Monitoring Outcomes of Oral Nutritional Supplement (ONS) Intervention

Insights from a survey of dietitians in practice


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The value of outcome data in clinical dietetic practice

Defining outcomes associated with an intervention is key to monitoring and evaluating the impact of healthcare, improving quality in healthcare and achieving value for money. A key aspect of The NHS Long Term Plan is a focus on care quality and outcomes improvement.[1] For dietitians implementing outcome monitoring through a Nutrition Care Process (NCP) (British Dietetic Association [BDA] Model and Process for Nutrition and Dietetic Practice[2] in the UK) supports shared decision making, tailoring intervention to individual patient needs, encouraging adherence and guiding when intervention needs to be stopped, adjusted or continued. Collecting and evaluating real world outcome data informs service development locally and, at national level, helps to build, demonstrate and communicate the value of nutrition intervention and dietitians (**Table 1**).

Table 1: Benefits of collating & evaluating outcome data[2]

Target	Benefit
Dietitians	Supports decision making about the delivery of effective interventions, education, training and messaging, supports service planning, helps to promote productivity and job satisfaction.
Patients/service users	Demonstrates they are receiving an effective service that makes a difference to their health and quality of life, values their experience in the future services that affect them, has the potential to encourage better adherence.
Commissioners	Demonstrates they are commissioning or buying the most efficient and effective service. Provides tangible evidence of the value of interventions.

Source: Adapted from the British Dietetic Association's (BDA) Model and Process for Nutrition and Dietetic Practice.[2]

Challenges exist in monitoring outcomes in dietetic practice

Deciding which outcomes to select and monitor, achieving consistency in measuring and recording outcomes, collecting outcome data across healthcare settings and aggregating data at departmental, local, national and even international level are just some of the challenges posed by outcome management, and are not unique to dietetics.

Although the use of a NCP helps to integrate outcome management in dietetic practice,[2, 3] outcome monitoring and evaluation are not yet implemented as fully as other steps in the NCP. In a survey comparing the level of implementation of the NCP across 10 countries (all areas of dietetic practice), a significant difference in the implementation level across the four NCP steps was found. The highest mean rank was recorded for the Nutrition Assessment step, followed by Nutrition Diagnosis, Nutrition Intervention and, finally, Nutrition Monitoring and Evaluation had the lowest mean rank.[4] Gaining insights into monitoring and evaluation of outcomes in specific areas of dietetic practice could be valuable in helping to overcome some of the key challenges faced by dietitians.

In 2020, qualitative research was undertaken in England with dietitians across hospital and community settings (n=17), and specifically focused on themes related to selection, use and recommendation of ONS.[5] Group and individual in-depth interviews demonstrated that in the context of ONS use, dietitians reported feeling confident about the nutritional assessment and diagnosis steps but highlighted that monitoring and evaluation of outcomes relating to ONS use was more challenging. Difficulty tracking progress in hospital, reliance on input and feedback from other healthcare workers, high dependence on weight as an objective measure and infrequent tracking of patient goals were cited as some of the key issues. Despite these challenges to outcome monitoring, dietitians reported that it is increasingly required as an important part of patient reviews. They also highlighted that patient understanding of the health benefits of ONS and adherence are key.[5]

There is strong clinical evidence from research that the use of ONS, alongside food-based strategies deliver patient benefits and reduce healthcare use (**Figure 1**).[6] However, the prescription of ONS to manage disease-related malnutrition (DRM) continues to be called into question. One of the drivers of this is the lack of tangible data on outcomes recorded and collated in daily clinical practice. To date, there is little information available about the specific outcome indicators* (OI) that dietitians use in practice to monitor adult patients' progress on ONS towards agreed goals.

Figure 1: Benefits of ONS

Clinical trials and service evaluations have shown ONS to be cost-effective, with ONS spend more than outweighed by savings from reduced healthcare use:

- Reduces GP visits[6]
- Reduces hospital readmissions by 30%[7,8]
- Reduces length of stay in hospital[7,8]
- Reduces health costs in the community.[9]

Therefore, a proprietary, multi-country, online survey about the use of OIs in clinical dietetic practice was conducted in late 2020. The survey aimed to understand the use of NCPs and, in particular, the use of OIs specifically in adult patients taking ONS for the dietary management of DRM.

Insights on use of OIs by dietitians

One hundred and fifty dietitians from 10 European countries took part in the survey, with 19% of respondents participating from the UK.[10] Only dietitians involved in the management of adult patients with DRM were eligible to participate. **Table 2** outlines the proportion of their work with patients on ONS and their care setting.

Ninety-two per cent of dietitians reported using a NCP in their work with patients on ONS for DRM (96% in the UK sample), with 87% (UK: 86%) reporting that they use at least one OI to monitor progress towards agreed outcomes/goals.

The vast majority of dietitians were in agreement that monitoring and recording OIs is valuable for patients, for themselves as dietitians and for the healthcare system. Across all statements, agreement was higher in the UK sample compared with the whole sample (**Figure 2**).

Dietitians reported using a broad range of OIs to monitor patients on ONS but rely heavily on nutrient intake (e.g. energy, protein intake) and body weight (**Figure 3**). Additional OIs that may help to bring the benefits of ONS to life for patients – e.g. measures of muscle function (hand grip strength), functional status (gait speed, sit to stand test), symptom status, fatigue scores and quality of life – appear to be used less. The category 'patient perspective' asked specifically about the use of patient reported outcome measures (PROMS). OIs of interest from an economic perspective (impact, e.g. re-admissions, length of stay, costs, time) may also be under-utilised.

For each OI not used, respondents were asked to select the reason(s) why. As expected, the reasons why OIs were not used varied depending on the OI in question. **Figure 4** shows the responses from the full sample (All) compared with the responses from UK dietitians for certain OIs of interest. It is interesting to note that, although almost all dietitians in the UK sample reported not using OIs such as gait speed, quality of life tools or fatigue scores (93-96%), all viewed them as relevant OIs for nutrition (evidenced by no UK respondent choosing 'It is not a relevant indicator for nutrition'). Although lack of time was often cited as a reason for not using some OIs, lack of the necessary equipment or tool, considering the OI as one for use by HCPs other than dietitians and lack of knowledge were key barriers for all dietitians and dietitians in the UK. Lack of familiarity with PROMs was a key barrier to their use in the full sample and, although used more by UK dietitians compared to their counterparts in other European countries (All: 19% *vs.* UK: 43%), lack of time was cited as the main barrier to use, followed by awareness, which was at similar levels to the full sample.

Enhancing the application of OIs in practice – what do dietitians need?

When asked what steps could be taken to improve the application of monitoring OIs, respondents cited education and training on the NCP (BDA Model and Process for Nutrition and Dietetic Practice[2] in the UK) and on how to use OIs in practice as the most sought after improvements (All: 71% and 81% respectively, UK: 93% and 96% respectively), followed by embedding OIs in practice within their workplace (All: 43%, UK: 61%).

In an increasingly cost sensitive health service, all HCPs are called upon to justify interventions and treatment decisions. There has been renewed focus and effort on providing dietitians with resources and toolkits to help further implement outcome monitoring in practice and facilitate data collection to demonstrate the value of nutritional intervention, e.g. the BDA Outcome Framework which follows the steps of the Model and Process for Nutrition and Dietetic Practice and can be used by departments to collect and collate data.

Table 2: Survey respondents workload relating to ONS & work care setting

	≥50% of work is with patients on ONS for DRM	Hospital setting	Community setting	Across hospital and community
All respondents (n=150)	73%	37%	12%	47%
UK respondents (n=28)	67%	32%	14%	54%

*Outcome indicator means a variable, parameter or tool that measures a change in status. OI should be validated where possible. While some outcomes are evaluated during the time frame of the intervention, the main outcomes are evaluated at the end of the intervention period. Terminology differs between different NCPs. For the purposes of this article and for the survey described here the term 'outcome indicator' is used to refer to any variable, parameter or tool that is used to measure a change in status relating to the desired results of nutritional care regardless of whether it is used for monitoring during the intervention or for evaluation at the end of the intervention.

The recently revised and updated Dietetic Outcomes Toolkit from the BDA Parenteral and Enteral Nutrition Specialist Group (PENG) provides an invaluable overview of the topic, a summary of nutrition support OIs/measures and related case studies.[11] Other outcome tools and resources have been developed by BDA specialist groups (e.g. oncology) or are under development by others.

Monitoring outcomes that are relevant to all stakeholders

The BDA PENG Dietetic Outcomes Toolkit aims *'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'*.[11] **Table 3** lists examples of types of outcomes as described in the BDA PENG Dietetic Outcome Toolkit.

A small feasibility study that evaluated core dietetic outcome measures across two NHS trusts identified that outcomes such as body weight and BMI could not be meaningfully assessed in inpatients due to short length of stay (3.68 days).[12] Therefore, for patients on ONS, different outcomes may be needed for the same patients in different healthcare settings.

Many different OIs are used in clinical research and could be implemented in day-to-day practice. The Allied Health Professions (AHP) Outcome Measures UK Working Group has developed a checklist which can be used to guide discussions and support-decision making when considering which OIs are most suitable for practice and, importantly, are valued by the people who access the services provided.[13]

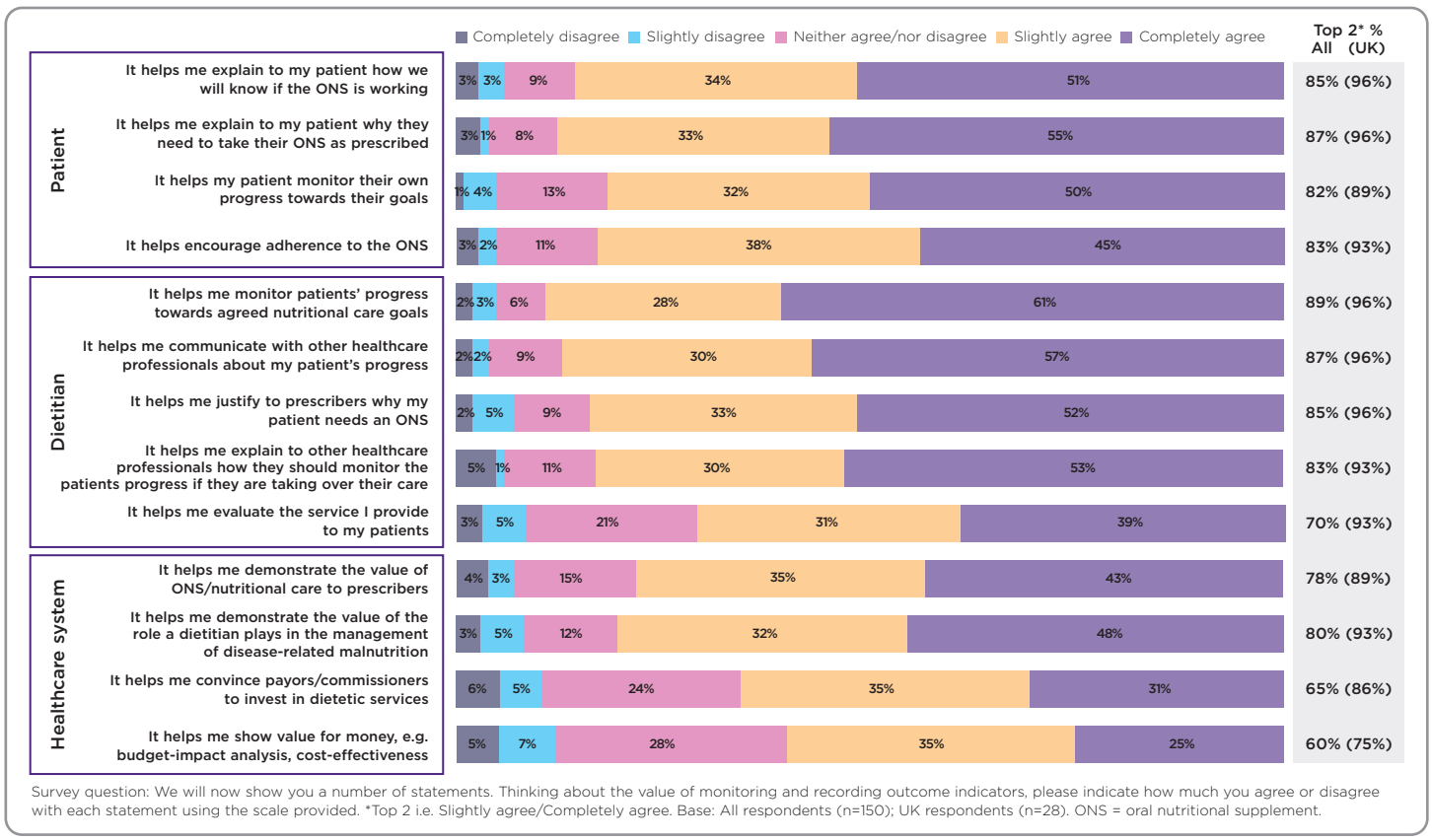
Using a combination of OI may be necessary to measure outcomes relevant to different audiences, in different healthcare settings, and that are holistic and meaningful for patients depending on their individual preferences and goals. In qualitative research, patients taking ONS reported that weight alone was not a motivating goal for ONS, but that having a personally relevant goal – e.g. 'being able to walk without an aid', 'feeling more energetic' or 'living longer in good health' and noticing these concrete effects – has a positive effect on adherence to their ONS prescription.[14] Dietitians can work together with multi-disciplinary teams to integrate nutritional intervention into joint programmes or care pathways, where outcomes are monitored and data collated demonstrating the value of nutrition/dietetics to commissioners and others.

The choice of OI may be influenced by its suitability to help with self-management, to support adherence, or for use by non-nutrition experts if care needs to be handed over to other HCPs, e.g. in care homes, or GPs. A good example is the Malnutrition Pathway for COVID-19 Illness, which includes information on patient-centred goal setting and monitoring (including via remote methods) such as weight/BMI (self-reported is considered reliable), sit to stand test, self-reported activity and ability to undertake activities of daily living, patient's report of progress towards agreed goals and adherence to dietary advice and ONS.[15]

Conclusion

Monitoring and evaluating outcomes is widely valued in healthcare and in dietetics but remains challenging to implement in practice. Dietitians mainly rely on nutrient intake and body weight as OIs to monitor progress on ONS towards agreed goals. Additional OIs could be adopted to enhance monitoring of patients and demonstrate the value of intervention. Training and education for dietitians in the use of OI is critical, as is adapting healthcare setting specific patient monitoring protocols, if they are to be further adopted as routine clinical practice. Overcoming lack of time as a barrier to monitoring outcomes at patient level by making them simple and routine, and collecting and collating outcome data at service level, could in turn convince budget holders to further invest in dietetic and nutritional intervention.

Figure 2: Dietitians value the monitoring and recording of OIs for themselves, their patients & for the healthcare system



Survey question: We will now show you a number of statements. Thinking about the value of monitoring and recording outcome indicators, please indicate how much you agree or disagree with each statement using the scale provided. *Top 2 i.e. Slightly agree/Completely agree. Base: All respondents (n=150); UK respondents (n=28). ONS = oral nutritional supplement.

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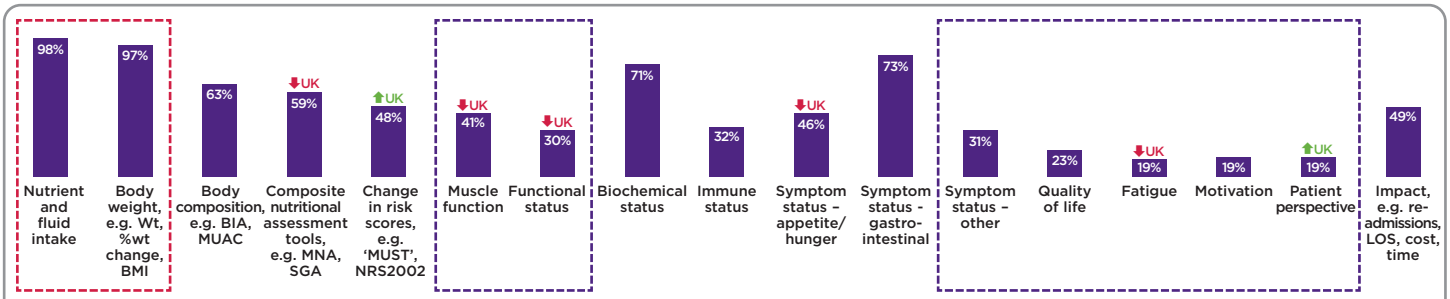
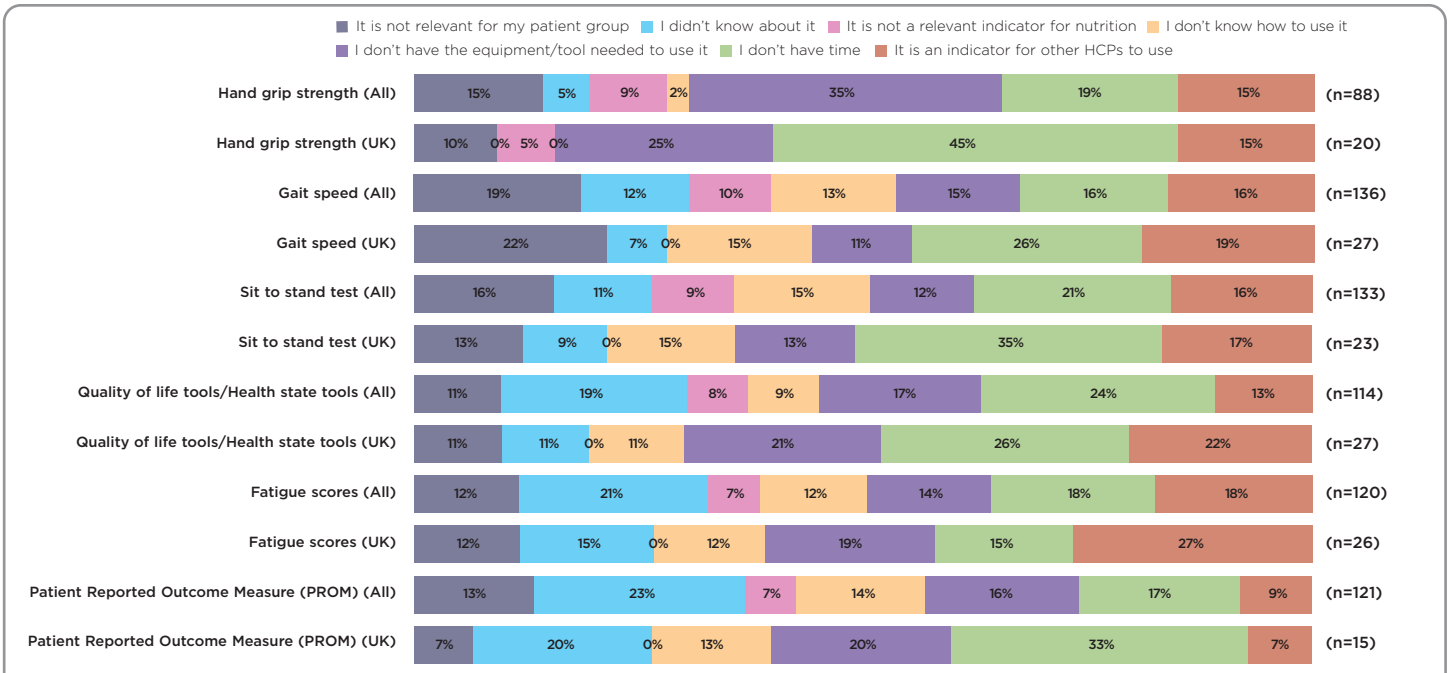
Figure 3: Dietitians use a broad range of outcome indicators to monitor patients on ONS but rely heavily on nutrient intake & body weight



Survey question: In this section of the survey we will give you a table of outcome indicators. Please tick the outcome indicators that you use to monitor patients who take ONS for the management of DRM. This list is not exhaustive. You can add other indicators in the text box at the end of this question. Results for categories of outcome indicators shown. Each category included one or more examples of specific variables, parameters or tools. Base: All respondents (n=150). Green arrow indicates that the figure for UK is significantly higher than the total at 95% confidence. Red arrow indicates that the figure for UK is significantly lower than the total at 95% confidence. **Key:** Wt = weight; BMI = body mass index; MUAC = mid upper arm circumference; MNA = Mini Nutritional Assessment; SGA = Subjective Global Assessment; 'MUST' = 'Malnutrition Universal Screening Tool'; NRS-2002 = Nutrition Risk Screening-2002; LOS = length of stay.

Figure 4: Reasons given by dietitians for not using certain outcome indicators



Survey question: For the indicators that you do not measure/use, please tick the reason(s) why you do not use them. Base: All respondents not using a certain outcome indicator and UK respondents not using a certain outcome indicator (n=variable).

Table 3: Examples of types of outcomes[11]

Types of outcomes	Examples
Dietetic outcomes	Knowledge gained, behaviour change and food or nutrient intake changes.
Clinical and health status outcomes	Laboratory values, weight, blood pressure, risk factor profile changes, signs and symptoms, clinical status, infections, complications (health outcomes).
Patient-reported functional or experiential outcomes	Quality of life, satisfaction, self-efficacy, self-management, functional ability (dietetic outcomes).
Healthcare utilisation and cost outcomes	Medication changes, special procedures, planned/unplanned clinic visits, preventable hospitalisation, length of hospitalisation, prevent or delay nursing home admission (health outcomes).

Source: BDA Parenteral and Enteral Nutrition Group's (PENG) Dietetic Outcome Toolkit[11]

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