
Dietetic Outcomes Toolkit

Contents

Foreword	3
Acknowledgements	4
Improving the Quality of Healthcare	5
Overview of Outcomes	6
What is an Outcome?.....	6
Example of Types of Outcomes	6
Measuring an Outcome.....	7
Why Are Dietetic Outcomes Required?	7
Criteria for Outcome Indicator Tools.....	8
Why Are Dietetic Outcomes Valuable?	8
Types of Outcomes.....	8
Patient Reported Experience Measures (PREMs).....	8
Patient Reported Outcome Measures (PROMs).....	9
Therapy Outcome Measures (TOMs).....	9
What are the Barriers to Achieving Dietetic Outcomes?	10
Data Collection and Analysis	11
Summary of Nutrition Support Measures and Tools	12
Patient Reported Experience Measures (PREMS)	14
Nottingham University Hospitals NHS Trust Questionnaire	14
Data Collection and Analysis.....	14
Consultation and Relational Empathy (Care) Measure	15
Patient Reported Outcome Measures (PROMS)	19
Birmingham Community Healthcare NHS Trust Likert Scale Outcome Tools	19
Data Collection and Analysis.....	20
Bowel Function	21
Data Collection and Analysis.....	22
King's Stool Chart	23
Data Collection and Analysis.....	23
Enteral Feeding.....	24
Data Collection and Analysis.....	25
EQ-5D.....	26
Hydration	27
Measure.....	27
Data Collection and Analysis.....	27
References	27
Birmingham Community NHS Trust Home Enteral Feeding (Hef) Recording	30
Hywel Da University Health Board	31
Home Parenteral Nutrition: Quality of Life (Hpn Qol)	32
Therapy Outcome Measures (TOMS)	33
Tom Core Scale	33
Case Studies	41
Miscellaneous	63
References	69
Further Reading	70
Appendix	71
Medicines That Can Change Urine Colour	71

Foreword

The Dietetic Outcomes Toolkit (DOT) was originally published in 2016 and was instigated and produced by a panel of dietitians, after several consultations, and supported by the Parenteral and Enteral Nutrition Group (PENG) of the BDA. Five years on from original publication outcomes remain vitally important for dietetic practice, so the DOT has been updated to ensure it is relevant, useable and remains in line with BDA documentation and in particular the [BDA Model and Process for Nutrition and Dietetic Practice](#) 'Model and Process' for short.

This document is a practical toolkit to collectively capture the tools available with the aim of facilitating the adoption of outcome data collection. More importantly we want to continue facilitating the reporting of outcomes in a manner that is meaningful not only to us as professionals, but also for our end users and those who commission our services. PENG as a committee has not opted to develop or recommend a specific outcome measurement tool but highlight multiple different tools so practitioners can select the most appropriate tool for their practice.

The BDA Model and Process describes, through the six steps, the consistent process dietitians follow in any intervention. The [BDA Outcomes Framework](#) aligns with some of the steps of the Model and Process and includes standardised language for many of these steps to enable consistent recording and monitoring of outcome data. DOT provides example tools that could be used as goal/outcome indicators (a measure of whether the goals/outcomes have been achieved).

The toolkit provides dietitians with a variety of approaches for identifying and addressing the challenge of measuring outcomes in nutrition care, with a particular focus on those outcomes relevant to nutrition support (oral, enteral and parenteral). The outcome indicator tools included in this toolkit are examples of what can be used by dietitians in a variety of different patients. The selection of tool(s) will depend on the individual and the proposed intervention. To allow the cross fertilisation of ideas we have also included some tools that are not specific to nutrition support, but which may help the development of new and refined tools. There are also case studies that focus on correctly identifying different outcome/outcome indicators and goal/goal indicators for different patient groups.

As new tools are identified and validated, they will be added to the toolkit. Increasing usage of the outcomes will reinforce the evidence-base; this will not only improve patient care, but also reinforce the 'added-value' that we provide as a profession.

To assist you select the most appropriate tool to use to measure outcomes, the BDA worked with other professional bodies to produce the [Key questions to ask when selecting outcome measures: a checklist for allied health professionals](#). The checklist is intended to guide discussions and support decision-making. It contains some key questions to ask when considering which outcome measure is most suitable for your area of practice.

Finally, our thanks to all NHS Trusts for the inclusion of indicator tools in this kit, and also to everyone who contributed to the project.

Kate Glen and Jacklyn Jones, PENG

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Improving the Quality of Healthcare

The National Health Service (NHS) Five-Year Forward View for England (2014), the Scottish Government's 2020 Vision for Health and Social Care (2011), Delivering Local Health Care - Accelerating the Pace of Change (NHS Wales, 2013) and Developing Better Health Services (Department of Health) all look at the future of healthcare across Britain and the choices that need to be faced. These documents represent the shared view of NHS leadership that healthcare services need to change; this is also the emerging consensus of patient groups, clinicians, local communities and frontline NHS staff. They present a vision of a better NHS across each of the four home countries and the steps and actions required to achieve this. Improving the quality of care is a long-term and ongoing priority with each country and uses different approaches with commonality around three key themes of patient experience, safety and effectiveness.

A current strategy in healthcare is to create an NHS which is not only more responsive to patients with better outcomes, but also has increased autonomy and clear accountability at every level. At a local level, limited resources and increased demands for accountability mean that quality measurement is now a major concern for providers and commissioners of care. As new care models are established it is essential to ascertain which produce the best experience for patients and the best value for money.

The increased policy emphasis on outcomes is reflected in the Outcomes Frameworks for the NHS, public health and social care. Although this is an NHS England initiative, the focus on outcomes is relevant across the NHS as a whole. The NHS Outcomes Framework, which is updated annually, provides a national overview of how well the NHS is performing and is the primary accountability mechanism between the Secretary of State for Health and NHS England. It is responsible for improving quality throughout the NHS by encouraging a change in culture and behaviour that is focused on health outcomes. The NHS Outcomes Framework is a set of 68 indicators which measure performance in the health and care system at a national level and is grouped into the following domains:

Domain 1: Preventing people from dying prematurely

Domain 2: Enhancing quality of life for people with long-term conditions

Domain 3: Helping people to recover from episodes of ill health or following injury

Domain 4: Ensuring that people have a positive experience of care

Domain 5: Treating and caring for people in a safe environment and protecting them from avoidable harm

In the era of accountability in medicine, information regarding healthcare outcomes plays a pivotal role in medical decision making. Systematic collection and analysis of outcomes data can facilitate medical decision making and also enhance the quality of medical care. The European Federation of the Association of Dietitians recommends that every nation needs to have dietetic outcomes on the agenda to ensure evidence-based practice and the value of nutrition care (EFAD, 2020).

The key to dietetic practice is the provision of safe, effective and good quality care or interventions. Dietitians need to be able to identify and predict what the desired outcome of their intervention will be, and to what extent this has been achieved from the viewpoint of both the dietitian and the patient. Measuring outcomes and sharing this information demonstrates the value of a dietetic service to the wider health community.

Overview of Outcomes

What is an Outcome?

The term outcome refers to the impact that healthcare activities have on people; on their symptoms, the ability to do what they want to do, and ultimately on whether they live or die. Health outcomes include whether a given disease process gets better or worse, what the costs of care are, and how satisfied patients are with the care they receive. It focuses not on what is done for patients but what results from what is done.

Health Outcome – “Change in the health of an individual, group of people or a population which is attributable to an intervention, or series of interventions” (WHO 1998)

Dietetic Outcome – “A measured change/resolution of the nutritional ‘problem’ at the end of treatment.” (BDA 2019)

Determining an outcome is a key component of establishing an appropriate intervention for a patient/service and is established following a nutrition and dietetic assessment and defining a nutrition and dietetic diagnosis. The proposed outcome is to correct (resolve) or improve the identified problem or alteration in nutritional status and is achieved by determining intermediate goals which are the small steps agreed by the patient and dietitian to be achieved by the next consultation in order to achieve the main outcome.

An *outcome indicator* is used to measure if the outcome has been achieved by the end of treatment. Additionally, progress towards meeting the outcome can be assessed at intervals during the episode of care through the attainment of dietetic goals.

Example of Types of Outcomes

Dietetic outcomes e.g. knowledge gained, behaviour change and food or nutrient intake changes.

Clinical and health status outcomes e.g. laboratory values, weight, blood pressure, risk factor profile changes, signs and symptoms, clinical status, infections, complications (health outcomes).

Patient-reported functional or experiential outcomes e.g. quality of life, satisfaction, self-efficacy, self-management, functional ability (dietetic outcomes).

Health care utilisation and cost outcomes e.g. medication changes, special procedures, planned/unplanned clinic visits, preventable hospitalisation, length of hospitalisation, prevent or delay nursing home admission (health outcomes).

Example

Nutrition and Dietetic Diagnosis

Unintentional weight loss related to vomiting as evidenced by 15% weight loss in 1 month, vomiting daily and meeting only 50% of nutritional requirements via PEG

Overarching Dietetic Outcome:

Improve nutritional status through weight gain to achieve a healthy BMI

Dietetic goals (should be SMART and patient centred)

- 1) Increase PEG feeds from 3 bottles to 6 bottles of XXXX per day by next review
- 2) Take anti-emetic medications as per prescription to prevent vomiting by next review

Goal Indicators

Amount of feed delivered and compliance with anti-emetics

Outcome Indicator

Weight and BMI (Should aim to achieve this by end of the dietetic intervention – this may take 2+ dietetic consultations)

Measuring an Outcome

The fundamental principles of measuring outcomes are to assess the validity, reliability and responsiveness, of an intervention over a specified time period. To measure an outcome requires a systematic process of gathering, interpreting and reporting information to determine and illustrate if changes occur as a result of an intervention.

- Means of determining if the goals of an episode of care have been met, the effectiveness and efficiency of a programme and /or the perceptions of the persons served
- Evaluation of procedures that attaches a number, ordination or categorisation to the results

Why Are Dietetic Outcomes Required?

Dietetic outcomes can be used to reinforce and maintain a service. A pragmatic and realistic approach is essential – it's not just about numbers, it's about what can be achieved, at what cost and compared to the costs of not doing something.

Clinicians	To support decision making around the delivery of effective interventions, service planning and to promote productivity and job satisfaction.
Patient	To demonstrate that they are receiving a quality service that makes a difference to their health and quality of life.
Service leads	To demonstrate they are running the most efficient and effective service.

Criteria for Outcome Indicator Tools

<ul style="list-style-type: none"> • Influenced by healthcare provision ie fit for purpose/validated • Robust • Measure what they intend to measure • Responsive to change – times can be variable • Clearly defined and consistently clear • Not too broad and not too specific 	<ul style="list-style-type: none"> • Clinically credible and effective • Collectable • Timely • Efficient • Cost-effective to collect • Verifiable • Result in minimum burden • Meaningful
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Why Are Dietetic Outcomes Valuable?

<ul style="list-style-type: none"> • Allow a dietitian to measure their own effectiveness • Justify the role of dietitian in different clinical areas • Highlight areas for service development and personal development • Improve goal setting with individuals • Allow comparison between services provided and standards/other services • Measure service strengths and weaknesses • Help develop and follow care pathways • Identify service gaps • Compare effectiveness between dietitians, multi- disciplinary teams and patient groups • Enable benchmarking within teams and services • Identify inefficiencies • Identify cost saving opportunities • Improve reflection on practice by providing direct feedback to clinicians on the effectiveness of their intervention

Types of Outcomes

	Outcome	Indicator
Quantitative outcome	<i>Objectively determined by an unbiased health professional using assessment, medical records or biological testing</i>	
Example 1	Meet 100% of estimated nutritional requirements	Energy and protein intake
Example 2	Adequate micronutrients	Micronutrient blood results
Example 3	Healthy BMI	BMI

	Outcome	Indicator
Qualitative outcome	<i>Self-report measures; questionnaire; surveys; or interviews. Reported by the patient and or their carer/relative. There is an element of personal bias, levels of understanding and ability to participate.</i>	
Example 1	Knowledge on food groups	Patient questionnaire
Example 2	Confidence setting up feeds	Confidence score
Example 3	Patient satisfaction	Patient questionnaire

Patient Reported Experience Measures (PREMs)

PREMs collate the patients' objective experience of care. By focusing on specific aspects of the care process, e.g. being seen on time, PREMs seek to remove the subjectivity associated with measures of satisfaction.

Patient Reported Outcome Measures (PROMs)

PROMs are standardised, validated instruments or question sets used to measure patients' perceptions of factors such as their health status (impairment), their functional status (disability), and their health-related quality of life (well-being). They are usually designed as questionnaires that measure the impact of clinical interventions in a strictly clinical sense i.e. did the intervention improve the patient's physical or mental condition in a meaningful sense, and if so, by how much?

Therapy Outcome Measures (TOMs)

TOMs allow professionals from many disciplines working in health, social care and education to describe the relative abilities and difficulties of a patient/client across four domains of impairment, activity, participation and wellbeing, in order to monitor changes over time:

Impairment: problems in body structure or function. A physiological aspect that deviates from the population norm e.g. raised blood pressure.

Activity: performance of activities. The ability of the individual to carry out a task or action.

Participation: involvement in life situations. How the person relates to their own environment, e.g. what they can do for themselves (this may be affected by impairment).

Wellbeing: emotional level of upset or distress, degree of contentment. If a patient presents with a number of nutritional problems e.g. diabetes and obesity the TOM is used for the reason they were referred e.g. if diabetes is unstable use the diabetes TOM. If they are steadily gaining weight use the obesity TOM.

There are TOMs available for many areas of clinical practice; those with a focus on nutrition include:

- Under-nutrition
- Acute enteral feeding
- Home enteral feeding

TOMs are suitable for use with degenerative conditions because they measure the nutritional intervention, outcome, and resultant change, not the change in overall condition. They can be used with service users to promote empowerment, enablement and inform patient choice. Self-rating scales are available. Please check the validation before using TOMs.

What are the Barriers to Achieving Dietetic Outcomes?

It is not always possible to meet the set outcomes and, in these instances, it is valuable to document why an outcome has not been achieved i.e. the so-called 'barrier'. Identifying the barrier will enable dietitians to review the patient goals to facilitate a more effective intervention and quality care for the patient so the outcome can be achieved.

Barrier type	Barriers to achieving dietetic goals
Physical /symptom	Vomiting/nausea Dysphagia developed/worsened Pain Fatigue Abdominal discomfort/bloating Diarrhoea Constipation Appetite change
Behavioural	Low motivation to change Low confidence in ability to make changes poor concordance with regime/tube/stoma care Poor attendance
Psychological	Low mood/depression/anxiety Disordered eating
Practical/social	Lifestyle issues Lack of carer/family support Reduced ability to self-care Impaired ability to shop/prepare meals Patient discharged prior to review
Biochemical	Poor insulin control
Medical	Approaching end of life Adverse change in medical condition Period of hospitalisation Death
Institutional (nursing homes)	Poor meal provision Inadequate staffing levels Staff non-compliant with recommendations Staff require training
Organisational	Delays/problems in acquiring feed/ancillaries/ONS Unable to weigh patient Food record charts not completed Lack of dietetic resource
Pharmaceutical	Medication changes adversely affecting dietetic outcome
Information	Poor understanding/comprehension Patient has communication difficulties Literacy or language barriers Lack of capacity Learning difficulties/cognitive impairment Unsuitable sources of information e.g. internet

Data Collection and Analysis

Data collection can be perceived as time consuming and arduous. However, it is crucial for establishing an accurate baseline at the initial patient consultation, monitoring the patient at follow-up appointments, treatment endpoint information and six-month/annual patient reviews.

An assessment or measurement form is likely to be required, taking into consideration local policy/guidance regarding General Data Protection Regulation (GDPR). Private practice dietitians will need consent from service users before data can be collected. Some IT systems have built in assessment forms and drop-down menus as part of the patient record. These should be explored before considering bespoke forms as the process of amending existing forms may be simpler and quicker than creating new ones and incorporating them into the patient record system. Many systems also facilitate recording patient information in real time during the consultation which may be more time-efficient. The data should be analysed with useful information highlighted, suggested conclusions and formatted to support further decision making.

This tool kit includes case studies and examples of assessment forms. PENG recognises that the detail in some of the screenshots included in this document may not be legible. They are included as examples, and to illustrate how outcomes can be incorporated and collected in currently available electronic patient records. The teams that use them can be contacted for further information.

Summary of Nutrition Support Measures and Tools

There are no tools in this toolkit that cover all the possible outcome data sets. Please note that, not all of these tools are useful and have been validated for every patient. The tool that will best fit each clinical speciality will depend on the dietetic problems and the intervention aims. There is the opportunity to adapt existing outcome tools to meet the needs of your patient groups. However, use these with caution as any changes will mean the tool is no longer valid. We would recommend validating any tools you do adapt and speaking with original developers of the tools.

Dietetic domain	Outcome	Outcome Indicator	Examples of outcome indicator tools (or potential tool)
Symptoms	Normalise bowel movements	Bowel frequency and consistency	Bristol stool scale Kings stool scale (HEF) Stool frequency
	Normalise stoma output	Stoma output consistency	Bristol stool scale Stool frequency Urine colour chart Reported
	Maintain/improve hydration	Urine concentration, volume and frequency. UTI frequency, U&E's	Urine volume and frequency U&E's corrected
	Reduce abdominal discomfort	Patient reports severity/frequency of abdominal bloating	Likert scale for severity Likert
	Reduce fatigue Reduce	Patient reported energy levels	scale for energy
	Reduce vomiting	Incidence of vomiting (related to feed/direct GI problem)	Number of vomits per day/week
	Reduce nausea	Patient reported incidence of nausea	Likert scale for nausea severity
	Reduce hunger (when on enteral feeding)	Patient reported experience of hunger	Likert scale for hunger levels
	Improve appetite	Patient reported experience of appetite	Likert scale for appetite
	Healthy gastrostomy stoma site	Condition of gastrostomy stoma site	Gastrostomy stoma site condition scale
	Prevent aspiration	Chest infection incidence Number of chest infection related admissions	Outcome tool recording incidence of chest infections or hospital admissions Tool demonstrating liaison with SLT
	Promote wound healing	Dietary assessment	Assess food chart
Biochemical	Normalise abnormal biochemistry	U&E's	Tool reporting on success of correcting abnormalities
	Improve glycaemic control	HBA1C, blood glucose levels	Incidence of hypoglycaemic episodes

Physical (nutritional status and physical activity)	Promote nutritional status change as per dietetic goal	Weight change (as kg,BMI or % weight change) MAMC, Grip strength, Calf circumference	Tool tracking how weight/MAMC/grip strength/calf circumference moving in desired direction. Presented as line graph
	Improve functional ability	Grip strength Patient reported	Outcome tool demonstrating meeting/not meeting goals
	Improve energy levels	Patient reported	Part of quality-of-life questionnaire Likert scale of function/mobility Likert scale for energy levels
	Improve nutritional adequacy of intake (oral, enteral or parenteral)	Assessment of nutritional intake (e.g. diet history; food record charts; enteral feed plan) % of requirements achieved	% case-load meeting requirements (or various % bands)
	Facilitate transition to oral diet from enteral/parenteral feeding	% requirements from oral diet How requirements being met.	Line graph demonstrating transition from artificial nutrition support to oral diet, and timescales. Barriers used to provide context
Psychological	Improve mental health around feeding	Patient reported	Depression/anxiety question Likert scale indicating confidence with tube or stoma care, feed administration
Behavioural	Improve concordance with feed regimens, tube and stoma care, medication administration	Patient reported experience	Service satisfaction survey PREM for satisfaction with feed regimen Likert scales indicating level of satisfaction with intervention

Patient Reported Experience Measures (PREMS)

Nottingham University Hospitals NHS Trust Questionnaire

The patient is given this simple questionnaire at the end of the consultation, but ideally not in front of the dietitian. The tool could be completed and handed in after any consultation. Another option may be to post to the patient reviewed by the dietitian and to be returned anonymously (this may incur a cost i.e. a stamped addressed envelope and may reduce the response rate).

In order to evaluate the dietitian's role in your care, we would be grateful if you could take the time to complete the following questions. Please circle the answer that applies to you:

1: Do you feel you have gained useful information to help you to make changes in your diet?

0 1 2 3 4 5
Not at all very little a little some quite a lot a lot

2: Do you feel you have gained practical information to help you to make changes in your diet?

0 1 2 3 4 5
Not at all very little a little some quite a lot a lot

3: How confident are you to use the information provided?

0 1 2 3 4 5
Not at all very little a little some quite a lot a lot

4: Do you feel that one or more aspects of your diet will change as a result of seeing the dietitian?

Yes/No

Data Collection and Analysis

A bar chart could be used to demonstrate how patients have responded over a defined period of time. This tool helps demonstrate how effective the dietitian has been in facilitating a change of behaviour in patients.

See Case Study C for use of this tool.

Consultation and Relational Empathy (Care) Measure

CARE is a person-centred process measure that was developed and researched at the Departments of General Practice in Glasgow University and Edinburgh University. The CARE Measure questionnaire comprises 10 questions and is clear and easy to complete. It measures empathy in the context of the therapeutic relationship during a one-on-one consultation between a clinician and a patient. Originally developed and rigorously tested for use by GPs, it has since been successfully used by other medical staff, allied health professionals (AHPs) and nurses. The validity and reliability of the measure has been demonstrated in various studies.

CARE Patient Feedback Measure for
 *** Type name of Practitioner here ***

Please write today's date here:

D	D	/	M	M	/	Y	Y		

Please rate the following statements about today's consultation.

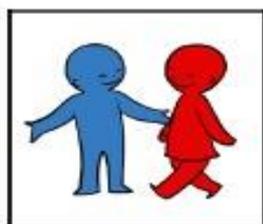
Please mark the box like this with a ball point pen. If you change your mind just cross out your old response and make your new choice. Please answer every statement.

How good was the practitioner at...	Poor	Fair	Good	Very Good	Excellent	Does not apply
1) Making you feel at ease (introducing him/herself, explaining his/her position, being friendly and warm towards you, treating you with respect; not cold or abrupt)	<input type="checkbox"/>					
2) Letting you tell your "story" (giving you time to fully describe your condition in your own words; not interrupting, rushing or diverting you)	<input type="checkbox"/>					
3) Really listening (paying close attention to what you were saying; not looking at the notes or computer as you were talking)	<input type="checkbox"/>					
4) Being interested in you as a whole person (asking/knowing relevant details about your life, your situation; not treating you as "just a number")	<input type="checkbox"/>					
5) Fully understanding your concerns (communicating that he/she had accurately understood your concerns and anxieties; not overlooking or dismissing anything)	<input type="checkbox"/>					
6) Showing care and compassion (seeming genuinely concerned, connecting with you on a human level; not being indifferent or "detached")	<input type="checkbox"/>					
7) Being positive (having a positive approach and a positive attitude; being honest but not negative about your problems)	<input type="checkbox"/>					
8) Explaining things clearly (fully answering your questions; explaining clearly, giving you adequate information; not being vague)	<input type="checkbox"/>					
9) Helping you to take control (exploring with you what you can do to improve you health yourself; encouraging rather than "lecturing" you)	<input type="checkbox"/>					
10) Making a plan of action with you (discussing the options, involving you in decisions as much as you want to be involved; not ignoring your views)	<input type="checkbox"/>					

Comments: If you would like to add further comments on this consultation, please do so here...

Please **tick, circle or mark** the scale.

How was the therapist at...



1... making you feel happy and relaxed?

(being friendly and caring and making you feel calm)

not very good	ok	good	very good	excellent	does not apply



2... asking questions and letting you talk?

(being interested in you and giving you time to speak)

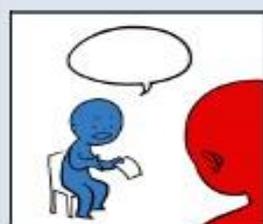
not very good	ok	good	very good	excellent	does not apply



3... listening and understanding?

(paying attention and knowing the things you find difficult)

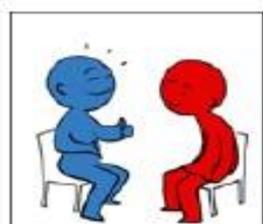
not very good	ok	good	very good	excellent	does not apply



4... explaining things?

(answering questions, giving you clear information and instructions)

not very good	ok	good	very good	excellent	does not apply



5... making a plan?

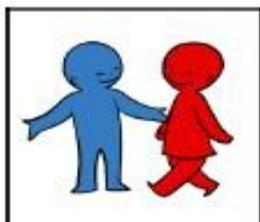
(encouraging you, talking about what to do next, involving you as much as you want)

not very good	ok	good	very good	excellent	does not apply

If you would like to explain any of your answers, please use the space overleaf.

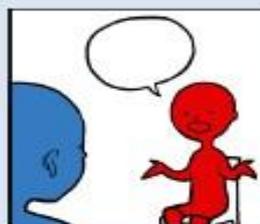
Please **tick, circle or mark** the scale.

How was the therapist at..



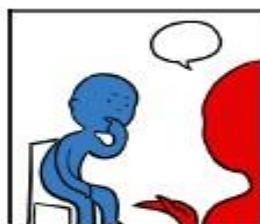
1... making you feel at ease?
(being friendly and warm towards you)

poor	fair	good	very good	excellent	does not apply



2... letting you tell your 'story'?
(giving you time to fully describe things in your own words)

poor	fair	good	very good	excellent	does not apply



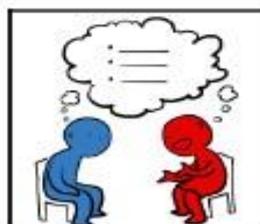
3... really listening?
(paying close attention to what you are saying)

poor	fair	good	very good	excellent	does not apply



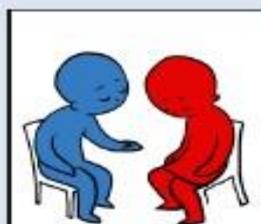
4... being interested in you as a whole person?
(asking/knowing relevant details about your life, your situation)

poor	fair	good	very good	excellent	does not apply



5... fully understanding your concerns?
(communicating that s/he had accurately understood your problems)

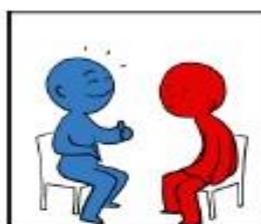
poor	fair	good	very good	excellent	does not apply



6... showing care and compassion?

(seeming genuinely concerned)

poor	fair	good	very good	excellent	does not apply



7... being positive?

(having a positive approach and positive attitude)

poor	fair	good	very good	excellent	does not apply



8... explaining things clearly?

(fully answering your questions, giving you enough information)

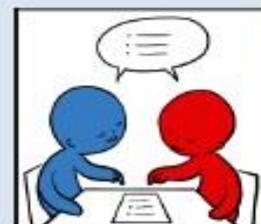
poor	fair	good	very good	excellent	does not apply



9... helping you to take control?

(exploring with you what you can do to improve your health yourself)

poor	fair	good	very good	excellent	does not apply



10... making a plan of action?

(discussing the options, involving you as much as you want)

poor	fair	good	very good	excellent	does not apply

If you would like to explain any of your responses, please use this space or overleaf.

Patient Reported Outcome Measures (PROMS)

Birmingham Community Healthcare NHS Trust Likert Scale Outcome Tools

Patient reported outcome tools using Likert scales can be used to demonstrate how a patient is experiencing a particular symptom. Measured sequentially it can demonstrate the outcome of the intervention. The tools utilise a subjective scale (1 to 10) by which a patient-rates the degree of the symptom. Birmingham Community Healthcare NHS Trust has designed a number of tools that can be used relatively quickly during consultations with patients to demonstrate changes in the patient's condition or perception of symptoms over a period of time. Collating the data collected from a number of patients is a powerful way of demonstrating the effectiveness of the dietitian's input.

Abdominal Discomfort Scale

1 = No abdominal discomfort → 10 = Abdomen is very bloated and uncomfortable

How do you rate your abdominal discomfort?									
<hr/>									
1	2	3	4	5	6	7	8	9	10

Appetite Scale

It is important to note that appetite needs to be put into context, e.g. for tube feeding you may not want the patient to feel hunger, for oral nutrition support you may want them to develop/experience an appetite.

How do you rate your appetite?									
<hr/>									
1	2	3	4	5	6	7	8	9	10

1 = No appetite → 10 = Excellent appetite

Confidence Scale

How confident are you managing your feed?									
<hr/>									
1	2	3	4	5	6	7	8	9	10

1 = Not confident at all → 10 = I feel really confident

Energy/Fatigue Scale

How do you rate your energy/level of fatigue?									
<hr/>									
1	2	3	4	5	6	7	8	9	10

1 = Extremely tired and no energy at all → 10 = Full of energy and not tired at all

Data Collection and Analysis

These tools can be used to demonstrate how the dietitians' intervention may improve the symptom(s) that the patient is experiencing. Data can be collected at each consultation over a defined period of time (e.g. weeks/months). Data of a case-load of patients can be reviewed over 6-12 months, collated and presented using a line chart.

These scales could be adapted for a variety of other questions such as:

- Does your feed regimen fit with the family routine?
- Does your feed regimen interrupt your sleep/family sleep/your relationship with others?

See Case Studies A/B/H for use of these tools.

Bowel Function

Bristol Stool Chart

The Bristol Stool Chart is a medical visual aid designed to classify faeces into seven groups which can be used by patients.

Bristol Stool Chart

Type 1		Separate hard lumps, like nuts (hard to pass)
Type 2		Sausage-shaped but lumpy
Type 3		Like a sausage but with cracks on its surface
Type 4		Like a sausage or snake, smooth and soft
Type 5		Soft blobs with clear-cut edges (passed easily)
Type 6		Fluffy pieces with ragged edges, a mushy stool
Type 7		Watery, no solid pieces. Entirely Liquid

Measures

Type 1-2: indicates constipation

Type 3-4: ideal stools and easy to pass

Type 5-7: may indicate diarrhoea and urgency and may be as a result of other underlying conditions

Data Collection and Analysis

The tool can be used to demonstrate how the dietitian's intervention (e.g. through changes in feed rate, feed/supplement fibre content, laxative advice), may help improve the bowel function of the patient. Data can be collected at each consultation over a defined period (e.g. weeks/months). Data of a caseload or patients reviewed over a 6-12 months period can be collated and presented using a line chart. This may be used along with recording reduced laxative use etc. to demonstrate potential cost savings

See Case Study A for use of this tool.

King's Stool Chart

The King's Stool Chart can be used for characterising stool output in a variety of groups. It has been validated for use in free-living individuals, patients at high-risk of diarrhoea and patients receiving enteral nutrition. To improve its accuracy and reliability, the King's Stool Chart contains both verbal and photographic descriptors of stool consistency, weight and frequency.

Measures

	(1) Less than 100g	(2) Between 100 – 200g	(3) More than 200g
(A) Hard & Formed - hard or firm texture - retains a definite shape - like a banana a cigar or marbles	A1 	A2 	A3
(B) Soft & Formed - retains general shape - like peanut butter	B1 	B2 	B3
(C) Loose & Unformed - lacks a shape of its own - may spread easily - like porridge or thick milkshake	C1 	C2 	C3
(D) Liquid - runny - like water	D1 	D2 	D3

King's Stool Chart © 2001 King's College London
 www.kcl.ac.uk/stoolchart

Scale 0 cm 10 cm

Consider the consistency of the faecal sample by comparison with both the verbal and photographic descriptors (A, B, C, D). Then, consider the weight of the faecal sample by comparison with the photographic descriptors (1, 2, 3). Compare the size of the sample, using the life size 10cm scale, and compare it to the 10cm scale on each photographic descriptor. Assessment of bowel function should ideally include a record of the frequency of faecal output over a 24-hour period, incontinence, signs of fat malabsorption and colour. Take into considerations what is usual for the patient and what is acceptable to the patient.

Data Collection and Analysis

The tool can be used to demonstrate how the dietitian's intervention (e.g. through changes in feed rate, feed/supplement fibre content, laxative advice), may help improve the bowel function of the patient. Data can be collected at each consultation over a defined period of time (e.g. weeks/months). Data of a caseload or patients reviewed over a 6-12 months period can be collated and presented using a line chart.

Outcome Score	Result
2	The objective was fully met. For example, the aim of dietetic intervention was to improve feed tolerance by preventing diarrhoea and it was completely resolved
1	The objective was partially met. For example, the aim of dietetic intervention was to improve feed tolerance by preventing diarrhoea and it did not resolve completely but reduced in frequency or volume
0	The objective was not met but did not worsen. For example, the aim was to improve feed tolerance by preventing diarrhoea but it remained unchanged
-1	For this objective the outcome or situation worsened over time (specifically due to our intervention). For example, the aim was to improve feed tolerance by preventing diarrhoea but frequency or volume increased

Data Collection and Analysis

A line graph can be used to demonstrate the effectiveness of the dietitians' interventions on this range of indicators and for collated data collected from a number of patients, over a defined period of time.

Episodes can be defined as an inpatient admission, for the period of time a patient attends an out-patient clinic, or until the symptom/indicator is no longer changing e.g. target weight met or tolerating feed plan.

EQ-5D

EQ-5D™ is a standardised, validated instrument for use as a measure of health outcome; it is applicable to a wide range of health conditions and treatments. The EQ-5D health questionnaire provides a simple descriptive profile and a single index value for health status.

If you are thinking of using EQ-5D but would like to see it first, please download the UK English sample version of the EQ-5D-3L, EQ-5D-5L or the EQ-5D-Y. If you have already seen EQ-5D and/or decided to go ahead and use it, please complete the EQ-5D registration form. The EuroQol Office will then contact you by e-mail and inform you about the terms and conditions which apply to your use of the EQ-5D, including licensing fees (if applicable) <http://www.euroqol.org/eq-5d-products/how-to-obtain-eq-5d.html>.

The following questionnaire is an example of the EQ-5D-3L, comprising the EQ-5D descriptive system and the EQ visual analogue scale. The EQ-5D-3L descriptive system comprises five dimensions and each dimension has three levels.

<p><i>By placing a tick in one box in each group below, please indicate which statements best describe your own health state today.</i></p> <p>Mobility I have no problems in walking about I have some problems in walking about I am confined to bed</p>
<p>Self-care I have no problems with self-care I have some problems washing or dressing myself I am unable to wash or dress myself</p>
<p>Usual activities (e.g. work, study, housework, family or leisure activities) I have no problems with performing my usual activities I have some problems with performing my usual activities I am unable to perform my usual activities</p>
<p>Pain/discomfort I have no pain or discomfort I have moderate pain or discomfort I have extreme pain or discomfort</p>
<p>Anxiety/depression I am not anxious or depressed I am moderately anxious or depressed I am extremely anxious or depressed</p>

Measures

To help people say how good or bad a health state is, there is a scale (rather like a thermometer) on which the best state you can imagine is marked 100 and the worst state you can imagine is marked 0.

QoL is often adversely affected by a chronic condition. However, using a QoL tool sequentially on a patient may illustrate for example the positive impact of changing a feed regimen on an individual's ability to participate in family routine, or undertake ADLs secondary to a suitable feeding regimen or increased strength gained from adequate nutrition. Chronic disease should therefore not preclude the use of QoL measures, but requires one to account for the deterioration in health relating to the underlying clinical disease.

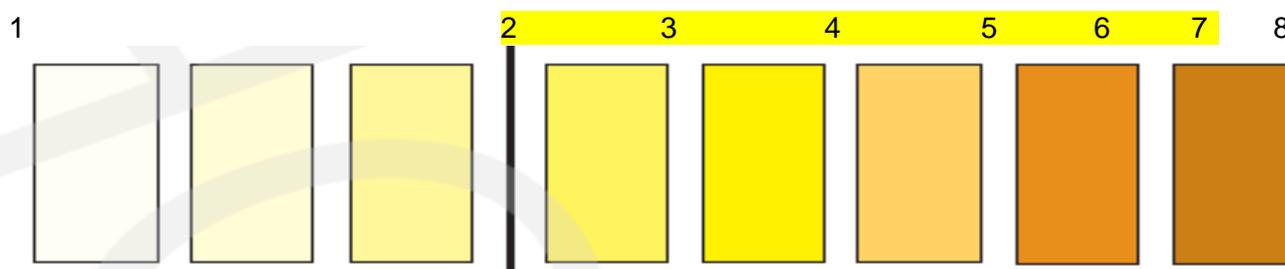
NICE utilise cost per QALY (quality adjusted life years) to evaluate whether it is economically worth investing in or recommending a service. Little data is available for dietetics but the potential is very powerful as dietetic consultations resulting in improved QoL may be very cost effective.

Reference: <http://www.euroqol.org/eq-5d-products.html>

Hydration

Birmingham Community Healthcare NHS Trust Hydration Tool

Patients can monitor objectively whether they are getting adequate fluids by using a urine colour chart. This tool is based on a leaflet by the Nutrition and Dietetic Team at Bedford Hospital and the colour chart below should be used alongside a patient diary to record fluid intake, volume of urine passed and frequency of bladder emptying.



1-3 = Healthy urine

4-8 = You may need more fluids (discuss with your dietitian if you are unsure how to achieve this)

Health professionals and patients should be aware that medications can also influence the colour of urine (see Appendix 1).

Measure

A colour coded chart can be used to compare either the patients' reported urine colour, or by observing the contents of a catheter bag or urine sample.

Data Collection and Analysis

The pre- and post-dietetic intervention urine chart data demonstrates the impact that the dietitian can have on improving the patients' hydration status. Collated data can be presented using a line graph to demonstrate the improvement in hydration.

References

www.globairph.com www.health.harvard.edu www.mayoclinic.com www.ncbi.nlm.nih.gov

See Case Study F for use of this tool

HOME ENTERAL FEEDING

PENNINE ACUTE HOSPITALS NHS TRUST HOME ENTERAL FEEDING TEAM

Measure	Baseline – Date			Review (face to face contact only) – Date			
Weight (PREM)	Preferred weight range	Min:					
		Max:					
Bowel problem frequency (PROM)	A	B	C	D			
Tube site (PROM)	Baseline Grade						
	Healthy	Minor	Major				
Acceptability of feeding regime (PREM)	Baseline Grade						
	Not acceptable	Could be improved	Acceptable				

Measures

Outcome indicators to be entered on review:

1 = worse 2 = unchanged – still bad 3 = unchanged – still good 4 = improved

- Weight: Agree with the patient the preferred weight range target. If the patient is unable to be involved in this decision, then the dietitian would set appropriate target weight based on their assessment of the patients' nutritional status and clinical condition.
- Bowels: PROM used to assess frequency of bowel opening. Baseline bowel function assessed as:
 - More than weekly,
 - Weekly,
 - 2-3 times per week,
 - Daily
- Tube site: Dietitian assesses the health of the tube stoma site:
 - Healthy – No problems identified
 - Minor – Small amount of over granulation/ minor leakage
 - Major – Infection/ over granulation with bleeding or pain/ major leakage
- PREM given to patient to assess their acceptability of feeding regime:
 - Not acceptable – patient unhappy with their feeding regime
 - Could be improved – patient fairly happy with regime but could be better
 - Acceptable – patient happy with their feeding regime

Data Collection and Analysis

Data can be collected over a defined time via electronic records or paper data collection sheet. This can be presented as case-load data e.g. % of case-load with an improving weight or bowels, or as longitudinal data as a line graph of collated data over a set episode e.g. from identification of a problem to its resolution, or for a single hospital admission.

Data can be transferred to a table for results clarity:

	Weight	Bowels	Stoma	Regimen
%Better	39.3	10.7	11.5	21.4
% Unchanged still good	25.0	82.1	65.3	71.4
% Unchanged still bad	3.6	3.6	7.6	7.1
% Worse	32.1	3.6	15.4	0.0

Birmingham Community NHS Trust Home Enteral Feeding (Hef) Recording Form

PAS No:
NHS No:
Dietitian:

Dietetic Outcomes for HEF Pilot Recording Form

Scoring
W Worse
S same
PA Partially achieved
A Achieved

Date of intervention (ttt):				Date of follow up: No. weeks since ttt:			Date of follow up: No. weeks since ttt:		
Diagnosis & Co-morbidities:									
Aims of intervention agreed (taken from the HEFAS)	Outcome measure	Tool used & initial result/reading	Timeframe for achievement	Tool result	Score	Barrier*	Tool result	Score	Barrier*
EXAMPLE									
Date of intervention (ttt): 01/11/13				Date of follow up:			Date of follow up: 6/2/13		

If a barrier/s present which prevented the aim being achieved see list of barrier codes and enter code

Diagnosis & Co-morbidities: CVA, Recent urinary catheter infections, constipated				2/12/13 No. weeks since ttt: 4			No. weeks since ttt: 12		
Aims of intervention agreed (taken from the HEFAS)	Outcome measure	Tool used & initial result/reading	Timeframe for achievement	Tool result	Score	Barrier*	Tool result	Score	Barrier*
<i>Improve hydration</i>	<i>Level of hydration</i>	<i>Urine colour 6 No. catheter bag changes in 24 hrs 2</i>	<i>1/12</i>	<i>3</i>	<i>A</i>	<i>n/a</i>	<i>Change sustained</i>		
				<i>4</i>	<i>A</i>	<i>n/a</i>			
<i>Maintain weight</i>	<i>MUAC change</i>	<i>MUAC 26.5cm</i>	<i>3/12</i>				<i>26.3cm</i>	<i>A</i>	<i>n/a</i>
<i>Normalise bowel movements</i>	<i>Bowel movements</i>	<i>Bristol stool scale 1 Stool frequency 2 x week</i>	<i>1/12</i>	<i>4</i>	<i>A</i>	<i>n/a</i>	<i>Change sustained</i>		
				<i>6 x week</i>	<i>A</i>	<i>n/a</i>			

Hywel Da University Health Board

Patient progression and nutrition intake is measured by the dietitian and inputted on to the Patient Administration System (Myrddin).

AIMS/GOALS													
G1	Symptom Management	G2	Improve Nutrition	G3	Confirm Nutritional Adequacy	G4	Improve Hydration	G5	Maintain/Monitor Nutrition	G6	Empowerment to self Manage Condition	G7	Avoid Inappropriate Intervention
DOMAIN/MEASURES													
Symptom changes		Biochemical			Physical			Empower to self manage condition		Avoid Inappropriate Intervention			
S1	Symptoms Improved	B1	Improved Urea and electrolytes	P1	Weight/ BMI Increased (kg)	E1	Discharged Home on HETF	R1	Reduction in units of Oral/EN/PN				
S2	Decrease fistula/stoma output	B2	Avoid/maintain Refeeding Biochemistry	P2	Weight/BMI Maintained (kg)	E2	Adherence to nutrition recommendations	R2	Discontinue units of Oral/EN/PN				
S3	Improved wound healing	B3	Improved Inflammatory markers	P3	Improve/maintain Growth Centile	E3	Reported improvement in confidence.	R3	Reduction in DM Medication				
S4	Reduction in Hypo's	B4	Improved micro-nutrient levels	P4	Reduced Rate of weight loss	E4	Patient set and achieved behaviour change goals.	R4	Avoid Inappropriate oral/EN/PN				
S5	Reduction In Pain	B5	Improved Hba1c	P5	Stable/Increased MUAC (Muscle mass)	E5	Improved patient empowerment score	R5	Improved management of enteral feeding equipment				
S6	Remission of clinical disease	B6	Improved cholesterol ratio	P6	Stable/Increased Grip strength	E6	Reduction in alcohol consumption	R6	Avoid complications associated with EN/PN				
S7	Stoma Management	B7	Reduced Triglycerides	P7	Weight reduction (0-2.9%)	E7	Adherence to agreed ONS/Medication dose	R7	Initiate pre-operative lifestyle intervention				
		B8	Improved Coeliac serology. (TTG)	P8	Weight reduction (3-4.9%)	E8	Increased Physical activity	R8	Swap units of oral/Enteral nutrition prescribing				
		B9	Improve/maintain Glycaemic control	P9	Weight reduction (5-10%)	E9	Agreed referral to other services	R9	Increase Units of Oral/EN/PN nutrition prescribing				
		B10	Metabolic Biochemistry In range	P10	Weight Reduction (>10%)	E10	Restrictive eating behaviour improved	R10	Prevent Hospital Admission				
BARRIERS - Add in a Barrier code if an Outcome is Not Achieved due to a Barrier outside of Dietetic control.				P11	Weight maintenance (+/-2%)	E11	Reported /measured improvement in confidence/knowledge	R11	PEG end change/repair				
T1	MEDICAL BARRIER			P12	Improved Blood Pressure	E12	Smoking brief advice	R12	Traction removal				
T2	NURSING BARRIER			P13	Improved Fluid Balance	E13	Increased Hypo awareness	R13	Insert Feeding Tube				
T3	PATIENT BARRIER			P14	Improved ADL'S	E14	Integration of care	R14	Change Feeding Tube				
				P15	Reported Increase Oral intake/fluid/EN/PN	E15	Adherence to prescribed EN/PN regimen						
				P16	Initiate Artificial nutrition Support								
				P17	Initiate prophylactic Nutrition Support								
				P18	Initiate pre-operative Nutrition support (ERAS)								

Measures

Use BDA Model and Process (Assessment, Nutrition and Dietetic Diagnosis, Strategy (including propose dietetic outcome(s) (choose outcome indicator) and propose dietetic goal(s) (choose goal indicator). Input diagnosis code and initial intervention on Myrddin (initial goals and outcome indicators). Record outcome on Myrddin.

Data collection and analysis

Myrddin data is translated to 'real time' reporting via Information Reporting Intelligence System (IRIS).

See Case Study I for use of this tool

Home Parenteral Nutrition: Quality of Life (Hpn Qol)

The HPN-QOL[®] is a 48-item questionnaire that focuses on physical, emotional and symptomatic issues. The questionnaire contains seven multi-item functional scales and one single-item functional scale, as well as six multi-item and three single-item symptom scales. The functional scales include general health, ability to holiday or travel, coping, physical function, ability to eat and drink, employment, sexual function and emotional function. The symptom or problem scales include body image, immobility, fatigue, sleep pattern, gastrointestinal symptoms, other pain, either stoma management or bowel movements, financial issues and body weight.

There are three global health status/quality of life numerical rating scales. The first is a global QoL question. The other two numerical rating scales pertain to the effect on QoL of the underlying illness leading to the need for HPN and its effect. Two single HPN items relate to the nutrition team and the availability of an ambulatory pump for infusion of HPN, in which a high score represents a good outcome.

Please answer as many questions as possible by circling the number that reflects your experiences. N/A = not applicable

During the past year (or since you started HPN)		Much worse	Worse	No change	Better	Much better
1	How has HPN made you feel?	1	2	3	4	5
2	How has HPN affected your ability to go on holiday?	1	2	3	4	5
3	How has HPN affected your ability to travel?	1	2	3	4	5
During the past week		Not at all	A little	Quite a bit	Very much	
4	Has HPN felt a burden to you?	1	2	3	4	
5	Have you had concerns about your weight?	1	2	3	4	
6	Has the presence of your catheter affected your body image?	1	2	3	4	
7	Have you felt physically less attractive?	1	2	3	4	
8	Have you felt supported by your hospital nutrition team?	1	2	3	4	
9	Have you had access to a portable pump? Y/N If so, has it improved your ability to get around?	1	2	3	4	N/A
10	Have you had trouble doing strenuous activities, like carrying a heavy shopping bag or suitcase?	1	2	3	4	
11	Have you had trouble taking a long walk?	1	2	3	4	
12	Have you had trouble taking a short walk outside the house?	1	2	3	4	
13	Have you needed to stay in bed or a chair during the day?	1	2	3	4	
14	Have you needed help with eating, dressing, washing yourself or using the toilet?	1	2	3	4	
15	Have you felt tired?	1	2	3	4	
16	Have you felt lacking in energy?	1	2	3	4	
17	Has HPN disturbed your sleep pattern?	1	2	3	4	
18	Have you worried about your current health?	1	2	3	4	
19	Have you worried about the future?	1	2	3	4	
20	Were you able to socialise?	1	2	3	4	
21	Were you able to exercise?	1	2	3	4	

During the past week		Not at all	A little	Quite a bit	Very much	
22	Were you able to do shopping?	1	2	3	4	
23	Were you able to take part in hobbies or leisure activities?	1	2	3	4	
24	Were you able to cope with daily life?	1	2	3	4	
25	Were you able to feel independent?	1	2	3	4	
26	Have you felt bloated?	1	2	3	4	
27	Were you able to eat food?	1	2	3	4	
28	Were you able to drink fluids?	1	2	3	4	
29	Have you had pain after eating or drinking?	1	2	3	4	N/A
30	Have you had nausea/vomiting?	1	2	3	4	
31	Have you had aches or pains in your muscles or joints?	1	2	3	4	
32	Have you had other pain?	1	2	3	4	
33	Have you felt depressed?	1	2	3	4	
34	Have you felt tense?	1	2	3	4	
During the past YEAR (or since you started HPN)		Not at all	A little	Quite a bit	Very much	
35	Have you felt you wanted to go out to work?	1	2	3	4	
36	Were you able to go out to work?	1	2	3	4	
37	Has HPN caused financial worries?	1	2	3	4	
38	Do you have a stoma (ileostomy/colostomy/gastrostomy)? Please tick box Yes <input type="checkbox"/> No <input type="checkbox"/>					
If you have a stoma please go to questions 39-40						
If you do not have a stoma please go to questions 41-43						
During the past week						
For patients who have a stoma		Not at all	A little	Quite a bit	Very much	
39	Have you had problems caring for your stoma?	1	2	3	4	
40	Have you had problems with your stoma site?	1	2	3	4	

Therapy Outcome Measures (TOMS)

Tom Core Scale

IMPAIRMENT	
0	The most severe presentation of this impairment
1	Severe presentation of this impairment
2	Severe/moderate presentation
3	Moderate presentation
4	Just below normal/mild presentation
5	No impairment
ACTIVITY	
0	Totally dependent/unable to function
1	Assists/co-operates but burden of task/achievement falls on professional carer
2	Can undertake some part of task but needs a high level of support to complete
3	Can undertake task/function in familiar situation but required some verbal/physical assistance
4	Requires some minor assistance occasionally/or extra time to complete task
5	Independent/able to function
PARTICIPATION	
0	No autonomy, isolated, no social/family role
1	Very limited choices, contact mainly with professionals, no social or family role, little control over life
2	Some integration, value and autonomy in one setting
3	Integrated, valued and autonomous in limited number of settings
4	Occasionally some restriction in autonomy, integration, or role
5	Integrated, valued, occupies appropriate role
WELL-BEING/DISTRESS	
0	Severe constant: High and constant levels of distress/ upset/ concern/ frustration/ anger/ distress/ embarrassment/ withdrawal/ severe depression/ or apathy, unable to express or control emotions appropriately.
1	Frequently severe: Moderate distress/ upset/ concern/ frustration/ anger/ distress/ embarrassment/ withdrawal/ severe depression/ or apathy. Becomes concerned easily, requires constant reassurance/support, needs clear/ tight limits and structure, loses emotional control easily.
2	Moderate consistent: Distress/ upset/ concern/ frustration/ anger/ distress/ embarrassment/ withdrawal/ severe depression/ or apathy in unfamiliar situations, frequent emotional encouragement and support required.
3	Moderate frequent: Distress/ upset/ concern/ frustration/ anger/ distress/ embarrassment/ withdrawal/ severe depression/ or apathy. Controls emotions with assistance, emotionally dependant on some occasions, vulnerable to change in routine, etc., spontaneously uses methods to assist emotional control.
4	Mild occasional: Distress/ upset/ concern/ frustration/ anger/ distress/ embarrassment/ withdrawal/ severe depression/ or apathy. Able to control feelings in most situations, generally well-adjusted/stable (most of the time/most situations), occasional emotional support/encouragement needed.
5	Not inappropriate: Distress/ upset/ concern/ frustration/ anger/ distress/ embarrassment/ withdrawal/ severe depression/ or apathy. Well adjusted, stable and able to cope emotionally with most situations, good insight, accepts and understands own limitations.

Patient no.	Clinical condition	Stage of condition	Dietetic Condition		baseline	endpoint	Change +/-
1				Impairment			
				Activity			
				Participation			
				Well-being			
2				Impairment			
				Activity			
				Participation			
				Well-being			
3				Impairment			
				Activity			
				Participation			
				Well-being			
4				Impairment			
				Activity			
				Participation			
				Well-being			

Evaluation

TOMs are administered at the beginning and again at the end of care (or at defined time periods for situations where patients are not discharged from the care of the dietitian e.g. HEF).

An eleven-point scoring scale is used with a rating of severity from 0 – 5 given for each domain and ½ points can be used i.e. 0 = most severe presentation, 3 = moderate and 5 = normal. A change of ½ point is deemed clinically significant.

See Case Study G for use of this tool

DIETETIC INTERVENTION FOR HOME ENTERAL FEEDING (HEF)

IMPAIRMENT	
The impact of the nutritional; lifestyle choices upon body function; structure	
SCORE	DESCRIPTOR
0	Nutritionally unstable (e.g. >10% weight loss in 3-6 months) or severe, constant enteral feeding associated symptoms that remain unresolved by frequent, unplanned interventions
1	Nutritionally unstable (e.g. >10% weight loss in 3-6 months) or severe, regular enteral feeding associated symptoms resolved by frequent, unplanned interventions
2	Nutritionally unstable or has severe, occasional enteral feeding associated symptoms resolved by frequent, planned interventions
3	Nutritional needs are changing as a result of disease progression etc. or moderate, occasional enteral feeding associated symptoms resolved by frequent, planned interventions to revise feeding regimen. Nutritional goals are achieved
4	Working towards achieving nutritional/other goals (e.g. weight, wound healing, patient is more alert) rarely has enteral feeding associated symptoms requiring planned, routine intervention to review stoma site and/or nutrition/ hydration status etc.
5	Nutritional goals are met/ no enteral feeding associated symptoms. Requires planned, routine intervention to monitor stoma site and/or nutrition/hydration status etc.

ACTIVITY	
The execution of a task or action by an individual e.g. self-care	
SCORE	DESCRIPTOR
0	Totally dependent on others for care related to enteral feeding; nutrition. Care package is provided by external agency; community nursing and non-resident family (i.e. relatives who do not live with the patient)
1	Totally dependent on others. Care regarding enteral feeding; nutrition is provided by external care agencies; community nursing and by family living with patient
2	Totally dependent on others. Care regarding enteral feeding; nutrition is provided by family living with patient (no involvement by external agencies; community nursing)
3	Partially dependent for care related to enteral feeding/nutrition. Patient requires some assistance with enteral feeding; nutrition from external agency; community nursing and non-resident family (i.e. relatives who do not live with the patient)
4	Partially dependent for care related to enteral feeding; nutrition. Patient requires some assistance with enteral feeding; nutrition from family members living with them
5	Completely independent with own care around enteral feeding; nutrition

PARTICIPATION	
Involvement in their world around them	
SCORE	DESCRIPTOR
0	No autonomy, isolated, no social family role
1	Very limited choices, contact mainly with professionals, no social or family role, little control over life, limited ability to make lifestyle choices, food choices, treatment options.
2	Some integration, value and autonomy in one setting
3	Integrated, valued and in autonomy in limited number of settings
4	Occasionally some restriction in autonomy integration or role - can do things independently but has some barriers

Produced by Leeds NHS Dietitians

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5	Integrated valued occupies appropriate role, takes responsibility for own health
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WELL-BEING/DISTRESS	
Degree of contentment with current situation	
SCORE	DESCRIPTOR
0	Severe constant: High and constant levels of distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy, unable to express or control emotions appropriately
1	Frequently severe: Moderate distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Becomes concerned easily, requires constant reassurance; support, needs clear; tight limits and structure, and loses emotional control easily
2	Moderate consistent: Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy in unfamiliar situations, frequent emotional encouragement and support required
3	Moderate frequent: Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Controls emotions with assistance, emotionally dependant on some occasions, vulnerable to change in routine, etc., spontaneously uses methods to assist emotional control
4	Mild occasional: Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Able to control feelings in most situations, generally well adjusted; stable (most of the time/most situations), occasional emotional support; encouragement needed
5	Not inappropriate (behaves appropriately in situation): Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Well adjusted, stable and able to cope emotionally with most situations, good insight, accepts and understands own limitations

Profound		Severe		Severe/Moderate		Moderate		Mild		Normal (for age and gender)
0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5

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DIETETIC INTERVENTION FOR UNDER-NUTRITION

IMPAIRMENT	
The impact of the nutritional, lifestyle choices upon body function; structure	
SCORE	DESCRIPTOR
0	BMI <14kg/m ² Unintentional weight loss of more than 15% in past 3-6 months and significantly underweight and/or no oral intake for 5 days or more.
1	Unintentional weight loss of more than 10% in past 3-6 months and significantly underweight and/or currently meeting approximately 20% of nutritional needs.
2	Unintentional weight loss of more than 10% in past 3-6 months and/or currently meeting approximately 40% of nutritional needs.
3	Unintentional weight loss of more than 5% in past 3-6 months and/or currently meeting approximately 60% of nutritional needs
4	Unintentional weight loss 0-5% in past 3-6 months and/or currently meeting approximately 80% of nutritional needs.
5	Healthy Weight. BMI >18.5kg/m ² No recent unintentional weight loss and meeting nutritional needs.

ACTIVITY	
The execution of a task or action by an individual e.g. self-care	
SCORE	DESCRIPTOR
0	Full assistance needed for eating or drinking. Reliant on carers to prepare all meals, drinks and snacks. No appetite. No willingness to eat.
1	Needs a considerable amount of assistance to eat and drink. Can manage some finger foods, with supervision. Requires full assistance to prepare meals, drinks and snacks. Very reduced appetite. Mostly unwilling to eat.
2	May need some assistance when eating or drinking. Can manage all finger foods. Requires some assistance to prepare meals, drinks and snacks. Reduced appetite. Frequently unwilling to eat.
3	Able to prepare a meal, drink or snack with some assistance or adaptations. Able to eat or drink independently, with some support such as prompting or adaptations. Requires supervision to prepare meals, drinks and snacks. . Variable appetite. Occasionally unwilling to eat.
4	Able to eat or drink independently with adaptations. Able to prepare meals, drinks and snacks with minimal supervision. Occasional suppressed appetite. Willing to eat.
5	Able to eat and drink independently. Able to prepare meals, drinks and snacks independently. Has a full appetite. Willing to eat.

PARTICIPATION	
Involvement in their world around them	
SCORE	DESCRIPTOR
0	No autonomy, isolated, no social family role
1	Very limited choices, contact mainly with professionals, no social or family role, little control over life, limited ability to make lifestyle choices, food choices, treatment options.
2	Some integration, value and autonomy in one setting
3	Integrated, valued and in autonomy in limited number of settings
4	Occasionally some restriction in autonomy integration or role - can do things independently but has some barriers
5	Integrated valued occupies appropriate role, takes responsibility for own health

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WELL-BEING/DISTRESS

Degree of contentment with current situation

SCORE	DESCRIPTOR
0	Severe constant: High and constant levels of distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy, unable to express or control emotions appropriately
1	Frequently severe: Moderate distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Becomes concerned easily, requires constant reassurance; support, needs clear; tight limits and structure and loses emotional control easily
2	Moderate consistent: Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy in unfamiliar situations, frequent emotional encouragement and support required
3	Moderate frequent: Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Controls emotions with assistance, emotionally dependant on some occasions, vulnerable to change in routine, etc., spontaneously uses methods to assist emotional control
4	Mild occasional: Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Able to control feelings in most situations, generally well adjusted; stable (most of the time; most situations), occasional emotional support; encouragement needed
5	Not inappropriate (behaves appropriately in situation): Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Well adjusted, stable and able to cope emotionally with most situations, good insight, accepts and understands own limitations

Profound		Severe		Severe/Moderate		Moderate		Mild		Normal (for age and gender)
0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5

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DIETETIC INTERVENTION FOR ACUTE ENTERAL FEEDING

IMPAIRMENT	
The impact of the nutritional, lifestyle choices upon body function; structure	
SCORE	DESCRIPTOR
0	Nutritionally unstable (e.g. MUST \geq 2), severe risk of refeeding syndrome, not tolerating insertion of NG tube
1	Nutritionally unstable (e.g. MUST \geq 2), high risk of refeeding syndrome, feeding tube in situ but numerous unplanned interruptions to feed e.g. frequent tube removal, poor absorption, NBM for scans. Meeting \leq 25% requirements for kcal via enteral tube feeding
2	Nutritionally unstable (e.g. MUST \geq 2), moderate risk or refeeding syndrome or regular enteral feeding associated symptoms e.g. nausea & vomiting, elevated BMs, loose stools. Meeting \sim 50% requirements for kcal via enteral tube feeding
3	Occasional enteral feeding related symptoms e.g. nausea & vomiting, elevated BMs, loose stools. Meeting \sim 75% requirements for kcal via enteral tube feeding
4	Working towards achieving nutritional goals e.g. stabilization of electrolytes, weight, handgrip strength, bowel management. Meeting \sim 100% requirements for kcal via enteral tube feeding
5	Nutritional goals are met, no enteral feeding associated symptoms and/or commenced weaning onto oral diet. Requires planned, routine assessment to monitor biochemistry, hydration, nutrition, bowels, blood sugars

ACTIVITY	
The execution of a task or action by an individual e.g. self-care	
SCORE	DESCRIPTOR
0	Total dependence on nursing staff for care related to enteral feeding/nutrition; could include severe cognitive communication (e.g. unable to communicate signs of feed intolerance to nursing staff) and physical impairments (e.g. bedbound, arthritic hands)
1	Total dependence on nursing staff for care related to enteral feeding//nutrition; could include severe physical impairments (e.g. bedbound, arthritic hands); able to communicate to nurses signs of feed intolerance (e.g. abdominal pain, nausea)
2	Dependent on nursing staff for care related to enteral feeding/nutrition; has an awareness of the steps in the feed or fluid administration process; nursing staff/nutrition company/homecare nurse has begun training on care related to enteral feeding
3	Partially dependent on nurses to administer feed or fluid and to care for the stoma site; requiring ongoing training through regular demonstration and verbal prompting but managing some aspects with supervision
4	Occasionally dependent on nurses to provide support (e.g. prompting) to administer feed or fluid and to care for the stoma site. Self feeding orally with assistance
5	Independent with administering feed/fluid (pump or syringe) and caring for stoma site. Able to self feed orally without assistance.

PARTICIPATION	
Involvement in their world around them	
SCORE	DESCRIPTOR
0	No autonomy, isolated, no social family role
1	Very limited choices, contact mainly with professionals, no social or family role, little

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	control over life, limited ability to make lifestyle choices, food choices, treatment options.
2	Some integration, value and autonomy in one setting
3	Integrated, valued and in autonomy in limited number of settings
4	Occasionally some restriction in autonomy integration or role - can do things independently but has some barriers
5	Integrated valued occupies appropriate role, takes responsibility for own health

WELL-BEING/DISTRESS	
Degree of contentment with current situation	
SCORE	DESCRIPTOR
0	Severe constant: High and constant levels of distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy, unable to express or control emotions appropriately
1	Frequently severe: Moderate distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Becomes concerned easily, requires constant reassurance; support, needs clear; tight limits and structure and loses emotional control easily
2	Moderate consistent: Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy in unfamiliar situations, frequent emotional encouragement and support required
3	Moderate frequent: Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Controls emotions with assistance, emotionally dependant on some occasions, vulnerable to change in routine, etc., spontaneously uses methods to assist emotional control
4	Mild occasional: Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Able to control feelings in most situations, generally well adjusted; stable (most of the time; most situations), occasional emotional support; encouragement needed
5	Not inappropriate (behaves appropriately in situation): Distress; upset; concern; frustration; anger; distress; embarrassment; withdrawal; severe depression; or apathy. Well adjusted, stable and able to cope emotionally with most situations, good insight, accepts and understands own limitations

Profound		Severe		Severe/Moderate		Moderate		Mild		Normal (for age and gender)
0	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5

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Case Studies

The following case studies have been included to demonstrate how some of the outcome indicator tools outlined above could be used in practice. The outcomes, goals and indicators provided are examples only to illustrate concepts. In practice these should be patient specific and there may be more or fewer outcomes and goals utilised for each patient.

CASE STUDY A

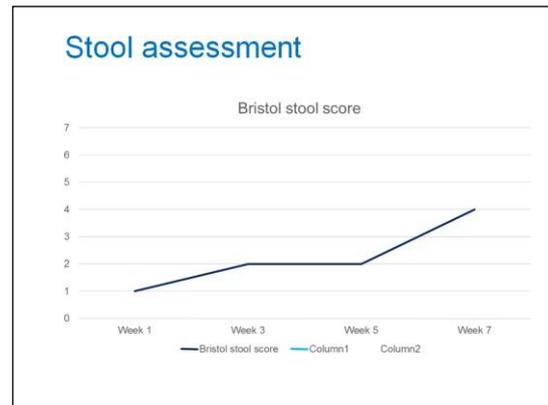
Mrs A. 65 years of age. Diagnosed with Motor Neurone Disease 12 months previously.	
<i>Current status</i> Mrs A is nil by mouth and has been discharged from hospital with a gastrostomy in place on a 12-hour overnight pump feeding plan that meets her nutritional requirements. Her husband has agreed to administer the feed, fluids and medications via the gastrostomy with support from district nurses. She is on non-invasive ventilation (NIV) overnight.	
Week 1 review	
<i>Assessment</i> Mrs A is underweight with a weight 46kg (BMI 17 kg/m ²). She is constipated and reports being tired with headaches during the day. The time the feed finishes in the morning is inconvenient with Mrs A having to remain in bed longer than she would like, and her husband reports some difficulties setting up the feeding pump.	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Protein energy malnutrition</i> <i>Aetiology: constipation, difficulties setting up feed</i> <i>Signs & Symptoms: BMI 17, inadequate fibre intake, ?missing feed due to issues with pump feeds</i>	
Proposed outcomes (to be achieved by the end of interventions)	Outcome Indicator
1. To improve nutritional status through weight gain 2. Improve bowel function 3. Enhance quality of life by improving confidence in delivering feeding regimen and caring for gastrostomy tube	Weight change Bristol stool chart Confidence/ QOL score
<i>Intervention Category (as per BDA outcome framework)</i> Management of schedule of enteral nutrition Increase fibre intake Increase quality of life	
Goals	Goal Indicator
For patient to meet nutritional requirements for weight gain via gastrostomy tube by the next review. Provide adequate Xml fluid and Xg fibre to normalise bowel motions (Bristol stool chart 3-4) by next review.	% Energy and protein requirements met Bristol stool chart score
<i>Actions</i> Discussion regarding fluid and fibre requirements to prevent constipation Advise on an appropriate and effective feeding regimen to improve patient's and husband's general well-being Refer to GP for review of tiredness and headaches Provide appropriate training to improve patient's husband's confidence with feed administration	
Week 3 review	
<i>Assessment</i> Weight stable (BMI 17kg/m ²). Happier with timing on pump but continues with tiredness/headaches despite GP review. She reveals she does not like to be on NIV and feed at the same time. Stool consistency improved but still only opening every 3-4 days. Husband now managing the feeding pump independently.	
<i>Nutrition and Dietetic Diagnosis, Outcomes and intervention category remains the same</i>	
Goals	Goal Indicator
Meet nutritional requirements to maintain weight until patient settled on new regimen Meet fluid and fibre requires to improve frequency of bowel motions	Weight change Bristol stool chart
<i>Actions</i> Advise on an appropriate day time bolus regimen to facilitate full use of NIV overnight Provided more education about fluid requirements	

Week 5 review	
<i>Assessment</i> Headaches and tiredness improved. Weight remains stable. Bowels opening every 3-4 days and feeling bloated. Bolus feed regimen well tolerated. Her husband reports bolus feed difficult to administer using the syringe. Mr and Mrs A reporting prevented from leaving the house because of the need to feed.	
<i>Nutrition and Dietetic Diagnosis, Outcomes and intervention category remains the same</i>	
<i>Goals</i>	<i>Goal Indicator</i>
Meet nutritional requirements to promote weight gain by next dietetic review Increase frequency of bowel motions to improve bloating by next dietetic review	Weight change Bristol stool chart
<i>Action</i>	
Modify feeding regimen from bolus back to pump feeding Refer to GP for laxative prescription to determine if this assists bowels	
Week 7 review	
<i>Assessment</i> Bowels opening daily and Bristol Stool Chart 4. She is pleased with a 1.5kg weight increase (BMI 18.5kg/m ²). Mr and Mrs A have started visiting friends and attending social events. Mr A is still no confident with tube displacement procedure and struggles to retain information	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Meeting nutritional requirements</i> <i>Aetiology: constipation resolved, good enteral feeding plan which improves patients QOL difficulties setting up feed</i> <i>Signs & Symptoms: BMI 18.5, No missed feeds, adequate fibre intake,</i>	
<i>Outcomes</i> <i>Outcome 1 & 2 resolved</i> <i>Outcome 3 – Barrier = difficulty retaining knowledge without practical application</i>	
Week 8 review	
<i>Assessment</i> Gastrostomy tube displaced at home. Community nurse talked Mr A through placing a stopper in stoma and attending A&E. Mr A now feeling more confident in gastrostomy tube trouble shooting	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Incomplete knowledge on enteral feeding tubes</i> <i>Aetiology: Unable to retain information on for trouble shooting enteral feeding tubes</i> <i>Signs & Symptoms: tube displacement and patient unable to troubleshoot</i>	
<i>Outcomes</i> <i>3. Enhance quality of life by improving confidence in delivering feeding regimen and caring for gastrostomy tube</i> <i>Outcome now met</i>	
Outcome/Goal Indicator tool options Tool demonstrating weight moving in direction as per dietetic goal Bristol Stool Chart, presented as a line graph charting from intervention to end point Confidence Tool presented as a line graph of change in Likert scale scores Admission avoidance: % of total tube displacements resulting in hospital visit per year	

Reporting



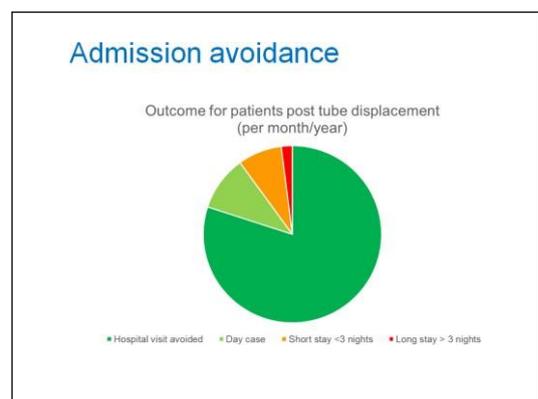
Demonstrated that weight is moving in the direction as per dietetic goal.



Used Bristol Stool Chart Scores to demonstrate improvement in constipation.



Demonstrated that patient confidence in self- management of feeding method has increased.



Utilised information from this and other cases over a year to demonstrate how admissions have been avoided.

CASE STUDY B

Female. 72 years of age. Oesophageal cancer with liver metastases.	
<i>Current status</i> Nil by mouth with nasogastric tube in-situ. Awaiting decision for palliative treatment. Discharged 4 days ago on home enteral feeding via pump, supplemented with 3 high energy boluses.	
<i>Assessment</i> Patient: Tolerating pump feed and boluses well. Mobilising well. Self-caring. Unhappy about her lack of confidence in setting up feed, water flushes, pH checking and administering bolus feeds. Family: They visit to set up feeds (husband takes over when they leave).	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Knowledge deficit looking after NGT</i> <i>Aetiology: Nil previous education with the patient</i> <i>Signs & Symptoms: patient reporting unhappy she has to rely on family to set up feeds</i>	
Proposed outcomes (to be achieved by the end of intervention)	Outcome indicator
Minimise losses in nutritional status To develop patient's confidence in managing all aspects of feeding	Weight change Confidence score
<i>Intervention Category</i> (as per BDA outcome framework) Management of schedule of enteral nutrition Increase quality of life	
Goals	Goal Indicators
Patient providing 100% of nutritional requirements via the NGT independently before next dietetic review	Confidence score Protein and Energy intake
Action	
Provide appropriate education to enable patient to feel confident in managing feed Provide feeding regimen that provides adequate nutrition to meet nutritional requirements	
Week 4 review	
<i>Assessment</i> Assessed confidence level: 7/10. All self-care conducted confidently except pH (being done by husband).	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Meeting nutritional requirement via NGT and adequate knowledge to set up feeds</i> <i>Aetiology: Good feed tolerance and education on feed set up</i> <i>Signs & Symptoms: continuing to meet 100% of nutritional requirements and 7/10 confidence setting up feeds</i> <i>Outcome – All Met</i>	
<i>Outcome tool</i> Confidence Tool.	
<i>Comments</i> Dietetic review of this patient identified that improving her confidence about her feed would facilitate better self-care and also help her family and husband in her care. Following education and re-assurance the patient's confidence improved significantly.	

Reporting

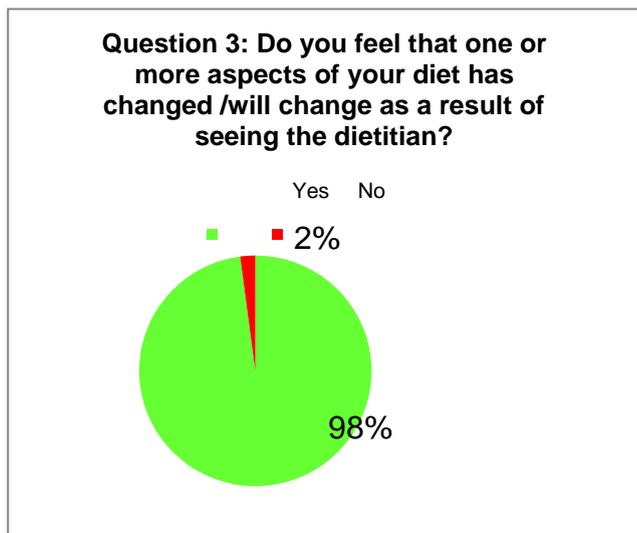
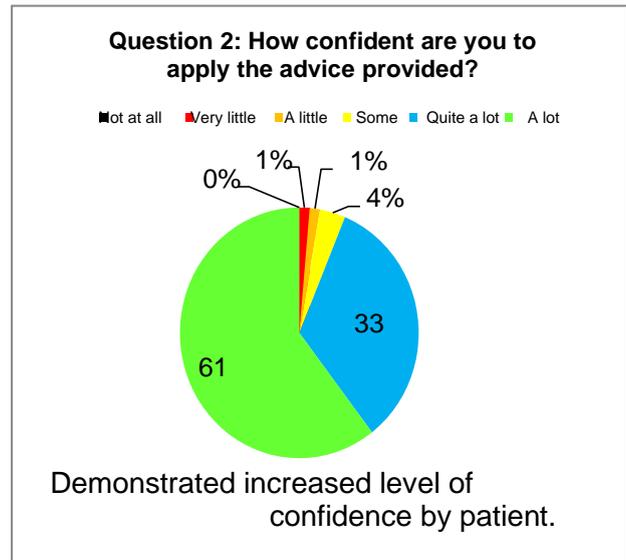
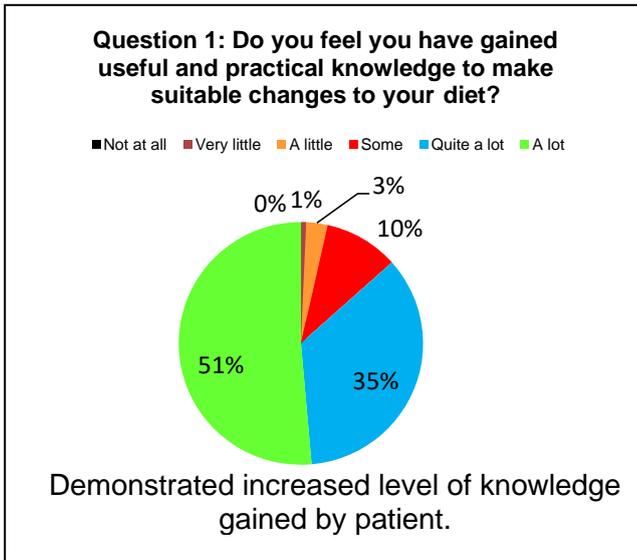
How confident are you at managing your feed?



Demonstrated increased confidence in self-management of feed.

Reporting

Collated data can be transferred to Excel spreadsheet and presented every 6 months as demonstrated below.

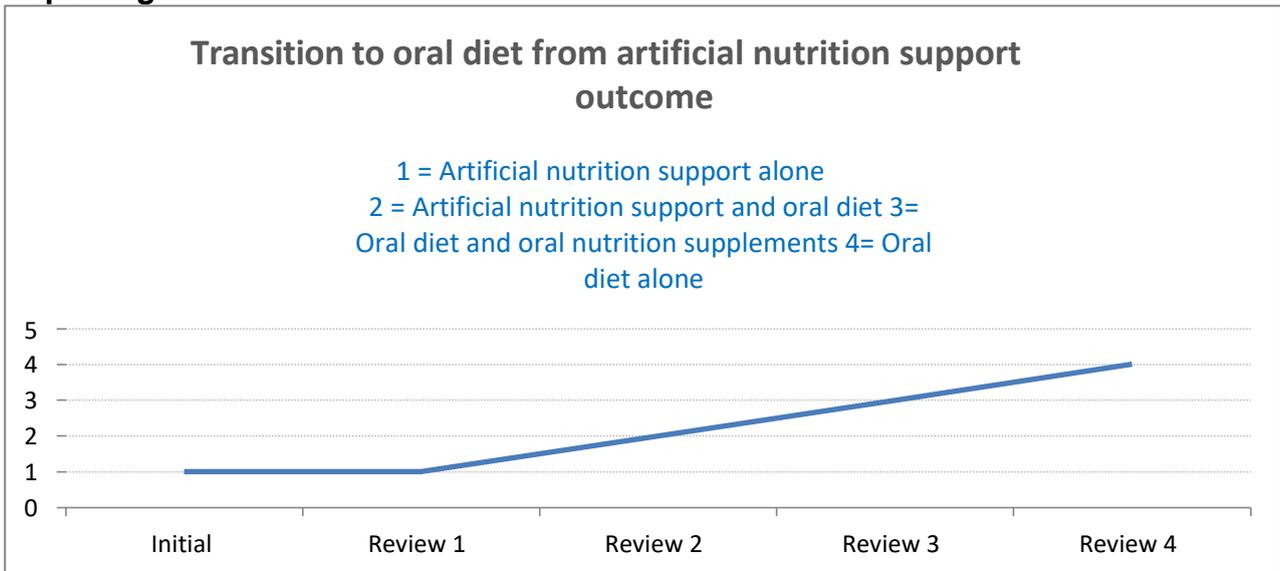


CASE STUDY D

Mr P. 80 years of age. Admitted to hospital with falls and sepsis.	
<i>Current status</i> Mr P is assessed as being unsafe to swallow all diet and fluid consistencies and made nil by mouth. A nasogastric (NG) tube is inserted for feeding. Patient has Type II diabetes (BGL range 12-18mmol).	
<i>Initial assessment</i>	
<i>Assessment</i> Weight: 50kg (BMI 18kg/m ²). He has unintentionally lost 10% weight over the past 2 months. Pump feed is running continuously overnight which is affecting Mr D's sleep and he is complaining of tiredness during the day. Bowels opening normally. Fluid balance is on average positive >1000ml per day. Mr P remains on IV fluids.	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Protein energy malnutrition</i> <i>Aetiology: poor blood glucose control + missed feeds</i> <i>Signs & Symptoms: 10% wt loss, BMI 18.0, tiredness and high blood glucose levels</i>	
Proposed Outcomes (to be achieved by the end of interventions)	Outcome Indicator
Improve nutritional status through weight gain by having BMI >18.5 Maintain glycaemic control	Weight change/BMI Blood glucose levels
<i>Intervention Category</i> (as per BDA outcome framework) Management of schedule of enteral nutrition Referral to diabetes specialist nurse	
Goals	Goal Indicators
Provide adequate nutrition to promote weight gain before the next dietetic review Keep BGLs <10mmol while patient remain on NGT feeds Improve patient's wellbeing by facilitating quality sleep through reduce IV fluid as NG increases	Protein and energy intake Blood glucose levels EQ-5D
Actions	
Referral to diabetes specialist nurse today and request review to assist lower BGLs Request medical team to reduce IV fluids	
Review 1	
<i>Assessment</i> NG feed tolerated at target rate. Weight stable. Blood glucose levels in normal range. Mr D is now sleeping better as a result of day-time pump feeding.	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Adequate enteral nutritional intake</i> <i>Aetiology: suitable enteral feeding regimen</i> <i>Signs & Symptoms: weight stable, NGT feeding requirement providing 100% of requirements, BGLs levels in range and improved sleeping</i>	
<i>Outcome – remain the same</i> <i>Goals - achieved</i>	
Review 2	
<i>Assessment</i> SLT commenced patient on puree diet and Stage 2 fluids. Patient not keen on thickened fluids. Weight increased by 1kg.	
<i>Outcomes and Nutrition and Dietetic diagnosis remain the same</i>	
Goals	Goal Indicators
Meet 100% of nutritional requirements via oral intake and enteral (NGT) feeding route Transition to 100% of nutritional requirements orally over the next two dietetic reviews	Energy and protein intake Food Record chart
Review 3	
<i>Assessment</i> SLT commenced on soft diet and normal fluids. Weight increased by another 1kg (BMI 18.3). BGLs have started to decrease. 1xepisode of hypoglycaemia.	

<p><i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Inadequate oral intake</i> <i>Aetiology: recent diet upgrade to soft</i> <i>Signs & Symptoms: Meeting 75% of requirements orally and the rest via NGT feeding</i></p>	
<p><i>Outcome remain the same</i></p>	
Goals	Goal Indicators
<p>Meet 100% of nutritional requirements via oral intake alone so NGT can be removed before next dietetic review Prevent hypoglycaemia as feeds are reduced by contact diabetes nurse and requesting review</p>	<p>Energy and protein intake + Food charts Blood glucose levels</p>
<p>Review 4</p>	
<p><i>Assessment</i> Meeting all his nutritional requirements with oral diet alone. Weight increased by a further 1kg (BMI 18.8). Medically fit for discharge home. BGLs all within range and patient no longer requires insulin.</p>	
<p><i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Adequate oral intake</i> <i>Aetiology: good appetite</i> <i>Signs & Symptoms: Meeting 100% of nutritional requirements orally, BMI >18.5</i></p>	
<p><i>Outcomes – All achieved by the last dietetic review</i></p>	
<p><i>Comments</i> Dietetic intervention supported this patient at a time when he was unable to meet his nutritional requirements orally. Through regular reviews smooth transition from tube feeding back to oral diet was facilitated while always meeting his nutritional needs, and improving his nutritional status towards his target weight.</p>	

Reporting



Demonstrates the facilitation of a return to full oral diet from NG feeding during a patient's admission.



Demonstrated that weight is moving in the direction as per dietetic goal.

CASE STUDY E

Mr E. 70 years of age. Advanced Multiple Sclerosis. Living in a nursing home and bedbound.	
<i>Current status</i> Mr E is nil by mouth due to aspiration risk and has been fed via a gastrostomy for 2 years. He is receiving 1500kcal with a pump feeding regimen. His weight has gradually increased over the last few years and his feed had been reduced from 1800kcal 4 months ago with a goal to stabilise his weight.	
Month 1 review	
<i>Assessment</i> Home Enteral Feeding Assessment Score (HEFAS) completed on electronic record (RIO). Further weight gain of 3kg in previous 4 months. Weight 75kg (BMI 27.2kg/m ²). He has had 2 chest infections, one of which resulted in a hospital admission, in the last 3 months. On observation he was lying at a 5° angle when feeding. His gastrostomy stoma site was red (scored 4 on stoma care tool) and unclear. The nursing home was unable to produce documentation evidencing daily care of the tube and stoma.	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Excessive nutritional intake and poor stoma care</i> <i>Aetiology: Decreased energy requirements and poor training regarding stoma care</i> <i>Signs & Symptoms: 3kg increase in 4 months, BMI 27.2kg, 4 on stoma care tool</i>	
Proposed Outcomes (to be achieved by the end of interventions)	Outcome Indicator
1. Improve practices associated with feed delivery and tube care 2. Maintain nutritional status	Home enteral feeding assessment tool (HEFAT) Weight
<i>Intervention Category</i> (as per BDA outcome framework) Management of schedule of enteral nutrition Management of enteral nutrition site	
Goals	Goal Indicators
1. Meet 100% of nutritional requirements via gastrostomy tube 2. Document gastrostomy tube cares daily and enteral feed intake	Protein and energy intake Record of health of stoma
Actions Training on gastrostomy tube cares Implement documentation standards for gastrostomy tube cares	
Month 4 review	
<i>Assessment</i> Weight stable at 75.1kg (BMI 27kg/ m ²). No further chest infections and patient observed lying at 25° angle. Staff confirmed the gastrostomy stoma had been infected and treated effectively with antibiotics. However, the stoma site remained dirty and staff reported it had not been cleaned that day. No documentation on tube or stoma care recorded.	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Adequate nutritional support via gastrostomy tube but ongoing poor care of stoma site</i> <i>Aetiology: following feeding regimen and not stoma cleaning plan</i> <i>Signs & Symptoms: Weight stable, stoma site not clean</i>	
<i>Barriers to achieving outcome:</i> Staff non-compliant with recommendations Staff require training	
Goals	Goal Indicators
1. Improve staff knowledge on stoma care via regular education to ensure >90% of staff have adequate training 2. Improve stoma site health by ensuring nursing staff document stoma cleaning	Training record Record of health of stoma
Month 7 review	

Assessment

Weight remains stable at 74kg. No chest infections and positioning good. PEG site clean and dry and documentation of daily PEG care in place.

Outcomes: Achieved

Comments

Frequent dietetic review of this ongoing home enteral feed patient improved health outcomes regarding weight, chest health, and gastrostomy stoma health. The dietitians input improved the patients' health outcomes resulting in reduced future health costs by avoiding the need for hospital admissions and antibiotic prescriptions. The opportunity was also taken to improve the care in the care home with professional guidance which also benefits the health outcomes of other residents. With this method the achievement of goals are assessed at each review and where appropriate new ones set.

With ongoing HEF patients there is no end point so outcomes can be reported at each review and new goals set as required. All patient consultations recorded on electronic notes (RIO) using the HEFAS where outcomes can also be recorded in real time as part of the review. The results of these can be collated to produce tailored front-end reports for identified groups of patients or for each outcome type (currently in development).

CASE STUDY F

Mrs P. 79 years of age. COPD and recent hospital admission with pneumonia. Referred by community nursing.	
<i>Current status</i> Mrs P lives alone. She has carers twice a day (morning & 5pm). She has COPD managed with inhalers and is prone to chest infections. She gave up smoking several years ago. On referral her BMI was 17kg/m ² (Ht. 1.6m, Wt. 44kg). She has lost 3.5 kg in weight in recent weeks. Her 'MUST' score = 3.	
Week 1	
<i>Review</i> Patient: Since referral she has lost a further 1 kg in weight (43kg). She reports feeling weak and tired (energy levels 4/10 on scale). She is not mobilising as well as she did pre-admission which is of concern to her. She is prescribed one compact ONS daily but reports not liking it so use is intermittent not daily as recommended. She reports the carers 'are good', and her daughter who is local does the shopping. She rates her appetite as 4/10 (on appetite scale). She is not bothering with getting any lunch and is not having any snacks between meals but does eat breakfast & one ready meal a day prepared by the carer. On questioning her fluid intake is only 800ml daily, she describes her urine colour (see urine tool) as 6 with only small volumes produced. She can mobilise to the downstairs toilet but is struggling with tasks such as making meals, getting drinks due to levels of fatigue and breathlessness.	
<i>Nutrition and Dietetic Diagnosis</i> Problem: Inadequate protein, energy and fluid intake Aetiology: Poor appetite, breathlessness and decreased mobility Signs & Symptoms: Weight loss, MUST 3, BMI 17, Energy level 4/10, Urine colour 6, not drinking supplements, consuming only 2 meals per day	
Proposed Outcomes (to be achieved by the end of interventions)	Outcome Indicator
Improve nutritional status through weight gain Reduce Fatigue levels	Weight levels of Fatigue e.g. MFI
<i>Intervention Category</i> (as per BDA outcome framework) Increase Energy diet Increase protein diet Modify schedule of food/fluids	
Goals	Goal Indicators
1. Patient to consume 3 meals per day by requesting cares to provide lunch 2. Increase energy intake by consuming a supplement daily (pt to try shake style ONS) 3. Consume adequate fluid by consuming 1.5L per day of non-caffeinated fluid	Diet History Protein and energy intake Urine Colour
Week 2	
<i>Phone review</i> Patient: Likes the 'shake' style ONS and would like to continue but still only consuming 3-4/week. Extra carer visits in place and says managing to eat the small lunch, drinking 1L of fluid daily and picking at the snacks left out. Overall feeling better in herself but continues to have poor energy levels.	
<i>Nutrition and Dietetic Diagnosis, Outcomes and intervention category remains the same</i>	
Goals	Goal Indicators
1. Meet 100% of protein and energy requirements via oral intake and ONS 2. Patient to consume a shake style supplement daily (GP prescription written) 3. Continue to work on increasing fluid intake to 1.5L per day of non-caffeinated fluid	Diet History Urine Colour
Week 6	
<i>Review</i> Patient: Weight 44.5kg, Urine colour 4 and passing greater volume. Energy levels 5/10. Managing to take the daily ONS – prefers the taste of this one. She is pleased she can see an improvement.	
<i>Nutrition and Dietetic Diagnosis, Outcomes and intervention category remains the same</i>	

Goals – Remain the same
Week 13
<p><i>Review</i> Patient: Weight 46.8kg (> 5% weight gain). Urine colour 3. Mobilising better and energy levels reported to be 8/10. Appetite rated at 8/10. Now feels she can prepare some food and getting hot drinks herself between meals so she is considering stopping the lunch carer call for the time being.</p>
<p><i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Adequate protein, energy and fluid intake</i> <i>Aetiology: improved appetite and mobility</i> <i>Signs & Symptoms: 5% weight gain, Urine colour 3, improved energy levels and not missing meals</i></p>
Outcomes and goals – All achieved
<p><i>Outcome indicators</i> Oral nutrition support assessment tools (ONSAS and ONSRS) Fluid hydration.</p>
<p><i>Comments</i> Three dietetic contacts taking a holistic approach to assessment and action facilitated weight gain, greater independence and improved health outcomes regarding dehydration risk. It is likely a hospital admission for dehydration/UTI was avoided. As nutritional status improves, immunity levels are likely to improve possibly decreasing the frequency of chest infections.</p>

With ONS community patients there is usually an end point as they are generally only seen 2-4 times and then discharged, so outcomes can be reported once at the final consultation. All patient consultations are recorded on electronic notes (RIO) using the ONSAS initially and then the review form ONSRS where outcomes can be recorded at the final review. The results of these can be collated electronically using software to produce tailored front-end reports for identified groups of patients or for each outcome type (currently in development).

Examples of RIO Screen shots (test patient) to demonstrate recording method Month 1

BCN ONSAS

she did: ABC

Assessment

*Weight (kg) Height (m) BMI (kg/m2)

MUJAC Arm

Left Right MUJAC change (cm) Ulna Length (cm)

Left (cm) Right (cm)

% Weight Change: Weight History: Previous weight kg

Buttons: Save, Clear, Cancel

How weight is recorded on electronic ONSAS

Recording of urine and fatigue

BCN ONSAS

Discomfort

Oral Candida

Other relevant factors:

Fatigue? Energy Levels

Aspiration Risk

Usual Activity Question

Pressure Sores

Other wounds

Urine

Good Poor Frequency during day Colour:

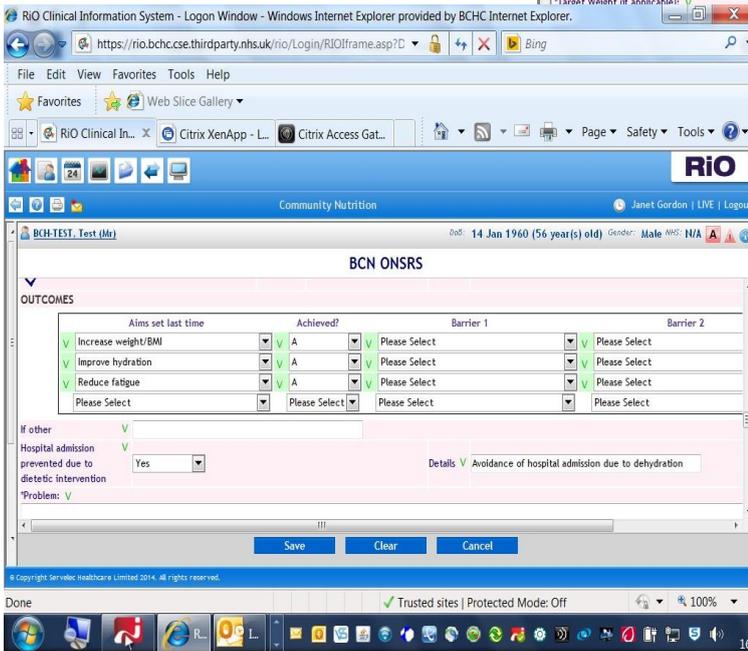
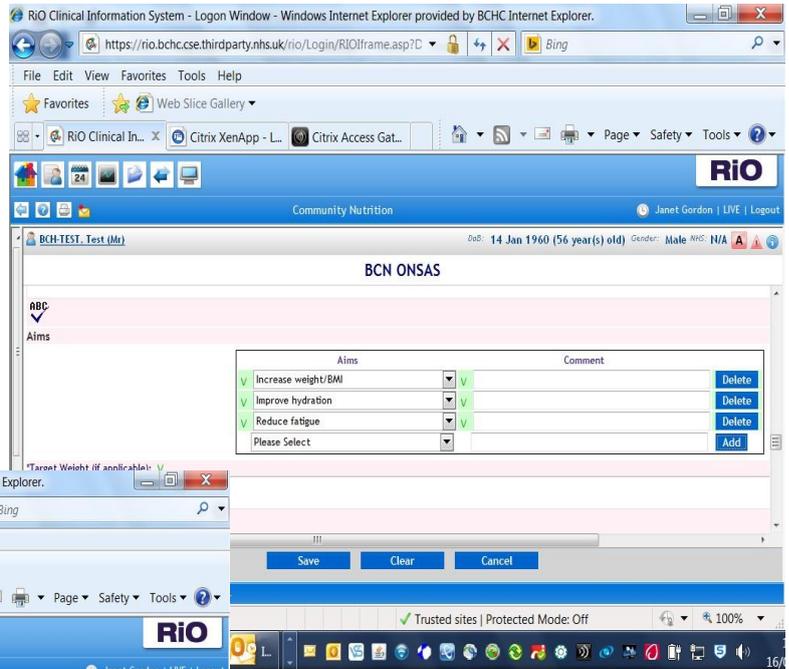
Catheter Yes No UTIs within the last month? Yes No

Other relevant factors: (depression/dementia/dysphagia/food refusal/level of assistance etc)

Buttons: Save, Clear, Cancel

Week 13 – on

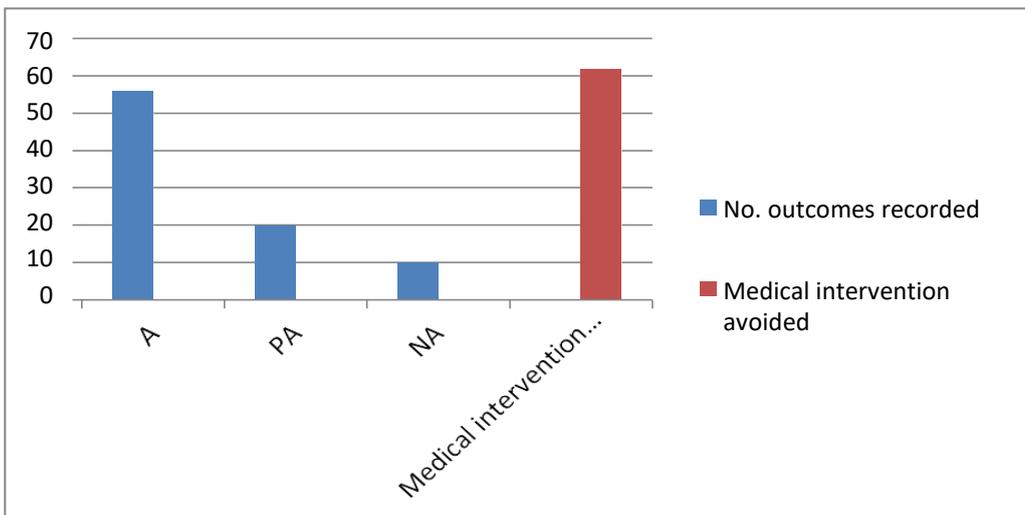
Recording the goals



Recording the outcomes

Collation of outcomes for the community dietetic team

Front end reporting is being developed for some of the key outcomes likely to be of interest to commissioners. For example 'improving hydration'. This outcome will be able to be selected from, for example 6 months' worth of reviews, and the number of A, PA, & NA entries collated along with the summary of medical interventions considered avoided and then presented in bar chart format e.g.:



Based on local tariffs and prescribing costs the money saved by avoiding hospital admissions can be quantified.

CASE STUDY G (Leeds Community Healthcare NHS Trust)

Male. 73 years of age. Recent diagnosis of palliative lung cancer.	
<i>Current status</i> Mr C lives at home with his wife, is having some hospice day care but prefers life at home, where his niece visits frequently. He and his family are very worried about the weight he has lost in recent weeks (>15% in last 2 months), and he has also noticed that he is having trouble swallowing some textures, which is also worrying him. His appetite is 'touch and go', he reports. He'd like to feel comfortable eating out with his work mates too.	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Inadequate protein, energy intake</i> <i>Aetiology: Poor appetite and dysphagia</i> <i>Signs & Symptoms: Weight loss, not feeling comfortable eating out, missing meals</i>	
Proposed Outcomes (to be achieved by the end of interventions)	Outcome Indicator
Minimise nutritional losses Improve quality of life	Weight TOM
<i>Intervention Category</i> (as per BDA outcome framework) Increase Energy diet Increase protein diet Modify schedule of food/fluids	
Goals	Goal Indicators
Increase protein and energy intake via food fortification advice Optimise diet texture to manage dysphagia by referral to SLT Improve confidence eating out	Diet History SLT recommendation Confident measure
Week 4 Review	
<i>Current status</i> Mr C and his family have made changes to Mr C's diet to optimise nutrient intake. Having some specific aims has helped Mrs C focus on how she can care for her husband, and his niece has made some of his favourite cakes without feeling worried that she is giving him 'unhealthy' food. He has eaten out with friends twice and feels this could continue. Mr C has lost a small amount of weight, and although he is still worried about this, he has recognised that his rate of weight loss is slowing. His appetite is poor and he sometimes feels guilty that his niece is making cakes he doesn't always feel able to eat. Much of the conversation focuses on how Mr C would like to move forward, and any other changes he feels able to make. There is also a conversation about whether nutritional supplements would be beneficial. SLT has reviewed patient and has recommended as soft diet with extra gravy due to the patients dry mouth.	
<i>Nutrition and Dietetic Diagnosis, Outcomes and intervention category remains the same</i>	
Goals	Goal Indicators
Ensure patient has good understand of SLT dietary recommendations Increase protein and energy intake via food fortification	Knowledge level Diet History
Week 8 Phone Review	
<i>Review</i> Mr C is feeling increasingly unwell, does not want to be visited in person, and does not want to be weighed. He enjoyed the supermarket visit but found it very exhausting – so instead is choosing foods he 'fancies' on an online shop. He no longer has the energy to leave the house to socialise. His swallow has been assessed and some texture recommendations have been made to make his swallow safer	
<i>Outcome: Minimise nutritional losses (no longer relevant due to patient deterioration)</i> <i>Continue with outcome of: Improve quality of life (indicator: TOM)</i>	

Recording outcomes via TOMs

Impairment: TOM scored as 0.5 at initial, remains at this level on review and again at discharge

Activity: Scored 3.5 initially, increased to 4 when some straightforward changes implemented at 4 weeks, down to 3 again by 8 weeks

Participation: TOM 2 at assessment, rose to 3 after 4 week review, in decline at 3 after 8 weeks

Wellbeing: Originally assessed at 2.5, rose to 3.5 at 4 weeks at maintained at 8 weeks Family/Carer

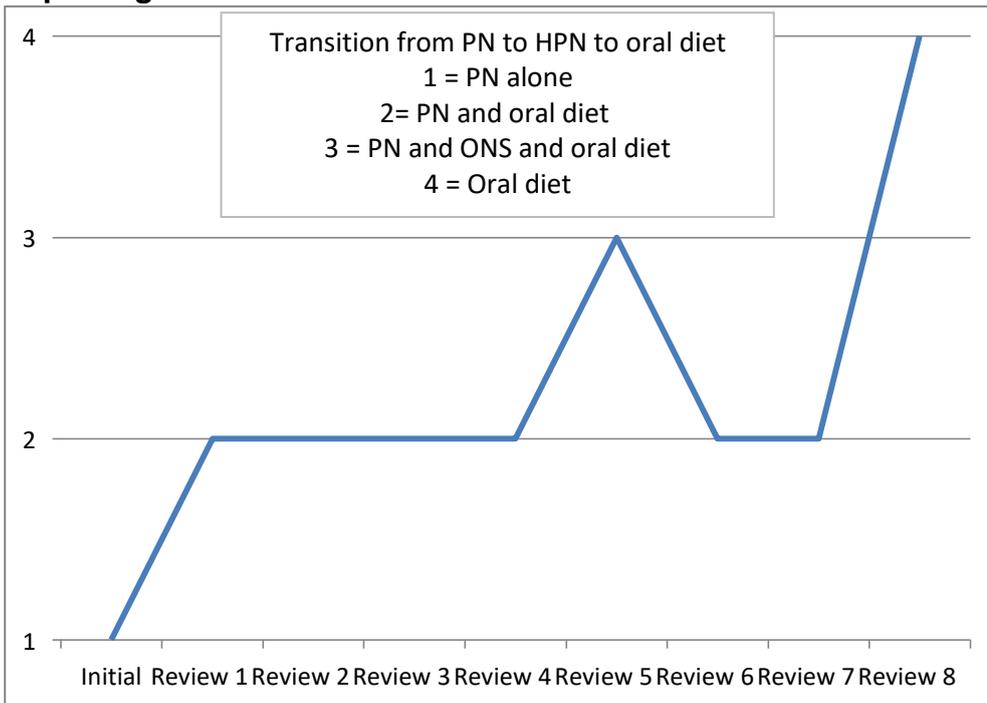
Wellbeing: Assessed at 3, rose to 4.5 at 4 weeks, dipped to 4 by 8 weeks

CASE STUDY H – HOME PARENTERAL NUTRITION TRANSITION TO ORAL NUTRITION

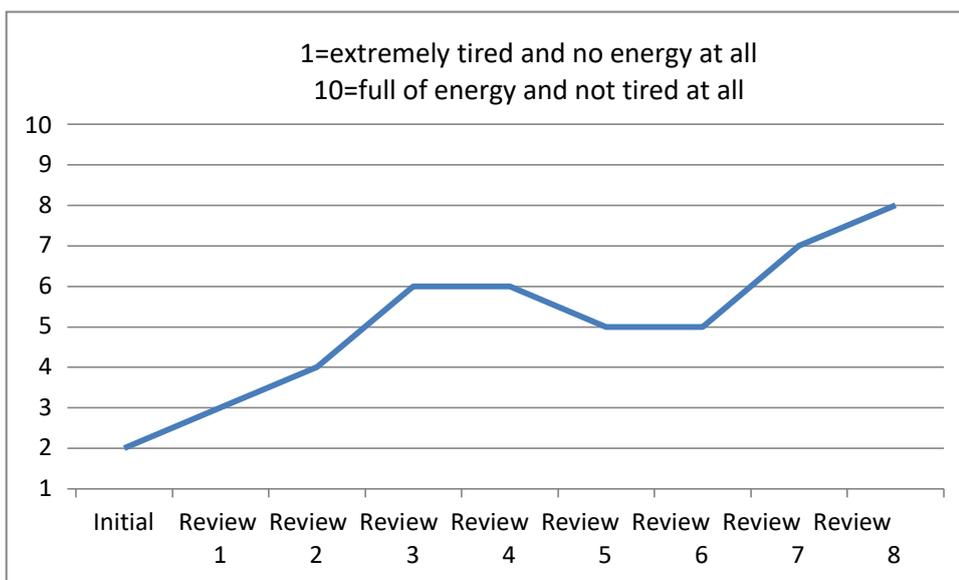
Female, 66 years old, admitted for home parenteral nutrition (HPN) assessment.	
<i>Current status</i> Ischaemic bowel with 70cm of small bowel to stoma. 20cm of terminal ileum to whole colon not in continuity. PMH Portal vein thrombosis, liver cirrhosis.	
<i>Initial assessment</i> Weight 64kg with oedema, estimated dry weight 58Kg (usual wt), BMI 21.8kg/m ² , %weight loss 0%, MAC, TST and MAMC all <5 th centile, Handgrip >85% normal. Raised LFTs, stoma output 600-1330ml/day, poor appetite and c/o nausea therefore difficulty taking oral rehydration solution (ORS).	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Inadequate nutritional intake and excessive fluid intake</i> <i>Aetiology: Nausea and short bowel</i> <i>Signs & Symptoms: fluid overload, not taking ORS, not having any nutritional intake (PN not started)</i>	
Proposed Outcomes (to be achieved by the end of interventions)	Outcome Indicator
Maintain nutritional status Improve fluid balance Maintain liver function Maintain QoL indicator	Upper arm anthropometry U&Es, fluid balance, weight LFTs SF36
<i>Intervention Category</i> (as per BDA outcome framework) Management of schedule of parenteral nutrition	
Goals	Goal Indicators
Meeting BMR via PN regimen to maintain weight stable Meet nutritional requirements with 1 day without PN to improve QoL and LFTs Provide low volume low sodium PN Follow suitable diet for high output stoma	Weight upper arm anthropometry LFTs, SF36 <i>U&Es, fluid balance, weight</i> <i>Stoma output + diet history</i>
Actions	
Provide written information of dietary advice for high output stoma	
Review 1 after 1 week on PN	
<i>Assessment</i> Weight 60kg as oedema resolving, no adverse effect of 1 night off PN and patient reported improved sleep, no evidence of dehydration, patient following appropriate IF diet, stoma output 1.3L/d, able to take more ORS	
<i>Nutrition and Dietetic Diagnosis, Outcomes and intervention category remains the same</i>	
Goals	Goal Indicators
Meeting BMR via PN regimen to maintain weight stable Patient 100% compliant with IF diet after education provided Meet nutritional requirements with 2 day without PN to improve QoL and LFTs Provide low volume low sodium PN	Weight, upper arm anthropometry F diet compliance + stoma output SF36 + LFTs <i>U&Es, fluid balance, weight</i>
Review 2 after 2 weeks on PN	
<i>Assessment</i> Weight 58kg with no oedema, no adverse effects of 2 nights off PN and patient reported improved sleep, no evidence of dehydration, patient following appropriate IF diet, stoma output 1.5L/d, Selenium, and Vitamin A deplete	
<i>Nutrition and Dietetic Diagnosis, Outcomes and intervention category remains the same</i>	
Goals	Goal Indicators
1. Meeting and replacement micronutrients via PN to correct deficiencies 2. Improve stoma output by continued compliance with IF diet and compliance with medications 3. Continue to meet 100% of requirements macronutrients and fluid via PN 5 days per week	Micronutrient status SF36 + LFTs Weight, upper arm anthropometry

Review 3 after 5 weeks on PN	
<i>Assessment</i> Weight 57kg with no oedema, stable on 5 nights a week PN, no dehydration, MAMC reduced by 1cm, handgrip stable, selenium increasing, AP reducing other LFTs stable, patient following appropriate IF diet, stoma 1.7L/d, good urine output 1.6L/d,	
<i>Nutrition and Dietetic Diagnosis, Outcomes and intervention category remains the same</i>	
Goals	Goal Indicators
1. Continue to meet 100% of requirements macronutrients and fluid via PN 5 days per week	Weight, upper arm anthropometry
2. Improve stoma output by continued compliance with IF diet and compliance with medications	Stoma output
<i>Outcomes</i> Maintain nutritional status – Achieved Improve fluid balance - Achieved Maintain liver function - Achieved Maintain QoL indicator – Achieved	
End of hospital episode of care	
Review 4 Patient re-admitted for repair of bowel	
<i>Patient post-operative 70cm of small bowel to terminal ileum and whole colon in continuity</i>	
<i>Assessment</i> Weight 60kg. She is now eating, not full meals yet but improving. She is also taking ONS od with full fat milk as well as drinking glasses of milk. Her bowels are loose but not diarrhoea. Provided with suitable IF dietary advice. Continues on full PN 5 nights per week. Patient reporting poor energy.	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Excessive nutritional intake</i> <i>Aetiology: correction of short bowel and commencement of oral diet</i> <i>Signs & Symptoms: weight increased, commencing oral diet and ONS</i>	
Outcomes (to be achieved by the end of interventions)	Outcome Indicator
Maintain nutritional status during transition to oral diet alone	Transition from artificial nutrition support to oral diet outcome tool.
Maintain fluid balance	Upper arm anthropometry, micronutrient status
Improve energy levels and QoL	U&Es, fluid balance, weight Energy/Fatigue scale + SF36
Goals	Goal Indicators
1. Decrease calories provided in PN to 50% of requirements	Energy and protein intake
2. Meet 50% of requirements via oral route	Diet History
3. Increase formation of stools	<i>Bristol stool chart</i>
4. Prevent electrolyte disturbances while decreasing PN	<i>U&Es, fluid balance, weight</i>
Review 6 Received call from patient 1 month post discharge from local hospital	
<i>Assessment</i> Weight now 53kg. Good urine output and not dehydrated. BO x 1-2/day and eating suitable IF diet. Improved sleep on nights off HPN. Advised to keep in contact re weight as may be able to reduce HPN further.	
<i>Nutrition and Dietetic Diagnosis, Outcomes and intervention category remains the same</i>	
Goals	Goal Indicators
1. Meet 100% of nutritional requirements orally and slowly decrease PN while maintaining electrolyte balance	Energy and Protein intake
2. Patient understand dietary advice for prevention of loose stools and how to monitor hydration status	Patient knowledge
<i>Comments</i> Dietetic intervention supported this patient when she was unable to meet needs orally and then ensured a smooth transition from HPN to oral diet to ensure nutritional needs were met, whilst ensuring the goal of maintenance in nutritional status without oedema, prevention of deterioration in LFTs and improvements in quality of life was achieved.	

Reporting



Demonstrates the facilitation of a return to full oral diet from HPN

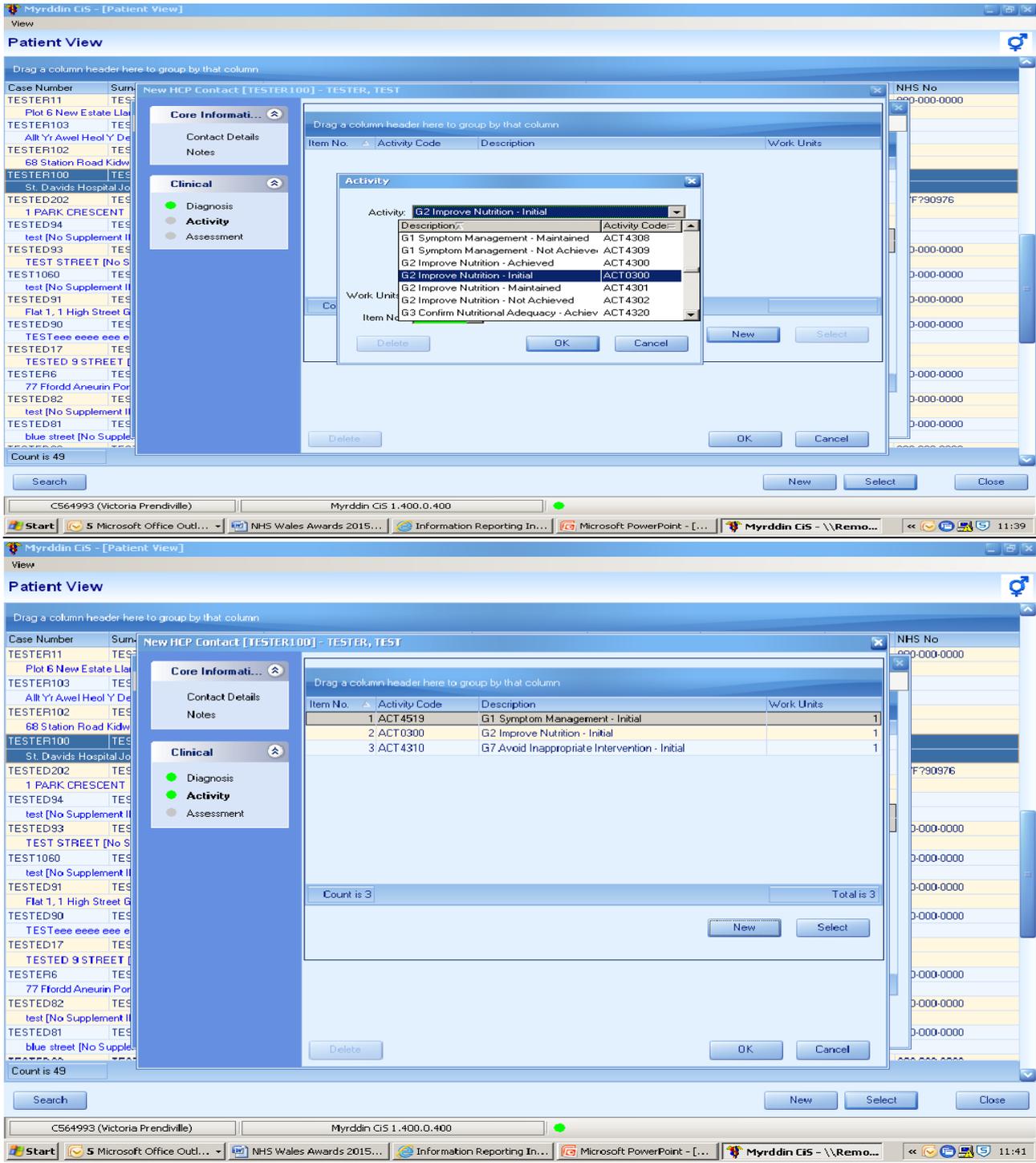


Demonstrates the improvement in energy levels due to reduction in HPN infusions which facilitated an improved sleep pattern

CASE STUDY I (USING THE HYWEL DDA HEALTH BOARD DIETETIC OUTCOMES FRAMEWORK)

Female 75 Years of age. Admitted to stroke unit with CVA. Seen by SLT and placed NBM. Referred to dietitian for clinically assisted nutrition/hydration.	
<i>Initial assessment</i> The dietitian calculated the patient's nutritional requirements and devised a naso-gastric feeding regimen to meet the patients nutritional requirements within 2 working days. The aims and outcome measures selected by the dietitian from the dietetic outcomes framework were as follows.	
<i>Nutrition and Dietetic Diagnosis</i> <i>Problem: Inadequate oral intake</i> <i>Aetiology: NBM</i> <i>Signs & Symptoms: Nil nutrition for 3 days due to CVA</i>	
Proposed Outcomes (to be achieved by the end of interventions)	Outcome Indicator
Maintain nutritional status Maintain QoL	Weight/BMI EQ-5D
Goals	Goal Indicators
Commence NGT feeding to prevent weight loss and meet 100% of nutritional requirements	Protein and energy intake
Review – 2 days Later	
On review Mrs C had pulled out her naso-gastric feeding tube. She remained nil by mouth and in receipt of intravenous fluids. The Stroke MDT was suggesting a percutaneous endoscopic gastrostomy. The dietitian liaised with the stroke MDT and suggested re-insertion of the naso-gastric tube and that the Health Board Mitts policy be initiated in order to aim to improve Mrs C's nutrition /hydration. The stroke MDT agreed. The Dietitian reviewed the initial aims/goals and outcome measures.	
<i>Goal</i> NOT ACHIEVED	
As the goals and outcomes were not achieved, they remain the same	
As the goal and outcome measures were not achieved due to barriers outside of dietetic control a barrier code was selected from the framework - PATIENT BARRIER (i.e. patient pulled out NG)	
Review 2 days later	
Upon review Mrs C. was tolerating her NG feeding regimen and meeting her nutritional requirements. She remained Nil by Mouth. Nutritional parameters were stable.	
<i>Goal</i> Achieved	
To us the MYRDDIN tool – You should select initial against your goals at your first review. At each review you should select MAINTAINED (M) ACHIEVED (A) or NOT ACHIEVED (NA) each goal. If you want to add additional goals you should select initial.	

Example of Outcomes Data entry on Myrddin



The Data is reported through a system called IRIS which reports on treatment outcomes at a clinician level in 'Real Time'.

The example below illustrates how the data inputted into Myrddin is aggregated to provide a summary of the treatment outcomes achieved. Further charts capture individual aims/goals and the corresponding outcome measures that add validity to the aims/goals being achieved.

Therapies - Nutrition and Dietetics Service - Acute - Report Viewer - Windows Internet Explorer

http://7a2blsrvinf0003/ReportServer/Pages/ReportViewer.aspx?%2FTherapies%2FTherapies+-+Nutrition+and+D... Live Search

South Wales Cancer Network Suggested Sites Web Slice Gallery

Therapies - Nutrition and Dietetics Service - Acute - R...

Rolling 12-Months to: Feb-2015 Locality Carmarthenshire, Ceredigion, Pr... View Report

Age Group 18 Years to 64 Years, 65 Years c...

1 of 1 100% Find | Next

Total	54.4%	45.6%	1,741	18.6
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Value Data - All Goals - 'Achieved' Overview

Figures relate to the number of occurrences of an 'achieved' or 'maintained' code for all goals as described within the given time period. Figures are from the total number of contacts (new and return) seen within the given time period (attendances/contacts only; excludes patients who were not seen due to DNA or cancellation reasons)

	Mar 14	Apr 14	May 14	Jun 14	Jul 14	Aug 14	Sep 14	Oct 14	Nov 14	Dec 14	Jan 15	Feb 15
Total Contacts Seen	677	762	703	702	749	724	640	730	734	701	776	311
G1 - Symptom Management Achieved	0	0	0	0	0	0	0	0	0	0	0	0
G2 - Improve Nutrition Achieved	0	0	0	0	0	0	0	0	0	0	0	0
G3 - Confirm Nutritional Adequacy Achieved	0	0	0	0	0	0	0	0	0	0	0	0
G4 - Improve Hydration Achieved	0	0	0	0	0	0	0	0	0	0	0	0
G5 - Maintain Monitor Nutrition Achieved	0	0	0	0	0	0	0	0	0	0	0	0
G6 - Empower to Self Manage Achieved	0	0	0	0	0	0	0	0	0	0	0	0
G7 - Avoid Inappropriate Intervention Achieved	0	0	0	0	0	0	0	0	0	0	0	0

Local intranet | Protected Mode: Off

Start Polycorn CMA Desktop Myrddin CIS - \Remote Microsoft PowerPoint - [...] Outcomes - Microsoft Ou... Therapies - Nutrition ... 12:39

ONS inpatients outcomes collection audit: (April to June 2014)

1. 118 forms were completed. 50 with only one score and 68 with two scores.
2. In total, 50 out of 118 had barriers completed (42%)
3. The average % change in score was 45%
4. For each section the change in numerical score was looked at and whether it increased, decreased or remained the same following dietetic intervention.

Section	No. where score increased	No. where score decreased	No. where score stayed the same
Food intake	36 (53%)	11 (16%)	21 (31%)
ONS	10 (15%)	4 (6%)	51 (79%)
Knowledge	25 (37%)	1 (1%)	42 (62%)
Weight	27 (40%)	4 (6%)	36 (54%)

5. The barriers to outcomes where patients were seen at least twice were:

Barrier	Number	Barrier	Number
Pain	6	Other:	
Nausea and vomiting	12	Palliation	7
Diarrhoea	2	Infection	1
NBM	10	Bereavement	1
Dislikes ONS	12	Swallowing problems	1
Restricted diet	3	Dr cancelled ONS	1
Cognitive impairment	6	Smell of food	1
Incomplete food record charts	9	Anxiety and hallucinations	1
Incomplete fluid charts	1	No barriers	2
Catering issues	2		
Lack of assistance to eat meals	0		

6. Conclusions:
 - The average % change in score has increased from 30% to 45%
 - Food intake increased
 - ONS intake stayed the same
 - Knowledge stayed the same
 - Weight stayed the same
 - Most common barriers were nausea and vomiting and dislike of ONS.

DATA ANALYSIS: LIQUID DIET FOR CROHN'S DISEASE

Patient's Name **DOB**

Domains	Initial Contact Date:	Review Date:	Review Date:	Discharge Date:
	Score	Score	Score	Score
Oral nutritional supplements 1 Takes none of prescribed ONS 2 Takes 1% - 25% of prescribed ONS 3 Takes 26% - 50% of prescribed ONS 4 Takes 51% - 75% of prescribed ONS 5 Takes 76% - 100% of prescribed ONS				
Symptoms 1 No improvement in GI symptoms 2 Some improvements in GI symptoms 3 No GI symptoms				
Bloods 1 Bloods have deteriorated 2 Bloods are stable 3 Bloods have improved				
Weight 1 Has recently lost weight/is still losing weight 2 Weight is stable/has maintained weight				
Total Scores				
Dietitian's Signature				
Difference between initial and final scores				
Difference as a percentage of initial score (Difference/initial x 100)				
Clinical Manager Codes: D0 = no improvement (or got worse) D1 = 1 - 20% improvement D2 = 21 - 40% improvement D3 = 41 - 60% improvement D4 = 61 - 80% improvement D5 = 81 - 100% improvement				

PLEASE RECORD ANY BARRIERS TO OUTCOMES

**POTENTIAL BARRIERS TO IMPROVING THE
NUTRITIONAL STATUS OF PATIENTS WHO NEED A LIQUID DIET FOR CROHNS
DISEASE**

Please tick which of the following barriers you have encountered during the patient's episode of care

Number	Potential barrier	Tick if present
1	Pain	
2	Nausea	
3	Vomiting	
4	Diarrhoea	
5	Nil by mouth	
6	Dislikes ONS	
7	Problems obtaining correct ONS from pharmacy	
8	Difficulty in drinking volume of ONS required	
9	Incomplete fluid balance charts	
10	Poor appetite (specify reason if known)	
11	No barriers	
12	Other – please specify	

Dietetics Outcome Measure Inpatients – Enteral Tube Feeding

Patient's Name

DOB

Domains	Initial Contact Date :	Review Date:	Review Date:	Discharge Date:
	Score	Score	Score	Score
Feed/Oral intake 1 No feed/oral intake 2 Feed/oral intake meets 1% - 25% of requirements 3 Feed/oral intake meets 26% - 50% of requirements 4 Feed/oral intake meets 51% - 75% of requirements 5 Feed/oral intake meets 76% - 100% of requirements				
Fluid 1 Fluid requirements not met (under or over requirement) 2 Fluid requirements are met				
Symptoms 1 Feed stopped due to feed related GI symptoms 2 Some GI symptoms 3 Feed well tolerated – no symptoms				
Blood biochemistry (not refeeding bloods) 1 Relevant blood biochemistry is not being monitored 2 Relevant blood biochemistry is being monitored				
Refeeding blood biochemistry 1 Refeeding blood biochemistry is abnormal 2 Refeeding blood biochemistry is abnormal but is being corrected 3 Refeeding blood biochemistry abnormalities have been corrected 4 Refeeding syndrome is not evident				
Weight (document if unable to weigh) 1 Has recently lost weight/is still losing weight 2 Weight is stable/has maintained weight				
Total Scores				
Dietitian's Signature				
Difference between initial and final scores				
Difference as a percentage of initial score (Difference/initial x 100)				
Clinical Manager Codes: D0 = no improvement (or got worse) D1 = 1 - 20% improvement D2 = 21 - 40% improvement D3 = 41 - 60% improvement D4 = 61 - 80% improvement D5 = 81 - 100% improvement				

PLEASE RECORD ANY BARRIERS TO OUTCOMES (SEE OVERLEAF)

POTENTIAL BARRIERS TO IMPROVING THE NUTRITIONAL STATUS OF INPATIENTS WHO ARE RECEIVING ENTERAL TUBE FEEDS

Please tick which of the following barriers you have encountered during the patient’s episode of care on the ward

Number	Potential barrier	Tick if present
1	Pain	
2	Nausea and vomiting	
3	Diarrhoea	
4	Poor appetite	
5	Cognitive impairment	
6	Incomplete fluid balance charts	
7	Difficulty in confirming tube position	
8	Difficulties in obtaining feed or equipment	
9	Feed prescription not given in full	
10	Feed stopped for investigations	
11	I V fluids incorrectly prescribed	
12	Water flushes not given as indicated	
13	Relevant blood biochemistry not being monitored	
14	Re-feeding bloods not taken	
15	Re-feeding bloods not corrected	
16	Tube is blocked	
17	Tube displaced or removed	
18	No barriers	
19	Other – please specify	

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Appendix

Medicines That Can Change Urine Colour

Dark brown	Cascara Ferrous salts/iron dextran Methocarbamol Metronidazole Nitrofurantoin Senna Primaquine Chloroquine Levodopa	Methyldopa Nitrates Quinine Sulphonamides Furazolidone Foods e.g. fava beans, rhubarb, aloe Other causes e.g. UTIs, some liver/kidney disorders
Yellow	Bismuth Cascara Nitrofurantoin Senna	Chloroquine Metronidazole Primaquine Sulphonamides
Blue or blue green	Amitriptyline Triamterene Indomethacin Propofol Foods e.g. asparagus, food colourings	Methylene blue Methocarbamol Cimetidine Promethazine Other causes e.g. UTIs caused by pseudomonas
Orange/yellow	Chlorzoxone Heparin Rifampicin Warfarin Vitamin C supplements Other causes – problem with liver/bile duct	Dihydroergotamine Phenazopyridine Sulphasalazine Vitamin B supplements Foods e.g. excess carrots, carrot juice
Red/pink	Daunorubicin or doxorubicin Ibuprofen Phenthiazines Salicylates Thioridazine Phenazopyridine Other causes – blood (UTIs, cancer, kidney/bladder stones, kidney cysts), porphyria, chronic lead/mercury poisoning	Heparin Methyldopa Phenytoin Rifampicin Senna Chlorpromazine Foods e.g. beetroot, blackberries, rhubarb, food colourings

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