ProPortion Foods

The Cost of Malnutrition

"The right to adequate food is a human right and is essential for the physical, mental, social and emotional wellbeing of older Australians."

Dietitian's Association of Australia, for The Royal Commission into Aged Care Quality and Safety, 2019.

Malnutrition is a silent epidemic, often called the “skeleton in the hospital closet” because it tends to escape detection and treatment. This is surprising given that more than one in three hospitalised older adults and nearly one in thirty community dwelling people over 60 are malnourished. In aged care, malnutrition afflicts up to two thirds of residents.

Its prevalence is gradually gaining recognition, but malnutrition is still not given the attention it deserves, and this is a bigger problem than ever as we face a “demographic time bomb”. In Australia, the percentage of older people has tripled in less than a century, adding to global statistics revealing that, for the first time, there are more people over 65 than under five years of age.

This report outlines the problem of malnutrition and its various costs – both financial and physical – and offers a guide to its identification and management.

MALNUTRITION

What is Malnutrition?

Malnutrition occurs when someone does not receive enough dietary nourishment – particularly energy and protein – to sustain their physical health needs, leading to wasting.

The most common, and most obvious symptom is weight loss; technically, it is defined as unintentionally losing 5-10% of body weight over three to six months – and a high percentage of that comprises lean muscle tissue which is a critical problem in itself.

20-65% of aged care residents are malnourished, and nearly **75%** are at risk of malnourishment

Nutrition Australia

Risk Factors

The most obvious cause of malnutrition is not eating enough, but it's a very complex issue with medical, social and psychological components. Poor appetite, or anorexia, tends to be the main culprit, which can result from several factors that accompany aging.

One of those is reduced ability to regulate food intake, which could result in poor weight regain after periods of fasting due to illness or surgery. Also, physiological processes interact to reduce appetite as people age which are not fully understood but are thought to involve hunger hormones and neurotransmitters. Disease and drugs can make food less appealing by altering taste and smell.

Appetite aside, inadequate food intake can result from an array of other factors including dentition problems and physical obstacles to preparing or eating food such as poor mobility and arthritic joints that can't conquer elaborate food packaging.

Lifestyle considerations include isolation, poverty, lack of knowledge about food and nutrition, and an inability to shop or prepare food. Psychological states can also impact food intake, including confusion, dementia, depression, bereavement or anxiety.

Medical factors that can cause malnutrition include increased energy and protein needs from underlying disease and infection, poor absorption and excessive nutrient losses or a combination of these. Dysphagia – difficulty swallowing – is another risk factor affecting more than half of older hospital patients, resulting from several possible causes including stroke and polypharmacy.

Several other contributors to malnutrition occur in hospital or care settings. This can include limited choice and poor food quality,

unappetising surroundings, insufficient time for slow eaters to finish meals, difficulty reaching food or using cutlery and missed meals due to fasting for tests.

Organisation problems factor in too, such as poor nutritional training for staff, lack of staff to help with feeding and failure to record food intake and body weight. These could explain why malnutrition increases in care settings, although illness also plays a part; disease-related malnutrition is very common, which can afflict nearly every system in the body.

It can also be fatal. A large study in the US recently found that half of older hospitalised adults were eating half or less of their meals, and this was linked to higher risk of mortality. Those who ate none of their food had a nearly six-fold higher risk of dying than those who ate at least some.

*"If more care were taken to **prevent weight and muscle loss**, we can **save money** - the cost of treating pressure injuries is very high, for example, but they can be prevented if **people are well nourished**."*

Ngaire Hobbins, dietitian

COSTS

Health Impacts

Loss of muscle mass and strength bear the brunt of poor nutrition, leading to frailty and sarcopenia, an age-related disease of accelerated muscle wasting that increases risk of falls and fractures, a prevalent problem that can spiral out of control with related complications.

***"Malnutrition** can have dire consequences for an older person's health"*

Royal Commission into Aged Care Interim Report

Muscle mass comprises more than half of overall body tissue and its loss impacts not only physical strength and mobility but also muscles used by the lungs to breathe and by the heart to keep beating, escalating poor health and mortality. Low muscle mass has also been linked to other problems including increased risk of insulin resistance and type 2 diabetes.

An unintentional loss of 15% body weight causes steep declines in muscle strength and lung function. If the loss reaches 23% this results in a further staggering 70% decrease in physical fitness, along with loss of muscle strength and increased depression risk.

For every dollar spent on better nutrition for the elderly, **five dollars is saved** in health care costs

Georgie Rist, dietitian

These put a large strain on independence and quality of life, and the resulting fatigue and apathy create a vicious cycle, delaying recovery and exacerbating appetite loss.

Malnutrition also compromises the body's immune system, increasing risk of infection and disease, delaying wound healing, causing complications and impeding general recovery. This results in being confined to bed for longer which also compounds the risk of pressure ulcers.

Costs for Care Facilities

Longer hospital stays also mean bigger costs and less beds for other patients. In Australia, around 5,400 cases of complications arising from malnutrition each year result in an average 21.3 extra days in hospital, each episode costing up to $44,176 extra. That amounts to nearly $240 million per year.

In the Netherlands and UK, studies have estimated the direct cost of malnutrition in residential aged care as the equivalent of AUS$174 million to $2.76 billion per year.

5,400 cases of complications from malnutrition cost up to **$240 million** in hospital stays alone

So, what are facilities investing in older adults' diets? A 2018 study found that Australian residential aged care spent a mere $6.08 per person each day on food, a drop from the previous year and less than international budgets. In fact, it was shamefully lower than the $8.25 spent on prisoners by Australian corrective services.

Malnutrition adds up to **$1,800** per hospital admission

Dr Sandra Iuliano, Royal Commission into Aged Care

Ironically, prioritising good nutrition could result in substantial cost savings for healthcare.

A systematic review of interventions to target malnutrition found they only cost 2.30 British pounds – AUD$4.34 – daily per person to implement and achieved several positive outcomes including improved dietary intake, nutritional status and weight gain.

Other American research found that multi-disciplinary nutrition support for home-based patients at risk for malnutrition drastically reduced hospital admissions and saved millions of dollars in annual health care costs. After 90 days of receiving the program, hospitalisation decreased by 24% in the first month, nearly 23% after two months and 18% after three months. Healthcare costs dropped by US$1,500 per patient over 90 days, amounting to more than US$2.3 million.

Importantly, savings outweighed the costs of implementing the program by sixfold.

MANAGEMENT

Spotting the Problem

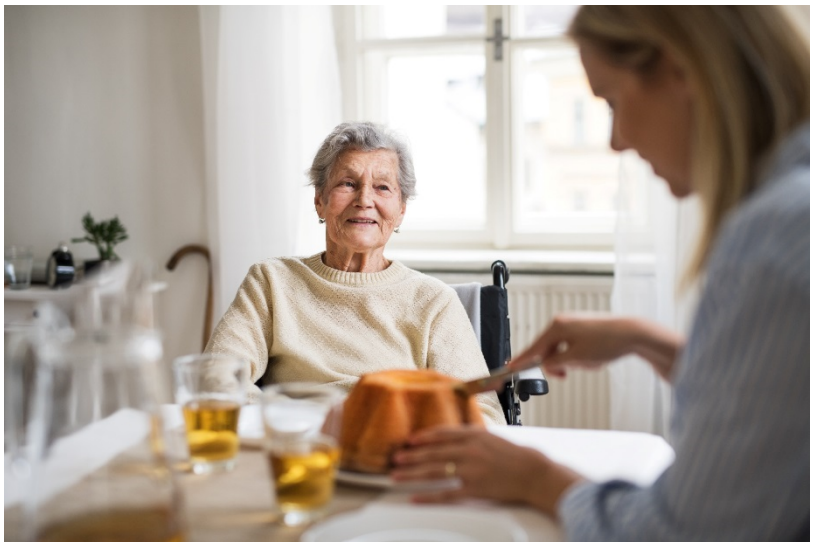
You can't tackle a problem without first spotting it. Accordingly, there are calls for routine screening of patients in hospitals and aged care facilities, particularly to identify less obvious indicators of unintentional weight loss.

Brief tools like the Malnutrition Universal Screening Tool are quick and easy for nursing staff to administer, and at-risk patients can then be referred to dietitians for diagnosis. Clinicians should also look out for changes to weight and food intake, laboratory indicators or newly diagnosed medical conditions that sound a red alert.

For instance, patients may be within normal weight range but have unintentionally lost more than 5% of their usual body weight over the past month or 10% over six months. A weight history is therefore important. Suspect clinical factors include recent signs of anaemia, low serum albumin or newly diagnosed medical or psychological conditions, especially dementia.

Malnutrition is **unrecognised**, and **underreported** - therefore it is **untreated**

Clinicians should also be aware of new medications that can trigger anorexia or dysphagia and other red flags that can trigger malnutrition like excessive fasting for tests or surgery.



Generally, staff and family should look out for these signs of malnutrition at home or in care:

1. **Feeling Tired, Weak or Dizzy**
   Food provides calories and essential nutrients needed to produce energy. Insufficient nutrition intake can result in tiredness, weakness and dizziness. A clue here could be reduced levels of mobility. Look out for diminished muscle mass – a risk factor for sarcopenia.

2. **Depression, Low Mood**
   It's commonly recognised that depression can affect people's appetite. But nutrients from food – carbohydrates, protein, healthy fats, vitamins and minerals – are also vital for healthy brain function. Not getting enough can impact mood and even lead to major depression.

3. **Poor Appetite**
   As previously indicated, aging and some medications can alter taste and appetite. Eating less can, in turn, reduce appetite, so this is something to look out for.

4. **Teeth and Gums**
   You can't fool your dentist. Teeth and gums are a key indicator of nutrition and health status. Swollen or bleeding gums are early oral symptoms of malnutrition. If malnutrition progresses, it can cause irreversible tooth decay.

5. **Hair & Nails**
   Check brushes and clothes for excess hair. Hair loss and lack lustre hair can reflect poor nutrition status, particularly insufficient protein and iron. Nails also become dry, brittle and discoloured if essential nutrients are lacking. When iron levels drop too low, nails can start curling upwards, signalling possible iron-deficiency anaemia.

6. **Infections and Wound Healing**
   Our immune system needs nutrients to prevent and ward off disease. Frequent illness and infections can reveal poor nutrition status. Also be on the watch for easy bruising and wounds that don't heal easily.

7. **Bowel Habits**
   Chronic constipation can signal insufficient food intake to mobilise the digestive tract; it can also reflect inadequate fibre and/or dehydration – common in older adults. Conversely, watch out for persistent diarrhoea because this can decrease nutrient absorption and exacerbate malnutrition.

Prevention and Treatment

Health bodies are calling for mandatory nutrition standards across residential aged care facilities, including staff training and awareness. While the issue is complex and needs a multi-pronged approach, a simple start is prioritising quality food in aged care budgets.

Important strategies to prevent and treat malnutrition are regular meals and snacks containing protein and energy, a variety of food from the key food groups, and regular drinks to avoid dehydration. Where patients have difficulty eating or swallowing, high energy, high protein drinks can be given between meals.

*"It's all about giving equal measures of **pleasure** and **nutrition**. Without pleasure, what is there in life?"*

Maggie Beer

Challenging conventional wisdom, diet quality is even more important for preventing frailty than food quantity or protein intake, according to a recent study in the US. The authors found four studies showing that a Mediterranean diet reduced frailty risk – an eating pattern high in plant foods such as vegetables, fruit, legumes and healthy fats contained in extra virgin olive oil, nuts and seeds. It is low in processed foods, confectionary and red meat.

So giving custard and ice cream to patients at risk for malnutrition might not be the ticket for boosting protein and energy intake, but rather generous amounts of extra virgin olive oil for cooking and salads, a handful of nuts each day for those who can chew them, avocado, salmon, eggs and full fat dairy products such as yoghurt and cheese.

Barriers and catalysts of eating also need to be identified and addressed, and every effort made to help older people enjoy food and the enhanced wellbeing that it delivers.

Ultimately, if meals and food choices are appealing, older people are more likely to eat. The environment is very important. Cooking smells, communal eating, pleasant, relaxed surroundings and attractive food presentation can all stimulate appetite.

As Maggie Beer says, "It's all about giving equal measures of pleasure and nutrition. Without pleasure, what is there in life?"

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