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An evaluation of current home enteral nutrition services at principal referral hospitals in New South Wales, Australia

Sahrish Sonia Faruquie[1] MNutrDiet, APD, Masters Research Dietitian
Elizabeth Kumiko Parker[2,3] MSc (Nutr&Diet), APD, Senior Clinical Dietitian
Peter Talbot[2] MSc(Med), APD, Department Head

[1]The University of Sydney, NSW 2006, Australia. Email: sfaruquie@gmail.com
[2]Department of Dietetics and Nutrition, Westmead Hospital, PO Box 533, Wentworthville, NSW 2145, Australia. Email: peter.talbot@health.nsw.gov.au
[3]Corresponding author. Email: elizabeth.parker@health.nsw.gov.au

Abstract

Objective. This cross-sectional study investigates the home enteral nutrition (HEN) services of public principal referral hospitals in NSW, Australia, comparing their services to best practice guidelines for HEN.

Methods. HEN service processes were investigated using an online questionnaire and telephone interview with the dietitian primarily working with HEN at each hospital.

Results. Participating hospitals reported a total of approximately 3200 HEN patients, 76% required oral nutrition support. Only 69% of hospitals had a dietitian allocated to their HEN service and no hospitals had established multidisciplinary teams to manage HEN patients. Post-discharge follow-up, as recommended for tube fed and oral patients, was achieved by 8% and 15% of hospitals respectively. Forty-six per cent of dietitians were satisfied and 46% of dietitians were dissatisfied with current HEN services provided, and reported the following improvements were required: increased clinical resources allocated to HEN dietitian/coordinator; increased outpatient services (home visits, outpatient clinic, multidisciplinary clinic); and an efficient registration process and database.

Conclusions. HEN services among participating hospitals are inconsistent, demonstrating gaps in service provision. Baseline assessment scores varied, with an average of 61% of recommendations currently in use. Best practice guidelines are not firmly adhered to due to limited funding and allocated resources for HEN.

What is known about the topic? HEN is recognised as a cost-effective and reliable way of treating patients requiring nutrition support post hospital discharge. There are best practice guidelines available to ensure quality care is provided to HEN patients in the community or home setting. As there is no national framework in place for HEN in Australia, currently total patient numbers are unknown and each state and territory provides different levels of service delivery and funding for HEN. It is unknown how guidelines in Australia have been implemented and practiced, as no studies were found that have audited HEN services in Australia.

What does this paper add? From the participating hospitals we were able to obtain updated data on HEN patient numbers (~3200). This paper reports on baseline scores in meeting best practice HEN guidelines for tertiary referral hospitals in NSW, Australia and identifies gaps in service provision. It is essential to identify reasons that limit adherence to HEN guidelines, as consequences may include unnecessary re-admissions to emergency departments or hospitals, increasing healthcare costs. Our study found notable differences in service provision ranging from 29% to 86% of recommendations of HEN guidelines achieved, and identified a lack of multidisciplinary teams to manage HEN patients.

What are the implications for practitioners? We found HEN services among principal referral hospitals are inconsistent and best practice guidelines are currently not adhered to. National guidelines together with local health policies assist in defining the required standard of care, enhance service delivery and promote clinical excellence. We found the NSW Health Agency for Clinical Innovation HEN Implementation Checklist to be a practical tool for obtaining baseline scores for adherence to best practice guidelines. Regulation of HEN will be positive for HEN users by ensuring a more equitable service is available by introducing consistent funding for HEN nationally. However, it is the responsibility of states and local health districts to implement guidelines, contributing to better health and quality of care provided to patients.

Additional keywords: dietitians, nutritional support.

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Introduction

Home enteral nutrition (HEN) involves the provision of oral nutrition support (ONS), or enteral tube feeding (TF) to patients in the home setting.[1–3] Nutrition support is often started in hospital for patients with malnutrition or at risk of malnutrition. HEN is recognised as a cost-effective and reliable way of treating patients requiring nutrition support after hospital discharge[4] and is associated with improved health outcomes, fewer hospital re-admissions and reduced healthcare costs.[1,5] The best HEN care is provided to patients when there is access to appropriate clinical care given by trained and qualified healthcare professionals, along with access to affordable nutrition formula.[6,7]

Currently there is no national funding or framework in place for the provision of HEN services in Australia. Each state and territory provides different levels of funding and service delivery. This has resulted in inconsistent and at times fragmented and inequitable delivery of HEN services.[7] National guidelines together with local health policies assist in defining the required standard of care, enhancing service delivery and promoting clinical excellence.[8] The NSW Health Agency for Clinical Innovation (ACI) has developed best practice guidelines for clinicians in NSW based on existing national and international policies for HEN, to provide a standard service framework to manage adult and paediatric HEN patients in the community.[1] The guidelines detail how to administer the following aspects of HEN services: organisation; initiation; implementation; monitoring; transition; and termination of HEN.[1] Additionally, a HEN service implementation checklist is available to facilitate individual sites to assess and improve their HEN services and address the inequity in service provision.[1]

It is unknown how the ACI HEN guidelines have been implemented and practiced in NSW. There have been benefits of conducting clinical audits of nutrition practice for both parenteral nutrition and HEN.[9] A recent national audit of practice guidelines for parenteral nutrition in England noted that 81% of inpatients failed to receive a good standard of care when cases were externally reviewed.[9] As a greater number of patients use HEN than parenteral nutrition, it is important to assess the implementation of care for HEN patients. There is a lack of studies on audits of HEN practices both in Australia and internationally.

The aims of the present study were to: (i) describe the current HEN services provided at the principal referral hospitals of NSW; and (ii) compare each service to the ACI HEN Service Guidelines Implementation Checklist. As there is a lack of Australian HEN studies, the present study will provide insight into current HEN services and provide data to policy makers.

Methods

This study included the public principal referral hospitals in NSW, also known as Peer Group A1 hospitals. A list of the 14 Peer Group A1 hospitals was obtained from the NSW Ministry of Health website.[10] One of the Peer Group A1 hospitals was excluded from this study as no HEN services or nutrition and dietetics department were available; the Peer Group A1 hospitals were selected as a starting point in obtaining data on HEN patients.

Two questionnaires were used for this cross-sectional study. A self-administered online questionnaire was developed consisting of 27 questions to evaluate HEN service processes. Questions were divided into three main sections relating to: (i) clinical resources; (ii) patient monitoring; and (iii) dietitian satisfaction. All questions had tick-box options with an option to add additional comments. The developed questionnaire was piloted at one hospital site and reviewed by the NSW Health ACI Nutrition Network Manager, and refined based on feedback received before officially conducting the survey.

The second questionnaire used was the HEN Service Implementation Checklist developed by the ACI.[1] The checklist consists of 28 measures recommended to meet best practice guidelines. Baseline scores were obtained for each participating hospital by dividing the number of measures currently in place by the total 28 measures.

An invitation letter was mailed to the Head of Department (Nutrition and Dietetics) at each principal referral hospital. A participant information sheet and consent form with a reply-paid self-addressed envelope were mailed to the dietitian primarily involved in HEN at each hospital. Participation was voluntary, and participants could withdraw from the study at any time. After obtaining written consent, the participating dietitian was emailed a link to the online questionnaire, which required around 30 min to complete. A reminder email to complete the online questionnaire or notify of withdrawal was sent 1 and 2 weeks after the initial email to those who had not completed the questionnaire by the requested date.

The second questionnaire (ACI HEN Implementation Checklist) was interviewer-administered using a structured interview, taking around 30 min to complete. Interviews were conducted over the telephone with the participating dietitian from each hospital at a time suitable to participants. Notes were taken during the interview process and common themes were grouped and ranked. All telephone interviews were conducted by the same study investigator.

For confidentiality, each participating hospital was randomly allocated a letter ranging from A to M. Data was analysed using descriptive statistics in Microsoft Office Excel 2010 (Microsoft, Redmond, WA, USA). Data was collected in 2014. Ethics approval was received from the Western Sydney Local Health District Human Research Ethics Committee.

Results

All 13 principal referral hospitals invited to take part in the study agreed to participate. There was at least one hospital representing each of the eight local health districts in metropolitan NSW and a hospital representing rural/regional NSW. The majority of HEN patients were receiving ONS only (76%) compared with TF only (23%) and both (1%) (Table 1). Eleven hospitals (85%) reported having a HEN patient-monitoring system, of these, two hospitals reported a database was maintained only for TF HEN patients.

Table 2 displays information relating to available HEN services at the participating hospitals. Nine hospitals (69%) reported having a HEN dietitian/coordinator, and of these, five hospitals reported the full-time equivalent allocated to HEN ranged from 0.1 to 0.8. All 13 hospitals (100%) reported there was no multidisciplinary team for HEN; however nine hospitals (69%) reported the dietitian was able to refer patients to other healthcare professionals if required. The most common responsibilities of

Table 1. Data on home enteral nutrition (HEN) patients of the principal referral hospitals in NSW
N/A, not applicable; –, HEN patient data unknown; both, oral HEN and tube fed

Hospital	Number of beds	Patients >18 years old (oral HEN)	Patients >18 years old (tube fed)	Patients >18 years old (both)	Patients <18 years old (oral HEN)	Patients <18 years old (tube fed)	Patients <18 years old (both)	Total HEN patients[B]
A	>700	367	89	28	0	0	0	484
B	500–700	–	19	–	0	0	0	19
C	>700	–	13	–	–	34	–	47
D	300–500	60[A]	15	5	0	0	0	80
E	100–300	70	3	0	0	0	0	73
F	>700	100[A]	6	0	10[A]	0	0	116
G	>700	330[A]	15	–	0	0	0	345
H	300–500	200[A]	60[A]	–	–	–	–	260
I	300–500	383	41	–	0	0	0	424
J	500–700	200[A]	100[A]	–	50[A]	20[A]	–	370
K	>700	449	64	–	132	98	–	743
L	500–700	100[A]	20[A]	1	–	20[A]	–	141
M	300–500	–	97	–	–	19	–	116
TOTAL[B]	N/A	2259	542	34	192	191	–	3218

[A]Estimated number of HEN patients provided by hospital.
[B]Total numbers may not be precise due to estimates and missing data.

the HEN dietitian/coordinator were to: develop and update HEN policies and procedures ($n = 9$, 69%); review HEN patients ($n = 8$, 62%); work on quality improvement projects ($n = 8$, 62%); enter data into the HEN database ($n = 6$, 46%); report to management about HEN services ($n = 6$, 46%) and provide clinical coordination of HEN patients ($n = 5$, 38%).

Only three hospitals (23%) offered a co-payment plan to HEN patients. There were inconsistencies among the hospitals regarding the reported level of co-payment provided. For example, the cost of oral supplement and enteral feeds was capped at one facility with two levels of subsidies (one for adult Centrelink-issued concession card and one for non-concession card holders). Another facility reported co-payments were offered to patients 100% reliant on HEN if costs associated were greater than $50 per week and to patients who required supplementary HEN in addition to oral intake with costs greater than $25 per week.

From the online questionnaire we found the level of service available for HEN patient reviews included, for oral HEN patients: outpatient clinics ($n = 8$, 62%); telephone review ($n = 8$, 62%); and home visits ($n = 3$, 23%). Four hospitals (31%) reported no routine follow-up was available. For TF HEN patients, reviews included: outpatient clinic ($n = 10$, 77%); telephone review ($n = 10$, 77%); and home visits ($n = 6$, 46%). One hospital (8%) reported no routine follow-up was available.

As seen in results from the ACI HEN Implementation Checklist (Table 3), only 8% ($n = 1$) and 15% ($n = 2$) of hospitals are meeting the recommendation of face-to-face review for new TF and oral HEN patients, respectively. However, results obtained from the online questionnaire (Fig. 1*a*) demonstrated that seven hospitals (53%) were able to conduct a review for TF HEN patients within 1 week of hospital discharge, although this is mostly completed by telephone due to limited staffing resources.

Almost half (46%; $n = 6$) of the surveyed hospitals met the recommended review of all HEN patients at 6-monthly intervals, as per the ACI HEN Implementation Checklist (Table 3). The results from the online questionnaire supported this for long-term (registered for >1 year) TF HEN patients in seven hospitals (54%) (Fig. 1*b*). For oral HEN only five hospitals (38%) reported reviewing long-term HEN patients every 6 months, and another five hospitals (38%) reported that oral HEN patients were not routinely reviewed (Fig. 1*b*). When evaluating the overall HEN service of participating hospitals using the ACI HEN Implementation Checklist, the mean baseline score of measures currently implemented is $61 \pm 17\%$ (Fig. 2).

The participating dietitian primarily involved in HEN from each participating hospital reported the following level of satisfaction with HEN services at their facility: satisfied ($n = 6$, 46%); dissatisfied ($n = 6$, 46%); neither satisfied nor dissatisfied (n=1, 8%). When asked to comment on possible changes to improve current HEN services, common themes included: resources to provide home visits to patients unable to attend a clinic ($n = 9$, 69%); the need for funding allocated towards appointing a HEN dietitian/coordinator or increasing existing full-time equivalent allocation towards HEN ($n = 8$, 62%); a coordinated outpatient review clinic and incorporating multidisciplinary teams to manage HEN patients ($n = 7$, 54%); and a more efficient registration system and database ($n = 5$, 38%).

Discussion

Due to limited information published on HEN in the Australian context, this study aimed to gain an understanding of the current status of HEN in the state of NSW, by reviewing HEN services available to patients at principal referral hospitals.

In 2007, an estimated 8000–10 000 HEN patients were reported across the state's public hospitals, with a predicted growth rate of 20% each year.[11] However, the accuracy of this reported number of patients and predicted growth rate have been recently questioned.[12] Overseas, the increase in newly registered TF HEN patients was reported to be only 5% from 2009 to 2010,

Table 2. Current home enteral nutrition (HEN) services available at the dietetic departments of the principal referral hospitals in NSW ($n = 13$)

LHD, local health district; NA, not applicable

Hospital	Is there a HEN dietitian/ co-coordinator?	Is there a multi-disciplinary team for HEN?	Is a HEN monitoring system in place (e.g. HEN database)?	Who is responsible for maintaining data entry about HEN patients?	Does your hospital or LHD have a HEN policy?	Are co-payments offered to HEN patients?	What is the process for registering a HEN patient with the nutrition company?
A	Yes	No	Yes	HEN dietitian/coordinator	Yes	No	Fax, email
B	Yes	No	Yes	Clinical dietitians	Yes	No	Fax, online registration
C	Yes	No	Yes	Clinical dietitians	Yes	No	Email
D	Yes	No	Yes	HEN dietitian/coordinator	Yes	No	Email
E	No	No	Yes	HEN dietitian/coordinator	No	No	Fax, email, online registration
F	Yes	No	Yes	HEN dietitian/coordinator	Yes	Yes	Fax, email, online registration
G	No	No	Yes	Clinical dietitians	Yes	No	Not applicable. Orders processed by individual hospital site
H	Yes	No	No	N/A	Yes	Yes	Fax, email, online registration
I	No	No	Yes	Administration staff	No	No	Fax, email, online registration
J	Yes	No	Yes	HEN dietitian/coordinator	Yes	No	Fax, email
K	Yes	No	Yes	HEN dietitian/coordinator and HEN, administration staff	Yes	Yes	Fax, email, managed by site
L	Yes	No	Yes	Clinical dietitians	Yes	No	Email, online registration
M	No	No	No	N/A	No	No	Fax, email, online registration

suggesting the growth in TF HEN is small.[13] In the present study ~3200 HEN patients were reported by the 13 principal referral hospitals, suggesting that HEN patient numbers in NSW may have stabilised and have not increased as rapidly as previously reported.[3,11] However, this figure is likely to be an underestimate due to inconsistent monitoring practices resulting in unknown patient numbers, particularly for oral HEN (Table 1). Similarly, in 2009 a survey conducted in WA found 1635 patients were receiving HEN, however, this number is said to be an underestimate due to the non-existence of a data-collection system.[14]

A small number of paediatric HEN patients (<400) are reported in this study, as some participating hospitals provide inpatient services for children and adolescents; the number of paediatric HEN patients is presumably greater.

HEN patient numbers in Australia remain unknown due to the lack of a centralised monitoring system and the reliance on individual hospitals to develop and maintain their own patient-monitoring systems. A state-wide or national HEN registry would allow more accurate reporting of rates of HEN and enable trends in HEN to be identified. A voluntary electronic reporting tool (e-BANS) used in the UK assists in producing yearly reports monitoring HEN trends such as outcomes, standards of care and problems associated with nutrition support (TF only). The data collected contributes to planning and delivery of high-quality care.[13]

In the present study we found three hospitals (23%) offer financial assistance to HEN patients for costs associated with nutrition formula. HEN is considered costly for some patients and costs can differ greatly; however, patients have access to NSW HEN tender prices that are at least 50% cheaper than retail costs. Monthly HEN costs to patients reported in 2007 were $60–$174 for ONS and $110–$932 for TF patients.[11]

There are few estimates of the cost of HEN services to NSW Health. A business case for NSW HEN services developed by the ACI and Enable NSW in May 2010 indicated some of the costs associated with HEN. Suppliers' data showed there were 35 000 HEN transactions per year through the NSW HEN contract, which came to a cost of $3 million. The business case proposed a HEN Area Health Service Model for clinical care and a Distributers' Administration Model for the supply of HEN products. The cost to NSW Health for these models would be $2.44 million in the first year and $2.125 million in subsequent years. The latest health costs for HEN services developed by the Independent Hospital Pricing Authority indicates the current study population of 3218 HEN patients would cost NSW Health $6.66 million per annum (i.e. 0.04% of the NSW Health budget for 2014–2015).[14]

In Australia there is no national funding for HEN, and NSW and WA are the only two states that do not provide subsidies for nutrition formulae to patients in need of ONS or TF at home. Nationally, most states and territories cover some costs associated with nutrition formula. Currently TF is fully funded by three states and territories (NT, SA, VIC), with co-payments offered in another two states (QLD, TAS), and co-payments for some patients in ACT. In relation to ONS, three states (QLD, SA, TAS) offer co-payments.[7,11] However, the eligibility criteria varies between the states and territories that provide funding. Where full funding is available the cost is covered by individual hospital sites or regional budgets.[7,11,15] These inconsistencies in funding

Table 3. Scores of the principal referral hospitals against the NSW Health Agency for Clinical Innovation home enteral nutrition (HEN) implementation guidelines[2] ($n = 13$)

Section	Measure		Current level of achievement		
			In place	In progress	Not in place
Nutrition support health professionals	All HEN patients have access to nutrition-support health professionals	Dietitian	84%	8%	8%
		Nutrition support nurse	46%	8%	46%
		Speech pathologist	77%	8%	15%
		Medical practitioner	84%	8%	8%
	The health professionals providing HEN care are: appropriately qualified; attend appropriate and regular training on HEN care; liaise with referring and other health professionals		77%	23%	0%
	There is a coordinated HEN service and an expert lead		46%	8%	46%
	The role of each health professional involved in HEN is defined and communicated to each member of the team		38%	8%	54%
Selection and assessment	There are local policies or guidelines in place to ensure appropriate: patient selection for HEN; patient assessment		46%	31%	23%
Nutrition support access	There are nutrition support health professionals who have appropriate expertise to: determine the appropriate nutrition support access route; insert, remove and replace HEN access devices		77%	15%	8%
	Standard techniques and protocols exist for the proper care and management of enteral access		46%	31%	23%
Delivery methods, selection of formula and timing of feeds	There are local policies or guidelines in place to ensure appropriate selection of: HEN delivery methods; formula; rate and timing		38%	38%	24%
Nutrition care plan	An appropriate nutrition care plan is developed for each HEN patient with input from patient/carers and all relevant health professionals		84%	8%	8%
	The patient or carer receives a copy of the nutrition care plan		92%	8%	0%
	The nutrition care plan is communicated to all nutrition-support health professionals and the patient's general practitioner		54%	23%	23%
Implementation	HEN patients/carers receive relevant training and education on nutrition support		100%	0%	0%
	Written education resources specific to the patients assessed needs and ability are provided to HEN patients/carers		92%	0%	8%
Monitoring and review	A review schedule is planned for each HEN patient and communicated to the patient/carer		77%	15%	8%
	For tube fed HEN patients, an initial home visit is arranged within the first week after transfer home		8%	8%	84%
	For oral HEN patients, an initial review (telephone/ clinic/ home visit) is conducted within 2 weeks of transfer home		15%	23%	62%
	All HEN patients are reviewed by nutrition-support health professionals after the first 3 months of initial treatment, and then at no longer than 6-monthly intervals		46%	16%	38%
	There is a single point of contact for HEN patients		62%	0%	38%
	There are local policies or guidelines outlining the parameters to be monitored		54%	8%	38%
Transition feeding	There are systems in place to ensure appropriate assessment and nutritional adequacy for HEN patients who transition from tube feeding to oral diet		84%	8%	8%
Termination	The HEN service includes protocols on appropriate HEN termination		31%	23%	46%
Medical record	Medical records are appropriately maintained for all HEN patients		84%	8%	8%
Policies and procedures	The HEN service is guided by up-to-date local policies and procedures on the scope and provision of HEN services		61%	8%	31%
	There is a local system in place to record and monitor the review schedule of all HEN patients		54%	23%	23%
Quality assurance	The HEN service undertakes quality improvement activities and outcome measurement, including patient satisfaction		38%	31%	31%

have resulted in a fragmented and inequitable delivery of HEN services.

Overseas, countries such as the UK, US, New Zealand and some European countries provide more consistent funding for HEN services, which are either fully or partially funded.[7,16–18] There is a financial benefit to hospitals, including faster patient discharge, when nutrition support can be continued in the community or home setting.[19] Studies in the UK found nutrition support in the home setting to be much more cost-effective than patients utilising nutrition support in the public hospital system.[20,21]

The present study identifies gaps in service provision between the participating hospitals, mainly around HEN costs and co-payments, data collection and management, patient reviews, and dietetic resources allocated to HEN. Staffing resources are below recommendations of 1.0 full-time equivalent HEN dietitian and

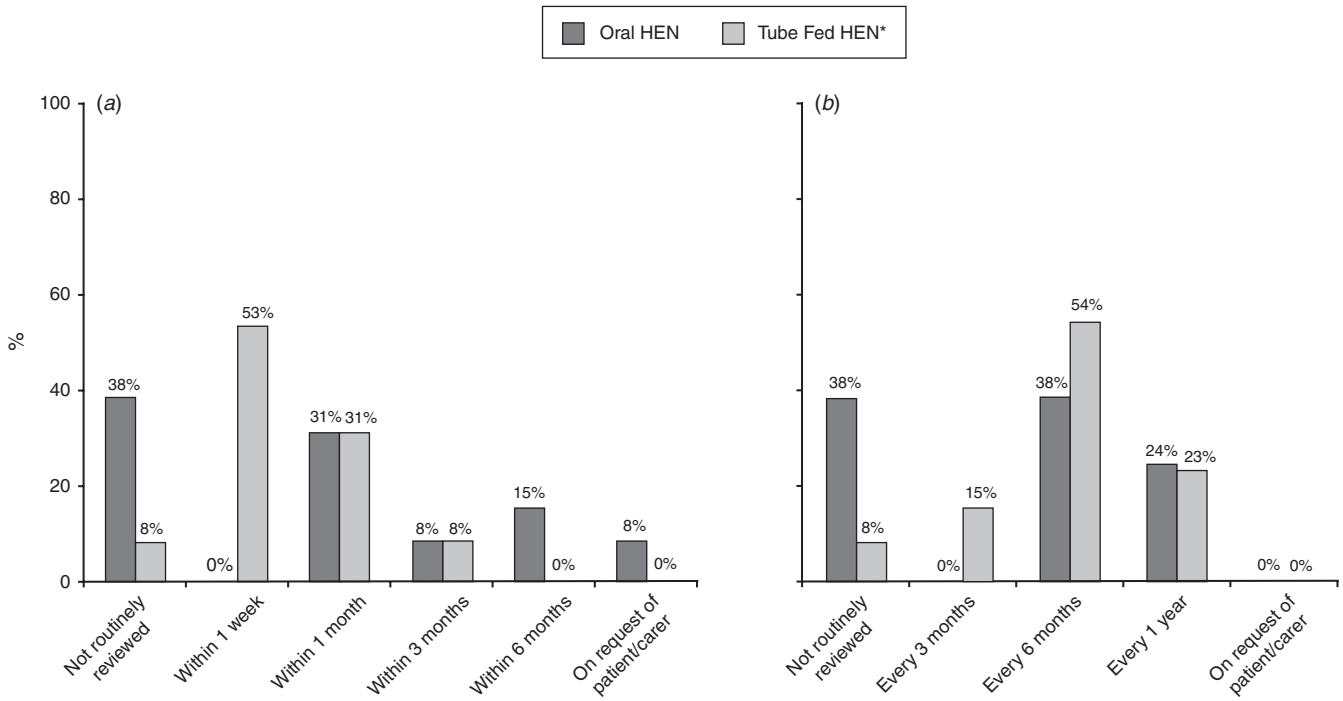

Fig. 1. Monitoring and review of home enteral nutrition (HEN) patients at principal referral hospitals. (*a*) Initial review for new HEN patients; (*b*) frequency of review for long-term HEN patients. *Includes patients on tube feeding only and combination of oral and tube feeding.

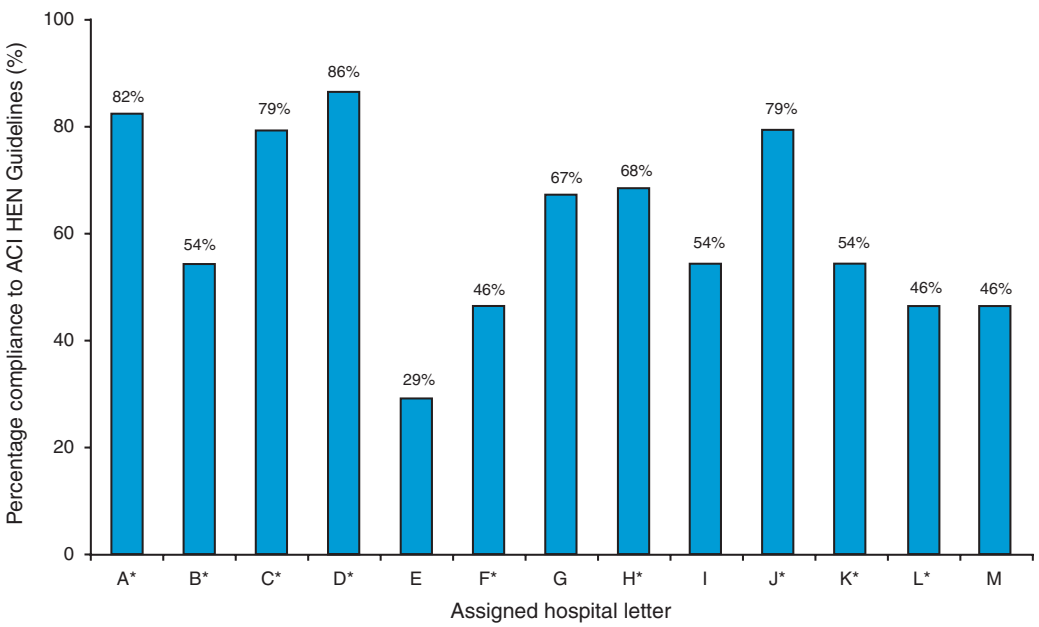

Fig. 2. Total scores for measures in place for home enteral nutrition (HEN) services at the principal referral hospitals assessed against the Agency for Clinical Innovation HEN Guidelines. *Hospitals that have a HEN coordinator.

HEN coordinator for approximately every 200 and 900 HEN patients respectively.[11]

Inequity in service provision could result in suboptimal clinical care and greater costs to the community due to varied health outcomes of patients and avoidable re-admissions to hospital.[1,17,21,22] Health inequities may be reduced by government commitment, such as the federal government working in collaboration with state governments to consider healthcare funding for HEN to allow subsidies to be consistent nationally. Furthermore, potential benefits reported from using and adhering

to HEN include reduced morbidity, improved patient quality of life,[23,24] reduced length of hospital stay and patients being treated in the community, hence decreasing hospital expenditure.[8,11]

Compared with the ACI HEN service guidelines, we found the participating hospitals' HEN services are currently not standardised or following best practice. Considerable differences in baseline scores were established, they ranged from 29% to 86%, demonstrating gaps in service provision. Hospitals that attained higher scores had a HEN dietitian or coordinator (Fig. 2). A previous study reported hospital sites with HEN coordinators had improved patient satisfaction and care, improved efficiency, including timely reviews, and less administration.[11] Furthermore, it is concerning that none of the participating hospitals had multidisciplinary teams in place to manage HEN patients, as some participants reported carrying out tasks they believed were beyond their scope. Additionally, if patients are not satisfactorily reviewed, this prevents the completion of a validated nutrition assessment which is essential to monitor changes in nutritional status.[25] Multidisciplinary teams for nutrition support services ensure quality of care is provided, as the role of each healthcare professional will vary based on their area of expertise (e.g. doctors, dietitians, specialist nurses, speech pathologists).[1,26–29] Studies have reported patient follow-up by multidisciplinary teams are cost-effective and allow HEN-related complications to be dealt with in the community, avoiding emergency department admissions and reducing hospital costs.[1,28,30–33]

Limitations of the present study were that only one dietitian participated from each hospital, and where required data was not available, the dietitian was relied upon to estimate this information. However, the participating dietitian was the most knowledgeable person with regards to HEN services at each hospital. Furthermore, the ACI HEN Implementation Checklist was self-reported rather than independently audited. Also, community services, small regional and children's hospitals that also have access to the NSW Government Enteral Feeding and HEN Contract were not included, which may underestimate gaps in service. This study excluded nursing home residents, as nutrition support at these facilities is covered by federal funding.[7,34]

One strength of this study was the 100% response rate that provided valuable insights into HEN services of large hospitals state-wide. As the Peer Group A1 hospitals are the largest public referral hospitals in NSW, it is assumed their HEN services represent a large proportion of all HEN patients in the state. Therefore, this study provides a starting point for obtaining data on HEN patients state-wide.

Further research is needed to obtain regular qualitative feedback from HEN patients and to evaluate if meeting HEN service guidelines improves patient outcomes. Larger studies are needed to conduct clinical audits, and investigate HEN services of rural, children's and smaller metropolitan hospitals and community services to obtain additional information on HEN service processes. This will also assist in gathering additional new data on HEN patients.

Conclusion

HEN services at the principal referral hospitals in NSW are inconsistent. The continuum of patient care based on best practice guidelines is not currently adhered to by participating hospitals due to issues around available resources and funding, demonstrating consistency in barriers across hospitals. Primarily, a lack of clinical resources allocated to HEN makes it unfeasible for most hospitals to meet the criteria recommended for HEN services in NSW. This is also reflected in the satisfaction of dietitians with their own HEN services. Previous studies reporting on healthcare professional and physician adherence to clinical guidelines reported sufficient staff and time are important for guideline implementation.[35,36] Establishing a centralised register of ONS and TF HEN patients to regularly provide accurate data of new and existing HEN patients and assist with future planning could greatly improve HEN services. Regulation of HEN, including consistent co-payments, will be positive for HEN users by ensuring a more equitable service is available; funding for multidisciplinary teams and HEN coordinators may contribute to improved patient outcomes and quality of life. Furthermore, the NSW Health Activity Based Funding Taskforce is considering how HEN activity can be better captured to allow for improvements to HEN services, such as local health districts receiving commonwealth support for HEN. However, it is also the responsibility of states and local health districts to implement guidelines, contributing to better health and quality of care provided to patients.[8] The cost of adequate clinical resources to appropriately follow up HEN patients must not be overlooked to ensure a safe, effective, and equitable service is delivered.

Competing interests

The authors declare no conflict of interest.

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