



ACSQHC Consultation Draft: Delirium Clinical Care Standard

July 2015

The Dietitians Association of Australia (DAA) is the national association of the dietetic profession with over 5800 members, and branches in each state and territory. DAA is a leader in nutrition and advocates for better food, better health, and wellbeing for all. DAA appreciates the opportunity to provide feedback on the Consultation Draft: Delirium Clinical Care Standard by the Australian Commission on Safety and Quality in Health Care (ACSQHC).

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DAA interest in this consultation

DAA is concerned about the impact of malnutrition on the lives of older Australians, including the contribution it makes to delirium.

The Accredited Practising Dietitian (APD) program is the foundation for self-regulation of the profession, and a public assurance of safety and quality. APDs aim to prevent the nutritional consequences of and contributors to delirium for at-risk individuals by providing individualised nutrition advice. They also play a key role in delirium recovery through medical nutrition therapy. APDs work with other health professionals and food service staff to provide nutrition support for those at risk of, or recovering from, delirium to promote optimal nutritional status.

Recommendations

Question 1 Quality statements and key aspects of care

DAA recommends that Nutrition Assessment be incorporated in the comprehensive assessment under Quality Statement 4 in *What the quality statement means for clinicians* on Page 9. Dehydration, malnutrition and constipation are all identified causes of delirium, thus nutrition assessment should be included in this section of the clinical care standards. The inclusion of nutrition as an aspect of the assessment and intervention in delirium management has been documented in previous guidelines^{1,2}.

The transition from hospital care should also include advice on preventing malnutrition, dehydration and constipation. DAA recommends that nutritional advice should constitute part of the Individualised Care Plan on page 12 in Quality Statement 7 under *What the quality statement means for clinicians*.

Question 2 and 3: Barriers and Enablers

DAA provided information to the ACSQHC in January 2015 in the report 'Proposal to include Malnutrition in the National Safety and Quality Health Service Standards' about various aspects of malnutrition. Barriers are outlined in the section 'Assessment' and the 'Recommendations' section might reasonably be viewed as enablers. (See appendix).

Question 5 Improving Data Collection

It is recommended to utilise electronic health records as a means to record and report on indicators effectively. Routine screening and assessment for malnutrition should be recorded appropriately.

Question 6 Sharing Clinical Care Standards

DAA is able to advise members of the updated Clinical Care Standard through member networks.

References

1. Delirium: Diagnosis, Prevention and Management: Clinical Guideline 103 [Internet]. Regent's Park: National Clinical Guideline Centre; 2010. p447. Available online <http://www.nice.org.uk/guidance/cg103/evidence/cg103-delirium-full-guideline3>
2. Clinical Practice Guidelines for the Management of Delirium in Older People [Internet]. Melbourne (AU): Victorian Government Department of Human Services; 2006. p105. Available from [http://docs2.health.vic.gov.au/gf/docs/doc/A9F4D074829CD75ACA25785200120044/\\$FILE/delirium-cpg.pdf](http://docs2.health.vic.gov.au/gf/docs/doc/A9F4D074829CD75ACA25785200120044/$FILE/delirium-cpg.pdf)

Appendix

Dietitians Association of Australia. Proposal to include Malnutrition in the National Safety and Quality Health Service Standards. January 2015.



Proposal to include Malnutrition in the National Safety and Quality Health Service Standards

Prepared for the Australian Commission on Safety and Quality in Health Care

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INTRODUCTION

This proposal is written in support of the inclusion of nutrition in the revised National Safety and Quality Health Service (NSQHS) Standards to protect the public from food and nutrition related harm in hospitals, sub-acute care services and other community health service organisations accredited against the NSQHS Standards. While similar harms prevail in residential aged care, these are not in scope of this work as other accreditation standards apply in that sector.

The Dietitians Association of Australia (DAA) recognises various food and nutrition risks, including food hygiene, food allergy/intolerance, aspiration/choking, dehydration and malnutrition. The focus of this proposal is on the latter problem, because malnutrition is a long standing issue in Australia which has received insufficient attention despite its considerable impact on individual quality of life and health care costs.

A limited literature search was conducted to identify key papers published since the publication of the DAA Evidence Based Practice Guidelines for the Nutritional Management of Malnutrition in Adult Patients Across the Continuum of Care [1] in 2009. Search topics were targeted for most relevance to the current NSQHS Standards, and recent reviews of some topics used for efficiency. A reference group of experienced dietitians provided advice on the content of this proposal.

SITUATION

In 2008 the Garling inquiry into acute care services in New South Wales public hospitals, heard that patients were 'starving' and the final report concluded:

'instead of treating food as part of the clinical aspect of a patient's stay; hospital administrators have treated it as an ancillary service'.[2]

Six years on, throughout Australia these issues remain largely unresolved and

'patient nutrition is often an 'afterthought' in the hospital environment and greater recognition of nutrition issues among doctors is needed'.[3]

BACKGROUND

In Australia there is considerable literature and discussion on the high and increasing prevalence of overweight and obesity and related disorders, including diabetes.[4] Disorders related to 'overnutrition' are a national health priority.[5] Emphasis placed on this extreme of nutritional status has resulted in little awareness of the other extreme, undernutrition, in the Australian population. However there is significant evidence that

undernutrition (or malnutrition as referred to in this submission) occurs commonly in certain populations including health care facilities and in the aging population living in the community. Large recent Australian studies have found that one in three hospitalised adults are malnourished.[6]

Malnutrition is defined as two or more of the following characteristics:

insufficient energy intake, weight loss, loss of muscle mass, loss of subcutaneous fat, localized or generalized fluid accumulation or diminished functional status.[7]

The causes of malnutrition are inadequate food intake and/or increased requirements or impaired absorption. The presence of malnutrition has adverse effects on both patient clinical outcomes and places a high demand on the health care system, and the need for subsequent residential care.

Morbidity and mortality related to malnutrition

There is convincing evidence that malnutrition significantly impacts morbidity and mortality. Malnutrition at least doubles the odds of pressure injury and having a more severe pressure injury (higher stage and/or a higher number) [8, 9], the risk of surgical site infection, catheter-associated urinary tract infections, and hospital-acquired infections.[10, 11] Similarly there is convincing evidence that malnutrition increases the odds of mortality both in-hospital and up to three years following discharge.[10, 12-15]

Length of stay and malnutrition

There is convincing evidence that malnutrition significantly increases length of hospital stay and unplanned readmissions in adults in both acute and sub-acute settings.[12, 13, 15] International studies have demonstrated similar results in children.[16] In addition, Australian data showed that a significantly greater percentage of malnourished and 'at risk' patients were discharged to a higher level of care over 12 months compared with well nourished patients.[14]

Health care costs related to malnutrition

It is thus not surprising that the increased morbidity and length of hospital stay attributed to malnutrition substantially increases health care costs. International studies that assessed the additional health care costs of hospitalisation for patients diagnosed with malnutrition reported 24% higher costs after controlling for Diagnosis Related Grouping (DRG) in Singapore [12] and 20% in Portugal.[17] A Spanish study also found significantly higher costs and length of stay for patients who developed malnutrition during their hospital stay (average length of stay 15.2 vs. 8.0 days, $p < 0.001$).[18] Economic modelling identified that the most costly complication associated with poor nutritional status in acutely ill geriatric inpatients is acute respiratory infection, while the requirement for residential care placement contributes the most to overall long-term costs.[19] A study on community

dwelling clients living in the United Kingdom, found that those diagnosed as malnourished by their GP utilised significantly more healthcare resources over six months and were significantly more likely to be hospitalised compared with their well nourished age-matched peers.[20] Australian data on hospital service utilisation of patients admitted to 45 Victorian public hospitals determined that after controlling for the underlying condition, malnutrition was estimated to add AU \$1,745 per admission based on 2003-4 costs [21], while economic modelling to determine the cost of pressure injury attributable to malnutrition in Queensland public hospitals in 2003-4, predicted a mean of 16,060 bed days lost and corresponding mean economic cost of almost AU\$13million at the time.[22]

Prevalence of malnutrition

Malnutrition is common across all settings, as summarised in Appendix 2. The prevalence of malnutrition in adults in Australian hospitals and sub-acute settings is estimated to be around 30% [6, 23], which is similar to internationally reported data [24]. The only published Australian multisite audit of hospitalised children reported rates of malnutrition -as determined by z-scores ≤ -2 for BMI for age- to be 15%. [25]. A further 13.8% of children wasted and 11.9% stunted.[25]

Few studies have reported the prevalence of malnutrition in community-living Australians. In a Victorian study of older adults aged over 65years who were receiving home nursing care, 8% were found to be malnourished with a further 35% at risk of malnutrition.[26]

Poor recognition of malnutrition

Despite this widespread occurrence, malnutrition is poorly identified in health statistics data. For example, coding data recently provided by the Health Roundtable (HRT) showed that coding rates for malnutrition in 142 facilities in Australia and New Zealand ranged from 0-9%, and in one quarter of the facilities (n = 37) coding rates for malnutrition were 0%. This demonstrates a lack of recognition of malnutrition and/or inappropriate coding practices in many acute care facilities in these two countries.

Poor food intake in hospitals

All adult inpatients, especially those with swallowing problems [27] and the elderly, are at risk of developing malnutrition throughout the episode of care.[28] Poor food intake is very common in hospitalised adults. The Australasian Nutrition Care Day Survey conducted across 56 Australian and New Zealand hospitals found that 55% of malnourished participants and 35% of well-nourished participants consumed less than 50% of the food provided during a 24-hour audit.[13] The most common reason for not consuming the food offered was 'not hungry.' Other reasons for inadequate energy intake in older medical patients include poor appetite, diagnosis of infection or cancer, delirium and the need for assistance with feeding.[29] Despite this, a large number of acute care hospital wards in

Australia and New Zealand do not comply with evidence-based practice guidelines for identification, prevention and management of malnourished patients in their care.[30, 31]

Nutritional decline in the community

The post-hospital period is a vulnerable time for people recovering from acute illness. Low nutritional intake is common in house-bound older adults living in the community [32], with the literature reporting that many people experience unintentional weight loss after discharge from hospital.[33] One study found that over 20% of clients had persistent nutritional decline at three and six months after discharge.[34] Interconnecting causal factors for poor intake and nutritional decline after hospital discharge include the following factors:

- discharge planning rarely considers nutrition-related issues and access to adequate food intake;
- deficits in service coordination exist in the community;
- a lack of consideration of unexpected challenges faced by patients on return to functioning in the community.

Benefits of treating malnutrition

There is convincing evidence on the economic benefit of medical nutrition therapy [35]. For example a matched sample of 1.2 million adult inpatient episodes at 460 sites in the United States [36] found that oral nutrition support (ONS) decreases both length of stay and episode cost by approximately 20% and readmission risk by two percent for any inpatient diagnosis. Similar economic benefits of 15% and 10% respectively were found in paediatric patients.[37] Walzer et al's [38, 39] recent systematic literature review of health economic evidence for medical nutrition therapy proved that ONS for treatment of malnutrition offers value for money in both hospitals and in the community.

ASSESSMENT

There are complex systems issues that impact on provision of food and nutritional care in hospitals and/or sub-acute services. Similarly, there are numerous contributors to poor food intake in some vulnerable groups living in the community. These issues can be grouped into three broad categories, applicable across all settings.[16]

1. Institutional/systems issues

- a lack of focus and commitment to nutrition including a lack of policies/guidance and governance i.e. nutrition is not seen as a priority
- in hospital settings
 - o catering limitations where food services are seen as part of hotel services rather than as an integral component of patient care. This can negatively impact on patient safety (e.g. food safety, food and fluid texture, food allergens), nutritional adequacy of meals and therapeutic diets, timing, frequency and access of meals and snacks.
 - o a lack of systematic nutrition screening[40], care planning and monitoring and unclear accountability for nutrition care.[41, 42]
- in the community
 - o gaps in service provision, access and coordination post-discharge as outlined above.

2. Individual patient/client issues

- delirium
- nutrition impact symptoms (e.g. poor appetite, chewing and swallowing problems including poor dentition, pain and taste changes)
- social isolation
- cognitive or physical impairment including mental health issues impacting their ability to access, prepare and/ or feed themselves.

3. Health care workers.

- lack of recognition of the importance of nutrition as a key part of care
- lack of training on the importance of nutrition including the significant impact of nutrition on patient and cost outcomes.

RECOMMENDATIONS

It is recommended that nutrition (including hydration) be included in a Standard that focuses on patient care. The intent of the actions would be to embed multidisciplinary strategies to prevent decline, maintain or improve a client's nutrition and hydration status.

The key evidence based actions to achieve this aim include strategies to ensure that upon commencement of an episode of care in hospital or community, an individual:

1. is screened for nutritional risk and has a nutrition care plan tailored for their individual needs across the continuum. For those living in the community, the care plan should allow for recovery of illness, predicted functioning, and consider financial, social, and psychological barriers.
2. has interventions in place to address systems issues including
 - food provision services in hospitals and sub-acute settings to meet the nutritional and psychosocial needs of the population being served and
 - linkages to nutrition-related services for those living in the community. This should include linkages with domiciliary agency supports, shopping assistance, meal preparation, home delivered meals options, welfare services for emergency meal packs etc.
 - referral and nutrition care pathways for individual nutrition support for those who cannot meet their requirements with food alone
 - clear accountabilities of the multi-disciplinary team for nutrition care
 - governance committee
 - clinician training
 - processes to increase clinician awareness and organisational culture around nutrition care as an integral part of medical management and holistic care.
3. is monitored at
 - an individual level across the continuum of care including discharge planning and education
 - a system level including meal quality, patient satisfaction, food wastage in hospitals and sub-acute.

EVIDENCE OF HARM FROM MALNUTRITION.**Patient level**

- surgical site infection, catheter-associated urinary tract infections, hospital-acquired infection - at least doubled incidence: summarised in [10, 11]
- pressure injury:
 - o A large case series (887189 surgical cases from 1368 hospitals in the United States) showed at 3.8 times higher prevalence of pressure injury.[9]
 - o in Australian hospitalised patients malnutrition at least doubled the odds of pressure injury and having a more severe pressure ulcer (higher stage pressure ulcer and/or a higher number).[8]
- mortality
 - o numerous international studies have reported malnourished hospitalised patients have a higher risk of dying. See summary in [10]
 - o a study of 818 adults admitted to a tertiary hospital in Singapore found after adjustment for gender, age, and ethnicity, and matched for DRG, there was a significantly higher mortality at 1 year (34% vs. 4.1 %), 2 years (42.6% vs. 6.7%) and 3 years (48.5% vs. 9.9%); $p < 0.001$ for all time points.[12].
 - o the Australasian Nutrition Care Day survey across 56 Australian and New Zealand hospitals found that after controlling for disease severity as well as other non-nutritional factors (age, gender, disease type, and quality-of-life indicators) the odds of 90-day in-hospital mortality was doubled for malnourished patients (CI: 1.09-3.34, $p = 0.023$).[13]
 - o Secondary data analysis of 2602 consecutive admissions of patients aged over 65 years to an acute tertiary hospital in New South Wales found those who were malnourished were 3.55 (95% CI 1.52, 8.32) times more likely to die than those who were well nourished ($P=0.003$).[14]
 - o follow-up of 2076 Australian sub-acute patients aged over 65 years found a hazard rate for death in the malnourished group=3.4 times the well-nourished group (95% confidence interval: 1.07-10.87; $P = 0.038$).[15]

System level

- prolonged length of stay (LOS)
 - o Singapore: a three year prospective study on 818 newly admitted patients to a Singapore tertiary hospital found that after adjustment for gender, age, and ethnicity, and matched for DRG, LOS for malnourished patients was one and a half times longer: 6.9+/-7.3 days vs. 4.6+/-5.6 days, $p < 0.001$. [12]
 - o the Australasian Nutrition Care Day survey of 3122 participants across 56 Australian and New Zealand hospitals found that after controlling for disease severity as well as other non-nutritional factors (age, gender, disease type, and quality-of-life indicators) the median LOS 15 days vs. 10 days, $p < 0.0001$ and median LOS for patients consuming $\leq 25\%$ of the food was higher than those consuming $< 50\%$ (13 vs. 11 days, $p < 0.0001$).[13]

- median LOS in malnourished and at risk Australian sub-acute patients aged over 65 years was significantly longer, compared with well-nourished patients: 34 vs 26 vs 20 days, respectively ($P < 0.001$).[15]
- international studies have demonstrated that malnourished children have a longer hospital stay compared with well-nourished children.[16]
- readmission
 - malnourished patients were almost twice as likely to be readmitted within 15 days (adjusted relative risk=1.9, 95% CI 1.1-3.2, $p=0.025$).[12]
 - the Australasian Nutrition Care Day survey across 56 Australian and New Zealand hospitals found significantly higher readmission rates within 90-days: 36% vs. 30%, $p = 0.001$. [13]
- discharge to a higher level of care
 - Secondary data analysis of 2602 consecutive admissions of patients aged over 65 years to an acute tertiary hospital in New South Wales found a significantly greater percentage of 'malnourished' and 'at risk' patients had an increase in level of care at discharge over 12 months, compared to well nourished patients ($p=0.000$).[43]

PREVALENCE

The prevalence of malnutrition depends on the setting, patient/client group and assessment method

1. International pooled data using Mini Nutrition Assessment (MNA) [24]

- hospitalised patients ≥ 65 years (Belgium, Switzerland, Germany, Italy) = 38.7% ;
- rehabilitation patients ≥ 65 years (Australia, Italy, United States)= 50.5%;
- community dwelling residents aged ≥ 65 years (Switzerland, France, Japan, Sweden and South Africa)= 5.8%

2. Australia

- hospitalised patients
 - o Australasian Nutrition Care Day: 3122 adult patients (mean age=65+/- 18 years) across 56 hospitals in Australia and New Zealand using Subjective Global Assessment (SGA) found a malnutrition prevalence of 32%. A further 41% of participants were at risk of malnutrition.[6]
 - o Adult public hospitals in Queensland using SGA approximately 30% [23]
 - o Australian paediatric inpatient data from term age to 19 years: a point prevalence audit on 832 Children aged in 16 Australian hospitals (8 tertiary paediatric and 8 regional) using z-scores: 15% malnutrition, 13.8% wasted, 11.9% stunted. Higher prevalence in children with primary diagnosis of cardiac disease or cystic fibrosis.[25]
- rehabilitation patients: 2076 patients aged ≥ 65 years admitted to two rehabilitation hospitals in the South East Sydney and Illawarra Area Health Service region, New South Wales, with a mean age of 81years (using MNA): 33% percent were classified as malnourished and 51.5% at nutritional risk.[44]
- community:
 - o 10-30% [1]
 - o clients aged > 65years from a community nursing service providing home nursing care. Using MNA, 35% of clients were identified as being at risk of malnutrition, while 8.1% were found to be malnourished. There was no significant relationship between nutrition risk and gender, country of birth or living arrangements.[26]

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