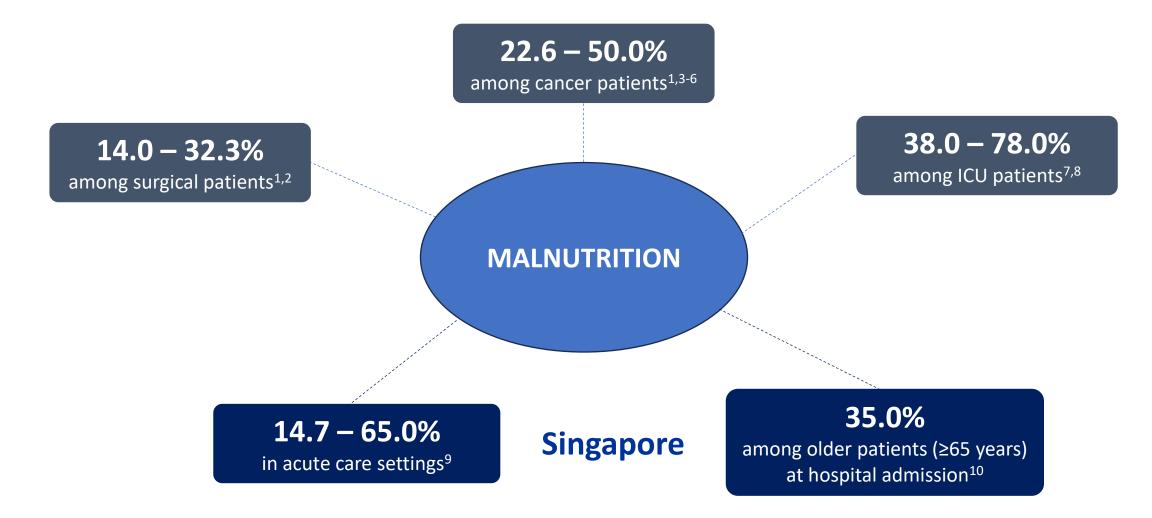
Nutrition Care after Hospital Discharge in Singapore

Evidence-Based Best-Practice Recommendations

Doris Hui Lan Ng^{1,†}, Frederick Hong Xiang Koh^{2,†}, Hazel Ee Ling Yeong^{3,†}, Terence Cheong Wei Huey^{4,†}, Koy Min Chue^{2,†}, Fung Joon Foo^{2,*,†} and Samuel Teong Huang Chew^{5,6,7,†}

Prevalence of malnutrition among hospitalised patients has not substantially changed since it was first reported in 1970s



1. Kamperidis N, et al. Clin Nutr ESPEN 2020;35:188–193; 2. Santos MLD, et al. Arq Bras Cir Dig 2022;35:e1663; 3. Cao J, et al. Curr Probl Cancer 2021;45(1):100638; 4. Gyan E, et al. JPEN J Parenter Enteral Nutr 2018;42(1):255–260; 5. Steer B, et al. Nutrients 2020;12(11):3493; 6. Zhang Z, et al. Nutrition 2021;83:111072; 7. Cattani A, et al. Nutr Rev 2020;78(12):1052–1068; 8. Lew CCH, et al. JPEN J Parenter Enteral Nutr 2017;41(5):744–758; 9. Wong A, et al. Proceedings of Singapore Healthcare. 2021;30(3):225-241; 10. Lim Y. Available from: https://eprints.qut.edu.au/44143/1/Yen_Peng_Lim_Thesis.pdf.

Malnutrition is associated with negative impacts on patients¹⁻³



Prolonged hospital stays



Increased risk of postoperative complication

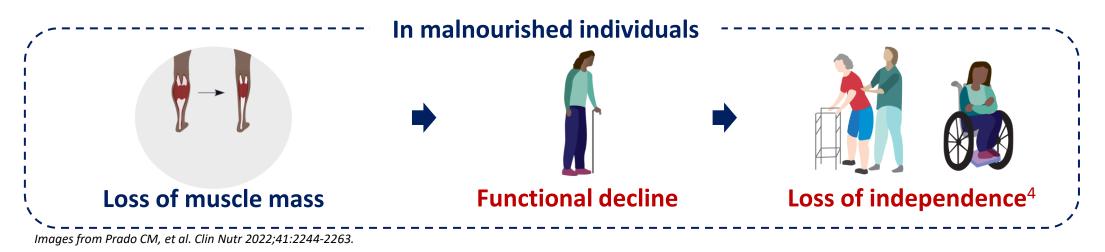




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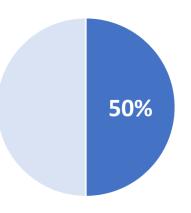


Increased risk of re-admission



1. Lim SL, et al. Clin Nutr 2012;31(3):345–350; 2. Wong ATC, et al. Ann Acad Med Singapore 2016;45:237–244; 3. Gn YM, et al. Can J Anaesth 2021;68(5):622–632; 4. Landi F, et al. Clin Nutr 2019;38(5):2113–2120.

Malnutrition and risk of malnutrition are prevalent at point of discharge



~50% hospitalised patients are malnourished at discharge.¹



Nutritional status often **declines during hospitalisation**,²⁻⁵ which may lead to longer hospital stay and readmission within 6 months after discharge.⁶

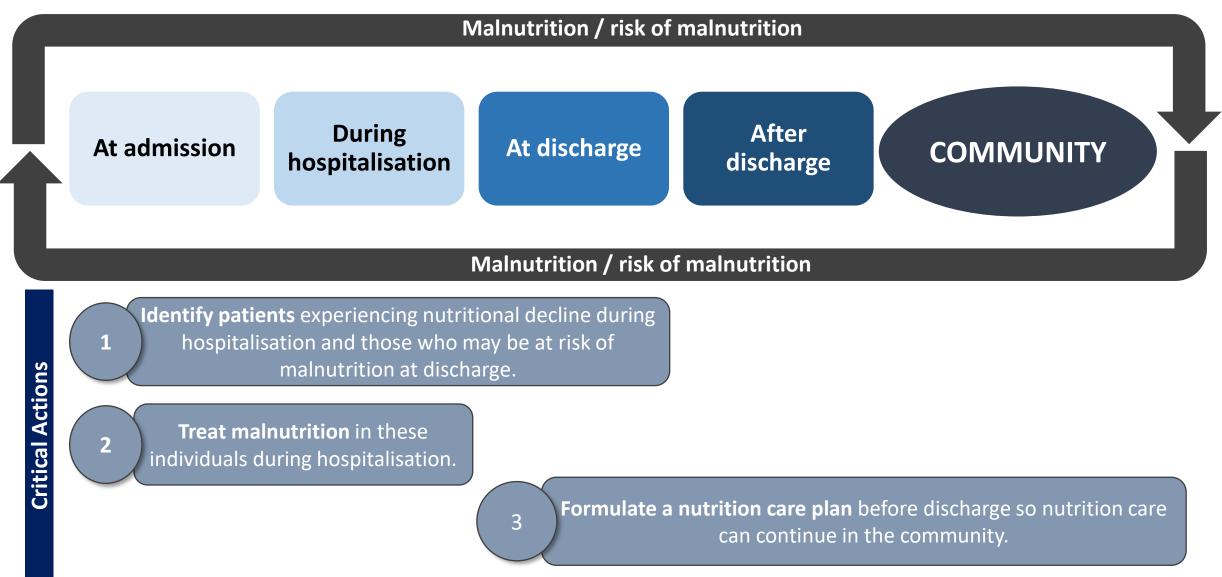
Geriatric patients



- With risk of malnutrition at discharge
 → 2-fold increase in mortality.⁷
- With sarcopenia and malnutrition/risk of malnutrition at discharge → 4-fold increase in mortality.⁷

1. Allard JP, et al. Br J Nutr 2015;114:1612–1622; 2.Cass AR, et al. J Hum Nutr Diet 2022;35(6):1043–1058; 3. Kitson AL, et al. BMC Health Serv Res 2013;13:299; 4. Leandro-Merhi VA, et al. Nutr Hosp 2021;38(4):749– 757; 5. Van der Werf A, et al. Support Care Cancer 2018;26(6):2039–2047; 6. Lima J, et al. Br J Nutr 2021;125(10):1132–1139; 7. Hu X, et al. Sci Rep. 2017;7(1):3171.

Addressing malnutrition during hospitalisation and before discharge is critical



Best practice recommendations: from a multidisciplinary expert panel in nutrition support, geriatrics, dietetics and surgery.

"What is the current best evidence to support best practices for nutrition care at and after discharge from hospital?"

The literature

Current best evidence on nutrition care after

Existing gaps / barriers in Singapore

discharge

٠

+

Short, anonymous national survey

- To gain preliminary insights on existing practices and identify gaps, if any, of nutrition care after hospitalisation in Singapore
 - 242 responses
 - 8 public general hospitals and 4 community hospitals

Evidence-based best practice recommendations for nutrition care after hospital discharge in Singapore

All patients should undergo nutrition screening within 24h of admission.

Recommendations from The Joint Commission International standard:

- Nutrition screening within 24h of admission, and
- At frequent intervals throughout hospitalisation.

Nutrition re-screening should be performed on a weekly basis during hospitalisation to identify individuals who may be experiencing nutritional decline.

Guidelines recommendation

- NICE: nutrition screening once a week for inpatients.¹
- ESPEN: re-evaluation of standard diet **5 days after hospitalisation**.²
- ESPEN: regular re-assessment of nutritional status is important for patients who have undergone surgery.³

^{1.} NICE. Available from: https://www.nice.org.uk/guidance/qs24/resources/nutrition-support-in-adults-pdf-2098545777349; 2. Thibault R, et al. Clin Nutr 2021;40(12):5684–5709; 3. Weimann A, et al. Clin Nutr 2021;40(7):4745–4761.

If a patient is at risk of malnutrition, any HCPs regardless of profession should be able to make a direct referral to dietitians for further assessment and intervention.

Nutrition intervention initiated in hospital positively affects clinical course.

- The EFFORT RCT: 21% reduction in adverse outcomes and a 35% reduction in mortality.¹
- 2023 umbrella review and meta-analysis: reduction in mortality for up to 12 months.²

Need for all patients at risk of malnutrition to be referred to dietitians for assessment and intervention to minimise adverse outcomes.

HCP, healthcare professional; RCT, randomised clinical trial.

1. Schuetz P, et al. Lancet 2019;393(10188):2312–2321; 2. Wong A, et al. Am J Clin Nutr 2023;S0002-9165(23)66023-X.

If a patient is at risk of malnutrition, any HCPs regardless of profession should be able to make a direct referral to dietitians for further assessment and intervention.

To ensure that all at-risk and malnourished patients can receive timely systematic assessment, appropriate and individualised interventions, and adequate monitoring and follow-up:

- **1.** Incorporate nutrition screening results in electronic health records to allow prompt communication between nursing staff and other HCPs
- 2. Electronic healthcare system should be programmed to **automatically initiate dietetic referral when a patient screens positive** on the nutrition screening tool at admission <u>and</u> before discharge
- 3. Conduct an **audit of nutrition screening and referral process on a regular basis** to facilitate consistent implementation.

Recommendation 4 All patients should undergo nutrition screening at discharge.

Data supporting the need for nutrition screening at discharge

During hospitalisation

Patients experience nutritional decline and weight loss.^{1,2}

After discharge

Malnutrition **remained prevalent in geriatric patients** even up to 4 weeks after discharge.⁶

Nutritional decline was associated with increased likelihood of re-admission and increased mortality after discharge.²⁻⁵ Nutritional recovery in older patients after hospitalisation is slow,^{7,8} thus they may **continue to have low nutritional intake and weight loss** at home in the community.⁹

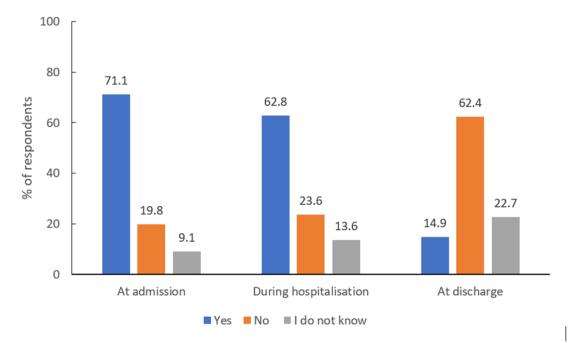
1. Van der Werf A, et al. Support Care Cancer 2018;26(6):2039–2047; 2. Bellanti F, et al. Nutrients 2022;14(4):910; 3. Sánchez-Rodríguez D, et al. Nutr Clin Pract 2019;34(2):304–312; 4. Hu X, et al. Sci Rep. 2017;7(1):3171; 5. Mogensen KM, et al. JPEN J Parenter Enteral Nutr 2018;42(3):557–565; 6. Andersen AL, et al. Nutrients 2021;13(8):2757; 7. Chen CC, et al. J Clin Nurs 2009;18(23):3299–307; 8. Marshall S, et al. J Aging Res Clin Pract 2015;4:197–204; 9. Young AM, et al. Nutr Diet 2018;75(3):283–290.

Recommendation 4 All patients should undergo nutrition screening at discharge.

But ...

Nutrition assessment at discharge is **not performed on a regular basis** by physicians¹ or hospitals²

Our survey results also showed that nutrition screening at discharge is **not presently implemented in hospitals in Singapore**. Figure S1. Nutritional screening at admission, during hospitalisation and at discharge.



Nutrition screening should be performed on all patients prior to discharge to avoid the negative outcomes associated with unaddressed malnutrition.

Recommendation 5 Use a validated screening tool that includes a disease activity/burden component.

Consensus recommendation

The use of a validated screening tool is recommended to identify patients at risk of malnutrition.^{1,2} GLIM criteria for diagnosis of malnutrition: at least <u>1 phenotypic criterion</u> (weight loss, low BMI or reduced muscle mass) + <u>1 etiologic criterion</u> (reduced food intake or assimilation, or disease burden/inflammatory condition).¹

Validated tools incorporating disease activity/burden component: MUST, MNA and NRS-2002.^{1,3}

BMI, body mass index; GLIM; Global Leadership Initiative on Malnutrition; MNA, Mini Nutritional Assessment; MUST, Malnutrition Universal Screening Tool; NRS-2002; Nutrition Risk Screening 2002.

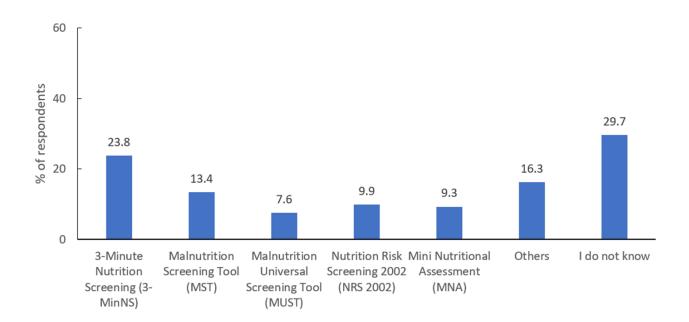
1. Cederholm T, et al. Clin Nutr 2019;38(1):1–9; 2. Volkert D, et al. J Clin Med 2019;8(7):974; 3. Van der Schueren MAE, et al. Clin Nutr 2022;41(10):2163–2168.

Recommendation 5 Use a validated screening tool that includes a disease activity/burden component.

Currently,

Our survey results also showed that various nutrition screening tools are used across institutions in Singapore.

Figure S2. Tools used for nutrition screening.



The use of the same screening tool by all public health institutions is encouraged to facilitate better communication across healthcare institutions.

An individualised nutrition care plan should be formulated for patients who have been assessed to be malnourished or at risk of malnutrition during hospitalisation or at discharge.

Data supporting the need for an individualised nutrition care plan

Presence of malnutrition / risk of malnutrition at admission indicates that the **underlying issue is already present prior to hospitalisation**,¹ thus the need for appropriate discharge planning. An individualised nutrition care plan ensures that nutrition care continues after patients are discharged from the hospital to the community. But patients are often discharged without such a plan.¹⁻³ HCPs (from hospital, primary care and community practices) infrequently make or receive a nutrition care plan post-hospital discharge.⁴

Implementing nutrition screening at discharge and enabling automatic dietitian referral after screening, as required, would help ensure that dietitians are involved in discharge planning.

HCP, healthcare professional.

1. Brooks M, et al. J Hum Nutr Diet 2019;32(5):659–666; 2. Holst M, Rasmussen HH. J Nutr Metab 2013;2013:463751; 3. Young AM, et al. J Frailty Aging 2015;4:69–73; 4. Keller H, et al. JPEN J Parenter Enteral Nutr 15 2022;46(1):141–152.

The individualised nutrition care plan provided should include the following information:

- Target weight achieving a body mass index (BMI) of at least 18.5 kg/m2 in those <70 years and 20 kg/m2 in those >70 years
- 2. Target energy and protein intake use ideal body mass index or estimated energy requirements plus 400 500 kcal for weight gain
- **3. Strategies to achieve target weight** (i.e., food fortification, small frequent meals, nourishing fluids, and oral nutrition supplements [ONS])
- 4. Duration of nutrition intervention
- 5. Dietetics follow-up appointment
- 6. Updates on nutrition care progress for primary-care physician.

The individualised nutrition care plan provided for Asians should include the following information:

Target weight - achieving a body mass index (BMI) of at least 18.5 kg/m² in those <70 years and 20 kg/m² in those >70 years

GLIM consensus recommendation

One of the criteria for the diagnosis of malnutrition: a BMI <18.5 kg/m² for Asians <70 years and <20 kg/m² for Asians >70 years.¹

The individualised nutrition care plan provided should include the following information:

2. Target energy and protein intake

Energy intake

ESPEN^{1,2}: at least 30 kcal/kg of actual body weight/day for:

- 1. older patients
- 2. those with an acute or chronic disease who are malnourished or at risk for malnutrition
- 3. those with disease-related metabolic stress.

To gain of 0.5 kg/week: an additional of at least 500 kcal/day is needed.^{3,4}

Protein intake

ESPEN¹: at least 1.2 g/kg of actual body weight/day is recommended for inpatients.¹

PROT-AGE⁵:

- 1.2–1.5 g protein/kg of body weight/day for older adults with acute or chronic disease
- up to 2.0 g protein/kg of body weight/day may be necessary for those with severe illness, injury, or severe malnutrition.

^{1.} Thibault R, et al. Clin Nutr 2021;40(12):5684–5709; 2. Volkert D, et al. Clin Nutr 2019;38(1):10–47; 3. Walker J, et al. Am J Clin Nutr 1979;32:1396-1400; 4. Nakahara S, et al. Nutrition 2021;84:111109; 5. Bauer J, et al. J Am Med Dir Assoc 2013;14(8):542–559.

Development of an Individualised After-Discharge Nutrition Care Plan

Recommendation 7

The individualised nutrition care plan provided should include the following information:

- **3. Strategies to achieve target weight** (i.e., food fortification, small frequent meals, nourishing fluids, and oral nutrition supplements [ONS])
- 4. Duration of nutrition intervention

Guidelines recommendations

ESPEN: Fortified food to support adequate dietary intake in older individuals with malnutrition or at risk of malnutrition.¹

Small frequent meals (characterised by multiple small meal consumptions throughout the day) in patients with inadequate dietary intake, but specific guidance on meal size, frequency and timing is required to prevent exacerbation of clinical conditions or other potential health complications.²

ESPEN: Additional snacks and/or finger food is also recommended to facilitate dietary intake in older individuals with malnutrition or at risk of malnutrition.¹

The individualised nutrition care plan provided should include the following information:

- **3. Strategies to achieve target weight** (i.e., food fortification, small frequent meals, nourishing fluids, and oral nutrition supplements [ONS])
- 4. Duration of nutrition intervention

ONS can improve intake of nutrients without reducing nutrient intake from food in older malnourished adults after discharge.¹

ESPEN Guidelines recommendations - ONS

Recommended for:

- older adults with malnutrition / at risk of malnutrition²
- polymorbid medical inpatients with or at risk of malnutrition³
- patients who have undergone surgery⁴
- cancer patients⁵
- ICU patients⁶
- older adults with malnutrition or at risk of malnutrition after discharge.²

ONS offered to older adults should provide at least 400 kcal/day including 30 g or more protein/day and that it should be continued for at least 1 month before re-assessment for effectiveness.²

In hospitalised older adults aged 65 and above with two or more chronic diseases, nutritional support should **continue for at least 2 months** if they are at high risk or have established malnutrition.³

The individualised nutrition care plan provided should include the following information:

- 5. Dietetics follow-up appointment
- 6. Updates on nutrition care progress for primary care physician.

Nutritional interventions should be **reviewed regularly by dietitians** and **continued until target dietary intake and target weight are achieved**.

Timely follow-up is thus needed to:

- 1. Monitor outcome of the interventions
- 2. Re-assess nutritional status
- 3. Re-adjust interventions if they are unsuccessful.

Adopt a simple nutrition care discharge checklist

Provide an individualised <u>discharge nutrition care plan</u> to patients/caregivers prior to discharge Inform <u>primary-care physicians</u> about the nutrition care <u>needs of the discharged patients</u>.

Recommendation 7 Template for nutrition care discharge checklist

Discharge Planning Process	Steps and Documentation	Tick Box and Date Completed
Patient Weighed	1. On admission	□
	2. During admission	□
	3. At discharge	□
Nutrition Screening	1. On admission	□
	2. During admission	□
	3. At discharge	□
Nutrition Screening	1. Not at risk	□
Status	2. At risk of malnutrition	□
Dietitian Referral	1. Not required	□
	2. Done	□
Nutrition Status at	1. Nourished	□
Discharge	2. At risk of malnutrition	□
	3. Malnourished	□
Individualised	1. Not required	□
Nutrition Care Plan	2. Provided	□
Provided to		
Patient/Family		
Memo to Relevant	1. Physician/Surgeon	
Multidisciplinary	2. Physiotherapist	□
Team for Nutrition	3. Speech Therapist	□
Care	4. Medical Social Worker	□
	5. Others	□

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Education on Post-	1. Patient	□
Discharge Nutrition	2. Care-giver	□
Care	3. Family	□
Post-Discharge	1. Dietitian	□
Nutrition Follow-up	2. Speech Therapist	□
Plan	3. Polyclinic/GP	□
	4. Physician/Surgeon	□
	5. Others	□

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Recommendation 7 Template for a discharge nutrition care plan

<u>(Name of Hospital)</u> Nutrition & Dietetics Nutritional Care Plan		Patient name: NRIC:	
Date: To: Patient/Family/Caregiver			
TO. I RUEIOI RIUN, ORIEGIVEI	Nutritio	nal Goals	
Estimated Nutritional	Energy Require	ment [kcal/kg/day]:	
Requirements	Protein Require	ement [g/kg/day]:	
	Fluid Requirem	luid Requirement [mls]:	
	Recommended	Nutritional Plan	
Dietary strategies to increa	se oral intake		
1.			
2.			
3.			
4.			
5.			
5. Diet Texture	🗆 Regu	lar 🛛 Easy to Chew 🛛 Soft and Bite Sized	
	🗆 Regu	lar □ Easy to Chew □ Soft and Bite Sized □ Minced and Moist □ Purced	
	C Regu	lar □ Easy to Chew □ Soft and Bite Sized □ Minced and Moist □ Pureed	
Diet Texture	0 Regu	I Minced and Moist I Pureed	
Diet Texture		Minced and Moist Pureed Thin Mildly Thick	
Diet Texture		I Minced and Moist I Pureed	
Diet Texture Fluid Consistency		Minced and Moist Pureed Thin Mildly Thick	
Diet Texture Fluid Consistency Nu Name of Nutritional		□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick	
Diet Texture Fluid Consistency		□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick	
Diet Texture Fluid Consistency Name of Nutritional Supplement		□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick	
Diet Texture Fluid Consistency Name of Nutritional Supplement Prescribed Volume and		□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick	
Diet Texture Fluid Consistency Name of Nutritional Supplement Prescribed Volume and	C:	□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick ments (if applicable)	
Diet Texture Fluid Consistency Nume of Nutritional Supplement Frescribed Volume and Frequency	C:	□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick	
Diet Texture Fluid Consistency Name of Nutritional Supplement Prescribed Volume and	C:	□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick ments (if applicable)	
Diet Texture Fluid Consistency Nume of Nutritional Supplement Frescribed Volume and Frequency	C:	□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick ments (if applicable)	
Diet Texture Diet Texture Fluid Consistency Name of Nutritional Supplement Prescribed Volume and Frequency Clinic Location Review Date and Time	tritional Supplet	□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick ments (if applicable)	
Diet Texture Fluid Consistency Name of Nutritional Supplement Prescribed Volume and Frequency Clinic Location	C:	□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick ments (if applicable)	
Diet Texture Diet Texture Fluid Consistency Name of Nutritional Supplement Prescribed Volume and Frequency Clinic Location Review Date and Time	C : tritional Suppler Follo Dietitian Name	□ Minced and Moist □ Pureed □ Thin □ Mildly Thick Moderately Thick □ Extremely Thick ments (if applicable) w Up	

Recommendation 7 Template for a memo to primary care physicians

MEMORANDUM FOR NUTRITIONAL CARE AFTER DISCHARGE (For Primary Care Doctors)

Date:

To: Primary Care Doctor

This patient [patient name], with NRIC [NRIC number], is [at risk of malnutrition / malnourished] and has been recommended the following nutritional plan:

Recommended Nutritional Plan		
1.		
2.		
3.		
4.		
5.		
6.		

The patient will be reviewed on [date and time] at [clinic location].

[Dietitian Name]

Nutrition & Dietetics Department [Hospital] [Contact number] [Email address]

Dietitians, physicians, nurses, physiotherapists, speech therapists and medical social workers should collaborate in the planning and delivery of an after-discharge nutrition care plan.

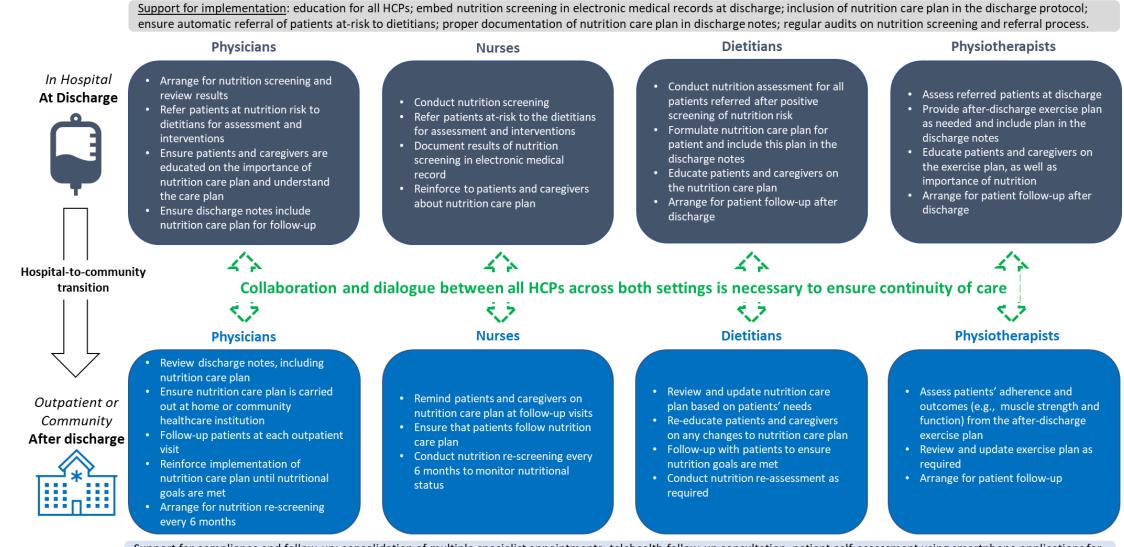
Dietitians	 Play a key role in the development of after-discharge nutrition care plan.¹⁻³ Aware of all available options related to provision of nutritional support and follow-up in their institutions Educate patients and caregivers about the importance of the after-discharge nutrition care plan
Physicians Surgeons	 Emphasise to patients and their caregivers the significance of nutrition as part of routine clinical care and the importance of adhering to nutrition advice and after-discharge follow-up plans Primary care physicians also need to be aware of the nutrition care needs of patients to ensure continuity of nutrition care.
Nurses	 Reinforce the importance of nutrition, ensure that patients and their caregivers understand the after-discharge nutrition care plan, and remind them about after-discharge follow-up plans.

1. Keller H, et al. JPEN J Parenter Enteral Nutr 2022;46(1):141–152; 2. Beck AM, et al. Clin Rehabil 2013;27(6):483–493; 3. Beck A, et al. Clin Rehabil 2015;29(11):1117–1128; 4. Inoue T, et al. JMA J 2022;5(2):243– 251; 5. Heiss CJ, et al. J Am Diet Assoc 2010;110(9):1290–3; 6. American Speech-Language-Hearing Association. Available from: https://www.asha.org/slp/clinical/dysphagia/diets/.

Dietitians, physicians, nurses, physiotherapists, speech therapists and medical social workers should collaborate in the planning and delivery of an after-discharge nutrition care plan.

Physiotherapists	 Their contribution is often overlooked but nutrition and physical therapy have synergistic effects in improving health and function.⁴ Educate patients on physical rehabilitation and exercises for bone and muscle health.
Speech therapists	 Assess swallowing problems that result in inadequate dietary intake.⁵ Work with dietitians to determine the appropriate diet consistency or texture to optimise intake.^{5,6}
Medical social workers	 Provide support to patients and caregivers in terms of financial assistance Liaise with community care providers to facilitate a smooth transition from hospital to community.

Summary - Roles of HCPs in planning, delivering and implementing a nutrition care plan during hospital-to-community transition



Support for compliance and follow-up: consolidation of multiple specialist appointments; telehealth follow-up consultation; patient self-assessment using smartphone applications for nutrition and muscle health screening.

Patients and their caregivers should be provided with adequate education related to after-discharge nutrition care.

A Singapore study suggest that an Ambulatory Nutrition Support model for after-discharge nutrition care (includes telephone calls and home visits in addition to outpatient clinics) may address the challenge of low follow-up rates after discharge, leading to better nutritional status and outcomes.¹

care.

Insights from survey

If patients and their caregivers are not aware of the negative impact of malnutrition after discharge, they may not perceive nutrition as being important to their health.

This may hamper uptake and compliance with nutritional interventions after discharge.

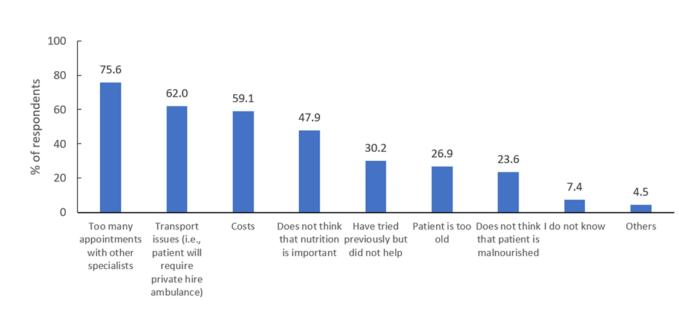


Figure S3. Common reasons given by patients or caregivers for declining post-discharge nutritional

Patients and their caregivers should be provided with adequate education related to after-discharge nutrition care.

100 80 of respondents 69.0 60 47.5 39.7 34.7 40 22.3 % 20 8.7 8.7 0 Insufficient Patient / caregiver Poor turn-up rate Nutrition care is Difficult to obtain I do not know Others decline as it is not a priority at dietetics dietitian perceived as not point of discharge appointment/long manpower essential nor waiting time for effective appointment

Figure S4. Barriers to providing follow-up dietetic appointments following discharge.

The lack of awareness of the importance of nutrition may also result in **negative perception towards nutritional interventions**, which in turn may cause patients and/or their caregivers to decline follow-up dietetic appointments.

Insights from survey

Patients and their caregivers need to understand the **importance of nutrition and exercise** - this helps facilitate their active participation in improving their nutritional health during hospital stay. They also need to **understand the afterdischarge care plan and the importance of adhering to it**.

Simple, easy-to-understand written materials (e.g., brochures) or access to free resources (e.g., via mobile phone app or telehealth consultation) on nutrition should be made available to all patients and their caregivers at discharge.

Collaborations amongst public health institutions, community healthcare partners, and community support groups are needed to support the continuum of care for patients.

Proper discharge planning should support the recovery process of patients in the community, but the liaison between hospital, primary care and community services are often lacking.¹

Hospital-to-community transition should incorporate dialogue and liaison between all key stakeholders (dietitians, physicians, nurses, physiotherapists and medical social workers) between both setups. A qualitative study by the Dutch Malnutrition Steering Group suggests identifying a coordinator for nutrition care as an important way to improve collaboration and communication across healthcare settings.²

Collaborations amongst public health institutions, community healthcare partners, and community support groups are needed to support the continuum of care for patients.

In Singapore:

- There is **currently no referral pathway** where discharged patients who are malnourished or at risk of malnutrition can continue to receive nutritional care and interventions.
- Structural support for the transition of nutrition care from hospital to community is lacking.

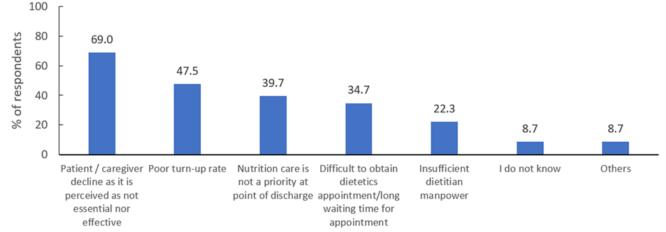


Figure S4. Barriers to providing follow-up dietetic appointments following discharge.

Insights from survey

There is a **demand for more dietitians** to care for patients in the community.

Implementation of best practice recommendations depends on education and collaborative efforts among various stakeholders, as well as government policy in funding

HCP education, including primary-care physicians, to improve awareness and knowledge on the importance of nutrition:

- 1. HCPs should be encouraged to attend local courses on nutrition support.
- 2. Provide adequate nutrition education early during undergraduate medical training

Public education on fundamental concepts:

- 1. Maintaining good nutritional health is essential to living well and strong
- 2. Proper nutrition and vitality is key to an independent and meaningful life across all ages

- Concerted efforts by policy makers, healthcare institution leaders and HCPs:
 - 1. Raising awareness and investing in education and training
 - Increasing focus on collaboration during care transition from acute settings to the community/primary care setting
 - 3. Making malnutrition as one of the key performance indicators for healthcare
 - 4. Involvement of Ministry of Health as a major stakeholder in promoting and advocating the importance of nutritional health for all patients.

Conclusion

Much remains to be done to address malnutrition during hospitalisation, at discharge and after discharge.

Reduce and prevent malnutrition before, during and after hospitalisation

Sustain and spread of best practices in nutritional care across institutions in Singapore

Best practice recommendations to improve putrition care process at

improve nutrition care process at and after discharge

Malnutrition during hospitalisation, at discharge and after discharge

- **Nutrition screening** during hospitalisation and at discharge is essential to identify patients who are malnourished or at risk of malnutrition prior to discharge.
- An **individualised nutrition care plan** should be formulated and explained to these patients so they can return to the community, armed with knowledge and means to recover their nutrition status and overall health.

Nutrition Care after Hospital Discharge in Singapore





Article

Nutrition Care after Hospital Discharge in Singapore: Evidence-Based Best-Practice Recommendations

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Thank you!