances in intake of essential nutrients.
- Characterised by weight loss and depletion of muscle and fat stores.
- Often unidentified and untreated in the community.
- **All patients** within multidisciplinary outpatient services should be screened for malnutrition.

Malnutrition Risk Factors

- Poor appetite
- Smell/Taste changes
- Social isolation
- Oral health problems
- GI issues
- Certain conditions/ medications

Signs of Malnutrition

- Unintentional weight loss
- Loose clothes/ jewellery
- Hair/Skin changes
- Muscle/Fat wasting
- Loss of interest in food/cooking
- Fatigue

Aim of Evaluation

- Evaluate the impact of dietitian intervention within a multidisciplinary service in respect to malnutrition and frailty risk.

STRONG Concord

- Multidisciplinary team:
  - Geriatrician
  - Exercise physiologist
  - Dietitian
- Based on Balmain Hospital STRONG service
- Opened November 2022
- Individualised frequency and duration
- Promote self-management for continuation

Eligibility

Adult ≥ 65 years with one or more disease conditions that are known to be responsive to diet and exercise:

• Arthritis, Joint replacement	• Cancer
• Depression	• Chronic kidney disease
• Diabetes	• Chronic lung or heart disease
• Falls	• Parkinson's disease
• Frailty, Sarcopenia	• Peripheral vascular disease
• Functional impairment	• Stroke
• Osteoporosis, Hip fracture	• Other chronic conditions

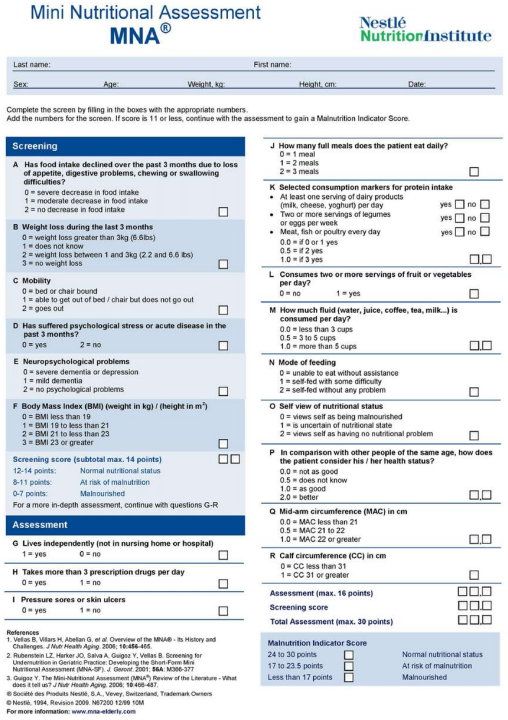
Must:

1. **Able to attend Concord AH&R Clinic for assessment**
2. **Able to participate in up to 1-hour moderate intensity exercise**
3. **Goal of functional, mood and/or health improvement**

Clinical Assessment

Mini Nutritional Assessment

The MNA is a validated tool to measure nutritional status and malnutrition risk in older adults.



Mini Nutritional Assessment
MNA®

Nestlé Nutrition Institute

Last name: First name:

Sex: Age: Weight, kg: Height, cm: Date:

Complete the screen by filling in the boxes with the appropriate numbers.
Add the numbers for the screen. If score is 11 or less, continue with the assessment to gain a Malnutrition Indicator Score.

Screening

A Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties?
0 = severe decrease in food intake
1 = moderate decrease in food intake
2 = no decrease in food intake

B Weight loss during the last 3 months
0 = weight loss greater than 3kg (6.6lbs)
1 = does not know
2 = weight loss between 1 and 3kg (2.2 and 6.6 lbs)
3 = no weight loss

C Mobility
0 = bed or chair bound
1 = able to get out of bed / chair but does not go out
2 = goes out

D Has suffered psychological stress or acute disease in the past 3 months?
0 = yes 2 = no

E Neuropsychological problems
0 = severe dementia or depression
1 = mild dementia
2 = no psychological problems

F Body Mass Index (BMI) (weight in kg) / (height in m²)
0 = BMI less than 19
1 = BMI 19 to less than 21
2 = BMI 21 to less than 23
3 = BMI 23 or greater

Screening score (subtotal max. 14 points)
12-14 points: Normal nutritional status
8-11 points: At risk of malnutrition
0-7 points: Malnourished
For a more in-depth assessment, continue with questions G-R

Assessment

G Lives independently (not in nursing home or hospital)
1 = yes 0 = no

H Takes more than 3 prescription drugs per day
0 = yes 1 = no

I Pressure sores or skin ulcers
0 = yes 1 = no

J How many full meals does the patient eat daily?
0 = 1 meal
1 = 2 meals
2 = 3 meals

K Selected consumption markers for protein intake
- At least one serving of dairy products (milk, cheese, yoghurt) per day yes no
- Two or more servings of legumes or eggs per week yes no
- Meat, fish or poultry every day yes no

0.0 = if 0 or 1 yes
0.5 = if 2 yes
1.0 = if 3 yes

L Consumes two or more servings of fruit or vegetables per day?
0 = no 1 = yes

M How much fluid (water, juice, coffee, tea, milk...) is consumed per day?
0.0 = less than 3 cups
0.5 = 3 to 5 cups
1.0 = more than 5 cups

N Mode of feeding
0 = unable to eat without assistance
1 = self-fed with some difficulty
2 = self-fed without any problem

O Self view of nutritional status
0 = views self as being malnourished
1 = is uncertain of nutritional state
2 = views self as having no nutritional problem

P In comparison with other people of the same age, how does the patient consider his / her health status?
0.0 = not as good
0.5 = does not know
1.0 = as good
2.0 = better

Q Mid-arm circumference (MAC) in cm
0.0 = MAC less than 21
0.5 = MAC 21 to 22
1.0 = MAC 22 or greater

R Calf circumference (CC) in cm
0 = CC less than 31
1 = CC 31 or greater

Assessment (max. 16 points)
Screening score
Total Assessment (max. 30 points)

Malnutrition Indicator Score
24 to 30 points Normal nutritional status
17 to 23.5 points At risk of malnutrition
Less than 17 points Malnourished

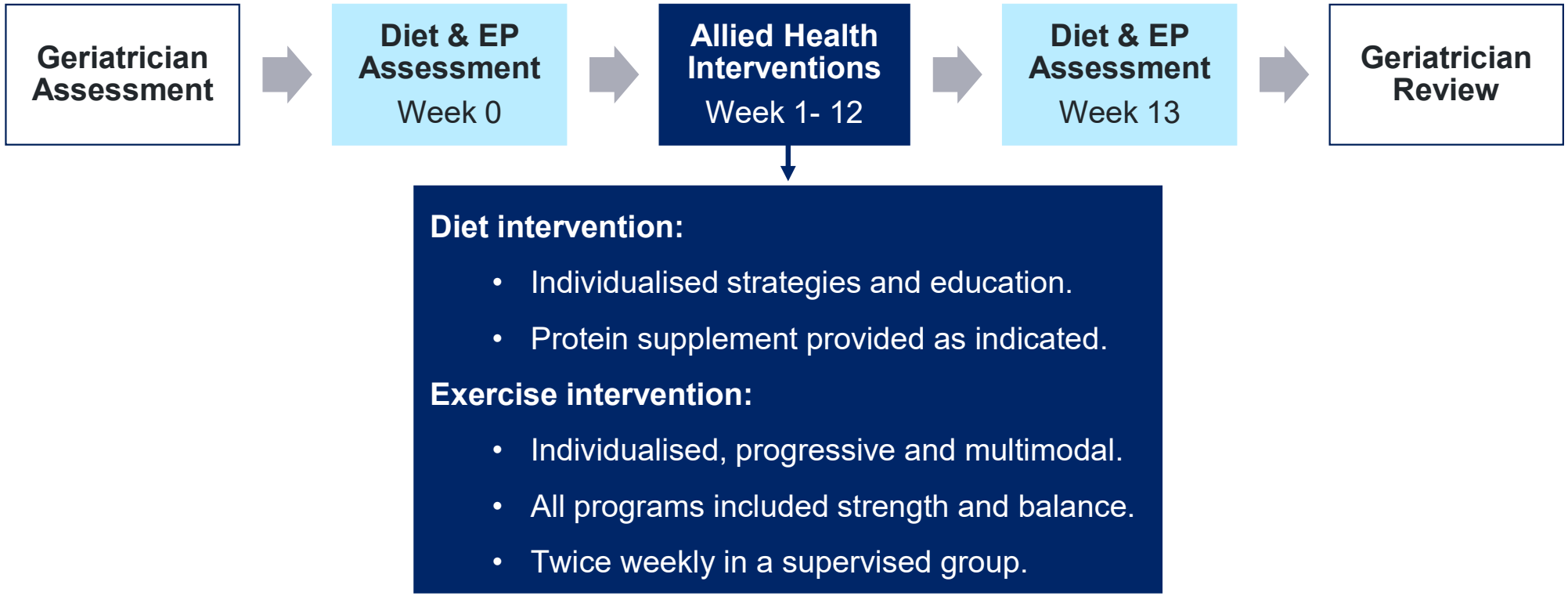
References
1. Vellas B, Villars H, Abellan G, *et al.* Overview of the MNA® - Its History and Challenges. *J Nutr Health Aging.* 2006; **10**:456-465.
2. Rubenstein LZ, Harker JO, Salva A, Guigoz Y, Vellas B. Screening for Undernutrition in Geriatric Practice: Developing the Short-Form Mini Nutritional Assessment (MNA-SF). *J Gerontol.* 2001; **56A**: M366-377
3. Guigoz Y. The Mini-Nutritional Assessment (MNA®) Review of the Literature - What does it tell us? *J Nutr Health Aging.* 2006; **10**:466-487.

For more information: www.mna-elderly.com

Malnutrition Indicator Score

24 to 30 points ☐	Normal nutritional status
17 to 23.5 points ☐	At risk of malnutrition
Less than 17 points ☐	Malnourished

Clinical Interventions

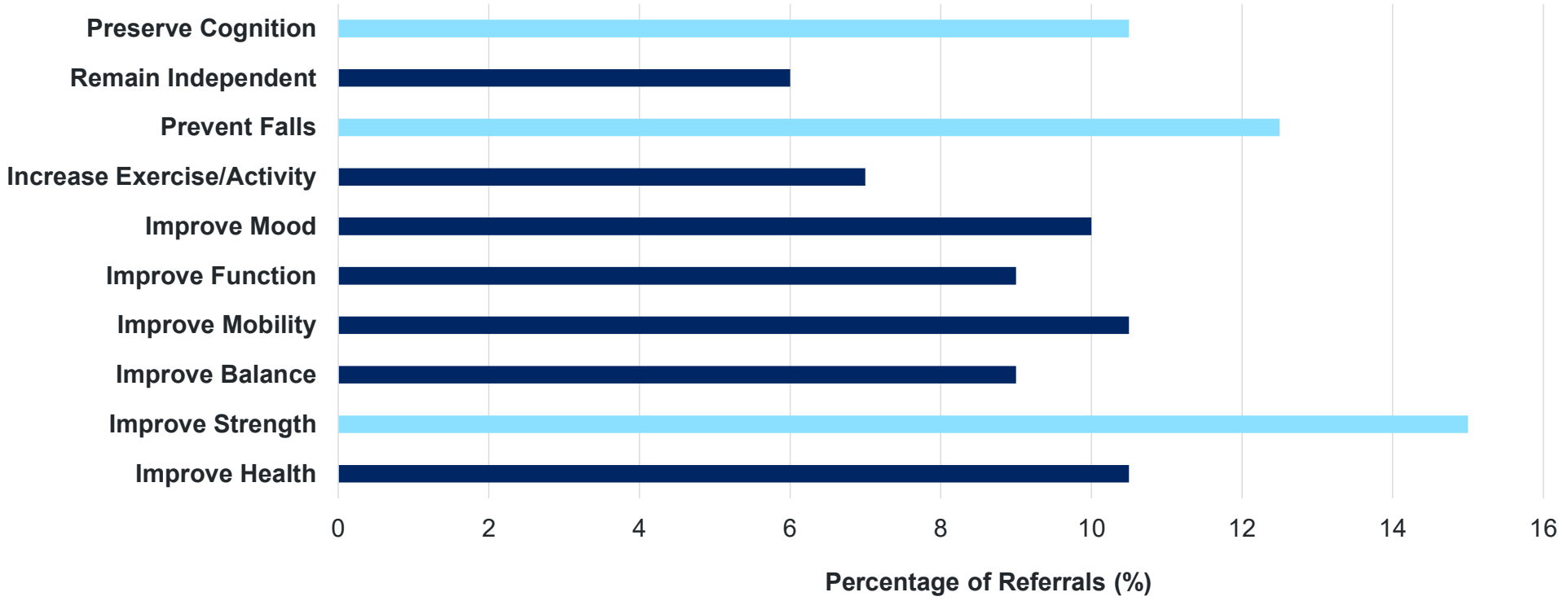


Patient Characteristics

Average age 81.3 (SD 5.7) years with 53% female (n=59)

Initial Assessment	Total n= 111
Frailty	
Robust	45 (41%)
Pre-frail	60 (54%)
Frail	6 (5%)
MNA	
Well nourished	90 (81%)
At risk of malnutrition	17 (15%)
Malnourished	4 (4%)
BMI	
< 22 kg/m²	22 (20%)
22-27 kg/m²	43 (39%)
> 27 kg/m²	46 (41%)

Reason for Referral



Results

After 12 weeks there were <u>significant improvements</u> in:

MNA
1.5 points
[1.0, 2.0]

FFP
0.5 points
[0.3, 0.7]

BMI
0.1 points
[-0.2, 0.4]

Results

After 12 weeks of intervention:

54%

Prescribed a high protein diet

71%

Consumed a post-exercise protein supplement

29%

Registered for Home Enteral Nutrition

52%

Improved diet quality

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Food Group	Men	Women
Fruit	2	2
Vegetables	5	5
Meat/Alternatives	2.5	2
Dairy/Alternatives	3.5	4
Wholegrains	4.5	3

Limitations & Conclusions

Limitations:

- Capacity is restricted to current staffing.
- Service popularity and continued external referrals.

Conclusions:

- Significant improvement in malnutrition risk and frailty status.
- Further evaluation for direct impact on falls and hospitalisation.

Questions?

Contact

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