

SMICS

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Southern Melbourne  
Integrated Cancer Service

## **Dietitian involvement in the care of upper gastro-intestinal cancer patients:**

### **A situation analysis**

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## Introduction

The need to create better experiences for cancer patients and carers at all stages of their cancer journey has been identified by the Victorian Government as a priority for the cancer service reform<sup>i</sup>. Supportive care has been defined as care that helps those affected by cancer cope with the cancer and its treatment through the entire cancer pathway<sup>ii</sup>.

Supportive care includes five inter related domains of care:

- physical
- social
- psychological
- spiritual
- information

The physical domain refers to care which addresses a wide range of physical symptoms<sup>iii</sup>, including nutritional care.

Adequate nutrition is fundamental for wellbeing, functional status, healing, recovery from illness and injury, and quality of life<sup>iv</sup>. Nutritional status has been identified as a critical factor influencing morbidity and mortality after a cancer diagnosis, and timely, adequate nutrition may result in improved patient outcomes<sup>v</sup>, and improved response and tolerance to treatments<sup>iv</sup>.

Recent discussions with clinicians involved in the Upper Gastro-Intestinal / Hepatopancreatobiliary multidisciplinary team (MDT) meeting at Southern Health identified a range of concerns relating to inconsistencies in access to dietetic support for cancer patients. They highlighted the need for dietitian involvement in the MDT treatment planning discussions and in particular, preoperative assessment of patient's nutritional status in order to improve their cancer treatment experience, and quality of life. The UGI/HPB team members identified that patients who had undergone the following interventions were considered at risk of malnutrition and in need of specialised dietetic support (at risk group):

- Ivor-lewis oesophagectomy
- trans-hiatal oesophagectomy
- L) thoraco-abdominal oesophagectomy
- total gastrectomy
- sub-total radical gastrectomy
- oesophageal stent
- Whipples procedure
- distal pancreatectomy
- liver resection
- any patient requiring a feeding tube
- any patient who has had the radiological procedure - fluoroscopic nasogastric insertion

Southern Melbourne Integrated Cancer Services (SMICS) has collaborated with Southern Health MMC Dietetic Services to map existing dietetic service provision for this group of patients and to identify any service gaps or opportunities for improvement.

## ***Project aim***

The aim of the situation analysis was to identify:

- existing referral pathways to dietetic services

- at what step(s) of their treatment pathway UGI/HPB cancer patients are currently accessing dietetic services
- existing service gaps
- opportunities to enhance dietetic involvement in the care of UGI/HPB cancer patients

### ***Current UGI/HPB service provision and nutrition screening***

The Southern Health UGI/HPB surgical service does not include an outpatient clinic. All pre and post-operative care for this group of patients is undertaken in consultants' private rooms. Inpatient care for this group of patients is undertaken on 32 North, a 26 bed ward located at Monash Medical Centre Clayton. 32 North is serviced by approximately 0.4 dietitian EFT. A significant proportion of UGI/HBP surgery is also undertaken at Jessie McPherson Private Hospital (JMPH). JMPH was serviced by 0.3 dietitian EFT during the time period examined by the audit. This has now been reduced to 0.1 EFT.

Nutrition screening identifies individuals who are malnourished or at risk of becoming malnourished and those who may benefit from nutrition support<sup>iv</sup>. According to ward protocols nutrition screening using the internationally validated Malnutrition Universal Screening Tool (MUST)<sup>vi</sup>, should be undertaken by the nursing staff on all admitted patients and documented on the MR171 form. Referrals can be made to the dietitian by nursing, medical or allied health staff. Ward protocols also indicate that all patients who undergo one of the specified procedures should be referred to the dietitian for assessment.

MUST measures nutritional status between a score of zero and six, through consideration of body mass index, weight loss and acute disease effect such as critical illness or major gastro-intestinal surgery. A MUST score of zero indicates low risk of malnutrition, and six, indicates high risk of malnutrition. Those patients with a score greater than or equal to two are considered at risk of malnutrition and hence require referral to a dietitian for comprehensive assessment.

Since mid 2009 nutritional screening has been routinely undertaken for patients across all tumour streams who attend the Chemotherapy Day Unit (CDU) at Monash Medical Centre Moorabbin and Dandenong Hospital. Following a survey undertaking in 2008, significant need for nutrition advice and support was identified at this stage of the treatment pathway, and 0.5 EFT was allocated to this service.

Discussions with UGI/HPB MDT members and Southern Health MMC dietetics staff also highlighted the following issues:

- the treatment of UGI cancer is highly specialised and commonly centralised in tertiary or quaternary services
- the Southern Health UGI/HPB unit performs a significant proportion of UGI/HPB cancer related surgeries undertaken across southern Melbourne, and this is expected to continue to grow
- there is a knowledge gap among the UGI/HPB clinicians regarding current utilisation of the dietetics service by cancer patients
- there is a lack of specialised dietetics service available to privately insured patients
- there is a lack of referral processes between the MMC dietetics service, and that provided by Peter MacCallum Cancer Centre radiotherapy service at the Moorabbin campus
- there have been anecdotal reports from dietetic clinicians of late referrals to the service, by which time patients are significantly malnourished

## Project methodology

All UGI/HPB cancer patients admitted to Southern Health between 1 January and 31 March 2008 were identified utilising existing Victorian Admitted Episode Data (VAED) held by SMICS. Within this time period a total of 23 patients who had undergone one of the specified UGI/HPB procedures were identified for audit as the 'specified' group. A further 20 UGI/HPB cancer patients who had not undergone one of these procedures were identified for audit as the 'other' group.

A medical record audit tool (Appendix 1) was developed by SMICS with the advice of the MMC Dietetics Manager. The audit tool was designed to capture data regarding patients' risk of malnutrition and the utilisation of dietetic services during the steps of the treatment pathway described in the UGI Patient Management Frameworks<sup>vii,viii</sup>.

The medical record audit was undertaken by SMICS staff and the MMC Dietetics Manager. Several medical records were reviewed by both auditors to maximise inter-rater reliability.

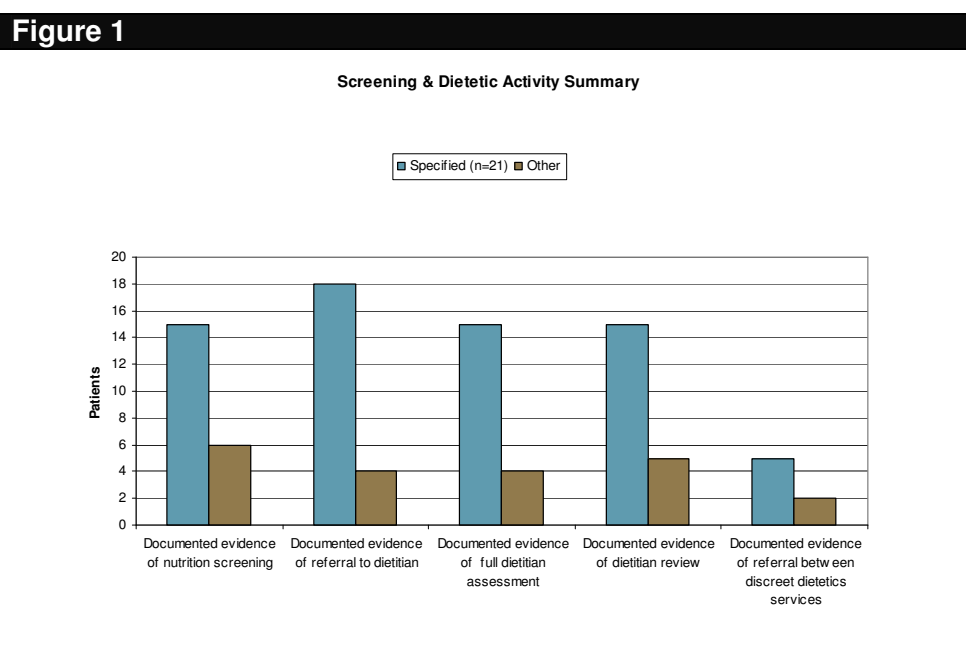
## Findings

Of the 43 requested, a total of 38 medical records of UGI/HPB cancer patients were available for audit. This comprised 21 records of patients who had been admitted for one of the specified procedures and 17 records from the low risk group of UGI/HPB cancer patients. Not all volumes of the medical record were available at the time of audits.

Seven of the 'specified' patients and one of the "other" patients underwent treatment as private patients at JMPH.

### *Nutrition screening and dietetic activity*

The audit collected data regarding a range of activities from screening of patients' nutrition status by nursing staff, through to full assessment by a dietitian and referral to external dietitian services at each stage of the treatment pathway. Figure 1 provides a summary of the aggregated episodes of nutrition screening by health professionals and dietetic activity for both groups of UGI/HPB cancer patients across all stages of the treatment pathway.



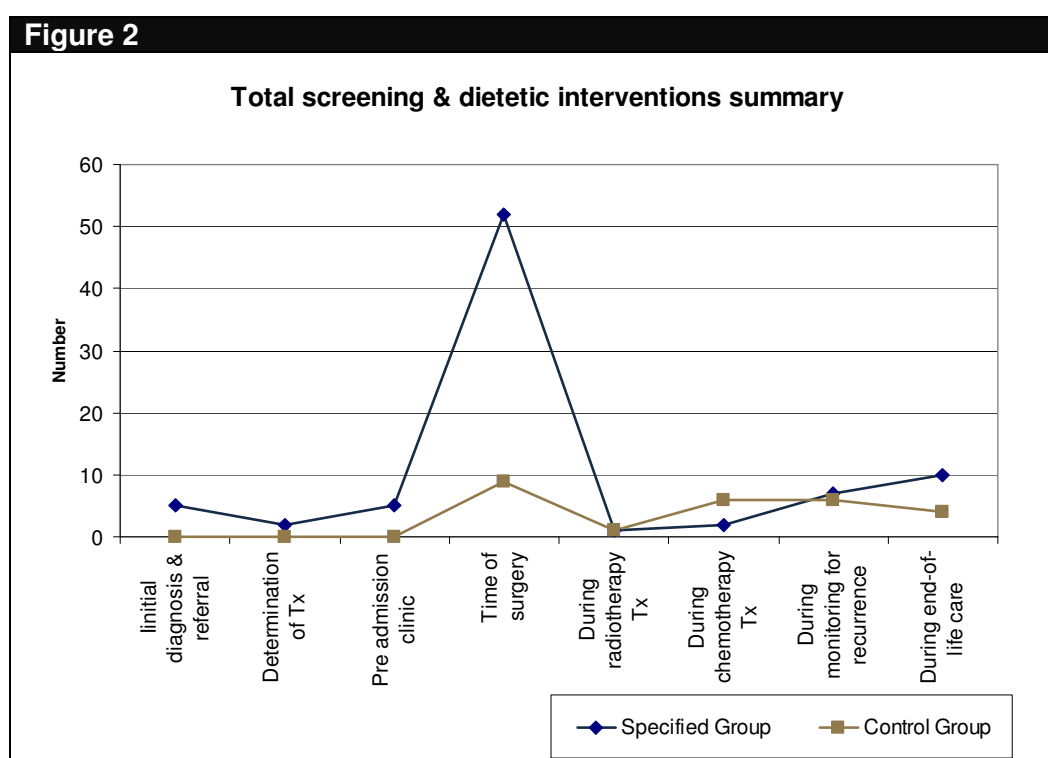
There was evidence of awareness of the potential for malnutrition in the 'specified' group as the audit revealed high proportion of screening, dietitian assessment and intervention. At JMPH in particular, there was a high proportion of nutrition screening, with six of these seven specified files containing documented MUST scores. In the 'other' group however, less than one third of the records revealed documented evidence of screening or assessment.

There was little evidence of referral between dietetic services in either group. Those referrals identified were commonly to or from dietetic services in regional areas. There was also one referral received from the radiotherapy service provided by PMCC at Monash Medical Centre Moorabbin.

It is also important to note that the audit revealed three patients in the specified group who were not seen by a dietitian during their treatment pathway. Two of these patients had been found to be at risk of malnutrition after screening with the MUST tool at the time of surgery:

- A person who had undergone radical gastrectomy patient with a MUST score of 2
- A person who had undergone an Ivor-Lewis oesophagectomy at JMPH with a MUST score of 4 at the time of surgery.

The audit also collected data regarding the timing of all nutrition screening, assessment and interventions according to the stage in the care continuum as specified in the PMFs. Figure 2 provides a summary of aggregated activities according to these stages, for both the 'other' and the specified groups of patients.



Evidence of nutritional screening, and consultation with dietitians was predominantly found at the time of surgery, with relatively little evidence of activity at other stages of the care continuum. With the 'other' group of patients there were relatively low levels of evidence of nutritional screening and intervention at all stages of the treatment pathway.

These results are consistent with the current model of service delivery; however the ability of the audit to capture all nutrition screening and dietetic activity at the various stages of treatment has been limited by the following issues:

- the Southern Health UGI/HPB surgical service does not include an outpatient service, with all pre and post-operative care for this group of patients undertaken in consultants' private rooms and therefore not documented in the medical record
- not all volumes of patient's medical records were available for audit, with the potential for understating activity in the early stages of treatment
- the potential for understating activity in those patients whom had not progressed through all stages of the care pathway at the time of the audit
- the potential for understating activity in those patients whom were referred to Southern Health for surgery, but whose care at other stages of treatment was undertaken by regional or private cancer care providers.

## Nutritional status

Of the 38 files audited, 11 of the 'specified' group and six of the 'other' group had been screened using the MUST. Where screening had not been undertaken using the MUST, the nutritional status of the patient was estimated by the auditors, relying on any documented nutritional information available in the record using the Malnutrition Screening Tool (MST). MST has been validated as a predictor of nutritional status through consideration of unintentional weight loss, the amount of weight lost and the presence of decreased appetite<sup>iv</sup>.

Figures three and four provide summaries of the estimated risk of malnutrition for both the specified group and control group. For the purpose of analysis, patients with a documented MUST or estimate MST score of less than two have been grouped as low risk. The "at risk" cases included those with a MUST or MST score greater than two, including those patients whom had been assessed by a dietitian as being malnourished. Where insufficient information was contained in the record at a particular stage of the treatment pathway, the nutritional status was recorded as unknown.

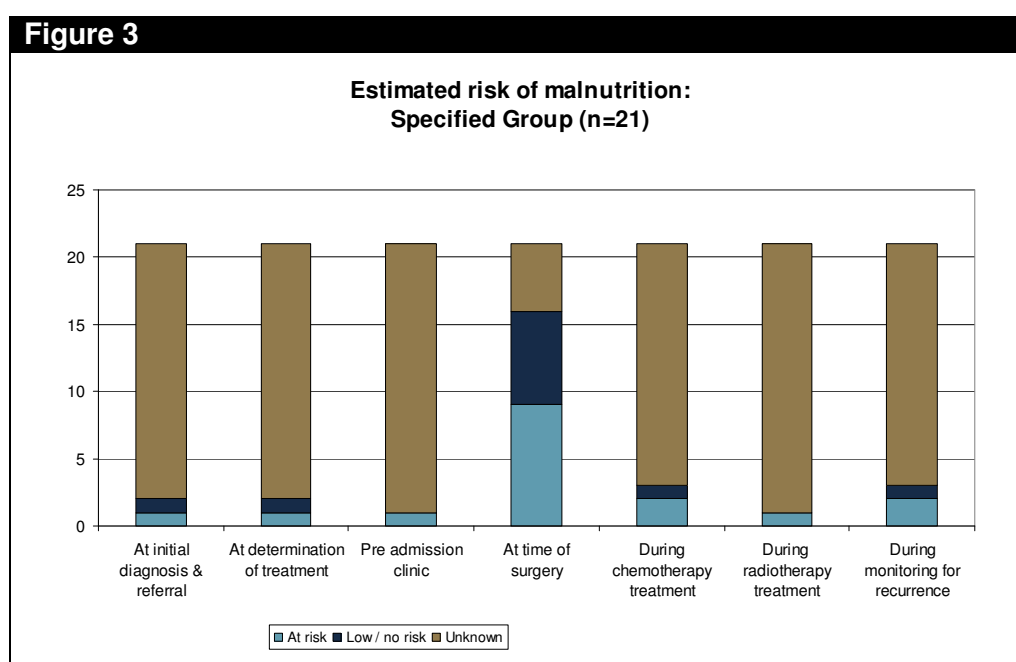




Figure three shows that the highest incidence of documented risk of malnutrition was at the time of surgery, with nine of the 21 patients having a MUST or MST of 2 or greater. Ten patients had not been screened using the MUST up until, and including the time of surgery. Of these ten patients, the auditors rated four as being at risk of malnutrition. At all stages of the treatment pathway, other than the time of surgery, the nutritional status of the majority of patients was unknown.

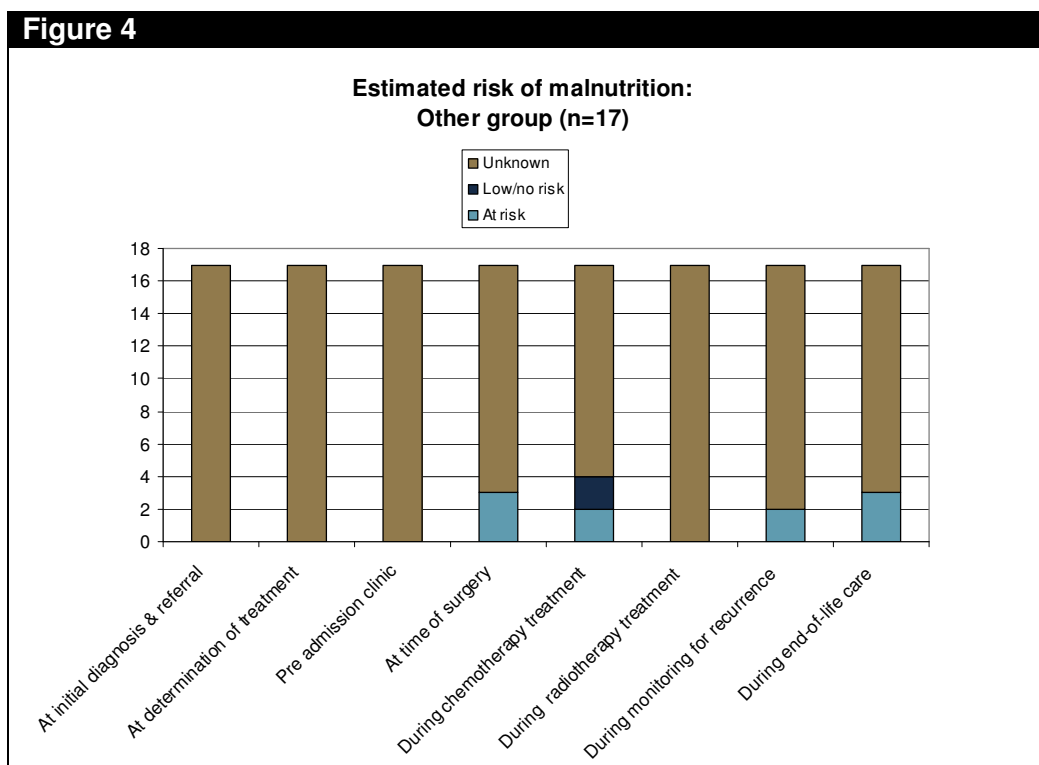


Figure four illustrates that again, in the 'other' group of patients there was little information contained in the medical records regarding their nutritional status, with an increased majority of files ranked as 'unknown' than compared with the specified group. There was an absence of information regarding nutritional status in all records prior to the time of surgery.

During chemotherapy treatment two records contained documentation of the nutritional status of patients who were low risk, which indicates some awareness of the importance of screening as a tool for early detection of risk of malnutrition.

Four of the 'other' group records contained a MUST in at least one stage of the treatment pathway. A further six contained sufficient information to allow estimation of nutritional status at one or more stages of treatment. Of these six files, five were rated as being "at risk" of malnutrition using the MST.

## Discussion

The medical record audit only reviewed the risk of malnutrition and malnutrition. Data was not collected regarding other disease or treatment-related problems which could potentially be alleviated through dietetic intervention. Such symptoms include taste changes, nausea, vomiting, swallowing difficulties and texture changes.

The reliability of the data collected via the audit was limited by the following factors:

- all pre and post-operative care for the specified and 'other' groups of patients is undertaken in consultants' private rooms and therefore not documented in the medical record
- not all volumes of the medical record were available for all files at the time of the audit
- some patients had not progressed through all stages of the care continuum at the time of audit
- limited information was available regarding nutrition screening and support provided during radiotherapy treatment as this information is held in the separate Peter MacCallum Cancer Centre record

Where MUST screening had been undertaken, the majority of patients had subsequently been assessed by the dietetic service. As two patients in the specified group did not receive dietetic intervention despite MUST scores greater than two, there is the potential for improvement with further investigation and review of referral processes.

Examination of the information contained in the medical records pertaining to the nutritional status of the patients indicate that there is a higher level of awareness of the risk of malnutrition in the specified cases than for those of UGI/HPB cancer patients as a whole. Commonly no information regarding nutritional status was documented in the medical records of the 'other' group of patients until there was some evidence of either malnutrition or risk of malnutrition.

It is important to note the recent introduction of routine supportive care screening, including that for nutritional issues now being undertaken at CDU at Moorabbin. It is anticipated that the increased access to dietitians and awareness of supportive care issues will:

- be valued by patients
- improve access to dietitian services for those found to be at risk of malnutrition or malnourished and
- improve patients' experience of their chemotherapy treatment.

## ***Opportunities for improvement***

There is potential to improve UGI/HPB cancer patients' experience of their cancer treatment and quality of life through early dietetic intervention across all stages of the treatment pathway. Prevention of nutritional deterioration has also been shown to improve patients' tolerance to treatment. Opportunities for improvement include:

- the provision of nutritional information to all UGI/HPB cancer patients, including information regarding when to seek specialist dietetic advice
- further education for health professionals involved in the care UGI/HPB cancer patients regarding the importance of nutritional screening and triggers necessitating specialist dietetic intervention
- the identification and implementation of a nutrition screening tool suitable for use by UGI/HPB cancer clinicians in their rooms and the promotion of screening at all consultations

- the provision of information to UGI/HBP MDT members regarding how to access specialist dietetic services for non-admitted patients identified as malnourished or at risk of malnutrition
- the development of referral pathway/ dietetic outpatient service appointment triage system to facilitate ensuring timely access to dietetic services. This may include referral of selected patients to community based dietitians and prioritisation of dietetics clinic appointments for those UGI/HPB cancer patients identified as malnourished or at risk of malnutrition.
- implementation of routine nutritional screening with all UGI/HPB cancer patients on admission
- the incorporation of dietitian review as part of the routine pre-admission assessment of patients undergoing one of the specified procedures
- establishment of an UGI/HPB dietetic clinic allowing for automatic referral of patients considered at high nutritional risk

## **Next steps**

SMICS will convene a meeting with the General Manager Allied Heath, Director Acute Allied Health and MMC Dietetic Manager to consider the opportunities for improvement discussed above and determine agreed action points.

## Appendix: Medical Record Audit Tool

Criteria	Patient Measure	1	2	3	4	5	6	7	8	9	10
<b>Documented evidence the need for dietitian support has been identified</b>	<b>0=No, 1=Yes</b>										
At initial diagnosis & referral	0=No, 1=Yes										
At determination of treatment	0=No, 1=Yes										
Preoperatively	0=No, 1=Yes										
Immediate post op	0=No, 1=Yes										
During chemotherapy treatment	0=No, 1=Yes										
During radiotherapy treatment	0=No, 1=Yes										
During monitoring for recurrence	0=No, 1=Yes										
During end-of-life care	0=No, 1=Yes										
<b>Documented evidence of referral to dietitian</b>	<b>0=No, 1=Yes</b>										
<b>By who?</b>	<b>Text</b>										
At initial diagnosis & referral	0=No, 1=Yes										
At determination of treatment	0=No, 1=Yes										
Preoperatively	0=No, 1=Yes										
Immediate post op	0=No, 1=Yes										
During chemotherapy treatment	0=No, 1=Yes										
During radiotherapy treatment	0=No, 1=Yes										
During monitoring for recurrence	0=No, 1=Yes										
During end-of-life care	0=No, 1=Yes										
<b>Documented evidence of full dietitian assessment</b>	<b>0=No, 1=Yes</b>										
<b>Tool used?</b>											
At initial diagnosis & referral	0=No, 1=Yes										
At determination of treatment	0=No, 1=Yes										
Preoperatively	0=No, 1=Yes										
Immediate post op	0=No, 1=Yes										
During chemotherapy treatment	0=No, 1=Yes										
During radiotherapy treatment	0=No, 1=Yes										
During monitoring for recurrence	0=No, 1=Yes										
During end-of-life care	0=No, 1=Yes										
<b>Documented evidence of dietitian review</b>	<b>0=No, 1=Yes</b>										
At initial diagnosis & referral	0=No, 1=Yes										
At determination of treatment	0=No, 1=Yes										
Preoperatively	0=No, 1=Yes										
Immediate post op	0=No, 1=Yes										
During chemotherapy treatment	0=No, 1=Yes										
During radiotherapy treatment	0=No, 1=Yes										
During monitoring for recurrence	0=No, 1=Yes										
During end-of-life care	0=No, 1=Yes										
<b>Documented evidence of referral between discreet dietetics services</b>	<b>0=No, 1=Yes</b>										
At initial diagnosis & referral	0=No, 1=Yes										
At determination of treatment	0=No, 1=Yes										
Preoperatively	0=No, 1=Yes										
Immediate post op	0=No, 1=Yes										
During chemotherapy treatment	0=No, 1=Yes										
During radiotherapy treatment	0=No, 1=Yes										
During monitoring for recurrence	0=No, 1=Yes										
During end-of-life care	0=No, 1=Yes										
<b>Estimated Nutrition Screening Tool score *</b>											
At initial diagnosis & referral	0 - 5, or 9										
At determination of treatment	0 - 5, or 9										
Preoperatively	0 - 5, or 9										
Immediate post op	0 - 5, or 9										
During chemotherapy treatment	0 - 5, or 9										
During radiotherapy treatment	0 - 5, or 9										
During monitoring for recurrence	0 - 5, or 9										
During end-of-life care	0 - 5, or 9										

<b>Estimated Nutrition Screening Tool Score</b>	
Insufficient information in medical record to estimate	9
Has the pt lost weight without trying?	No = 0
	Unsure = 2
If yes, how much weight?	1-5kg = 1
	6-10kg = 2
	11-15kg = 3
	>15kg = 4
Decreased appetite?	No = 0
	Yes = 1

## Abbreviations

DHS	Department of Human Services
JMPH	Jessie McPherson Private Hospital
MDT	Multidisciplinary team
MMC	Monash Medical Centre
MMCC	Monash Medical Centre, Clayton
MST	Malnutrition Screening Tool
MUST	Malnutrition Universal Screening Tool
SMICS	Southern Melbourne Integrated Cancer Service
UGI/HPB	Upper gastro-intestinal / Hepato-pancreato-biliary
VAED	Victorian Admitted Episode Data

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