Cancer malnutrition: feeding everyone from hospital to home

Final project report

VICTORIA State Government | Health and Human Services

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Contents

Authorship

Cancer malnutrition: feeding everyone from hospital to home is an initiative of the Victorian Government. It forms part of the Malnutrition in Victorian Cancer Services program. The Nutrition Department at Peter MacCallum Cancer Centre (Peter Mac) was commissioned to provide statewide leadership and project management.

This report was written by Ms Jane Stewart from the Peter Mac Nutrition Department, with support from Jenelle Loeliger, the project team and project steering committee.

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Executive summary

Malnutrition remains a prevalent issue for cancer patients across the continuum of care and commonly leads to poor clinical outcomes [1]. Data from a 2016 cancer malnutrition point prevalence study indicates that 23 per cent of patients attending Victorian cancer services are malnourished [2]. Malnutrition is associated with reduced treatment tolerance, increased morbidity and mortality, and higher healthcare costs [3-6]. Appropriate nutrition care can improve the clinical outcomes of patients with cancer and their healthcare experience [5, 6].

In the general patient population studies have found that malnutrition is under-detected and under-treated in the primary care setting [7]. In Australia, the prevalence of malnutrition in the community is estimated at 1–8 per cent, with those being 'at risk' of malnutrition ranging from 15 to 40 per cent [8-12]. The cost of managing malnourished patients in the community is more than twice that of managing well-nourished patients due to increased use of healthcare resources. Malnourished patients require more frequent drug prescriptions, laboratory tests, diagnostic procedures, general practitioner (GP) visits and hospital admissions [7].

To successfully and effectively address malnutrition, a statewide approach beyond hospitals is required. This project seeks to address cancer malnutrition in a statewide platform that more broadly supports multidisciplinary nutrition care spanning acute, primary care and community settings, focusing on clinical governance processes and education for clinicians working with people with cancer.

Objectives

1. Form a partnership between acute, primary care and community health sectors to:
   (a) ascertain current knowledge, nutrition practice and nutrition governance in the primary care and community sectors regarding cancer malnutrition
   (b) understand education needs regarding cancer malnutrition and identify existing/new resources that may be beneficial in the primary care and community settings
2. Modify and target existing cancer malnutrition resources developed by the Malnutrition in Victorian Cancer Services (MVCS) program for the primary care and community sectors and promote them to clinicians working with oncology patients
3. Promote the value of statewide cancer malnutrition and nutrition care indicators to be mandatory and/or included within an appropriate quality framework for health services, primary care and community settings

Strategies

- Key stakeholders within the primary care and community sector were engaged to form a statewide partnership in relation to cancer malnutrition.
- A literature review was completed on: malnutrition screening; management of malnutrition in primary care and community settings; and the transition of nutrition care from acute to community sectors.
- A questionnaire was distributed to Victorian dietitians working in acute cancer services, community rehabilitation, community health services and private practice.
- A questionnaire was distributed to Victorian GPs and general practice nurses (GPNs).
- A plan was prepared to modify existing MVCS resources (and to develop new resources) to meet the needs of clinicians working with cancer patients in the primary care and community sectors.
- An implementation plan was developed to assist in promoting the MVCS resources to clinicians working in primary and community care.

- A review of grey and published literature was conducted to identify Australian and international quality frameworks, nutrition care standards and nutrition performance indicators.
- Key stakeholders were identified and engaged with to promote the value of mandatory statewide nutrition care standards or performance measures to be included within relevant quality frameworks.

Key learnings

Management of cancer malnutrition in primary care and community settings

- One hundred and fifty-two dietitians, 22 GPs and 10 GPNs completed the questionnaires.
- GPs and GPNs have limited knowledge of cancer malnutrition, and the majority (91 per cent) would like additional support, education or resources on cancer malnutrition.
- Eighty-eight per cent of GPs and GPNs believe they should have primary responsibility for screening patients for malnutrition, and almost all (94 per cent) would see benefit in having access to a validated malnutrition screening tool to assist in the assessment of a patient's nutrition risk.
- Nutrition risk screening is routinely completed on initial presentation in less than half (43 per cent) of services in the community sector. When nutrition risk screening is completed, the Malnutrition Screening Tool (MST) is the screening tool predominantly used.
- Seventy-eight per cent of GPs and GPNs and 63 per cent of dietitians working in primary care or community settings believe there are patients with cancer malnutrition going unrecognised in their service.
- Despite there being a range of cancer malnutrition education resources specifically for dietitians, these resources are poorly accessed by dietitians working in primary care and community settings, with a quarter of dietitians surveyed not aware of those currently available. The majority (75 per cent) of respondents reported they would like additional support or resources on cancer malnutrition.
- Only a small number (9 per cent) of dietitians working in the primary care and community sectors reported using the *Malnutrition governance toolkit*. This is not surprising because the tool was developed for health service clinicians and has an acute health service focus.
- Nutrition governance in the primary care and community sectors is complicated. There are a number of quality frameworks for this sector; however, only those community health centres and community rehabilitation services integrated with a health service are required to meet nutrition care standards.

Transition of care post treatment

- Thirty per cent of acute oncology dietitians rarely or never refer their patients to dietitians in the primary care or community sector. Approximately half of respondents reported providing follow-up care in outpatient clinics or over the phone. Reasons for not referring patients to dietitians in the primary care and community sectors include the complex care needs of patients, the time/resources required to make the referral, long wait lists and not knowing where to refer.
- Only 54 per cent of acute oncology dietitians were aware of cancer rehabilitation programs running in Victoria, and only 20 per cent of dietitians who were aware of these programs have made a referral.
- GPs are unlikely to receive nutrition information for malnourished cancer patients at the completion of treatment, with two-thirds of acute oncology dietitians reporting they never or rarely provide a discharge summary to GPs.

Cancer malnutrition education resources for the primary care and community sector

- Existing MVCS education resources require modification and targeting for the primary care and community sectors.

Transform cancer malnutrition

- The nutrition information captured by the Victorian Admitted Episode Dataset (VAED) is the only centralised statewide data source that can be used to develop statewide nutrition performance indicators.
- A malnutrition performance indicator has been included within the *Victorian cancer plan monitoring and evaluation framework*.
- Ongoing work is required to promote the value of statewide malnutrition performance indicators and the development of a nutrition care policy for Victoria.

Recommendations

1. Efforts should be made to improve the identification of nutrition risk and management of malnutrition in general practice. This should include improving access to a validated malnutrition screening tool and implementing appropriate malnutrition risk screening at first presentation to general practice and on transition back into primary care after treatment. Malnutrition management could be improved by promoting the use of chronic disease management plans and incorporating team care arrangements with dietitians to better support the nutritional management of malnourished patients in primary care.
2. Improvements must be made to improve the transition of nutrition care for patients with cancer malnutrition between sectors. Acute oncology dietitians should be encouraged to provide GPs with nutrition information on discharge and supported to refer appropriate patients into the primary care and community sectors upon completion of treatment. It is important to capture the voice of patients with cancer malnutrition and their carers to better define what consumers want regarding their nutrition care. The co-design of a cancer nutrition care pathway within the next MVCS project will help achieve this and should assist in giving clinicians the knowledge and confidence to know how (and in which setting) patients with cancer malnutrition should be managed.
3. There is a need for targeted cancer malnutrition education resources for health professionals working in the primary care and community sector. This includes specific general practice and community modules within the Malnutrition in Cancer eLearning Program, and development of an *Understanding malnutrition and cancer for health professionals* fact sheet (incorporating a malnutrition screening tool) that can be used for any clinician working with cancer patients but will specifically fill a need for health professionals working in primary care.
4. Further work should be undertaken to better understand the data gaps between the percentage of patients coded for malnutrition in the VAED and the actual prevalence of malnutrition. This could be investigated alongside the 2018 cancer malnutrition point prevalence study.
5. Continue to explore possibilities for a statewide malnutrition clinical indicator and the development of a nutrition care policy for Victoria; and work with relevant bodies to ensure that nutrition care standards are included within quality frameworks relevant to the primary care and community sectors.
6. Leverage what we now know and have learnt regarding cancer malnutrition to other high-risk groups and/or the general population.

Project title

Section 1: Background

1.1 Background

Malnutrition remains a prevalent issue for patients with cancer and commonly leads to poor clinical outcomes [1]. Data from a 2016 cancer malnutrition point prevalence study indicates that 23 per cent of patients attending Victorian cancer servicers are malnourished [2]. Malnutrition is associated with reduced treatment tolerance, increased morbidity and mortality, and higher healthcare costs [3-6]. Appropriate nutrition care can improve the clinical outcomes of patients with cancer and enhance patient experience [5, 6].

Disease-related malnutrition has been defined as a condition that results from the activation of systemic inflammation by the underlying disease. The inflammatory response causes anorexia and tissue breakdown that can, in turn, result in significant loss of body weight, loss of skeletal muscle mass and declining physical function [13]. Patients may suffer from malnutrition irrespective of initial body weight.

Malnutrition has been classified as [14]:

Body mass index < 18.5kg/m^2 or unintentional loss of weight ≥ 5 per cent *with* evidence of suboptimal intake resulting in subcutaneous fat *and/or* muscle wasting.

The Malnutrition in Victorian Cancer Services (MVCS) program convened in 2011 and has undertaken a number of initiatives to address cancer malnutrition in the acute health sector. To date, the MVCS program of work has:

- identified the extent of cancer malnutrition in Victorian hospitals with a biennial cancer malnutrition point prevalence study since 2012
- supported initiatives targeting malnutrition within hospitals
- created a range of evidence-based resources to support nutrition care, clinical governance and education in the acute health sector.

However, practices relating to the management of cancer malnutrition in the primary care and community sector remain less understood.

When considering the general population, evidence from the UK suggests that the majority (93 per cent) of patients who are at risk of malnutrition live in the community [15]. In Australia the prevalence of malnutrition in the community has been shown to be 1–8 per cent, with those being ‘at risk’ of malnutrition ranging from 15 to 40 per cent (with greater risk in those receiving domiciliary care services) [8-12].

The cost of managing malnourished patients in the community is more than twice that of managing well-nourished patients due to an increased use of healthcare resources. Malnourished patients require more frequent drug prescriptions, laboratory tests, diagnostic procedures, general practitioner (GP) visits and hospital admissions [7].

1.2 Service gaps

In the general patient population, studies have found that malnutrition is under-detected and under-treated in the primary care setting. Completion rates for malnutrition screening are poor and patients identified as ‘at risk’ of malnutrition often do not receive dietetic input or oral nutrition support [16].

To effectively reduce the burden of malnutrition on our community, a statewide approach beyond hospitals (the focus of the MVCS program to date) is required. This project seeks to address malnutrition in a statewide platform that more broadly supports multidisciplinary nutrition care spanning acute, primary care and community settings, focusing on clinical governance processes (inclusion of malnutrition care indicators within quality frameworks) and education for clinicians working with people with cancer. This includes investigating education needs, sharing resources, advocacy and scoping how we can improve connections and partnerships between acute and community settings in an effort to reduce the cancer malnutrition burden.

Section 2: Project model of care

2.1 Objectives

1. Form a partnership between acute, primary care and community health sectors to:
   (a) ascertain current knowledge, nutrition practice and nutrition governance in the primary and community care sectors regarding cancer malnutrition
   (b) understand education needs regarding cancer malnutrition and identify existing/new resources that may be beneficial in the primary care and community settings
2. Modify and target existing cancer malnutrition resources developed by the MVCS program for the primary care and community sector and promote them to clinicians working with oncology patients
3. Promote the value of statewide cancer malnutrition and nutrition care indicators to be mandatory and/or included within an appropriate quality framework for health services, primary care and community settings

2.2 Expected outcomes

1. Formation of a statewide partnership spanning the acute, primary care and community health sectors in relation to cancer malnutrition
2. Comprehensive understanding of knowledge, resources and practices associated with cancer malnutrition within the primary care and community sectors
3. Confirmation of overall needs associated with cancer malnutrition and identification of existing education/practice resources from the MVCS program that will be beneficial to share within the primary care and community sectors
4. Consolidation of resources, increased reach and uptake of cancer malnutrition education/resource packages across all health services, primary care and community settings
5. Progress in statewide reporting of cancer malnutrition and nutrition care indicators and/or appropriate identification and/or inclusion within a quality framework for health services, primary care and community settings
6. Final report including key deliverables, recommendations and a sustainability plan

Section 3: Project implementation

3.1 Project framework

Stage 1: Cancer malnutrition beyond hospitals

Objective	Strategies
1. Form a partnership between acute and primary/community care sectors to: (a) ascertain current knowledge, nutrition practice and nutrition governance in the primary and community care sectors regarding cancer malnutrition (b) understand education needs regarding cancer malnutrition and identify existing resources that may be beneficial in the primary care and community settings	**1.1 Environmental scan** • Engage with key stakeholders within the primary care/community sector (Australian Cancer Survivorship Centre, Cancer Council Victoria (CCV), Victorian Comprehensive Cancer Centre, Primary Health Networks (PHN), Victorian PHN Alliance and Integrated Cancer Services) to form a statewide partnership in relation to cancer malnutrition **1.2 Conduct literature review** • Malnutrition screening / management of malnutrition in primary and community care • Nutrition models of shared care **1.3 Survey of GPs and general practice nurses (GPNs)** • Develop a short questionnaire to ascertain current knowledge, nutrition practice, nutrition governance and education needs of GPs and GPNs • Distribute the questionnaire to Victorian GPs and GPNs using one or more of the following mechanisms: at GP/GPN forums, online or via e-newsletters **1.4 Survey of dietitians** • Develop an online questionnaire to ascertain clinical governance practices, referral practices and benefits/barriers to shared care nutrition models • Distribute the online questionnaire to: private practice dietitians in Victoria; dietitians at Victorian community health/rehabilitation centres; and acute oncology dietitians working in Victorian cancer services

Stage 2: Package and translate cancer malnutrition

Objective	Strategies
2. Modify existing cancer malnutrition resources developed by the MVCS program for the primary care and community sectors and	**2.1 Modify existing MVCS resources** to meet the needs (as identified in 1.3, 1.4) of clinicians working with cancer patients in the primary care and community sectors

Objective	Strategies
promote them to clinicians working with oncology patients	**2.2 Brand development** • Brand and package together the Malnutrition in Cancer eLearning Program, *Understanding malnutrition and cancer* fact sheet, the *Malnutrition governance toolkit*, cancer malnutrition point prevalence study and promotional video • Identify an effective mechanism for promoting the resource package with clinicians working in primary and community care and develop an implementation plan

Stage 3: Transform cancer malnutrition

Objective	Strategies
3. Promote the value of statewide cancer malnutrition and nutrition care standards to be mandatory and/or included within an appropriate quality framework for health services, primary care and community settings	**3.1 Conduct a review of grey and published literature** • Australian and international nutrition care standards and key performance indicators **3.2 Identify key stakeholders** • Explore existing quality frameworks including National Safety and Quality Health Service (NSQHS) Standards, Safer Care Victoria, Royal Australian College of General Practitioners (RACGP) Standards for general practice and Community Common Care Standards • Explore cancer-specific quality frameworks including the *Victorian cancer plan monitoring and evaluation framework* and the Supportive Care Screening Project (Department of Health and Human Services) **3.3 Identify preferred nutrition care standards according to best practice (as outlined in 3.1)** • Work with key bodies (identified in 3.2) to develop an implementation plan for identifying and including preferred nutrition care standards (identified in 3.3) within appropriate quality standards/frameworks

3.2 Stakeholders

Area	Stakeholder	Contact
Consumer		Alan Fitzpatrick
GP/GPN engagement	Cancer Council Victoria	Amber Kelaart, Anna Boltong
	Live Lighter	Alison McAleese

Area	Stakeholder	Contact
	Primary Health Alliance / Primary Health Networks	Sue Merritt
	Australian Cancer Survivorship Centre	Amanda Piper, Ashlee Bailey
	OnTrac Project Manager	Judy Evans
	Peter Mac GP Liaison	Alexis Butler
	Royal Australian College of General Practitioners	Nicoll Heaslip
	Australian Practice Nurse Association	Rosie Oldham
	Primary Care Collaborative Cancer Clinical Trials	Sophie Chima
	Victorian Primary Care Practice-based Research Network	Rachel Canaway
Dietitian engagement	MVCS Collaborative	MVCS Community of Practice
Survey methodology	Peter Mac Allied Health Researcher	Lara Edbrooke
	Department of Cancer Experience and Research	Jo Phipps-Nelson, Allison Drosdowsky
	Integrated Cancer Services	Kathy Quade (Western and Central Melbourne)
GP education resources	Victorian Comprehensive Cancer Centre	Michelle Barrett, Kyleigh Smith
	Malnutrition in Cancer eLearning Program lead	Lauren Atkins
Cancer rehabilitation	Cancer Council Victoria	Jane Auchettl, Amber Kelaart
	Australian Cancer Survivorship Centre	Amanda Piper
Branding	Peter Mac Communications team	Emma Mellon
	Green Scribble	Jeremy Beaumont
Quality frameworks	Director of Quality at Peter Mac	Kathryn Burton, Katie Yeaman
	Safer Care Victoria	Glenda Gorrie, Angela Thiel
	Victorian Agency for Health Information	Paula Wilton, Carla Read
	Screening and Preventive Health Programs	Sally Doncovio
	Supportive Care in Cancer Refresh project	Carol Jewell
	Dietitians Association of Australia	Annette Byron
	NSW Nutrition Care Policy	Suzanne Kennewell

3.3 Limitations and deviations

The limitations of the project largely related to time constraints and the inability to achieve larger sample sizes.

Limitation	Explanation
GP and GPN survey	Small sample size of general practice nurses (*n* = 10). Did not meet target response rate of *n* ≥ 20.

Deviation	Explanation
GP and GPN survey	GP/GPN recruitment was slow. An ethics amendment was submitted to include an incentive for completing the survey ($100 Coles Myer gift voucher) and the closing date was extended to allow recruitment at specific GP/GPN events.
Modify existing MVCS resources for the primary care and community sectors	Due to the extension of the closing date for the GP/GPN survey, there was insufficient time to modify resources based on the results of the survey. An implementation plan for modifying resources has been prepared.

3.4 Resources utilised or developed

Utilised

- Stakeholders from external agencies as outlined on page 14
- Existing MVCS resources including:
  - Malnutrition in Cancer eLearning Program
  - *Malnutrition governance toolkit*
  - *Understanding malnutrition and cancer* fact sheet
- Results from the CCV project titled 'Supporting community and private practice dietitians in managing oncology patients'

Developed

- Literature review on malnutrition screening, management of malnutrition in primary care and community settings, and the transition of nutrition care from acute to community sectors
- Input provided by the MVCS project team into the development of a malnutrition performance measure included within the *Victorian cancer plan monitoring and evaluation framework*
- Project proposal for MVCS 2018–19 titled *Optimising the cancer nutrition path: exploring consumer and carers experiences and clinician expertise to co-design a cancer nutrition care pathway across the care continuum*
- Directory of Victorian community dietetic services incorporating an infographic outlining options for the nutrition care of cancer patients beyond hospital (see Appendix 5)
- Prolonged fasting clinical advisory (prepared by a working group comprising representation from 11 Victorian health services) submitted to Safer Care Victoria to assist in raising the profile of malnutrition as a quality and safety issue within Safer Care Victoria (Appendix 6)

- Response to the Victorian Agency for Health Information consultation paper regarding their reporting program for 2018–19, outlining the reasons why malnutrition should be included as a performance measure (Appendix 7)

3.5 Communication strategies

The main mode of communication has been face-to-face meetings with contacts from external agencies and engagement with the project steering committee. Achievement of key milestones have been documented in the mid and final project reports.

Dissemination of project results will be via ongoing MVCS Community of Practice meetings, distribution of the final report and report summaries to relevant stakeholders (as detailed in the deliverables report), presentation at conferences and publication in relevant journals.

Appendix 1 provides a summary of communication strategies used.

Section 4: Evaluation

4.1 Summary of key results

Stage 1: Cancer malnutrition beyond hospitals

Literature review

Nutrition risk screening in primary care

Nutrition screening is a 'process of quickly identifying those who may be at risk of malnutrition so that a full nutrition assessment and appropriate nutrition intervention can be provided' [17]. Evidence-based practice guidelines for managing malnutrition recommend that routine screening for malnutrition should occur in the rehabilitation and community settings to improve the identification of malnutrition risk and enable nutritional care planning [9].

A number of valid screening tools are available for use within the community setting, and the appropriate choice of screening tool requires consideration. The malnutrition screening tools validated for use in the community include: Mini Nutrition Assessment Short Form (MNA-SF); Malnutrition Universal Screening Tool (MUST); Seniors in the Community Risk Evaluation for Eating and Nutrition II (SCREEN II); Short Nutritional Assessment Questionnaire (SNAQ); and the Malnutrition Screening Tool (MST) [9, 17, 18]. Key considerations for choice of a screening tool include: who will be undertaking the screening (skill level and time to complete); the healthcare setting and patient population; and the burden of completion (number of questions, measurements, equipment and calculations that may be required) [9].

All patients referred to community health services in Victoria should be screened using the Home and Community Care (HACC) nutrition risk screening and monitoring tool. This tool consists of 10 questions to determine nutritional risk and aims to identify both under and over nutrition [19]. In Queensland a modified MST has been incorporated into the Health Behaviours Profile completed for all new HACC-eligible clients [10]. The MST was chosen because it does not require any measurements or calculations and is simple to complete (Table 1). The MST was modified with the addition of a question: *'Client appears very underweight or frail?'* to help identify chronic malnutrition that may be present in HACC-eligible clients.

Table 1: Malnutrition Screening Tool [20]

Question	Answer	Details	Score
A. Have you lost weight recently without trying? If yes, how much weight?	No		0
	Yes	1–5 kg	1
		6–10 kg	2
		11–15 kg	3
		> 15 kg	4
	Unsure		2
B. Have you been eating poorly because of a decreased appetite?	Yes		1
	No		2
Total score A + B =			

The malnutrition screening practices of dietitians working with community-dwelling older adults in Australia were explored by Craven et al. in 2016 [21]. Of the 133 community dietitians who participated in the survey, 77 per cent conducted malnutrition screening. The majority of dietitians (75 per cent) reported a validated screening tool was used and the MST was most commonly used (51 per cent). Two-thirds of dietitians reported that clients found to be at risk of malnutrition frequently refused nutrition assessment.

These findings are in concordance with a study by Leggo et al. in 2008, who assessed 1,145 HACC-eligible clients using the modified MST [10]. In all, 175 (15 per cent) were identified to be at risk of malnutrition; however, only 75 (44 per cent) consented to a referral to a dietitian for a full nutrition assessment. Reasons for refusal included: patients were not concerned about their recent weight loss (*n* = 17); some felt weight loss was due to a recent hospital admission and their weight was starting to improve once discharged home (*n* = 5); other clients preferred their doctor to make the dietetic referral if necessary (*n* = 7); a few clients were already seeing a dietitian (*n* = 8).

In the Australian general practice setting nutrition screening is not routinely conducted [22]. In 2012 Flanagan et al. [23] proposed that screening for undernutrition should be incorporated into routine practice wherever possible, and into the 75+ annual health assessment. This paper provides clear guidance on the choice of screening tool for general practice and outlines management strategies that GPs can use for patients who are malnourished or at risk of malnutrition. In 2013 Hamirudin et al. [22] conducted interviews with 25 GPs and practice nurses to identify barriers and opportunities to implementing nutrition screening for older adults in primary care. Barriers to performing nutrition screening in general practice included: lack of time; patients may be unwilling to undergo screening; additional cost to the practice; low priority of nutrition; and a lack of knowledge on nutrition screening. Despite identifying a number of barriers, the incorporation of nutrition screening into the 75+ health assessment was identified as an opportunity.

Perceptions of general practitioners and practice nurses of their role in providing nutrition care

Nicholas et al. [24] examined the dietitian–GP interface in Newcastle, Australia. When asked to list three predominant patient conditions that present to you and that you feel require nutrition support, 80 per cent of dietitians listed malnutrition or unintentional weight loss compared with zero per cent of GPs. The conditions considered by GPs to require nutrition support were predominantly chronic diseases including diabetes, obesity and ischaemic heart disease.

GPs views regarding the provision of nutrition care were investigated by Crowley et al. in 2016 [25]. Nearly all (92 per cent) GPs were interested in supporting patients to eat well and perceived their role to include the assessment of nutritional risk. Most (89 per cent) reported being confident in providing nutrition care to prevent and manage cardiovascular disease, whereas fewer reported being confident providing nutrition advice to reduce the risk of cancer (55 per cent) or manage sarcopenia (48 per cent). Approximately half reported lack of time as the biggest barrier to providing nutrition care, and the majority (90 per cent) were interested in receiving additional education to improve their nutritional knowledge.

In 2014 Cass, Ball and Leveritt investigated practice nurse perceptions of their role and competency to provide nutrition care to patients living with chronic disease [26]. Participants perceived that the ideal role of the practice nurse is to advocate for nutrition and to provide basic nutrition care to patients. Barriers to providing nutrition care included time constraints, lack of nutrition knowledge and lack of confidence.

International guidelines for the management of malnutrition in the community

A guide to managing adult malnutrition in the community (2nd edition) provides recommendations for health professionals (GPs, community nurses, pharmacists, speech and language therapists) working in community settings in the UK [27]. The guide outlines that patients should be screened using MUST on first contact with a care setting or upon clinical concern and stratified according to the level of risk. Both medium- and high-risk patients are managed by a community nurse or GP, with clear guidelines for

dietary advice and prescription of oral nutrition support. Patients should be referred to a dietitian if there is no improvement in their nutritional status or more specialist support is required.

In the Netherlands, the *National Primary Care Collaboration agreement on malnutrition* was developed to achieve better primary care for adults with or at risk of malnutrition by creating closer cooperation between GPs, nurses and dietitians [28]. The agreement outlines key responsibilities for each professional group and specifies diagnostic criteria for malnutrition.

Continuity of cancer care

The effective transfer of care into the primary care and community sectors is an important step in facilitating the continuity of care after completing cancer treatment [29]. Survivorship or shared care plans have been shown to increase a primary care practitioner's knowledge about survivors' cancer history, recommended surveillance and potential late and long-term effects [30, 31]. Shared care should be planned before discharge, and this planning process should involve the patient, specialist and relevant primary care professionals [32]. An Australian study of bowel cancer survivors concluded that there was strong support for shared care plans [31].

The literature search revealed examples of nutrition shared care models used in childhood obesity [33], diabetes [34] and mental health [35]. While there are nutrition shared care models known to be used in cancer care, no documented evidence was revealed in the literature review. In 2015 The Royal Women's Hospital in Melbourne implemented and evaluated a model of survivorship care for women diagnosed with early endometrial cancer. Three months after surgery the patient completes a shared care plan with the assistance of a nurse. The care plan is then sent to the patient's GP to help direct future care of their obesity-related comorbidities and to provide a schedule and guidelines for follow-up. Patients with a body mass index (BMI) over 30 were offered a one-off consultation with a dietitian to provide education and goal setting regarding weight management and, most importantly, to facilitate a referral to a community-based dietitian.

Survey of general practitioners and general practice nurses

Survey development

- A 14-item questionnaire was developed and piloted with input from the project team and steering committee. The questionnaire aimed to ascertain current knowledge, nutrition practice, nutrition governance and education needs in primary care. Ethics approval was obtained from the Peter Mac Human Research Ethics Committee.

Recruitment

- A combination of convenience sampling and snowballing techniques were used for survey distribution. Hard-copy questionnaires were distributed to GPs and GPNs attending relevant GP/GPN forums during the time the survey was open. Online questionnaires were distributed via e-newsletters for relevant key stakeholder groups including:
  - PHNs
  - Australian Practice Nurse Association (APNA)
  - RACGP – Victorian Faculty
  - Primary Care Collaborative Cancer Clinical Trials Group
  - Victorian Primary Care Practice-based Research Network
  - Peter Mac GP placement program
  - Peter Mac and Eastern Health GP liaison officers.
- Twenty-two GPs and 10 GPNs completed the survey. Recruitment to the survey was slow and, despite an extension of the closing date and ethics amendment to allow an incentive for completing the survey, recruitment fell short of the target 40 respondents.

- Complete survey results can be found in Appendix 2.

Demographics

- The majority of respondents work within the North West Melbourne (*n* = 9, 28 per cent) and Western Victoria (*n* = 8, 25 per cent) PHNs; however, there were respondents from all six of the Victorian PHNs.

Survey results

Knowledge of cancer malnutrition

- Three-quarters of respondents rated their knowledge of cancer malnutrition as either poor or moderate (on a five-point scale). Only 6 per cent felt their knowledge of cancer malnutrition was very good.

Nutrition practice

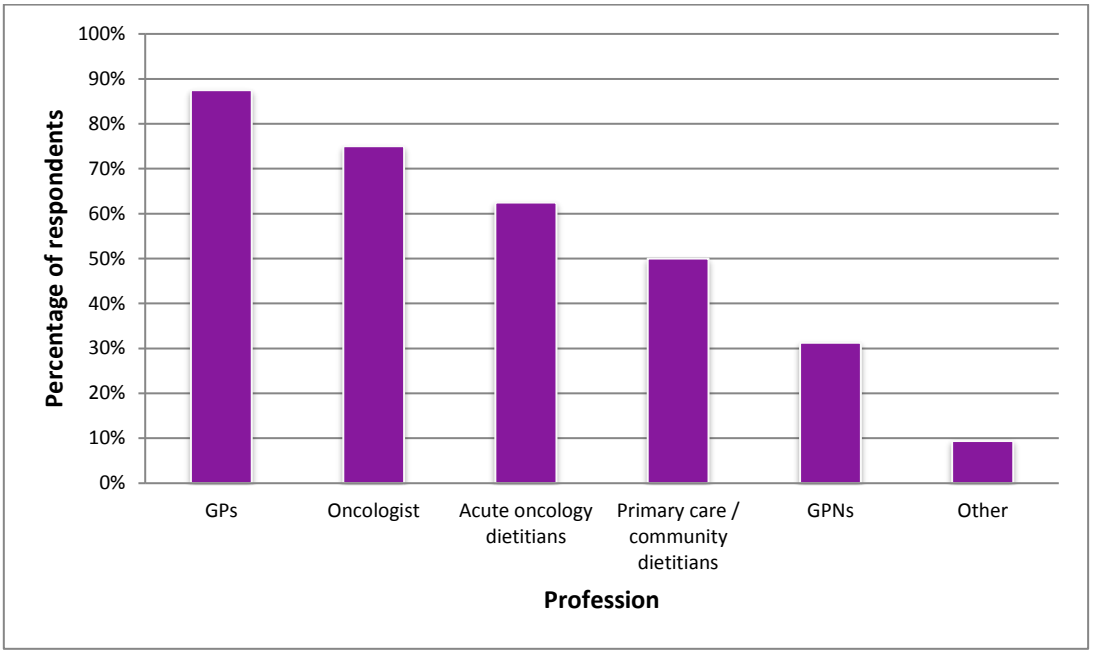
- To screen for nutrition risk, respondents very often or always ask patients about appetite (72 per cent) and recent weight loss (66 per cent) but less frequently weigh the patient (35 per cent) or calculate their BMI (32 per cent). Despite this, the majority (78 per cent) of GPs and GPNs believe there are patients with cancer malnutrition going unrecognised in their practice.
- Approximately half the respondents very often or always give nutrition advice, recommend nutrition supplements and refer patients to a dietitian.

Seventy-eight per cent of GPs and GPNs believe there are patients with cancer malnutrition going unrecognised in their practice.

Nutrition governance

- As seen in Figure 1, the majority (88 per cent) of respondents felt that GPs have primary responsibility for screening patients for cancer malnutrition. Respondents also felt oncologists (75 per cent) and acute oncology dietitians (63 per cent) have primary responsibility for screening patients for cancer malnutrition. Other professions listed included oncology nurses and chronic disease management nurses. Comments included: ‘Anyone in health care involved with patient care’ has responsibility for nutrition risk screening and ‘we would screen if we were seen as part of the cancer care team’.

Figure 1: Perspectives on primary responsibility for screening for cancer malnutrition



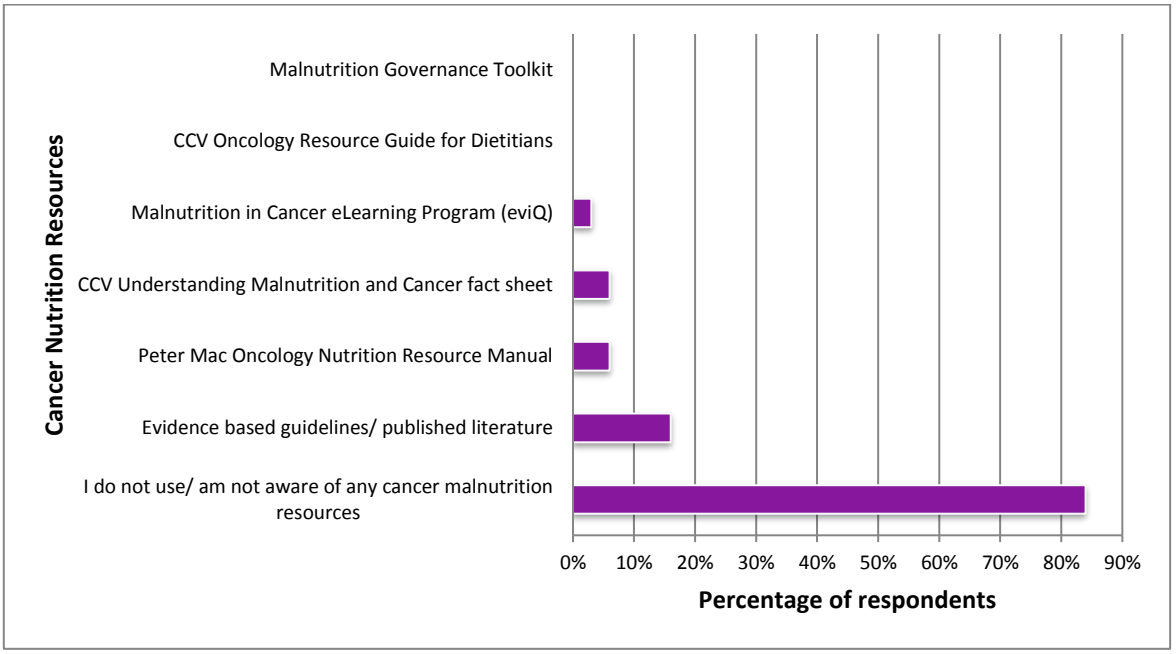
- Almost all (94 per cent) respondents would see benefit in having access to a malnutrition screening tool that could be used for all patients (not just cancer patients). Comments regarding nutrition screening tools included: 'It would need to be quick and easy to administer' and 'There should be benefit to the patient by way of gaining valid information for management options'.
- On a five-point scale, 44 per cent of respondents report they always or very often complete a chronic disease management plan for patients with cancer. One-third (35 per cent) of respondents reported that these chronic disease management plans always or very often include a team care arrangement with a dietitian.
- When asked if there were any barriers to referring patients to a dietitian, common responses included cost, limited availability and patient receptiveness.

Almost all (94 per cent) respondents would see benefit in having access to a malnutrition screening tool that could be used for all patients (not just cancer patients).

Education needs

- As shown in Figure 2, 84 per cent of respondents do not use or are not aware of any cancer malnutrition resources. Evidence-based guidelines or published literature were the most commonly used resources.
- The majority (91 per cent) of GPs and GPNs would like additional support, education or resources on cancer malnutrition. Popular formats for this support included a hard-copy resource (53 per cent), e-learning module (38 per cent) and an email with links to relevant resources (34 per cent).

Figure 2: General practitioner and general practice nurse use of cancer nutrition resources



Ninety-one per cent of GPs and GPNs would like additional support, education or resources on cancer malnutrition.

Survey of dietitians

Survey development

- A 24-item questionnaire was developed and piloted with input from the project team and steering committee. The questionnaire aimed to ascertain current knowledge, nutrition practice, nutrition governance and education needs regarding cancer malnutrition in the primary care and community sectors and referral practices of acute oncology dietitians to the primary care or community setting. Ethics approval was obtained from the Peter Mac Human Research Ethics Committee.

Recruitment

- Victorian dietitians working in either acute cancer services (*n* = 79) or the primary care / community sector (*n* = 151) were invited to participate in the online survey via email.
- A total of 162 dietitians completed the survey. Ten surveys were incomplete and therefore excluded from analysis, leaving a final sample size of *n* = 152. Complete survey results can be found in Appendix 3.

Demographics

- There was good representation from each of the sectors: acute oncology dietitians (*n* = 98), community health dietitians (*n* = 59), community rehabilitation dietitians (*n* = 25) and private practice dietitians (*n* = 30). Thirty-six dietitians worked across both acute and primary care sectors.
- On average, respondents had been practising as a dietitian for 11 years (standard deviation (SD) 8.8). Dietitians working in the primary care/community sector had been practising as a dietitian for longer than those in the acute sector (mean of 12.3 years versus 10.5 years). Overall the sample was evenly split between major city and regional locations. However, there were more primary care and community dietitians working in regional locations. Table 2 provides a summary of the demographic characteristics of the sample.

Table 2: Summary of demographic characteristics of dietitian sample

Demographic characteristic	Total	Acute	Primary care / community	Work across both sectors
Area of work	152	101	89	36

Years practising as a dietitian

Demographic characteristic	Total	Acute	Primary care / community	Work across both sectors
Range	0.3–42	1–39	0.3–42	0.3–42
Mean (SD)	11 SD 8.8	10.5 SD 8.3	12.3 SD 9.8	11.3 SD 9.1
Median (interquartile range)	9	9	9.9	8

ARIA+ Index

Demographic characteristic	Total	Acute	Primary care / community	Work across both sectors
Major city	86 (52%)	63 (60%)	38 (37%)	15 (35%)
Inner regional	56 (34%)	29 (28%)	46 (45%)	18 (42%)
Outer regional	21 (13%)	13 (12%)	19 (18%)	10 (23%)
Remote	2 (1%)	–	2 (3%)	–
Very remote	–	–	–	–

Survey results for primary care / community dietitians

Nutrition governance

- Sixty-nine per cent of dietitians said their service complies with performance standards for accreditation. Of the 10 per cent of respondents who felt their service does not comply with performance standards for accreditation, the majority worked in private practice where there is no formal accreditation process. Twenty per cent of dietitians were unsure, and these respondents were evenly spread across community health, community rehabilitation and private practice.
- When asked which performance standards their service complies with, seven different performance standards were cited, indicating that governance in the primary care and community sectors is unclear to dietitians working in the area. A summary of quality frameworks across the continuum of care can be found on page 33.

The majority of dietitians working in primary care/community care are unclear about what nutrition governance processes their service should comply with.

Nutrition risk screening

- Less than half (43 per cent) of respondents said their service routinely screens every new patient for nutrition risk. Respondents commented that despite the inclusion of nutrition risk screening in initial assessments, completion rates and accuracy of completion are poor.
- When responses were analysed for dietitians only working in community health, this figure was even lower, with only 26 per cent of respondents reporting their service routinely screens every new patient for nutrition risk.

- Of those services that routinely screen for nutrition risk, 69 per cent responded that they use a validated screening tool. The predominant screening tool used in the primary care and community settings was the MST (81 per cent), with a small number of services using MNA-SF (11 per cent), MUST (7 per cent) or the SCTT health and chronic conditions screen (4 per cent).
- Of those respondents whose service did not use a malnutrition screening tool, almost all reported their service uses the following flags within a common risk assessment:
  - obvious underweight/frailty
  - unintentional weight loss
  - reduced appetite
  - reduced food and fluid intake
  - problems with teeth or swallowing.

Sixty-three per cent of primary care / community dietitians believe there are patients with cancer malnutrition going unrecognised in their service.

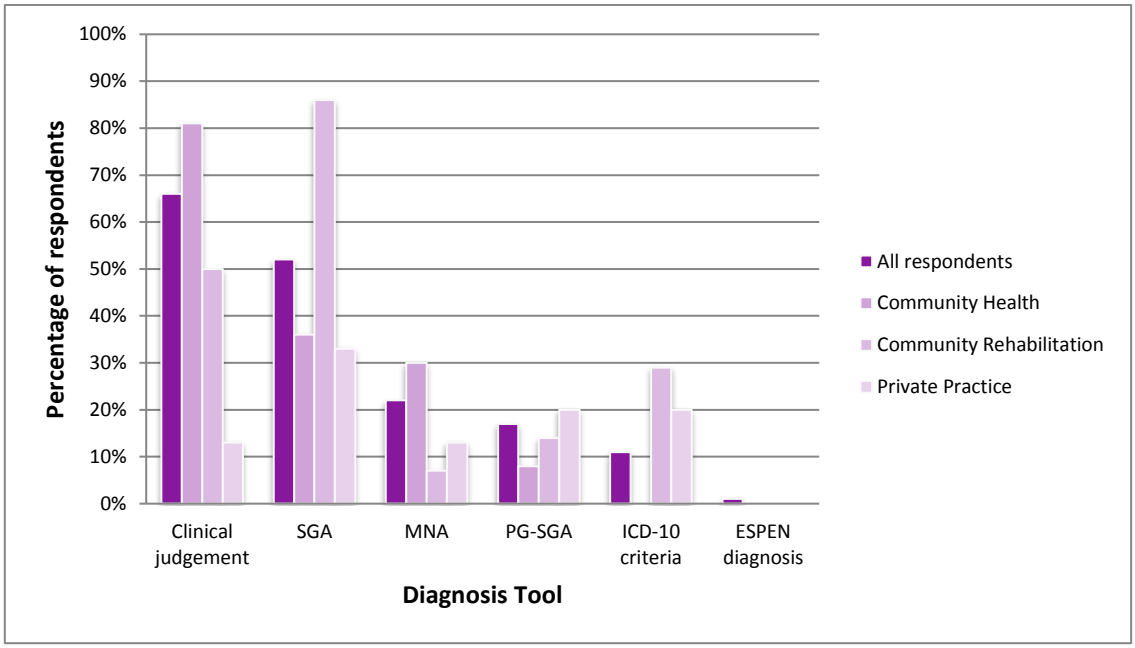
Nutrition assessment

- On a five-point scale, the majority of respondents reported they very often or always weigh patients on initial assessment (84 per cent) and subsequent review (79 per cent). The majority of respondents (74 per cent) very often or always calculate BMI on initial assessment. Respondents measure height less often, with many comments that a patient's reported height is considered accurate.

Malnutrition diagnosis

- As shown in Figure 3, when data from respondents only working in one sector were analysed, it can be seen that 86 per cent of dietitians working in community rehabilitation use the Subjective Global Assessment (SGA) to diagnose malnutrition, whereas 81 per cent of dietitians working in community health use clinical judgement. Dietitians working in private practice used a variety of tools.

Figure 3: Tools used to diagnose a patient with malnutrition, by sector



Education needs

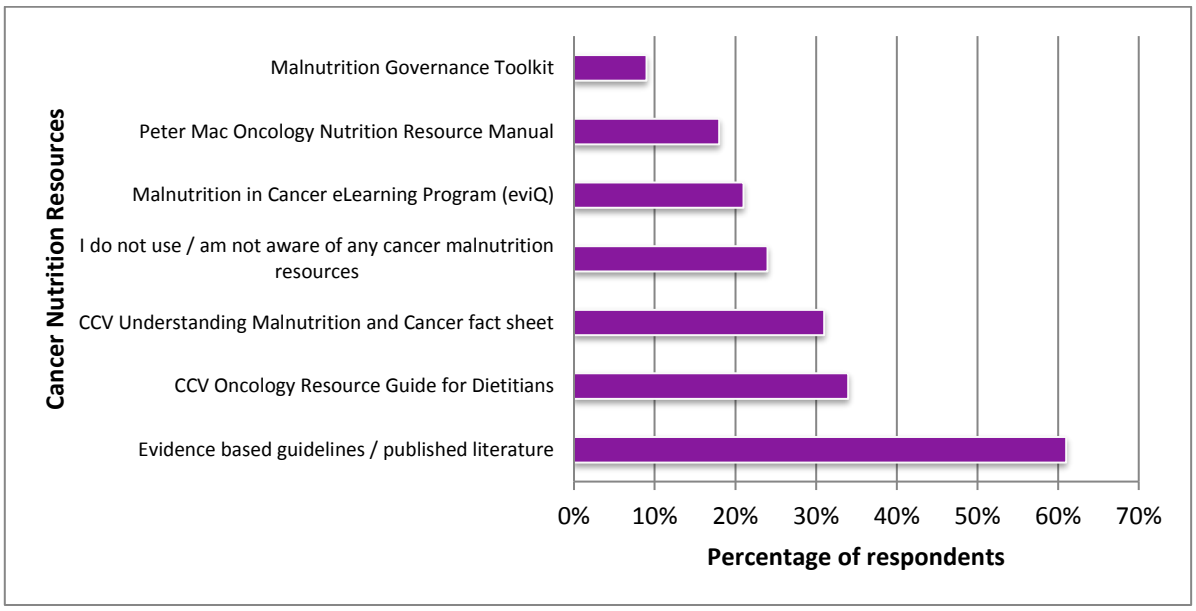
- To understand the education needs of primary care / community dietitians, respondents were asked if they have accessed any cancer-specific education resources. As outlined in Figure 4, 61 per cent reported using evidence-based guidelines or published literature. One-third had used the CCV

Oncology resource guide for community dietitians or the *Understanding malnutrition and cancer* fact sheet. Twenty-one per cent of respondents had used the Malnutrition in Cancer eLearning Program and only a small number (9 per cent) had used the *Malnutrition governance toolkit*. Approximately one-quarter (24 per cent) of primary care / community dietitians were not aware of specific cancer malnutrition education resources.

- Three-quarters of respondents reported they would like additional support or resources on cancer malnutrition. Popular formats for this support included webinars (45 per cent), e-learning modules (39 per cent), an email with links to relevant resources (38 per cent) and a hard-copy resource (31 per cent).

Seventy-five per cent of respondents reported they would like additional support or resources on cancer malnutrition.

Figure 4: Dietitian use of cancer nutrition resources



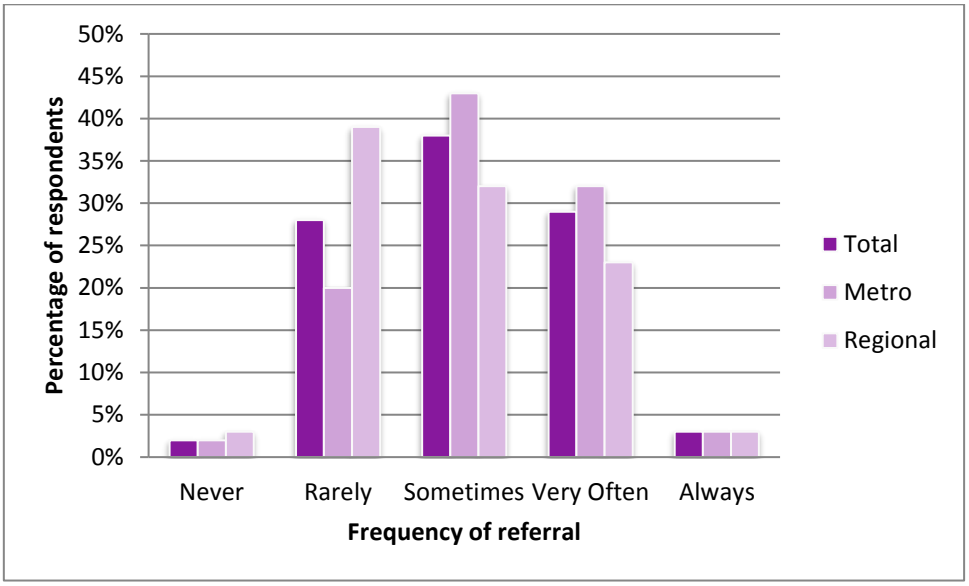
Survey results for acute oncology dietitians

Transfer of care

- To understand transitional care practices, acute oncology dietitians were asked how often they refer patients to dietitians working in primary or community care. As shown in Figure 5, when looking at all respondents, responses were evenly distributed, with 32 per cent of respondents always or very often referring to dietitians in the community, 39 per cent sometimes referring and 29 per cent rarely or never referring. Interestingly when results were analysed according to location, a greater proportion (42 per cent) of acute oncology dietitians working in regional or rural locations never or rarely refer to community dietitians compared with 22 per cent of oncology dietitians working in metropolitan cancer services.
- When a referral is made, acute oncology dietitians refer the majority of their patients to community health services (81 per cent); however, a large proportion are also being referred to dietitians working in community rehabilitation (45 per cent) and private practice (26 per cent). Acute oncology dietitians are not just referring to dietitians in the primary care and community sector. They also report referring to dietitians in other acute settings including oncology day clinics and outpatient clinics, and subacute settings such as rehabilitation units.
- The predominant reason that oncology dietitians do not refer patients to dietitians in the primary care and community sectors include: ‘patients at my health service are followed up in hospital

outpatients'; 'patients continue to receive phone reviews from my health service until stable'; 'complex care needs of patients'; 'time/resources required to make referral'; and 'long wait lists for community dietitian'.

Figure 5: Frequency of referral from acute oncology dietitians to dietitians working in primary care or community settings

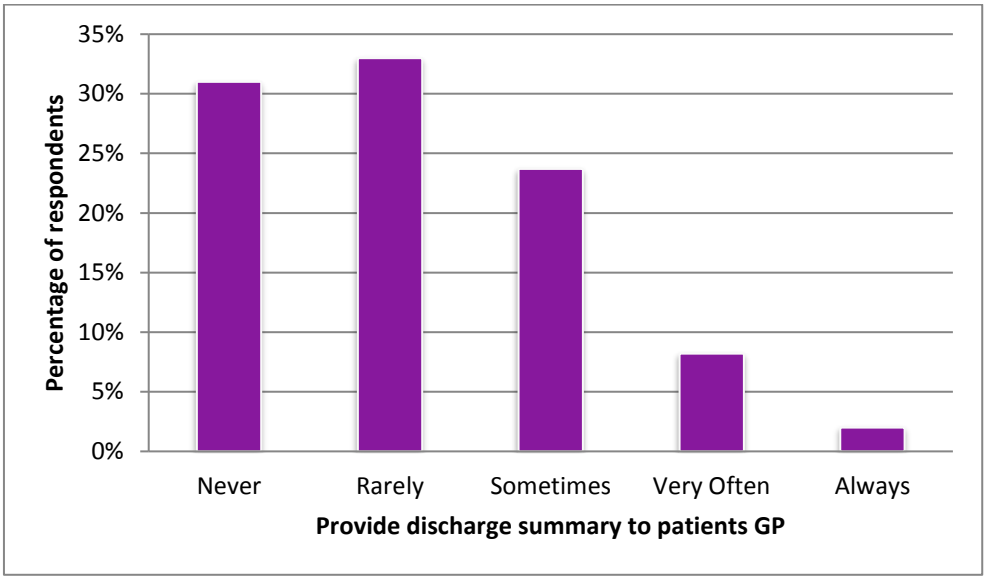


Reasons acute oncology dietitians do not refer to primary care / community dietitians include:

- patients are followed up in hospital outpatients
- patients receive phone reviews until stable
- complex care needs of patients
- time/resources required to make referral
- long wait lists for community dietitian.

- Acute oncology dietitians were asked how often they provide a nutrition discharge summary to the patients GP on discharge. Two-thirds (66 per cent) reported that they never or rarely provide a discharge summary (see Figure 6). Reasons included lack of time/resources, not standard practice, admission summary provided by treating medical team, and the patient does not require follow-up.

Figure 6: Provision of a nutrition discharge summary to the GP on discharge



Cancer rehabilitation programs

- Over half (54 per cent) of the acute oncology dietitians surveyed were aware there are a number of cancer rehabilitation programs running in Victoria. Of those dietitians who were aware of these programs, only 20 per cent had made a referral to one of these programs.
- Nearly all (95 per cent) acute oncology dietitians surveyed would like more information about cancer rehabilitation programs running in Victoria. Requested information regarding cancer rehabilitation programs included information about location, cost, waitlists, duration, eligibility criteria, access to a dietitian and how to refer.

Ninety-five per cent of acute oncology dietitians would like more information about cancer rehabilitation programs running in Victoria.

Stage 2: Package and translate cancer malnutrition

Brand development

- Items that require branding include:
  - emails (email banner)
  - fact sheets
  - e-newsletters
  - agendas and minutes
  - reports and documents
  - PowerPoint presentations, e-learning programs and webpages.
- After consultation with the communications team at Peter Mac and project steering committee, it was decided that branding for the MVCS program of work should consist of a ‘look and feel’ rather than a logo per se.
- A branding brief was developed in consultation with the project steering committee.

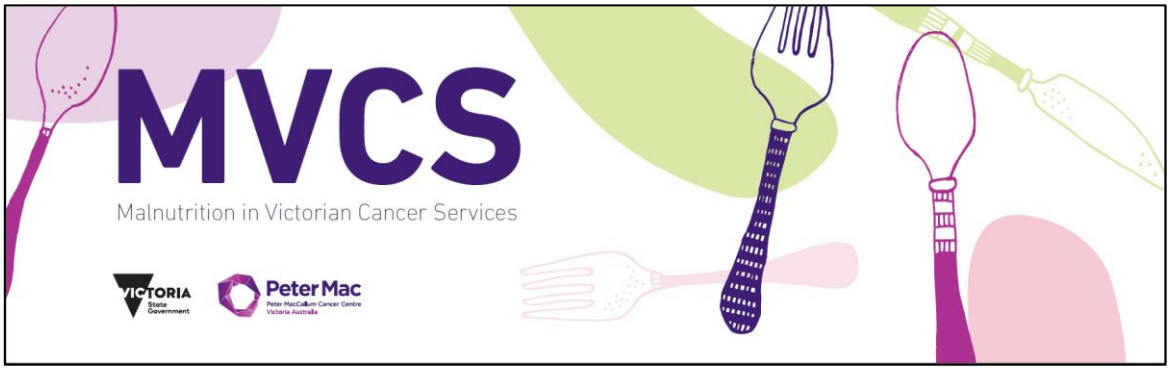
MVCS program branding brief

The MVCS program is:

- representing the management of malnutrition in cancer

- improving the delivery of multidisciplinary nutrition care
- improving nutrition practice across health sectors (hospitals, private and community care)
- providing a multi-organisation collaboration/connection across Victoria
- part of a program of work that has been progressing since 2011 including research, education, quality improvement and governance initiatives.

- A graphic design company (Green Scribble) was engaged to work on a potential 'look and feel'.
- Multiple concepts were developed, the first four concepts had a focus on food or eating (see example below).



- After discussion with the Peter Mac project team and project steering committee it was decided that the branding should focus more on collaboration and connection, rather than food or eating. The concept put forward to the designer was 'coming to the table', as the table it a place to both eat and collaborate.
- The name of the program of work has also been revised to the Victorian Cancer Malnutrition Collaborative (VCMC), given the program is now focusing of the management of cancer malnutrition across the continuum of care.
- The final choice of a 'look and feel' was by consensus of the Peter Mac project team, project steering committee and the department.

Final VCMC branding concept

Development of a cancer malnutrition resource package for clinicians working in primary and community care

The survey of acute oncology dietitians identified that the transfer of care of malnourished patients to the primary care and community sectors after completing treatment is poor. To assist with continuity of care, a directory of Victorian community dietetic services has been developed to support acute oncology dietitians with discharge planning (detailed in Table 3).

Table 3: New dietitian resource

Resource	Target audience	Content
Directory of Victorian community dietetic services	Acute oncology dietitians working in Victoria (A link to the resource will be included on the Peter Mac MVCS program page)	• An infographic outlining options for the nutrition care of cancer patients beyond hospital (see Appendix 5) • Information on cancer rehabilitation programs and the availability of a dietitian within these programs (group and/or individual) • Information about Victorian community rehabilitation, community health services, private practice dietitians and CCV programs

Existing MVCS resources were planned for modification to meet the needs of clinicians working with cancer patients in the primary care and community sectors within the project timeframe; however, more appropriate processes/projects in which to complete this work have been identified. A detailed plan, outlining suggested modifications and how/when this work will be completed is outlined in Table 4.

Table 4: Existing education resources

Resource	Suggested modification	Plan for completion of work
Malnutrition in Cancer eLearning Program	**General practice module:** • Rename to 'Primary care module' to target both GPs and GPNs • Addition of a shorter module • Greater community focus • Make it less acute-focused (take out information on malnutrition coding, PG-SGA) • Include more practical advice that a GP/GPN can give on a nourishing diet • Add information on how to find a community dietitian • Seek RACGP and APNA accreditation **Dietitian module:** • Include a link to the CCV *Oncology resource guide for dietitians* • Consider the benefit of a primary care / community module • Look at governance in the primary care / community setting • Focus on transition to survivorship	**Who:** Lauren Atkins, Dietitian, Peter Mac **Project:** Planned Malnutrition in Cancer eLearning Program content update **When:** May–Dec 2018
Malnutrition governance toolkit	**1. Update existing toolkit:** • Survey past contributors and end users • Update exemplar policy and technical documents	**Who:** St Vincent's Hospital **When:**

Resource	Suggested modification	Plan for completion of work
	• Update in line with the second edition of the NSQHS Standards • Focus on malnutrition coding and documentation guidelines **2. Add primary / community care chapter:** • Nutrition governance in primary / community care transition of care (with examples of nutrition discharge letters to GP) • Engage primary care / community stakeholders to collect exemplar documents and initiatives	Planning underway
MVCS promotional video	• Addition of MVCS branding • To be launched after the update of the Malnutrition in Cancer eLearning Program and *Malnutrition governance toolkit*	**Who:** Lifebuoy Video **Cost:** $660 (inclusive of GST)
Understanding malnutrition and cancer fact sheet	• Is the content appropriate to be used as an education resource by dietitians? • Is it suitable for culturally diverse patients? • Is the content suitable to be used by GPs/GPNs?	**Who:** Jane Stewart, Dietitian, Peter Mac **Project:** Cultural adaptation of MST project **When:** Aug 2018 – Aug 2019

- This project has identified a number of new resources that would help identify and manage cancer malnutrition across the continuum of care. A detailed plan for their development is outlined in Table 5.

Table 5: Proposed new health professional education resources

Resource	Content	Plan for completion of work
Cancer malnutrition pathway for primary care	• Develop a cancer malnutrition management pathway specifically for GPs and GPNs • Consider both a paper-based and web-based (health pathways) tool	**Who:** Project manager **Project:** Optimising the Cancer Nutrition Path project **When:** Aug 2018 – Oct 2019
Understanding malnutrition and cancer fact sheet for health professionals	• Use the current patient fact sheet and modify it to meet the needs of health professionals • Consider including the MST (or link to the web-based tool developed in the project for culturally diverse patients)	**Who:** Project manager **Project:** Optimising the Cancer Nutrition Path project **When:** Aug 2018 – Oct 2019

Resource	Content	Plan for completion of work
Practical nutrition advice for GPs and GPNs	• Consider developing a fact sheet including practical nutrition strategies that GPs and GPNs can use with their patients	**Who:** Project manager **Project:** Optimising the Cancer Nutrition Path project **When:** Aug 2018 – Oct 2019

Implementation plan for disseminating the cancer malnutrition resource package for primary and community care

Table 6 outlines a plan for promoting and implementing the resource package completed as part of this project.

Table 6: Plan to promote and implement the resource package

Target audience	Agency	Action	Person responsible
Primary care / community dietitians	Community health services and community rehabilitation	Email with links to resources	Jane Stewart, email to be sent after the August Community of Practice
	Private practice	Email with links to resources	
	Victorian nutrition managers	Email with links to resources	
	Dietitians Association of Australia (DAA)	DAA weekly newsletter – link to Malnutrition in Cancer eLearning Program Promote in the Oncology discussion forum Plan to present project at 2019 DAA national conference	Jane Stewart, draft article to be completed June 2018 Peter Mac project team Jane Stewart
	Dietitian Connection	Investigate option for advertising or feature article	Jane Stewart
	Education in Nutrition	Investigate option for advertising or feature article	
Allied health professionals working in primary care / community sector	Occupational Therapy Australia Australian Physiotherapy Association Speech Pathology Australia Australian Association of Social Workers Australian Psychological Society	Investigate options for news article	Jane Stewart

Community and primary healthcare nurses	Bolton Clarke (Royal District Nursing Service)	Submit news article	Jane Stewart, draft article to be completed June 2018
	APNA	Submit article for the e-newsletter / *Primary Times* magazine Present project at 2019 APNA national conference	Jane Stewart, draft article to be completed June 2018 Jane Stewart
GPs	RACGP	Submit article for the e-newsletter	Jane Stewart, draft article to be completed June 2018
	HealthEd GP newsletter	Submit an article to the newsletter	
GP liaison officers	Community Health Services	Distribute a letter advertising the resource package to GP liaison officers via the practice manager of every Victorian community health centre	Jane Stewart, August 2018
Clinicians working in community and primary care	CCV	Confirm opportunities for promotion and distribution of MVCS resources to GPs/GPNs via the I-PACED project	Jane Stewart
	Primary Health Networks	Upload resources onto health pathways Melbourne oncology resources page	Jane Stewart to liaise with NWM PHN clinical editor when updated resources complete
	Victorian Comprehensive Cancer Centre	Add links to resources in the Cancer Survivorship for Primary Care Professionals Massive Open Online Course	Jenelle Loeliger to liaise with project team once updated resources complete

Platform for resources

- Update the Cancer Strategy and Development 'Cancer projects' page (Department of Health and Human Services website) to include links to:
  - Malnutrition in Cancer eLearning Program
  - *Malnutrition governance toolkit*
  - MVCS promotional video
  - CCV *Understanding malnutrition and cancer* fact sheet for patients
- Update the Peter Mac MVCS program page to include links to:
  - Malnutrition in Cancer eLearning Program
  - *Malnutrition governance toolkit*
  - MVCS promotional video
  - CCV *Understanding malnutrition and cancer* fact sheet for patients
  - CCV *Understanding malnutrition and cancer* fact sheet for clinicians
  - CCV *Oncology resource guide for dietitians*
  - electronic version of the MST (both English and culturally adapted versions)

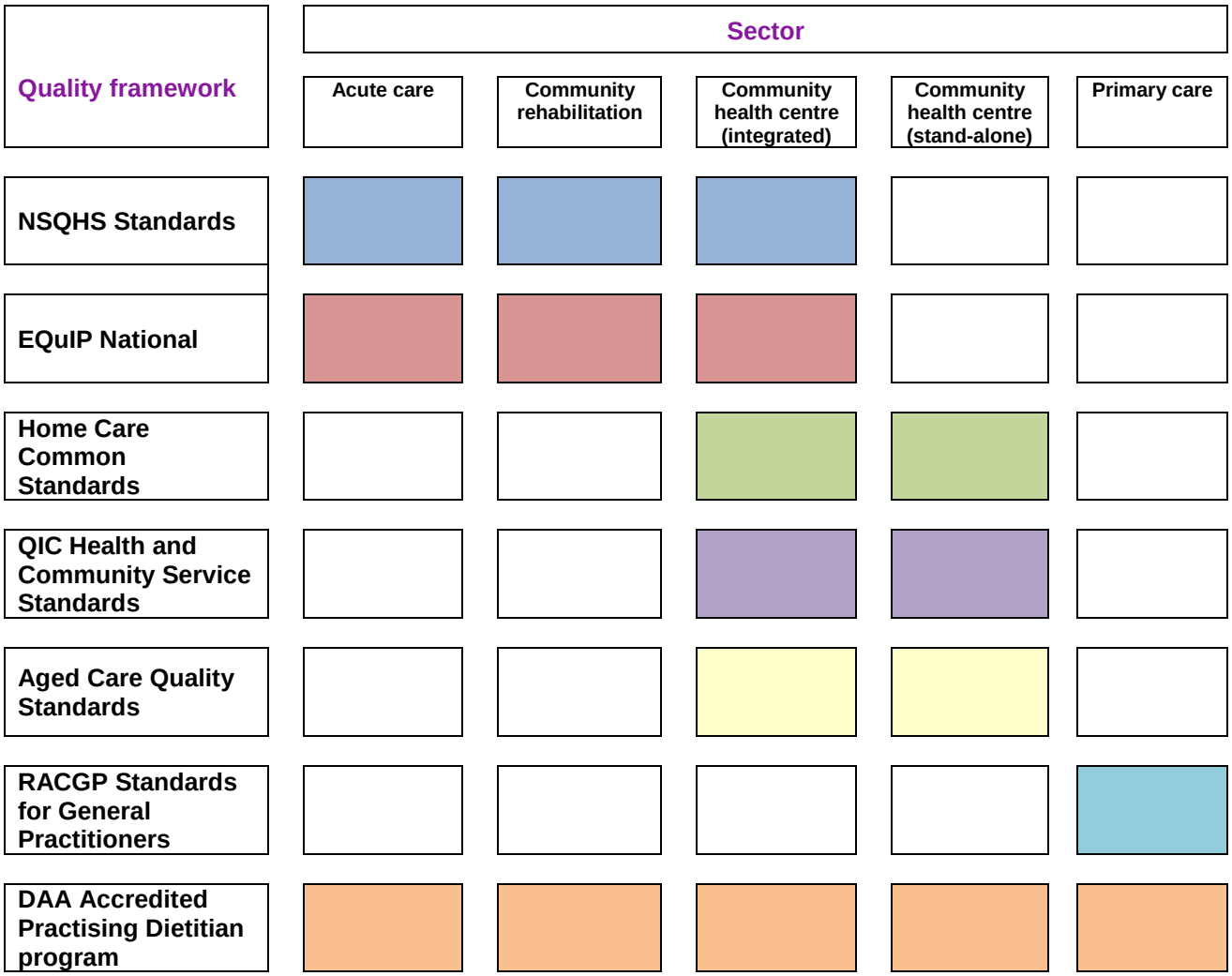
- Request links to the following resources be added to the Health Pathways Melbourne cancer resources page:
  - Malnutrition in Cancer eLearning Program
  - CCV *Understanding malnutrition and cancer* fact sheet for patients
  - CCV *Understanding malnutrition and cancer* fact sheet for clinicians
  - electronic version of the MST (both English and culturally adapted versions)

Stage 3: Transform cancer malnutrition

Summary of quality frameworks across the continuum of care

In Australia there are a number of quality frameworks that apply to different health sectors across the continuum of care. Figure 7 provides a summary of these frameworks and indicates the sectors for which they apply.

Figure 7: Quality frameworks across the continuum of care



Summary of quality frameworks and nutrition care standards

Table 7 summarises the nutrition standards included within relevant quality frameworks across the continuum of care.

Table 7: Nutrition standards included within relevant quality frameworks

Quality framework	Sector	Voluntary/ mandatory	Nutrition standard
NSQHS Standard 2nd edition [36] (ACSQHC) Effective 1 Jan 2019	All health services providing acute and subacute care	Mandatory	• Conduct screening on admission and weekly during an episode of care, if care changes, or if the patient's condition changes • Consider nutrition risk such as malnutrition and dehydration, dysphagia, special dietary needs, food intolerance or allergy • A comprehensive nutrition assessment is completed (in partnership with the patient, carers and families) for those patients identified as at nutrition risk • Document the results of nutrition risk screening and assessment • Ensure that the nutrition care for each patient is planned and documented • Consider the need for nutritional support such as oral nutrition supplements, enteral or parenteral nutrition
EQuIP National [37] (ACHS)	Hospitals and day procedure centres	Voluntary	• Includes the 10 NSQHS standards, with an additional five standards focusing on the performance of non-clinical systems • See above for NSQHS nutrition standards
QIC Health and Community Service Standards 7th edition [38] (QIP)	Community-based services	Voluntary	• No nutrition standards
Home Care Common Standards v 14 [39] (AACQA)	All HACC-funded services	Mandatory	• No specific nutrition standard • Standard 2.2 – Assessment • Each service user participates in an assessment appropriate to the complexity of their needs and with consideration of their cultural and linguistic diversity • Superseded by the Aged Care Quality Standards on 1 July 2018
Residential Aged Care Standards [40] (AACQA)	All providers of residential aged care	Mandatory	• Standard 2.10 – Nutrition and Hydration • Care recipients receive adequate nourishment and hydration • Superseded by the Aged Care Quality Standards on 1 July 2018

Quality framework	Sector	Voluntary/ mandatory	Nutrition standard
Aged Care Quality Standards [41] (AACQA) Effective 1 July 2018	All providers of residential, transitional and home-based aged care	Mandatory	• No nutrition standard – DAA working to get nutrition/malnutrition included in supporting documents • Standard 3.3 – Effective management of high-impact or high-prevalence risks associated with the care of each consumer
National Aged Care Quality Indicator Program [42] (My Aged Care)	All providers of residential aged care	Voluntary	• Three quality indicators focusing on clinical areas • Quality Indicator 3 – Unplanned weight loss • Measure 1: Significant unplanned weight loss • Measure 2: Consecutive unplanned weight loss
RACGP Standards for General Practitioners 5th edition [43] (AGPAL)	All general practices	Mandatory	• No nutrition standards
Accredited Practicing Dietitian Program (DAA)	All practising dietitians	Voluntary	• No nutrition standards

Summary of Australian and international nutrition performance measures for health services

Within Victoria there are no centralised state-led performance measures for nutrition. Most health services will have local quality programs in place reporting on the nutrition care of their patients; however, these vary between health services.

Examples of centralised state or national nutrition performance measures have been outlined in Tables 8 and 9.

Table 8: Australian nutrition performance measures for health services

Organisation	Performance measure	Voluntary / mandatory	Data source
Nutrition care policy (NSW) [44]	The policy has a number of mandatory requirements: • height/length and weight assessment • malnutrition screening • nutrition assessment of all malnourished or at-risk patients • documentation of a nutrition care plan • minimising fasting times • planning and delivery of food and fluids • mealtime environment/assistant to eat and drink • transfer of care • a system to evaluate nutrition is provided including reporting on: height and weight	Mandatory	Manual audit

Organisation	Performance measure	Voluntary / mandatory	Data source
	documentation; nutrition screening and assessment		
Bedside audit tool (Qld)	Percentage of patients who have: • admission weight documented • length of stay (LOS) > 7 days with follow-up weight documented • nutrition risk screening completed on admission • repeat nutrition risk screen completed when LOS > 7 days • been identified as at risk and have nutritional needs documented in their care plan • been identified as at risk with a hospital-acquired pressure injury • reported receiving the assistance needed with their last meal • reported missing a meal in the past 24 hours	Voluntary	Manual audit

Table 9: International nutrition performance measures for health services

Organisation	Performance measure	Voluntary / mandatory	Data source
British Association of Parenteral and Enteral Nutrition (UK) [45]	Nutrition care tool: • The individual was screened with a validated screening tool ('MUST') on entry to care setting • The individual was re-screened with a validated screening tool ('MUST') at the time interval (weekly, monthly) appropriate to the care setting • Individuals found to be at risk on their last nutritional screening have a documented nutrition care plan appropriate to the organisation and setting • An appropriate nutrition care plan is being followed or has been offered to the individual • The patient's weight in kilograms is recorded at the time of survey • Has the patient received all the food and drink and/or nutritional care they have needed? • Has the patient received assistance to eat and drink if required?	Voluntary	Manual audit
Academy of Nutrition and Dietetics (USA) [46]	Electronic clinical quality measures used by The Centers for Medicare and Medicaid Services: • Completion of a malnutrition screening within 24 hours of admission	Mandatory	Electronic Medical Records

Organisation	Performance measure	Voluntary / mandatory	Data source
	• Completion of a nutrition assessment for patients identified as at risk for malnutrition within 24 hours of a malnutrition screening • Nutrition care plan for patients identified as malnourished after a completed nutrition assessment • Appropriate documentation of a malnutrition diagnosis		
Dutch Malnutrition Steering Group (Netherlands) [47]	National clinical indicators • Malnutrition screening: All patients ≥ 18 years need to be screened within 24 hours after admission. Screening should be performed with a validated screening tool • Treatment of malnutrition: The percentage of malnourished patients with an adequate protein intake (defined as: 1.2 – 1.5 grams/per kg/day) at the fourth day of hospital admission	Mandatory	Manual audit
Canadian Malnutrition Task Force (Canada) [48]	Integrated Nutrition Pathway for Acute Care (INPAC) audit tool: • All patients screened within 24 hours of admission • All patients identified to be at nutrition risk are assessed using SGA to confirm diagnosis of malnutrition • All malnourished patients receive a comprehensive nutrition assessment conducted by a dietitian • All patients have their food intake monitored • All patients have their weight recorded weekly • All malnourished patients who do not fully recover their nutritional status during their admission require ongoing care in the community (discharge planning)	Voluntary	Manual audit

Suggested nutrition care standards for Victoria

Based on current practice in Victoria and investigation into existing standards in other jurisdictions (nationally and internationally) the following nutrition care standards have been proposed:

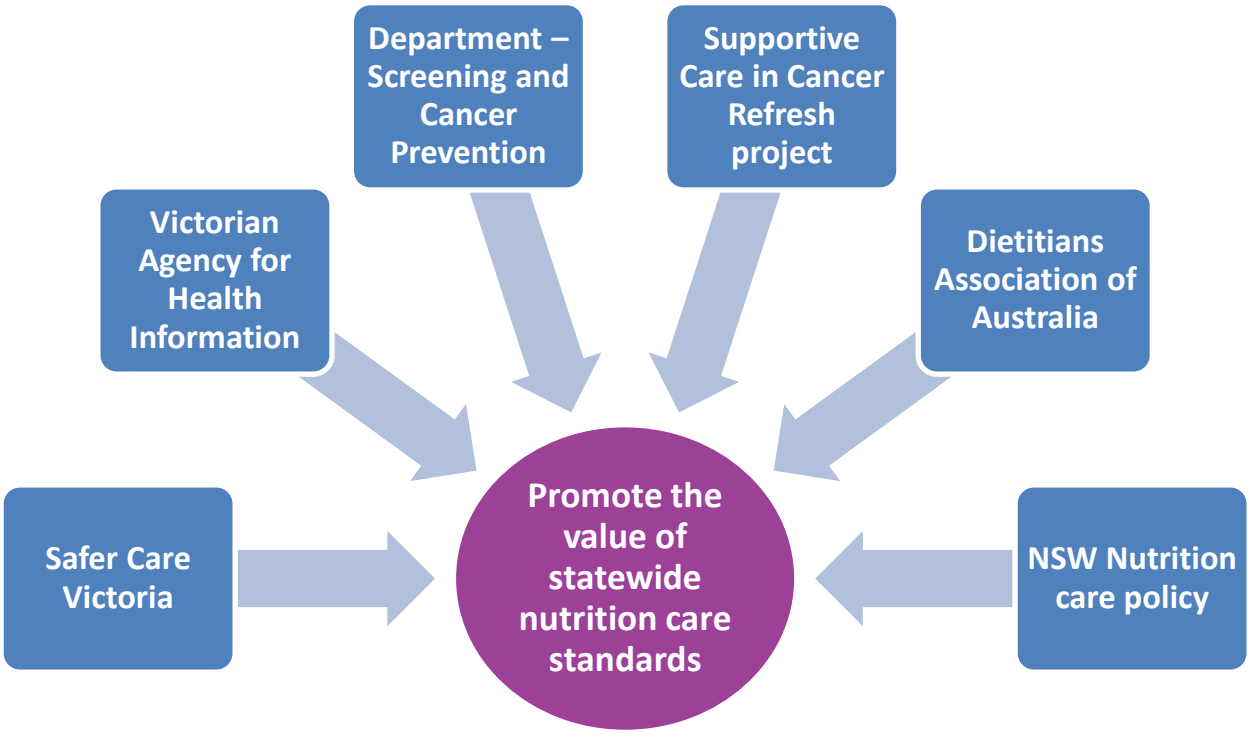
1. All patients screened for malnutrition using a validated tool within 24 hours of admission and weekly during admission thereafter.
2. All patients at risk of malnutrition should have a documented nutrition care plan in place within 24 hours of malnutrition screening.
3. All malnourished patients should have a diagnosis of malnutrition appropriately documented in their medical record.

4. All malnourished patients who do not fully recover their nutritional status during their admission require ongoing care in the community.

Promote the value of statewide nutrition care standards

During the course of this project a number of key stakeholder groups have been engaged to promote the value of statewide nutrition care standards (outlined in Figure 8). A summary of actions undertaken to promote the value of statewide nutrition care standards can be found in Appendix 4.

Figure 8: Key stakeholders relating to statewide nutrition care standards



Key outcomes

- A number of meetings have taken place to raise the profile of malnutrition as a quality and safety issue within SCV and the Victorian Agency for Health Information (VAHI). It has become apparent that before developing a statewide malnutrition clinical indicator, the data source for this indicator needs to be considered. In Victoria the only centralised statewide dataset that includes nutrition information is the Victorian Admitted Episode Dataset (VAED). The nutrition data available in the VAED includes:
  - the number of patients coded as having malnutrition
  - the number of patients who received care by a dietitian.
- Unfortunately, there are known issues with the integrity of the malnutrition coding data in the VAED. Alongside the MVCS cancer malnutrition point prevalence study conducted in 2012, the percentage of patients coded in the VAED as having malnutrition was analysed for a matched cohort within the same financial year. While the prevalence of malnutrition for inpatients in the point prevalence study was 57 per cent, only 7 per cent of patients from the VAED matched cohort were coded as having malnutrition [49]. Multiple factors were identified as contributing to this including: malnutrition screening; referral to a dietitian; assessment by a dietitian and diagnosis of malnutrition; appropriate

documentation of malnutrition; and coding for malnutrition. There is no recent data regarding the accuracy of VAED coding for malnutrition.

- A malnutrition performance indicator has been included within the *Victorian cancer plan monitoring and evaluation framework*. This is a significant step forward because the prevalence of cancer malnutrition (as captured by VAED malnutrition coding) will now be reported on for every Victorian cancer service within this framework. The indicator is as follows:

Indicator	The prevalence of malnutrition in cancer patients	
Measure	Proportion of patients admitted for primary cancer treatment who have been coded as having malnutrition	
Definition	*Numerator:*	Number of adults aged 18 years or older admitted as acute care inpatients for primary cancer treatment or related care who were coded as having malnutrition.
	Denominator:	Number of adults aged 18 years or older admitted as acute care inpatients for primary cancer treatment or related care
	Mode:	Proportion

- Further discussions have occurred since the submission of the above indicator with the senior health information management advisor at VAHI, who has indicated the wording of this measure should be revised to ensure that only data for patients admitted to an inpatient ward (not chemotherapy day patients) is extracted from the VAED. The revised wording is outlined below and will be further discussed with the department's Screening and Cancer Prevention Unit.

Measure	Proportion of admitted cancer patients with an LOS > 1 day who have been coded as having malnutrition	
Definition	*Numerator:*	Number of acute separations of adults aged 18 years with a cancer code as either the principal diagnosis or an additional diagnosis and a malnutrition code
	Denominator:	Number of acute separations of adults aged 18 years with a cancer code as either the principal diagnosis or an additional diagnosis

- There is broad agreement from the MVCS Community of Practice (CoP) and key stakeholders within the department that developing a nutrition care policy for Victoria could be beneficial and should be investigated further. This will be pursued further with SCV.

4.2 Wins and gains

- Engagement by dietitians across all sectors was excellent and the response rate to the dietitian survey exceeded expectations. Using mail merge to send out personalised emails inviting dietitians to participate in the survey appears to be a highly effective mechanism for survey recruitment.
- Both dietitian and GP/GPN surveys were effective in highlighting gaps in practice – most notably, the transition of nutrition care between acute and community sectors is poor.
- Great stakeholder engagement, including engagement of steering committee members. A great achievement was the number of different avenues identified for including nutrition care standards within quality frameworks.
- Opportunities to promote awareness of malnutrition as a general health concern and improve clinical care by using cancer malnutrition as an example of a particularly high risk and vulnerable group. The findings of this project can be applied more broadly and are transferrable to other patient populations.

4.3 Issues and challenges

- Engagement of GPs and GPNs proved to be difficult, resulting in a survey response rate below target. Even with the addition of an incentive for participants, advertising in e-newsletters of key stakeholder groups proved reasonably inefficient. Recruitment of participants attending education events was far more effective (which was identified in the planning stage); however, limited education events were delivered during the time the survey was open.
- The task of promoting the value of statewide malnutrition performance indicators has proved challenging, given the limited choices for a centralised statewide data source. The performance measure included within the *Victorian cancer plan monitoring and evaluation framework*, using data from the VAED, is a step in the right direction in holding Victorian cancer services accountable for identifying and managing malnourished patients. At this time, the preferred malnutrition performance indicators cannot be implemented because no centralised data source exists containing this level of nutrition information. Further investigation is needed

Section 5: Future directions

5.1 Sustainability

- Results from the dietitian and GP/GPN surveys have already been used to inform the next MVCS project 'Co-design of a cancer nutrition care pathway', and some details from the survey results will help to inform the direction of this new project.
- Relationships have been built with key stakeholders from organisations such as SCV and VAHI and progress made with submissions such as the *Prolonged fasting clinical advisory* (Appendix 6). The Peter Mac project team will continue to progress recommendations for the malnutrition performance measure within the *Victorian cancer plan monitoring and evaluation framework*.
- The August MVCS CoP will attempt to engage dietitians working with malnourished cancer patients across the continuum of care. The MVCS CoP will therefore provide an ongoing avenue to promote the MVCS resource package for clinicians working in primary and community care and further progress this program of work.
- Conference presentations and dissemination of findings will occur according to the dissemination plan. In addition, submitting a manuscript summarising the findings of this project to relevant journals is planned to ensure broad dissemination and sharing of results.

5.2 Next steps for project locally

- The project lead will submit an annual progress report to the Peter Mac Ethics Committee for the dietitian and GP/GPN survey component of the project.
- The project results will be presented at the August MVCS CoP meeting.
- An abstract will be submitted for the Clinical Oncological Society of Australia (COSA) 2018 Annual Scientific Meeting and the Dietitians Association of Australian (DAA) 2019 annual conference with a focus on managing cancer malnutrition in the primary care and community settings.
- Opportunities to present this project at other suitable conferences will be pursued as they are identified, such as the Australian Practice Nurse Association 2019 annual conference and the RACGP Conference for General Practice (GP19).
- The project manager is available to support the modification and branding of existing MVCS resources and implementation of the resource package.
- The Peter Mac project team will be available for ongoing work regarding promoting the value of appropriate malnutrition clinical indicators.

Section 6: Overview of project impact

6.1 Impact of project

This project has highlighted that:

- Clinicians working in the primary care and community sector would benefit from targeted education regarding cancer malnutrition.
- The transition of care of at risk and/or malnourished cancer patients post treatment from the acute sector to primary care and community sectors is poor and improvements are needed.
- Nutrition governance in the primary care and community sector is lacking and clinicians are unclear about current practice.

6.2 Summary of key learnings

Management of cancer malnutrition in primary care and community settings

- GPs and GPNs have limited knowledge of cancer malnutrition, and the majority (91 per cent) would like additional support, education or resources on cancer malnutrition.
- Eighty-eight per cent of GPs and GPNs believe they should have primary responsibility for screening patients for malnutrition, and almost all (94 per cent) would see benefit in having access to a validated malnutrition screening tool to help assess a patient's nutrition risk.
- Nutrition risk screening is routinely completed on initial presentation in less than half (43 per cent) of services in the community sector. When nutrition risk screening is completed, the Malnutrition Screening Tool (MST) is the screening tool predominantly used.
- Seventy-eight per cent of GPs and GPNs and 63 per cent of dietitians working in primary care or community settings believe there are patients with cancer malnutrition going unrecognised in their service.
- Despite there being a range of cancer malnutrition education resources specifically for dietitians, these resources are poorly accessed by dietitians working in primary care and community settings, with a quarter of dietitians surveyed not aware of these resources. The majority (75 per cent) of respondents reported they would like additional support or resources on cancer malnutrition.
- Only a small number (9 per cent) of dietitians working in the primary care and community sectors reported using the *Malnutrition governance toolkit*. This is not surprising because the tool was developed for health service clinicians and has an acute health service focus.
- Nutrition governance in the primary care and community sectors is complicated. There are a number of quality frameworks for this sector; however, only those community health centres and community rehabilitation services integrated with a health service are required to meet nutrition care standards.

Transition of care post treatment

- Thirty per cent of acute oncology dietitians rarely or never refer their patients to dietitians in the primary care or community sector. Approximately half of respondents reported providing follow-up care in outpatient clinics or over the phone. Reasons for not referring patients to dietitians in the primary care and community sectors include the complex care needs of patients, the time/resources required to make the referral, long wait lists and because they don't know where to refer.
- Only 54 per cent of acute oncology dietitians were aware of cancer rehabilitation programs running in Victoria, and only 20 per cent of dietitians who were aware of these programs have made a referral.

- GPs are unlikely to receive nutrition information for malnourished cancer patients at the completion of treatment, with two-thirds of acute oncology dietitians reporting they never or rarely provide a discharge summary to GPs.

Cancer malnutrition education resources for the primary care and community sectors

- Existing MVCS education resources require modification and targeting for the primary care and community sectors.

Transform cancer malnutrition

- The nutrition information captured by the VAED is the only centralised statewide data source that can be used to develop statewide nutrition performance indicators.
- A malnutrition performance indicator has been included within the *Victorian cancer plan monitoring and evaluation framework*.
- Ongoing work is required to promote the value of statewide malnutrition performance indicators and the development of a nutrition care policy for Victoria.

6.3 Recommendations

1. Efforts should be made to improve the identification of nutrition risk and management of malnutrition in general practice. This should include improving access to a validated malnutrition screening tool and implementing appropriate malnutrition risk screening at first presentation to general practice and on transition back into primary care after treatment. Malnutrition management could be improved by promoting the use of chronic disease management plans and incorporating team care arrangements with dietitians to better support the nutritional management of malnourished patients in primary care.
2. Improvements must be made to improve the transition of nutrition care for patients with cancer malnutrition between sectors. Acute oncology dietitians should be encouraged to provide GPs with nutrition information on discharge and supported to refer appropriate patients into the primary care and community sectors upon completion of treatment. It is important to capture the voice of patients with cancer malnutrition and their carers to better define what consumers want regarding their nutrition care. The co-design of a cancer nutrition care pathway within the next MVCS project will help achieve this and should assist in giving clinicians the knowledge and confidence to know how (and in which setting) patients with cancer malnutrition should be managed.
3. There is a need for targeted cancer malnutrition education resources for health professionals working in the primary care and community sector. This includes: specific general practice and community modules within the Malnutrition in Cancer eLearning Program; and development of an *Understanding malnutrition and cancer for health professionals* fact sheet (incorporating a malnutrition screening tool) that can be used for any clinician working with cancer patients, but will specifically fill a need for health professionals working in primary care.
4. Further work should be undertaken to better understand the data gaps between the percentage of patients coded for malnutrition in the VAED and the actual prevalence of malnutrition. This could be investigated alongside the 2018 cancer malnutrition point prevalence study.
5. Continue to explore possibilities for a statewide malnutrition clinical indicator and the development of a nutrition care policy for Victoria; and work with relevant bodies to ensure that nutrition care standards are included within quality frameworks relevant to the primary care and community sectors.
6. Leverage what we now know and have learnt regarding cancer malnutrition to other high-risk groups and/or the general population.

Appendix 1: Communication strategy

Communication actions	Tasks	Key messages	Target audience	Target completion date	Responsibility
Access to project documents	All relevant project documents to be circulated to steering committee members via email	Documents may include project plan, meeting minutes, project reports	Project steering committee	As project documents completed	Jane Stewart
Cancer Strategy and Development (Department of Health and Human Services)	Oversight of project and achievement of project deliverables	Discuss project progress, problems and questions Clarify responsibilities of stakeholders	Marita Reed	Monthly	Jane Stewart / Jenelle Loeliger
Peter Mac project team	Oversight of project and achievement of project deliverables	Discuss project progress, problems and questions Clarify responsibilities of stakeholders	Peter Mac project team	Fortnightly	Jane Stewart
Project steering committee	Oversight of project and achievement of project deliverables	Encourage stakeholder participation Discuss project progress, problems and questions	Project steering committee	Every 6–8 weeks	Jane Stewart
e-newsletter	Regular communication with key stakeholders	Update stakeholders on project progress	MVCS collaborative + key stakeholders	Dec 2017 Feb 2018 May 2018 Jun 2018	Jane Stewart / Jenelle Loeliger
Community of Practice	Present on project progress	Update stakeholders on progress of project	MVCS collaborative + key stakeholders	31 Jan 2018 2 May 2018 31 Aug 2018	Jenelle Loeliger / Jane Stewart
Project reports	Complete project plan, mid-project report and final project report	Report on progress of key tasks and deliverables	DHHS MVCS CoP Key stakeholders as identified by steering committee	Project plan: 8 Dec 2017 Mid-project report: 9 Mar 2018	Jane Stewart

Communication actions	Tasks	Key messages	Target audience	Target completion date	Responsibility
				Final report: 15 Jun 2018	
Communicate outcomes of project to key stakeholders	Distribute final project report Prepare e-newsletter to be distributed to relevant professional bodies	Project outcomes	Key stakeholders DAA, RACGPs, APNA	June 2018	Jane Stewart
Communicate outcomes of the project to the wider community	Presentation of project outcomes throughout the dietetic and cancer professions	Project outcomes	Relevant/potential conferences: COSA conference DAA conference GP19 conference APNA conference	Abstract submission: Aug 2018 Nov 2018 Mar 2019 Mar 2019	Jane Stewart / Janelle Loeliger
Communicate outcomes of the project to the wider community	Consideration of journal publication as relevant	Project outcomes	TBC	TBC	Jane Stewart / Jenelle Loeliger

Appendix 2: Complete results of general practitioner and general practice nurse survey

Q1. Please indicate your profession (*n* = 32)

Profession	Responses	Percentage
General practitioner	22	69%
General practice nurse	10	31%

Q2. Which Primary Health Network (PHN) does your service/practice belong to? (*n* = 32)

PHN	Responses	Percentage
Gippsland	2	6.25%
Murray	3	9.38%
Eastern Melbourne	4	12.5%
North Western Melbourne	9	28.10%
South Western Melbourne	6	18.75%
Western Victoria	8	25%

Q3. How would you rate your knowledge of cancer malnutrition? (*n* = 32)

Poor	Moderate	Good	Very good	Extremely good
18.75%	56.25%	18.75%	6.25%	0%

Comments:

- Had previously worked in oncology and this is something that is sometimes screened for but we have no tools
- Past experience in oncology and palliative care
- Related to cancer itself (neuroendocrine effect), swallowing difficulties, ctx/rtx related

Q4. When seeing patients with cancer, how often would you? (*n* = 32)

Response	Never	Rarely	Sometimes	Very often	Always
Weigh the patient	0%	22%	44%	16%	19%
Calculate BMI	0%	31%	38%	13%	19%
Ask about recent weight loss	0%	9%	25%	44%	22%
Ask about the patient's appetite	0%	3%	25%	41%	31%
Recommend nutrition supplement drinks	6%	13%	34%	44%	3%
Give nutrition advice	3%	19%	31%	41%	6%
Refer the patient to a dietitian	9%	16%	31%	31%	13%

Q5. Do you believe that there are patients with cancer malnutrition going unrecognised in your service/practice? (*n* = 32)

Response	Number (percentage)
Yes	25 (78%)
No	7 (22%)

Comments:

- Unsure
- We would always pick this up as we monitor our patients very closely
- Patient can be missed as they move between providers
- They have other concerns to see the GP for
- Recent lady with mouth ulcers – has been eating only ice-cream for ages before this
- Yes, there would be some patients that are missed (3)
- Can be missed due to time constraints or, if recognised, have limited access to services
- Most definitely given it is increasingly being noted as a measure of poorer prognosis

Q6. Who do you consider has primary responsibility for screening patients for cancer malnutrition? (*n* = 32)

Response	Number (percentage)
GPs	28 (88%)
Oncologist	24 (75%)
Hospital dietitians	20 (63%)
Primary care / community dietitians	16 (50%)
GPNs	10 (31%)
Other, please specify	3 (9%)

Comments:

- Anyone in health care involved with patient care
- Chronic disease management nurse
- I think all have an equal role
- Time constraints may impede attention to detail in this area as they are already complicated and time-consuming patients
- Chemo units
- Oncologists/acute team are managing patients – aren't always referred back
- Oncology nurses
- We would if we were actually seen as part of the cancer care team
- Now that the issue has been brought to my attention, I feel that GPs (and their clinic nurses) are best place to screen these patients
- GP is still the 'medical home', which implies taking a universal holistic approach to assessing and caring for the patient

Q7. Would you see benefit in having access to a malnutrition screening tool that could be used for all patients, as well as cancer patients? (*n* = 32)

Response	Percentage
Yes	94%
No	6%

Comments:

- We do use an informal screener at the moment, but any new tools would be beneficial
- Tools take time though and there is never much of that
- Screening tools can be very useful. I would firstly like to see what form a malnutrition screening tool would take before making a judgement. For example, there would need to be a benefit for the patient to perform this screening as well as a benefit to the health professional by way of gaining valid information for management options
- Problem is time to do it, and there may not be payment for PN to do assessment unless it can be done as 10997
- Because we don't see the patients during treatment
- Can be easily administered
- Possibly

Q8. As cancer can be a chronic disease, how often would you complete a chronic disease management plan for patients with cancer? (*n* = 32)

Never	Rarely	Sometimes	Very often	Always
3%	9%	44%	28%	16%

If you answered never/rarely, why is this the case?

- We don't actually see the cancer patient very often, usually oncologist and surgeon
- Not enough. GPs are not referring many cancer patient to me
- 3–6 monthly
- Yes if it becomes chronic and they return to our care
- They are busy enough attending hospital appointments, chemotherapy, etc.

Q9. How often do your chronic disease management plans for patients with cancer include a Team Care Arrangement with a dietitian? (*n* = 32)

Never	Rarely	Sometimes	Very often	Always
6%	16%	44%	19%	16%

Comments:

- Usually already being managed by hospital dietitian
- Patients only have five visits per year so we have to prioritise
- Just about always

Q10. Are there barriers to referring your patients to a dietitian? (*n* = 32)

Responses
• Limited availability / wait times (11) • Patient receptiveness to see a dietitian (7) • Cost (8) • GP referral (time constraints) (3) • Expectation patients are managed by acute team (1) • Dietitian professional experience (3)

Q11. Please indicate if you have used any of the following cancer malnutrition resources (please select all that apply) (*n* = 32)

Response	Number (percentage)
Malnutrition in Cancer eLearning Program (eviQ)	1 (3%)
Malnutrition governance toolkit	0 (0%)
Peter Mac oncology nutrition resource manual	2 (6%)
CCV Oncology resource guide for dietitians	0 (0%)
CCV Understanding malnutrition and cancer fact sheet	2 (6%)
Evidence-based guidelines or published literature	5 (16%)
I do not use / am not aware of any cancer malnutrition resources	27 (84%)
Comment: Will look into the above	

Q12. Would you like additional support, education or resources on cancer malnutrition (*n* = 32)

Response	Number (percentage)
Yes	29 (91%)
No	3 (9%)

Q13. In what format would you like support, education or resources? (*n* = 32)

Response	Number (percentage)
Webinar	3 (9%)
E-learning module	14 (38%)
Hardcopy resource	17 (53%)
Training course	5 (16%)
Email with links to relevant resources	11 (34%)
Other	5 (16%)

Comments:

- A resource that can easily be kept up to date
- Face-to-face meeting with dietitians
- Updated website with useful patient resources as part of a bigger cancer survivorship program would be ideal

- I think a training course would be valuable to then be able to fully utilise the recommended resources

Q14. Bearing in mind the purpose of this survey (to develop cancer malnutrition resources for clinicians working in the primary care and community sector), do you have any comments or suggestions to help us achieve our goals?

Response
• Easy to use and access (4) • Regular training/education (8) • Management flow chart (8)

Appendix 3: Complete results of the dietitian survey

Response statistics

Measure	Primary care / community	Acute	Work across acute and community	Total
Number of dietitians invited to complete survey	151	79	–	230
Total number of surveys completed	55	68	39	162
Incomplete surveys (not included in results)	2	5	3	10
Number of surveys included in response rate	53	65	36	152
Response rate	35%	83%	–	66%

Sector of work

Demographic characteristic	Total	Acute	Primary care / community	Work across both sectors
Area of work	152	101	89	36

Years practising as a dietitian

Demographic characteristic	Total	Acute	Primary care / community	Work across both sectors
Range	0.3–42	1–39	0.3–42	0.3–42
Mean (SD)	11 SD 8.8	10.5 SD 8.3	12.3 SD 9.8	11.3 SD 9.1
Median (interquartile range)	9	9	9.9	8

ARIA+ Index

Demographic characteristic	Total	Acute	Primary care / community	Work across both sectors
Major city	86 (52%)	63 (60%)	38 (37%)	15 (35%)
Inner regional	56 (34%)	29 (28%)	46 (45%)	18 (42%)
Outer regional	21 (13%)	13 (12%)	19 (18%)	10 (23%)
Remote	2 (1%)	–	2 (3%)	–
Very remote	–	–	–	–

Area of work

Area	Number (percentage)
Acute	98 (64%)
Community health centre (CHC)	59 (36%)
Community rehabilitation (CR)	25 (16%)
Private practice (PP)	30 (20%)
Work across both primary care and community and acute	36 (24%)

Primary care and community dietitians working in one or more sector

Q6. Does your service comply with performance standards for accreditation?

Response	Total *n* = 89	One sector: CHC *n* = 36	One sector: CR *n* = 14	One sector: PP *n* = 15	More than one sector *n* = 24
Yes	62 (69%)	31	9	3	19
No	9 (10%)	1	0	8	0
Unsure	18 (20%)	4	5	4	5

Comments:

- DAA accreditation (2)
- NSQHS (ACSQHC) (8)
- EQuIP (ACHS) (5)
- Home Care Common Standards (HACC) (6)
- Quality Improvement Council Health and Community Service Standards (QIP) (4)
- Aged Care Standards (AACQA) (1)
- RACGP Standards (AGPAL) (1)

Q7. Do these nutrition standards specify key performance indicators for: (*n* = 82)

Response	Number
Weighing patients	19
Nutrition risk screening	30
Assessment of at risk patients	28
Unsure	40
Other (see comments)	12

Comments:

- No nutrition-specific KPIs
- No KPIs at service

Q8. Does your service routinely screen every new patient for nutrition risk?

Response	Total *n* = 89	One sector: CHC *n* = 38	One sector: CR *n* = 15	One sector: PP *n* = 14	More than one sector *n* = 22
Yes	39 (43%)	10	9	10	10
No	48 (54%)	27	6	3	12
Unsure	2 (2%)	1	0	1	0

Comments:

- In the process of implementing (3)
- Compliance is poor (7)
- Part of common risk assessment (1)
- Trakcare (1)
- SCTT tool (1)

Q9. Does your service use a malnutrition screening tool?

Response	Total *n* = 41	One sector: CHC *n* = 11	One sector: CR *n* = 7	One sector: PP *n* = 9	More than one sector *n* = 14
Yes	29 (69%)	9	4	5	11
No	13 (31%)	2	3	4	3
Unsure	0 (0%)	0	0	0	0

Comments:

- In the process of implementing (2)
- Compliance is poor (1)
- MST acute, SCTT primary care
- Some disciplines are mandated to complete, not all

Q10. Which malnutrition screening tool do you use?

Response	Total *n* = 29?	One sector: CHC *n* = 7	One sector: CR *n* = 4	One sector: PP *n* = 4	More than one sector *n* = 12
MST	22 (81%)	6	4	3	9
MUST	2 (7%)	0	0	1	1
MNA	3 (7%)	1	0	0	2

Comments:

- SCTT (1)
- Modified MST (1)

Q11. If no specific screening tool is used, which questions/flags are used to indicate nutrition risk? (*n* = 12)

Response	Number
Obvious underweight/frailty	10
Unintentional weight loss	12
Reduced appetite	10
Reduce food and fluid intake	11
Other	2

Comments:

- Taste or bowl changes/gut issues (1)
- Problems with teeth or swallow (1)
- Sporadic or disordered intake/poor mental health (1)

Q12. How often would you? (*n* = 89)

Response	Never	Rarely	Sometimes	Very often	Always
Weight patients on initial ax	0 (0%)	2 (2%)	12 (14%)	47 (53%)	27 (31%)
Weight patients on subsequent review	0 (0%)	2 (2%)	17 (19%)	53 (60)%	17 (19%)
Measure height on initial ax	3 (3%)	22 (25%)	28 (32%)	26 (30%)	9 (10%)
Measure height on subsequent review	29 (33%)	44 (25%)	10 (11%)	4 (5%)	1 (1%)
Calculate BMI on initial ax	0 (0%)	9 (10%)	15 (17%)	40 (45%)	25 (29%)
Calculate BMI on subsequent review	4 (5%)	15 (17%)	31 (35%)	28 (32%)	10 (11%)

Comments:

- Never or rarely review – height doesn't change in adults/ (30)
- Only measure for paediatric patients
- Weight – not always relevant (weight management for eating disorders) (11)

Q13. Do you utilise any of the following to diagnose a patient with malnutrition?

Response	Total *n* = 89	One sector: CHC *n* = 36	One sector: CR *n* = 14	One sector: PP *n* = 15	More than one sector *n*=24
SGA	43 (52%)	13 (36%)	12 (86%)	5 (33%)	13 (54%)
PG-SGA	15 (17%)	3 (8%)	2 (14%)	3 (20%)	7 (29%)
MNA	20 (22%)	11 (30%)	1 (7%)	2 (13%)	6 (25%)
ICD-10	10 (11%)	0 (0%)	4 (29%)	3 (20%)	3 (12%)
ESPEN diagnosis	1 (1%)	0 (0%)	0 (0%)	0 (0%)	1 (4%)

Response	Total *n* = 89	One sector: CHC *n* = 36	One sector: CR *n* = 14	One sector: PP *n* = 15	More than one sector *n*=24
Clinical/professional judgement	61 (66%)	29 (81%)	7 (50%)	8 (13%)	17 (70%)

Comments:

- Overarching theme – a variety of tools are used in addition to professional judgment
- Growth charts (paediatrics) (1)
- No benefit within the community due to lack of funding compared to acute (1)

Q14. Do you believe there are patents with malnutrition going unrecognised in your service?

Response	Total *n* = 89	One sector: CHC *n* = 36	One sector: CR *n* = 14	One sector: PP *n* = 12	More than one sector *n*=27
Yes	56 (63%)	20	9	6	21
No	33 (37%)	16	5	6	6

Comments:

- Don’t manage cancer patients (5)
- Pt’s been seen in other services (3)
- Referred to dietitian weight loss or malnutrition (4)

Q15. Have you used any of the following resources? (*n* = 89)

Response	Number (percentage)
Malnutrition in Cancer eLearning Program	19 (21%)
Malnutrition governance toolkit	8 (9%)
Peter Mac Oncology nutrition resource guide	16 (18%)
CCV Oncology resource guide for dietitians	30 (34%)
CCV Understanding malnutrition and cancer fact sheet	28 (31%)
Evidence-based guidelines or published literature	54 (61%)
I do not use / am not aware of	21 (34%)
Other	11 (12%)

Comments:

- Mainstream resources do not cater for/meet needs for culturally diverse (1)
- Internal education material provided (2)

Q16. Would you like additional support, education or resources? (*n* = 89)

Response	Number (percentage)
Yes	65 (75%)
No	24 (25%)

Comments:

- Pathways for referrals (1)
- Additional training (webinars, resources for patients and dietitians)
- Support and education resources to focus on primary health care team to address patients going unrecognised (2)
- Resources directed for patients (2)

Q17. What format would you like this support, education or resources? (*n* = 65)

Response	Number
Webinar	45
E-learning	39
Hardcopy resource	31
Training course	25
Email with links to relevant resources	38
Other	3

Comments:

- All of the above
- Be good to have a format where discussion and questions could take place such as a training course with the back-up of webinars/hard-copy resources
- For non-nutrition health professionals in primary health care (GPs, practice nurses, other allied health) to help with identifying cancer malnutrition early

Acute dietitians

Q18. How often do you refer patients to dietitians in primary or community care? (*n* = 98)

Location	Never	Rarely	Sometimes	Very often	Always
Total *n* = 98	2 (2%)	27 (28%)	37 (38%)	28 (29%)	3 (3%)
Metro *n* = 38	1 (2%)	12 (20%)	26 (43%)	19 (32%)	2 (3%)
Regional/rural *n* = 60	1 (3%)	15 (23%)	12 (32%)	9 (23%)	1 (3%)

Q19. In which settings do the dietitians you refer to work? (*n* = 31)

Response	Number (percentage)
Community health centre	25 (81%)
Community rehab	14 (45%)
GP practice	4 (13%)
Private practice	8 (26%)
Other (see comments)	8 (26%)

Comments:

- Oncology day clinics (2)

- Internal outpatient clinics (2)
- Rural health service (2)
- Subacute (1)

Q20. Reasons why you don't refer?

Response	Total *n* = 65	Metro *n* = 36	Regional *n* = 29
Don't know where to refer	12 (18%)	6 (50%)	6 (50%)
Complex care needs	25 (38%)	15 (60%)	10 (40%)
Unable to identify appropriate dietitian to refer to	0 (0%)	0 (0%)	0 (0%)
Long wait lists for community dietitian	14 (22%)	9 (64%)	5 (35%)
Time/resources required to make referral	18 (28%)	9 (50%)	9 (50%)
Patients at my health service are followed up in hospital outpatients	35 (54%)	22 (61%)	13 (36%)
Patients continue to receive phone reviews from my health service until stable	32 (49%)	19 (59%)	13 (41%)
Financial barriers to private/community sessions	10 (15%)	7 (70%)	3 (30%)
Other (see comments)	17		

Comments:

- Pts do not require ongoing follow up / not appropriate (9)
- Pts are followed up in subsequent treatments sessions (4)
- Pt refuses or requests services in all one location on one day (i.e. at acute service) (5)
- Community Dietitian seen as not having specialist knowledge (2)

Q21. How often do you provide a discharge summary to the patients GP?

Location	Never	Rarely	Sometimes	Very often	Always
Total *n* = 98	31 (32%)	33 (34%)	23 (24%)	8 (8%)	2 (2%)
Metro *n* = 59	17 (29%)	17 (29%)	17 (29%)	6 (10%)	2 (3%)
Regional/rural *n* = 39	14 (36%)	16 (41%)	6 (15%)	3 (7%)	0 (0%)

Comments:

- Pts stable/don't require follow-up (5)
- Lack of time/ resources (17)
- Do GPs read/want? (3)
- Only sent if ongoing GP mx required (2)
- Not standard practice (11)
- Expect pt to inform GP of acute mx (1)
- Admission summary provided by treating medical team (5)
- Oncologist if the main point of care (2)
- I provide a dc summary to DT (3)
- Only if patient has a feeding tube in situ (2)

Q22. Awareness of cancer rehab programs running in Victoria?

Response	Total *n* = 96	Metro *n* = 58	Regional *n* = 38
Yes	44 (46%)	25 (56%)	19 (44%)
No	52 (54%)	33 (63%)	19 (37%)

Q23. Referral cancer rehab programs?

Response	Total *n* = 44	Metro *n* = 25	Regional *n* = 19
Yes	9 (20%)	4 (44%)	5 (55%)
No	35 (80%)	21 (60%)	14 (40%)

If yes, which ones?

- EXMED
- Peter Mac AYA service
- Kew CRC
- Wantirna CRC

Q24. Would you like more information about cancer rehabilitation programs in Victoria? (*n* = 95)

Response	Number (percentage)
Yes	91 (95%)
No	5 (5%)

Comments:

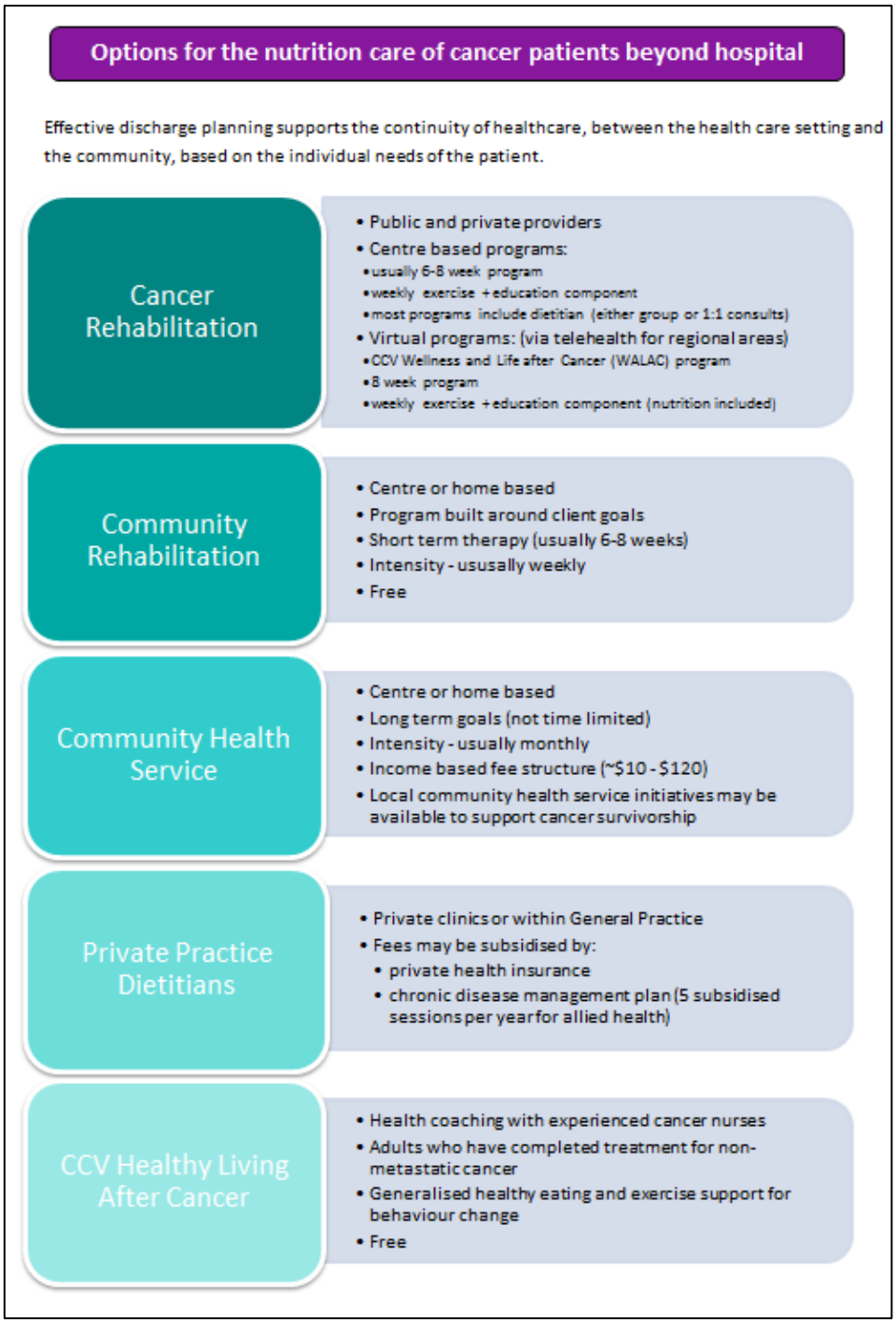
- Up-to-date information about CRC: location/cost/duration/eligibility/waitlist
- How to refer

Appendix 4: Actions to promote the value of statewide nutrition performance measures

Who	What about	Outcome	Next steps
Screening and Preventive Health Programs, Department of Health and Human Services	Development of a malnutrition performance measure within the *Victorian cancer plan monitoring and evaluation framework*	Malnutrition performance measure included within the framework Performance measures reported on in mid-2019	Continue to work with VAHI and nutrition managers to improve the integrity of nutrition data captured within the VAED
Safer Care Victoria	Development of a malnutrition clinical indicator	Encouraged to work on raising the profile of nutrition within SCV Asked us to coordinate the preparation of a prolonged fasting clinical advisory	Prepare a letter for Euan Wallace highlighting variation in nutrition practice and the prevalence of malnutrition Draft *Prolonged fasting clinical advisory* submitted to SCV on 16 Mar 2018
Victorian Agency for Health Information	Development of a malnutrition clinical indicator Under-reporting of malnutrition in the VAED	Encouraged to provide feedback on quality and safety issues to be included as a clinical indicator within VAHI's reporting program for 2018–19 Consultation guide emailed to nutrition managers across Victoria encouraging a submission from each health service	Continue to work with VAHI to improve the integrity of nutrition data in the VAED Liaise with the department's Screening and Cancer Prevention unit to discuss amended wording of the Victorian Cancer Plan performance metric
Dietitians Association of Australia	To ascertain whether DAA has been involved in any advocacy work in the area	DAA has been involved in advocating for nutrition standards to be included within the NSQHS Standards and Aged Care Quality Standards	Send DAA final project report highlighting the need for nutrition to be included within quality frameworks covering the primary care and community sector
Supportive Care in Cancer Refresh project	Possibility of including a malnutrition screening tool within supportive care screening	The focus of the current project is how to promote supportive care screening	MVCS project team to continue to explore avenues to include a malnutrition screening tool within supportive care screening
Director Nutrition and Dietetics, Sydney Local Health District	Development of a NSW nutrition care policy	Broad support for developing a Victorian nutrition care policy	MVCS project team to continue to support the value of a Victorian nutrition care policy

Who	What about	Outcome	Next steps
Manager, Food Systems and Nutrition Policy, Department of Health and Human Services	Possibility of a statewide nutrition care policy	Supportive of a policy covering both over and under nutrition in hospitals This is not the remit of her department Advised to advocate for increased nutrition capacity within the department	MVCS project team to liaise with SCV regarding the possibility of a statewide nutrition care policy

Appendix 5: Discharge planning infographic



Appendix 6: Prolonged fasting clinical advisory (Safer Care Victoria)

Prolonged fasting – malnutrition risks and best practice

Key messages

1. Prolonged and unnecessary perioperative fasting increases hospital-acquired malnutrition, affecting healthcare costs, morbidity and patient-centred outcomes.
2. Evidence-based guidelines recommend a two-hour preoperative fast for clear fluids and a six-hour fast for solids in most elective patients.
3. Large variation in fasting practices exist across and within Victorian health services and a collaborative, multidisciplinary and systems approach is required to reduce patient fasting periods.

What is prolonged fasting?

Patients requiring multiple and repeated anaesthesia or those repeatedly fasted for surgery (or other procedures including medical imaging) who are exposed to excessive cumulative hours of fasting. Data from Victorian hospitals indicates an average fasting time of 16 hours and a maximum fasting time 68 hours.

Peak bodies[1–5] have clear evidence-based recommendations for preoperative fasting to be less than six hours.

What are the risks of prolonged fasting?

Hospital-acquired malnutrition is a serious avoidable complication. It is well documented that prolonged and unnecessary perioperative fasting contributes to hospital-acquired malnutrition, delaying recovery and negatively impacting on patient experience.[6]

In Australian hospitals:[7–9] **41 per cent of patients *at risk* of malnutrition** **32 per cent of patients *are* malnourished**	↓ weight and lean body mass ↓ quality of life ↑ length of stay ↑ healthcare costs ↑ infections ↑ readmissions ↑ mortality

Prolonged fasting has been shown to:

- increase insulin resistance, inflammation, catabolism and loss of lean muscle mass[10]
- increase the risks of dehydration, hypoglycaemia and electrolyte imbalance[4]
- increase hunger, thirst, dry mouth, fatigue and headache[11]
- increase the risk of early postoperative complications including vomiting and pain[10,11]
- reduce appetite and increase the fear of eating, further exacerbating reduction in food intake.[12]

What does the evidence say?

Fasting decreases the risk of regurgitation and aspiration during anaesthesia. However, with the exception of high-risk groups,[#] there is no evidence that the period of abstinence from food and fluid needs to be more than six hours (refer to Box A1 for recommendations).[1] The common practice of 'fasting from midnight' is unnecessary for most patients and may increase rates of malnutrition and metabolic disturbances.

Box A1: Australia and New Zealand College of Anaesthetists (ANZCA) recommendations for fasting prior to anaesthesia

Current recommendations for fasting prior to anaesthesia

Adults

- Limited solid food up to six hours prior to anaesthesia
- Clear fluids (water, pulp-free fruit juice, clear cordial, black tea and coffee) or specifically modified carbohydrate drinks up to two hours prior to anaesthesia

Children over six months of age

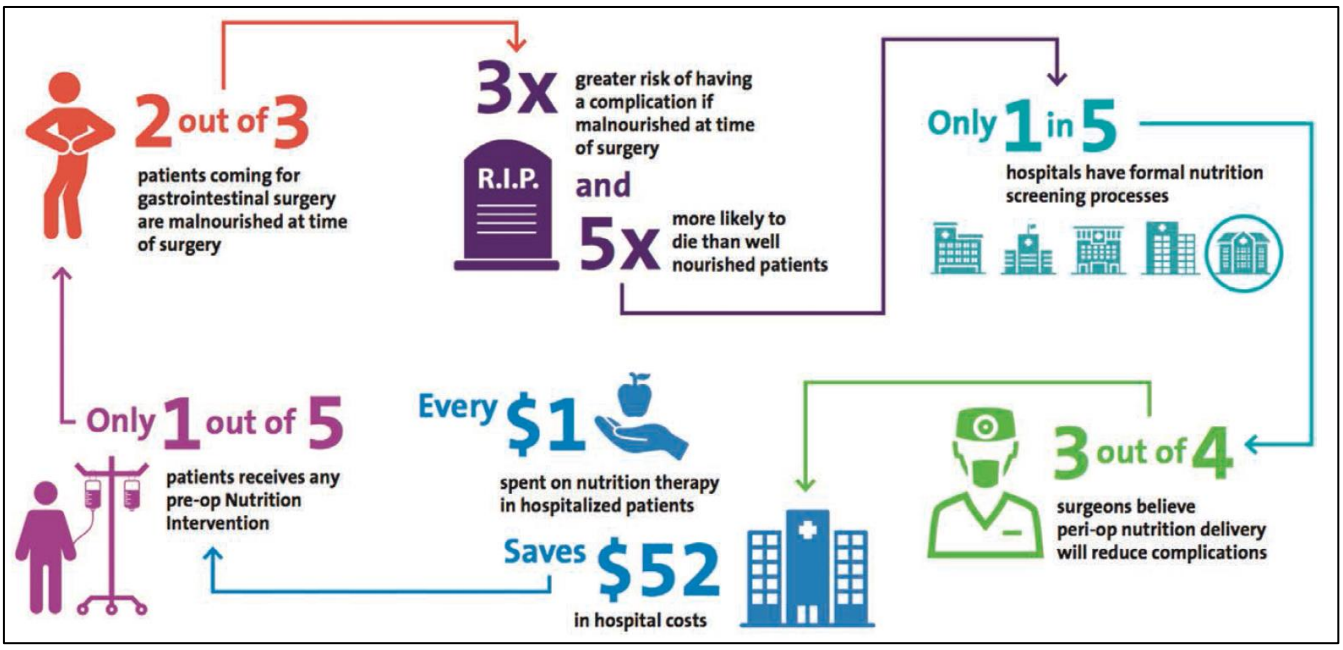
- Breast milk or formula and limited solid food may be given up to six hours prior to anaesthesia
- Clear fluids up to two hours prior to anaesthesia

Infants under six months of age

- Formula may be given up to four hours or breast milk up to three hours prior to anaesthesia
- Clear fluids up to two hours prior to anaesthesia

Enhanced recovery after surgery (ERAS) guidelines provide clear recommendations for best practice, with evidence primarily in the colorectal surgical cohort. These guidelines include limiting the fasting period, the use of specifically modified carbohydrate drinks to attenuate the metabolic response and early reintroduction of normal diet postoperatively.[13] Figure A1 summarises the benefits and challenges of implementing these perioperative nutrition interventions.

Figure A1: Facts and data for perioperative nutrition screening and therapy[3]



[#] Patients having emergency procedures, those with known/suspected delayed gastric emptying or oesophageal motility disorders, patients who have had bariatric surgery, and obstetric patients in labour[1]

What are Victorian health services doing?

Fasting practices vary significantly between and within health services, with the majority based on historical practice due to the slow implementation of evidence into clinical practice and a 'fast in case' culture. However, some health services have adopted a more evidence-based approach.

Fasting prior to anaesthesia

Negative	Positive
Current practices do not reflect evidence-based guidelines Patients often unnecessarily fasted from midnight regardless of surgery schedule	Fasting guidelines for anaesthesia implemented organisation wide in approximately 50 per cent of health services* Implementation of ERAS in many surgical units (predominantly colorectal)

Postoperative fasting

Negative	Positive
Despite strong evidence-based guidelines (ERAS) for early reintroduction of oral intake post-surgery, current practices are driven by historical and/or an individual surgeon's preferences Postoperative diets restricted to fluids provide inadequate energy and protein and should only be used for a limited period	Escalation pathway for inadequate diet code (nil by mouth, clear fluids, free fluids) ≥ 3 days in one health service

Repeated and cumulative fasting

Negative	Positive
Poor understanding of the implications of current practices and the complexity of the problem Evident organisational culture of 'fast in case' of surgery Prolonged fasting frequently affects high-risk groups with multiple complications including malnutrition, delirium and infections Poor communication regarding cancellations between theatres, wards and food services resulting in missed meals Current food service models are restricted outside of standard meal periods; therefore, when the patient is allowed to eat, there is a limited range of food available Patients often only provided the opportunity to eat for a short period before fasting begins again The scale of prolonged fasting is unknown, with limited IT systems to track patients and report data	Implementation of 'fasting clocks' to track periods of prolonged fasting successful at several health services; however, they rely on a champion Escalation pathways for patients fasted longer than six hours at several health services Theatre cancellations reported as an incident at one health service Protected slots on endoscopy lists for inpatients and emergency patients implemented to reduce cancelled procedures at one health service

** Estimate based on authorship group feedback*

What should we be doing?

- Hospitals should have evidence-based multidisciplinary fasting policies or guidelines and regularly audit compliance
- Develop structured governance systems to track and monitor performance including key performance indicators measuring fasting periods and cumulative fasting (for example, the percentage of patients fasting for > 6 hours, percentage of patients nil oral for > 3 days)
- Escalation pathways for: patients fasted for > 6 hours; inadequate diet code (nil by mouth, clear fluids, free fluids) ≥ 3 days; cumulative fasting
- Flexible food service systems to support 'on-demand' meal provision[14]
- Alternative nutrition support should be considered if reintroduction of nutrition postoperatively is likely to be delayed (> 2–3 days)

Prepared by the following group of dietitians (representing hospital based Victorian dietitians):

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Appendix 7: Response to VAHI's safety and quality measures and reporting consultation guide

Question 7: Do you have any comments or views on:

Whether aged care measures for public sector residential aged care should be reported by VAHI?

Our aged care residents are a particularly vulnerable, complex and high-risk group regarding malnutrition, and studies have found approximately 49 per cent are malnourished (1). VAHI does not currently report on 'unplanned weight loss', which was a recommended safety and quality measure from the *Targeting zero* report and in addition more generally, malnutrition risk or prevalence (pre-existing or acquired in care) is not reported by VAHI for those in aged care or the general hospital population. Significant clinical variation regarding identification and management of malnutrition exists across different health settings. By instating malnutrition risk or prevalence (pre-existing or acquired in care) as a reportable quality and safety measure, it would help drive both local and system improvements in malnutrition risk screening, appropriate nutrition care planning and interventions, and enable improved outcomes for patients and health facilities.

1. Gaskill D, Black L, Isenring E, Hassall S, Sanders F, Bauer J 2008, 'Malnutrition prevalence and nutrition issues in residential aged care facilities', *Australian Journal on Ageing* 27(4):189–194.

Question 8: Do you have any comments or views on:

Whether all hospital-acquired complications should be reported by VAHI?

Malnutrition was a listed hospital acquired complication within the *Targeting zero* report that is currently not reported by VAHI. Malnutrition in hospitals is a significant quality and risk issue, with about 32 per cent of patients malnourished and at least 41 per cent at risk of malnutrition, with a higher prevalence seen in particularly vulnerable groups on oncology wards (48 per cent malnourished), gastroenterology wards (44 per cent malnourished) and medical wards (35 per cent malnourished) (2). Poor clinical and health service outcomes occur for patients with malnutrition (2). Having malnutrition risk and/or prevalence reported by VAHI would help drive both local and system improvement regarding appropriate risk screening, nutrition care planning and interventions and be well aligned with the addition of malnutrition within the new comprehensive care standard within the NSQHS Standards (second edition).

2. Agarwal E, Ferguson M, Banks M, Bauer J, Capra S, Isenring E 2011, 'Nutritional status and dietary intake of acute care patients: results from the Nutrition Care Day Survey 2010', *Clinical Nutrition* 31:41–47.

Question 10: Do you have any comments or views on:

Measures currently captured by other jurisdictions?

Malnutrition should be recognised as an important selected area of patient safety, alongside like quality and risk issues such as pressure injuries and falls.

The Dutch Ministry of Health has established 17 performance indicators for hospitals. Screening and treatment of malnutrition in hospitals have been included in this set of indicators since 2007 (3).

3. Dutch Health Care Inspectorate performance measures
<https://www.fightmalnutrition.eu/toolkits/performance-indicator-malnutrition-hospital>

Question 11: Do you have any comments or views on:

Which (if any) of these measures should be reported by VAHI?

Malnutrition is an important area of patient safety (with synergies to pressure injuries and falls) and is under recognised and under-reported and therefore should be reported by VAHI. Currently the only centralised statewide dataset for health services relating to nutrition or malnutrition is in the VAED (malnutrition coding and whether a patient sees a dietitian or not). The coding of malnutrition in the VAED is likely under-reporting the true clinical prevalence of malnutrition. This is because health services are not required to report (and therefore don't have any impetus to) on nutrition risk screening, nutrition referral/intervention and documentation processes or commonly see malnutrition risk screening and/or malnutrition prevalence as a key quality and risk issue that would lead to a VAED malnutrition coding dataset with high integrity. If malnutrition was reported by VAHI it could help to identify and monitor this area where unwanted variation exists and help to drive both local and system improvements and improve the data integrity of the VAED malnutrition coding dataset. In the absence of malnutrition being recognised as a key quality and safely measure, variation in clinical practice (governance, prevalence, practices) and poor outcomes will continue.

Question 12: Do you have any comments or views on:

The measures that should be reported to support the priorities of SCV and the SCV clinical networks?

As mentioned, malnutrition is an important and under-reported patient safety issue within health services and generally across the entire health sector. The reporting of malnutrition by VAHI would help support the SCV priorities aligned with common patient complaints about nutrition in hospitals – that is, hospital food and prolonged fasting times (SCV Clinical Advisory regarding this in response to patient feedback is underway).

Abbreviations

ACHS	Australian Council on Healthcare Standards
ACSC	Australian Cancer Survivorship Centre – A Richard Pratt legacy
ACSQHC	Australian Commission for Safety and Quality in Healthcare
APNA	Australian Practice Nurse Association
BMI	body mass index
CCV	Cancer Council Victoria
CoP	Community of Practice
COSA	Clinical Oncological Society of Australia
DAA	Dietitians Association of Australia
GP	general practitioner
GPN	general practice nurse
HACC	Home and Community Care
NSQHS	National Safety and Quality Heath Service Standards
MVCS	Malnutrition in Victorian Cancer Services
MNA	Mini Nutrition Assessment
MST	Malnutrition Screening Tool
MUST	Malnutrition Universal Screening Tool
MVCS	Malnutrition in Victorian Cancer Services
PHN	Primary Health Network
QIP	Quality Improvement Program
RACGP	Royal Australian College of General Practitioners
SCREEN II	Seniors in the Community: Risk Evaluation for Eating and Nutrition II
SCTT	Service Coordination Tool Template
SCV	Safer Care Victoria
SNAQ	Short Nutritional Assessment Questionnaire
VAED	Victorian Admitted Episode Dataset
VAHI	Victorian Agency for Health Information

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