



A MODEL FOR MANAGING ENTERAL TUBE FEEDING

April 2004



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Introduction

The CREST guidelines on The Management of Enteral Tube Feeding in Adults (April 2004, ISBN 1-903982-08-1) provide specific guidance on the various clinical, ethical and practical issues raised by enteral feeding. This document proposes a model to deliver a quality, patient-centered service. In developing this model the aim has been to clearly demarcate roles and responsibilities, design an integrated care pathway and focus on specific processes at each stage of management.

Background to the proposal of a new model

In developing guidelines for the management of home enteral tube feeding (HETF) a CREST sub-group was set up to focus on patient management. A number of issues became apparent in early discussions. HETF is a growing area with more patients being managed in the community. Previously many of these patients would either not have survived or would have been managed in secondary care. HETF is of obvious benefit to patients and their carers but there is scant information regarding the ongoing needs of these patients in the community. Also HETF is a service initiated in secondary care but no formal arrangements have been made for the multidisciplinary management in primary care.

The practical outworking of these issues were identified as follows:

- **Liaison between secondary care and primary care** - The current liaison arrangements that exist for the discharge of patients from hospital are not adequate to support the complex multidisciplinary arrangements required for these patients.
- **Follow-up arrangements** - This is of particular relevance around emergency arrangements for reinsertion of tubes. Lack of such arrangements often requires patients to be assessed in Accident and Emergency Departments, necessitating long waiting times.
- **Preparation of primary care professionals with regard to HETF** - Since HETF is a relatively new therapy many practitioners will have no experience in its management.
- **Clarification of roles** - Poor standards may result where lines of responsibility are not clearly drawn.



- **Discontinuation of HETF** - The decision to commence HETF is usually made by a secondary care physician; there are rarely clear lines of responsibility regarding the decision to discontinue HETF.

Rationale for using the Australian model

Little comprehensive evidence exists around the area of service delivery for HETF. However, a model from the state of Victoria, Australia was scoped for applicability to the context of Northern Ireland. (In Australia the term HEN, Home Enteral Nutrition, is used instead of HETF). Extensive evidence was available on the internet to support this model.¹

Widespread background research among patients and dietitians was used to support the rationale for their proposed model.² The vast majority of the problems (Table 1) identified by the researchers in Australia resonated with the members of the CREST sub-group.

Table 1 Problems identified in Australia

HEN Patients:

- Limited domiciliary services for the management of HEN.
- Varying access to multi-disciplinary expertise for the management of HEN, particularly with regard to the management of tubing and stoma issues.
- Multiplicity of contacts with regard to HEN.
- Inequitable access to supply of HEN products.
- Lack of 24-hour support service for HEN.

Dietitians:

- Limited domiciliary services for the management of HEN.
- Varying access to multi-disciplinary expertise for the management of HEN, particularly with regard to the management of tubing and stoma issues.
- Co-ordination of care.
- Inequitable access to supply of HEN products.
- Lack of 24-hour support service for HEN.
- Lack of definition of roles and responsibilities of professionals involved in the management of HEN.



Proposals within the Australian Model

To address the above issues, the Australian model proposed a care pathway demarcating the main objectives in delivering a comprehensive, patient-focused HEN service (Figure 1). A new role was also proposed to co-ordinate the process and liaise with patients, carers and professionals. The aims of this proposed model are included in Table 2. The recommendations included a HEN co-ordinator to undertake clinical, co-ordination and administrative functions. In the Australian model the proposed purpose of HEN co-ordinators was “to undertake a domiciliary role in order to facilitate continuity of care and enable appropriate management of HEN patients in the community.”

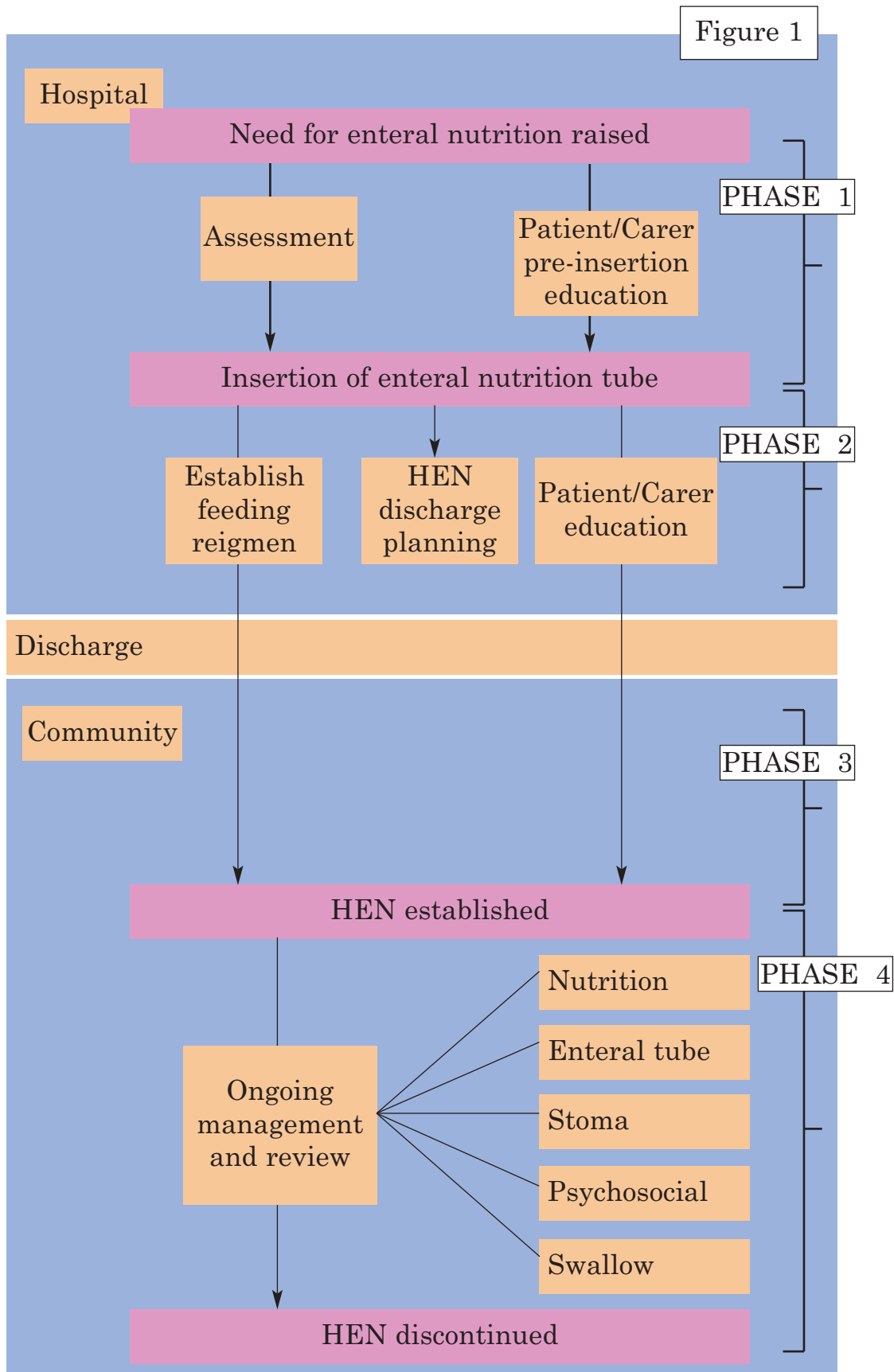
Table 2 Aims of the Australian model

- Team approach involving acute and community sectors.
- Clear roles and responsibilities of team members, enabling flexibility for interchange of functions.
- Central co-ordination of the HEN team to facilitate continuity of care across both health care sectors.
- Availability of domiciliary services for non-ambulatory clients.
- Equitable patient access to HEN supplies.
- 24-hour HEN support.
- Central point of contact for HEN patients. Reduced reliance on acute care services with increased utilisation of community based services.

While not all of the issues above translate directly across to circumstances within our own health service (such as availability of HEN supplies) there is substantial concordance between the issues identified as problematic and the aims stated in Table 2.

The Australian care pathway, identifying key stages in management is shown in Figure 1.

Australian Care Pathway





Proposed new role of HETF co-ordinator

It is our proposal that the development of a new model necessitates the development of the new role of a HETF co-ordinator.

One of the core problems around HETF is that the decision to feed enterally is made in secondary care where expertise is concentrated but these patients are for the most part managed in primary care. This poorly managed interface between primary and secondary care becomes a barrier to the provision of high quality, patient centered care. It is our belief that the management of HETF patients cannot be substantially improved across this interface within current professional boundaries.

The role of a dedicated HETF co-ordinator is designed to address this issue. Firstly they will act as a bridge between primary and secondary care, forming a relationship with the HETF patient and their carer in hospital and being fully

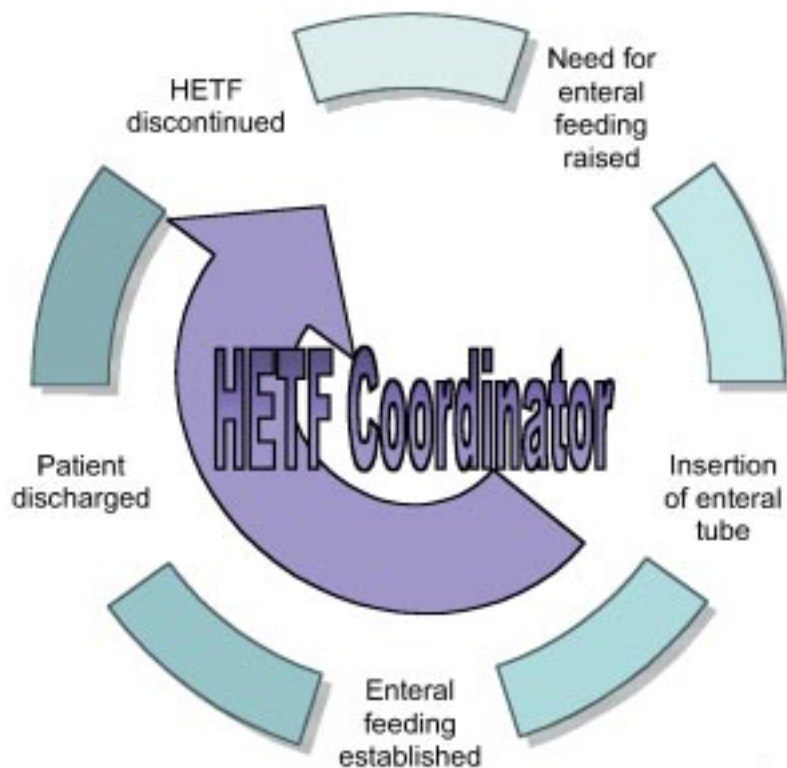


Figure 2



involved in discharge planning. Secondly they will co-ordinate the care provided to patients in the community, educating primary care professionals involved and so transferring expertise into primary care. Thirdly they will design individualized care arrangements, aiming for 24hr continuity of care. Lastly they will provide ongoing review of HETF patients, providing the same standards that a patient might expect in a secondary care environment, until HETF is discontinued. This last step is often neglected and the rationale for starting enteral feeding often becomes unclear. The co-ordinator can liaise with the secondary care professionals who instigated feeding, effectively closing this loop (Figure 2).

Proposed structure for HETF

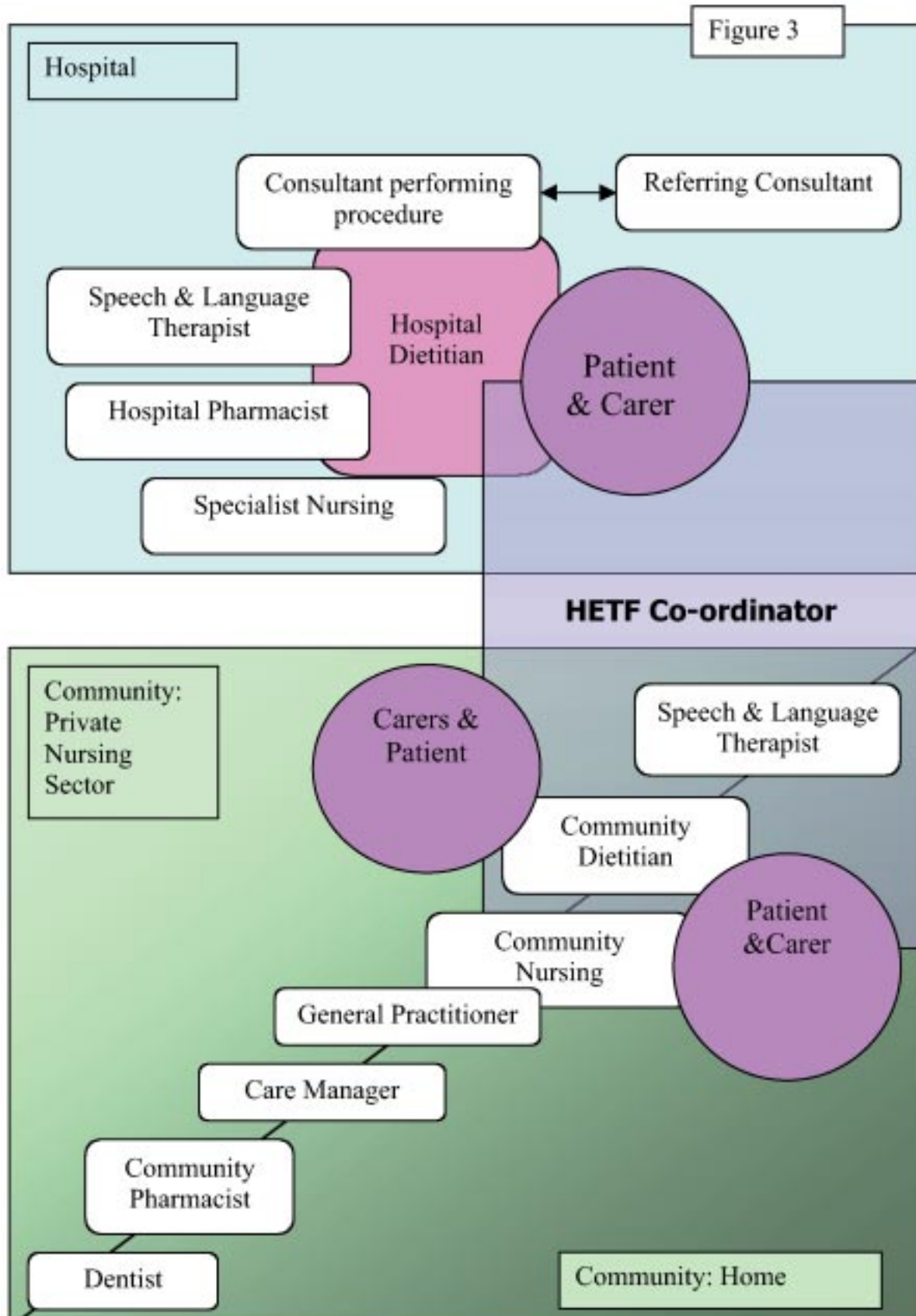
Since the management of enteral feeding resides in two separate but interdependent settings (Primary and Secondary care), the diagram overleaf (Figure 3) demonstrates these two sectors and the professionals who work within them.

Central to the system is the patient and carer. In the community sector, recognition is given to the differing support roles required for those cared for either at home (where the patient and a key carer will manage the enteral feeding) or in the private nursing sector (where many carers are likely to be involved). This is important when we come to consider the differing educational needs of the carer or carers and the level of support provided by the community nursing service. Professionals, who are likely to have key responsibilities, are demarcated by coloured boxes, such as the hospital dietitian and HETF co-ordinator. Key relationships, central to the care of the HETF patient, are demarcated by areas of overlap in the diagram.

Figure 3 illustrates the wide variety of personnel who will help to deliver a quality service to the HETF patient but is not inclusive of all of the possible personnel who may care for the patient. For each of the personnel, a clear role and responsibility has been developed in the management of enteral feeding but their input may be very intermittent or more constant. Each of these roles has been expanded later.

A key role is that of the HETF co-ordinator, primarily because this role bridges the difficult primary/secondary care interface. This person will “carry” the HETF patient and carer from secondary care to primary care. They will also provide support, not only for the HETF patient and carer, but also to the many personnel in the community who, being generalists, may lack the specialist knowledge and skills regarding the management of enteral feeding. Because the HETF co-ordinator spends time in secondary care helping to prepare patients for discharge, it is envisaged that they will be best placed to facilitate appropriate follow up by secondary care professionals.

Proposed structure for enteral tube feeding in primary and secondary care





Roles and responsibilities of key professionals

HETF Co-ordinator

- Primary contact for all professionals involved in the care of patients on HETF.
 - Provide continuity of care for patients between hospital and home/private nursing home.
 - Establish clear lines of communication between all stakeholders including developing and maintaining the care plan.
 - Act as key worker to co-ordinate all aspects of the patient's care.
 - Contribute to care management arrangements for patients with complex needs, including alternatives to hospital admission, early hospital discharge or hospital at home services.
 - Act as a resource for other professionals
-
- The HETF co-ordinator will provide a clinical role in the care of the patient which will require an in depth understanding and knowledge of the clinical management of HETF.
 - Act as a “trouble-shooter” when complications arise.
-
- Overview of expenditure.
 - Co-ordinate provision of supplies and equipment.
 - Audit of service delivery.
 - Act as BANS co-ordinator.
-
- Develop and provide education programmes for patients and carers.
 - Develop appropriate education for professional carers in the community.
 - Develop competency.
-

Referring Consultant

- To consider the clinical and ethical issues around enteral feeding.
- Determine most suitable enteral feeding route in consultation with Dietitian and other medical practitioners.
- To accept ongoing clinical responsibility for the patient, including decision to discontinue feeding.
- To obtain informed consent from patient and carer.

Consultant performing procedure

- Assessment of patient's fitness for procedure.
- Provide specialist medical advice on the technical aspects of the tube.
- Change enteral tubes if needed.
- Management of complications associated with the tube.

Hospital Dietitian

- Assessment of patient for HETF.
 - Nutritional assessment - appropriate route, type of feeding, formula, volume and timing.
 - Ongoing nutritional assessment, monitoring and adjustment of feeding regimen.
 - Education of patient and carers.
 - Liaison with other professionals.
 - Management of complications.
-



**Speech
and Language
Therapist
(hospital/
community)**

- Assess the patient's swallow.
- Recommend an appropriate texture modification (if applicable).
- Ongoing management and reassessment of patient.
- Education of patient/carer.

**Hospital
Pharmacist**

- Advice on methods of medication.
- Advice on drug/formula interaction.
- Monitor medications in the hospital.
- Liaison and specialist resource to community pharmacist.
- Education of patient and carer.

**Ward/
Specialist
Nurse**

- Administer enteral formula.
- Provide care of enteral tube and stoma.
- Ensure hygiene and mouth care.
- Administer medication via the enteral tube.
- Education of patient/carer on the care of the tube and stoma and emergency procedures.
- Specialist nursing input (infection control, stoma care)

**Community
Nursing**

- Care for enteral tube and stoma.
 - Educate patient/carer in the care of the tube and stoma.
 - Ensure hygiene and mouth care.
 - Assess patient's/carer's ability to manage HETF independently.
 - Take routine bloods for monitoring.
 - Liaise with HETF co-ordinator.
-



General Practitioner

- Management of intercurrent medical problems.
- Prescriptions for medications and formula feed.
- Psychological support of patient/carer.
- Biochemical monitoring (as requested).
- Education of patient/carer.

Care Manager

- Monitor and co-ordinate appropriate care arrangements according to the patient's and carer's evolving needs.

Community Dietitian

- Nutritional assessment - appropriate route, type of feed, formula, volume and timing.
- Ongoing nutritional assessment, monitoring and adjustment of feeding regimen.

Community Pharmacist

- Monitor medications and day to day advice about suitability of administration via enteral tube.
- Provide formula and ancillary items via GP prescription.
- Advice to patients and carers.

Dentist

- To provide assessment of oral health, plan dental treatment and establish an oral hygiene programme for the patient.



Integrated care pathway for HETF

This has been largely adapted from the Australian model. The care pathway is divided into four phases (Figure 4):

- PHASE 1 - Need for enteral feeding raised.
- PHASE 2 - Insertion of enteral feeding tube.
- PHASE 3 - HETF established.
- PHASE 4 - HETF discontinued.

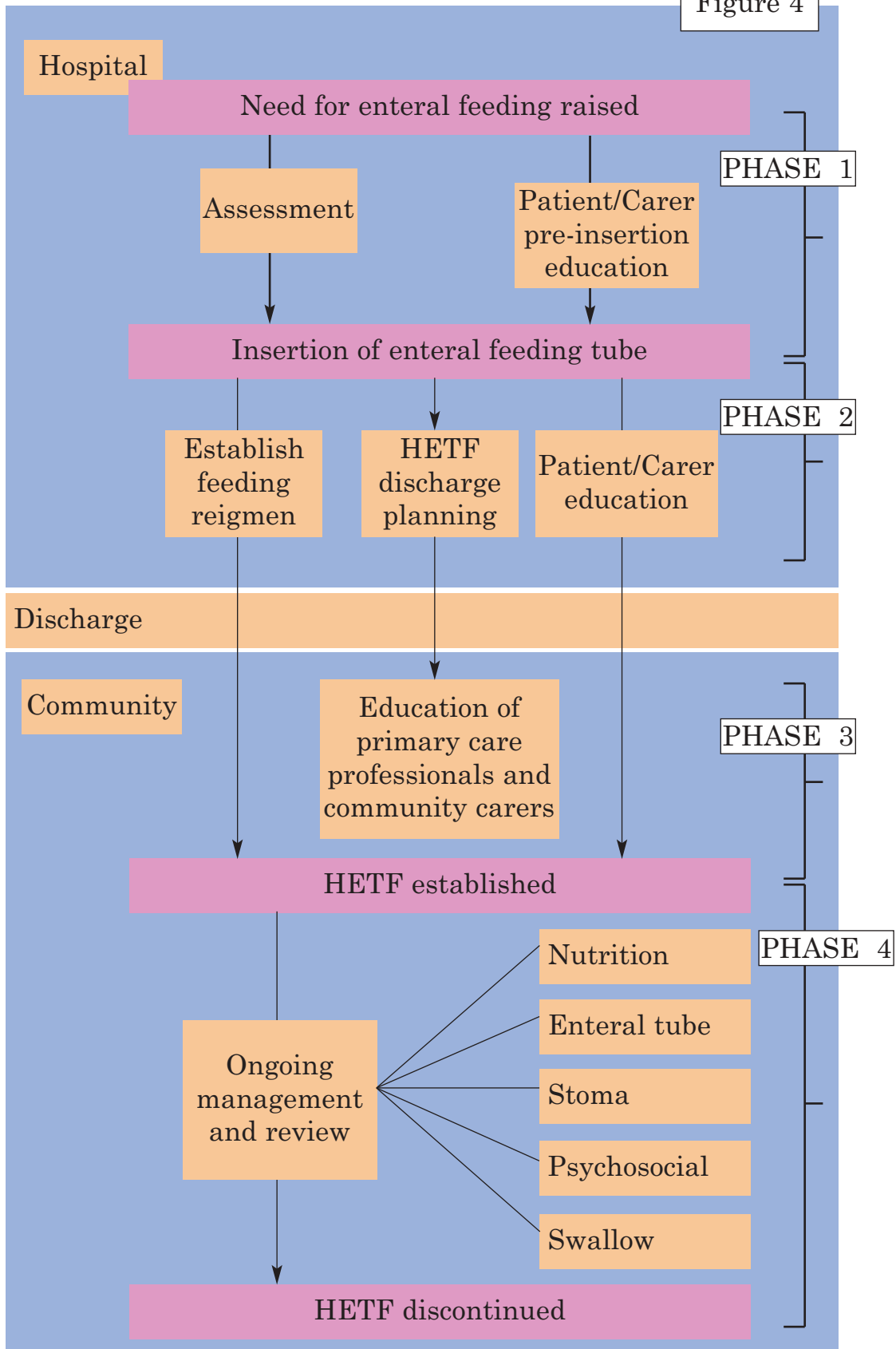
Under each phase key processes are identified and within each key process, a list of objectives are defined. Some processes reside completely within secondary care whereas others are begun in secondary care and completed in primary care. For each of the processes, a key role can be identified with other supplementary roles acknowledged.

The Australian care pathway accurately identifies six key processes required to maintain a high quality service. However, the CREST sub-group identified a further key process not specifically demarcated in the Australian model. The education of primary care professionals and community staff was thought to be an important process which is often overlooked and merits inclusion as a specific process.

As in all patient-focused care pathways, central to all of these processes are the expressed needs of the HETF patient and carer. Consequently, patients should be involved in all stages in the decision-making process regarding their care.

CREST Care Pathway

Figure 4





Phase 1 Key Process

Assessment

- Assess the patient's need for enteral feeding (current intake versus requirements).
- Recommend an appropriate texture modification (if applicable).
- Assess the suitability of the patient's home environment for HETF in terms of facilities and support.
- Discuss with the patient and/or carer how HETF operates and the potential impact on the patient's lifestyle.
- Make a recommendation as to the appropriate enteral feeding route, taking into consideration medical, physical and lifestyle factors.

Referring Consultant

Hospital Dietitian

Consultant performing procedure

Speech and Language Therapist

Patient/Carer Pre-insertion Education

- Be available to address any questions or concerns the patient/carer might have.
- Provide the patient and their carers with literature describing HETF.
- Show the patient the tube and equipment that will be used to administer the formula.
- Inform the patient and carer of relevant support groups.
- Refer to other professionals as appropriate.

Hospital Dietitian

Hospital Pharmacist



Phase 2 Key Process

Establish Feeding Regimen

- Assess the patient's nutritional requirements and determine the formula type and volume required.
- Determine the timing and method of administration, taking account of the patient's home circumstances.
- Liaise with nursing staff regarding initiation of feeding regimen.
- Monitor and adjust regimen if indicated.
- Document the enteral feeding plan and instructions in the patient's clinical record.

Hospital Dietitian

**Ward/
Specialist
Nurse**

HETF Discharge Planning

- Meet with patient and carers to discuss discharge plans.
- Communicate with the patient's GP regarding discharge plans.
- Make arrangements for the supply of adequate feed and ancillary items as required, in the immediate post-discharge period.
- Complete appropriate documentation, including medical history, HETF database and discharge plan summaries for community based practitioners.
- Make arrangements for the HETF co-ordinator to visit the patient within 24-72 hours of discharge.

**HETF
Co-ordinator**

**Hospital
Dietitian**

**Hospital
Pharmacist**



Patient/Carer Education

- Formal education on the following aspects of HETF:
 - Nutritional requirements/need.
 - Administration of formula.
 - Infection control/hygiene principles.
 - Feeding regimen.
 - Oral intake (if appropriate).
 - Mouth care.
 - Care of enteral tube and stoma.
 - Administration of medication.
 - Management of complications.
 - Emergency procedures i.e. tube falling out, tube blockage.
- Provide the patient and carers with written information covering all aspects of the education received.
- Document all education conducted in the patient's clinical record.

**HETF
Co-ordinator**

**Hospital
Dietitian**

**Hospital
Pharmacist**

**Ward/
Specialist
Nurse**



Phase 3 Key Process

**Education of
Primary Care
Professionals
and
Community
Carers**

- Formal education on the following aspects of HETF:
 - Administration of formula.
 - Feeding regimen.
 - Infection control/hygiene principles.
 - Oral intake (if appropriate).
 - Mouth care.
 - Care of enteral tube and stoma.
 - Administration of medication.
 - Management of complications.
- Emergency procedures i.e. tube falling out, tube blockage.
- Education on new products/ information from company representative.

**HETF
Co-ordinator**



Phase 4 Key Process

Ongoing Management and Review

- Review of initial assessment in the context of the patient's home environment and lifestyle.
- Monitor the patient's/carer's ability to manage HETF independently.
- Continue education (or re-education) of the patient/carer if required.
- Ensure correct positioning/condition of feeding tube (Nasogastric; Gastrostomy; Jejunostomy).
- Make adjustments to the patient's feeding regimen or mode of delivery if necessary.
- Ensure the appropriate contact numbers are available to the patient and their carers.
- Arrange an appropriate follow up appointment based on the patient's assessment.
- Establish lines of communication with the patient's GP and district nurse regarding the management of the patient's care.
- Ongoing audit and evaluation of the process.

HETF Co-ordinator

Community Dietitian

Community Nursing

General Practitioner

Care Manager

Speech and Language Therapist

Community Pharmacist

Dentist



Discontinuation of HETF

Discontinuation of HETF

- To ensure that the patient's and/or carer's wishes are paramount in the decision to discontinue HETF.
- To liaise with the referring consultant regarding the original reason for HETF and any change in the patient's condition.

HETF Co-ordinator

Referring Consultant

Community Dietitian

Speech and Language Therapist

General Practitioner



The use of Information and Communication Technology

Consideration should be given to the use of information and communication technology to support the HETF co-ordinator's role.

- Structure.
 - Minimum data set.
 - Central Register in Northern Ireland.
 - Electronic exchange of data from remote sites.

- Function.
 - To record clinical and nutritional status of patient.
 - Information disseminated to relevant professionals from the central register.
 - Central resource of educational materials.
 - Supplies information for BANS register.
 - Co-ordination of budget.
 - Ongoing audit of care.



References

1. Development of a Best Practice Model for Service Delivery of HEN. Phase I Research Report July 1999.
2. Development of a Best Practice Model for Service Delivery of HEN. Phase II Best Practice Model and Recommendations July 1999.

Both papers can be downloaded in PDF format at:
www.dhs.vic.gov.au/ahs/archive/

These guidelines have been published by the Clinical Resource Efficiency Support Team (CREST), which is a small team of health care professionals established under the auspices of the Central Medical Advisory Committee in 1988. The aims of CREST are to promote clinical efficiency in the Health Service in Northern Ireland, while ensuring the highest possible standard of clinical practice is maintained.

These guidelines have been produced by a multidisciplinary sub-group of health care professionals. CREST wishes to thank them and all those who contributed in any way to the development of these guidelines.

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