

# Cost Saving and Cost Effectiveness

What is the difference and how does this relate to medical nutrition?



Fiona Page, BSc (Hons), Registered Dietitian, Independent Nutrition Consultant  
on behalf of British Specialist Nutrition Association

The NHS continues to face huge financial challenges and it is widely recognised that action is needed to focus on improving value for every pound spent in the NHS.<sup>1</sup> However, healthcare value can mean different things to different stakeholders and is often poorly defined. The Centre for Evidence Based Medicine (CEBM) defines value-based healthcare as *'the equitable, sustainable and transparent use of the available resources to achieve better outcomes and experiences for every person'* but also acknowledges that value-based healthcare is 'far from fully embedded in the NHS' as yet.<sup>2</sup>

The recent changes to Integrated Care System (ICS) structures and integrated budgeting provides a significant opportunity to invest in value-based healthcare interventions which bring long-term benefits to the wider health economy focused on clear goals from a commissioning, healthcare professional (HCP) and patient perspective. Similarly, new initiatives that focus on specific pathways of care provide a more immediate opportunity to deliver value-based healthcare. Examples include funding for virtual wards including hospital at home for acute respiratory infection and frailty,<sup>3</sup> and a new £200m national discharge fund available in England to support Integrated Care Boards (ICBs) to increase capacity in post-discharge care and support improved discharge performance, patient safety, experience and outcomes.<sup>4</sup> The provision of optimal nutritional care could have a direct impact as part of these initiatives by helping patients get home and stay home. Nutrition screening and assessment on admission is specifically highlighted in guidance for frailty virtual wards.<sup>5</sup>

In this article we discuss what the terms cost saving and cost effectiveness mean, how value has been approached from the context of medical nutrition, what this means in practice and how might value be considered in the future, along with the importance of considering goals and outcomes from all perspectives including those of patients.

## Cost saving

Cost savings are straightforward reductions in the costs of providing a service or resource, whether this is provided by using a less expensive resource or by using the resource more efficiently. In the context of medical nutrition this may be achieved through appropriate prescribing initiatives in the community of a medical nutrition product (improved efficiency) or by choosing a product that is in line with local formulary guidance. Measuring cost savings are relatively straightforward and are already adopted by many ICBs by looking at the prescribing costs of medical nutrition products and by undertaking appropriate prescribing reviews, led by suitably qualified staff, to ensure prescribing remains appropriate to maximise efficiency.

Whilst cost savings may deliver financial benefits to an organisation and are easier to measure and realise in the short-term, they do not address how effective the intervention is at improving specific outcomes which may offer real long-term

improvements in patient care across the health economy, nor does it address the broader issue of equity of access to treatments that have been deemed to be effective. In the context of medical nutrition for the management of disease-related malnutrition (DRM), simply realising cost savings through a review of current prescribing does not address the wider potential benefit (both clinically and economically) of proactively identifying and treating DRM in a whole patient population, which also ensures equitable access to an effective treatment. DRM continues to go unrecognised and untreated across healthcare settings, leading to poorer outcomes, greater healthcare use and greater costs.<sup>6</sup> In contrast, expenditure on interventions to manage DRM represents a very small proportion of the overall cost (<2.5%),<sup>6</sup> as well as being relatively easy to implement across care settings. Nevertheless, consideration of cost savings is part of the picture and is increasingly being monitored within NHS organisations.

Such a cost saving approach also only takes account of financial costs associated with current prescribing of medical nutrition products. However, patient care frequently requires the use of other resources (Table 1) such as personal, societal or environmental resources, therefore 'resource use' rather than 'costs' may be a more useful term when considering or defining value in the NHS.<sup>2</sup>

**Table 1: Personal, societal and environmental resource use associated with healthcare<sup>2</sup>**

Personal (patient)	The burden of treatment, discrimination
Societal	Health and social care, the burden of care for informal carers, loss of productivity, welfare and pension costs
Environmental	Carbon, pollutants

Source: Hurst L, MK, et al. (2019). Defining value-based healthcare in the NHS. University of Oxford. Accessed online: [www.cebm.ox.ac.uk/resources/reports/defining-value-based-healthcare-in-the-nhs](http://www.cebm.ox.ac.uk/resources/reports/defining-value-based-healthcare-in-the-nhs).

## Cost effectiveness

The National Institute for Health and Care Excellence (NICE) defines cost effectiveness as 'value for money: how well a technology works in relation to how much it costs'.<sup>7</sup> It should not be confused with cost savings which do not consider the effect of the intervention on specific outcome measures. Cost effectiveness is arguably more important in healthcare as it is likely to lead to longer term health improvements which may bring wider advantages to the health economy. To determine cost effectiveness, an analysis is undertaken which assesses the cost of achieving a benefit by different means. The benefits are expressed in non-monetary terms related to health, for example a metric known as the quality-adjusted life year (QALY) - an outcome measure that expresses the duration and quality of patients' lives - and is widely used in assessments of the clinical and economic value of new treatments, including medical nutrition.

Unsurprisingly, cost effectiveness is more complex and time consuming to measure than cost savings and requires data on how effective an intervention is at improving patient outcomes (from good quality randomised controlled trials), together with a detailed cost analysis of the intervention. A cost-effectiveness analysis is frequently undertaken by NICE when developing NICE guidelines and a health economist would be central to the assessment of cost effectiveness as part of the guideline development group.

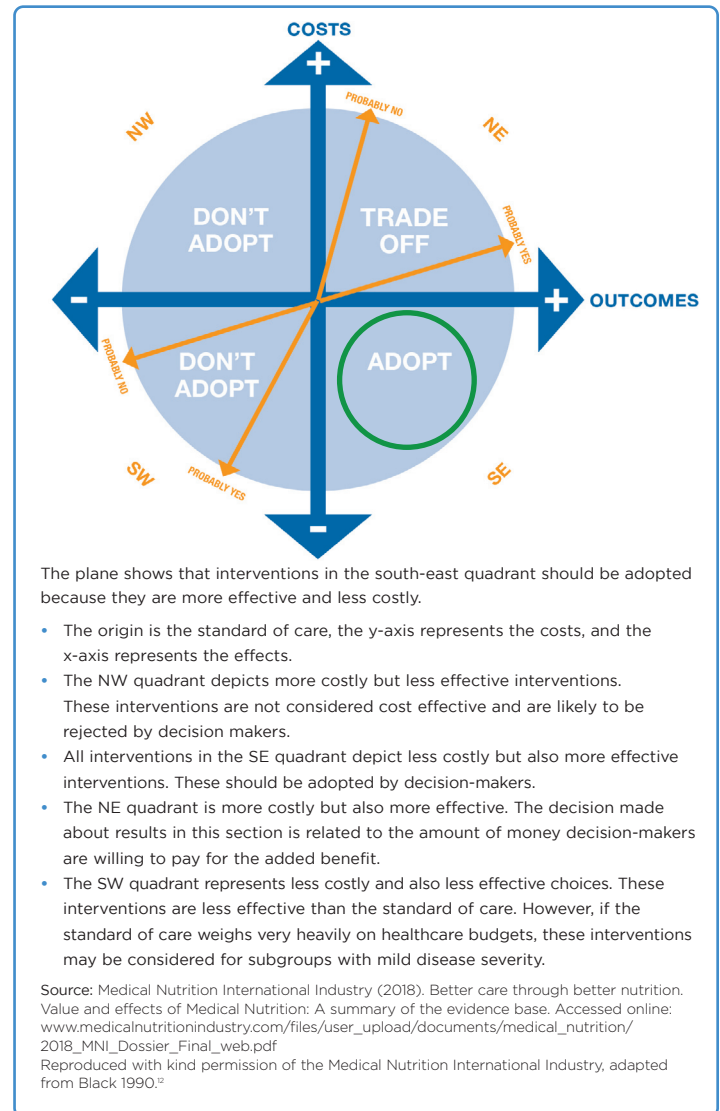
Cost effectiveness data also has the potential to inform the re-design of patient pathways in many therapy areas and the adoption of cost-effective interventions into national and local guidelines. This will be of increasing interest to ICBs who will be looking to gain maximum value in all their healthcare commissioning decisions. As an example, economic modelling undertaken by NICE has shown that the use of oral nutritional supplements (ONS) for the management of DRM is cost effective as part of a screening programme.<sup>8,9</sup>

Resources to help with implementation of the recommendations from the NICE guideline on nutrition support for adults are available and a key example is the NICE endorsed Malnutrition Pathway which aims to assist HCPs to optimise patient outcomes through good nutritional care in community care settings, such as primary care practice, care homes and outpatient clinics.<sup>10</sup> The Malnutrition Pathway, produced by a multi-professional consensus panel and endorsed by ten professional and patient organisations, includes an evidence-based pathway for appropriate use of ONS in the management of DRM.

To aid interpretation of cost effectiveness data a cost effectiveness plane can be used to visually represent the differences in costs and health outcomes between treatment alternatives in two dimensions, by plotting the costs against effects on a graph (see Figure 1).

Based on clinical trials, oral nutritional intervention with ONS has clinical benefits, placing the use of ONS in the east quadrants. Equally, studies which have demonstrated cost savings place the use of ONS in the south quadrants. Interventions in the south-east quadrant should be adopted because they are more effective and less costly.

**Figure 1: The cost-effectiveness plane<sup>11</sup>**



## Value of medical nutrition

Both cost savings and cost effectiveness are important in delivering value in medical nutrition and should not be considered in isolation. However, optimal nutritional care is the overarching goal so the provision of medical nutrition should also be viewed within this wider context. Defining a common set of outcomes for the use of medical nutrition intervention could facilitate the measurement, collation and aggregation of outcome data to demonstrate value. Care needs to be taken to define relevant outcomes from all perspectives including patients - what really matters to them? A recent review of individualised nutritional care for DRM highlighted that 'identifying patient-centred goals and what matters to patients can help inform the selection of relevant outcome indicators. Differences may exist in outcomes that providers, commissioners or payors expect to be measured versus outcomes that may be meaningful to patients'.<sup>13</sup>

Whilst the provision of medical nutrition spans multiple therapy areas, the largest body of research on the value of medical nutrition is in the management of DRM. The health economic analyses from a report from the Malnutrition Action Group of the British Association for Parenteral and Enteral Nutrition (BAPEN) and the National Institute for Health Research Southampton Biomedical Research Centre indicate that the identification and management of DRM according to NICE guidelines ultimately saves rather than costs money. Potential savings of at least -£123,530 per 100,000 people based on managing 85% of patients at high risk of malnutrition are possible, and needless to say if more high-risk patients were managed more savings could be realised.<sup>14</sup> BAPEN have highlighted that this estimate is even higher than the previous estimate from NICE cost saving guidance that suggested improving screening, assessment and management of malnourished patients could lead to cost savings of £71,800 per 100,000 population.<sup>6</sup> It is necessary to make a commitment to invest money before the financial benefits can be reaped.

Comprehensive systematic reviews show that managing DRM with ONS can produce an average cost saving of around 10% compared to standard care across a broad range of patient groups in a variety of healthcare settings.<sup>15, 16</sup> A recent systematic review reported that ONS use in care homes for frail patients was shown to be cost effective with an estimated incremental cost-effectiveness ratio (ICER) for ONS of £10,941 per QALY.<sup>17</sup> Positive effects were seen on energy and protein intakes and mobility compared to standard care.<sup>17</sup> Further adequately powered primary studies that report on short-term and long-term health outcomes are required to fully determine cost effectiveness of ONS in frail older people.<sup>17</sup>

The generation of good quality cost-effectiveness analyses relies on data from well-designed randomised controlled trials (RCTs). This presents a number of challenges for research in the field of nutrition. Recruitment of frail and older participants is particularly challenging,<sup>18</sup> blinding studies to different modes of nutrition intervention can be difficult<sup>19</sup> and subjects randomised to placebo or "standard care" may be less motivated to remain in a study knowing they are less likely to benefit.<sup>20</sup> The burden of study documentation, visits and monitoring may impact retention of subjects in studies.<sup>20</sup> These factors need to be considered both when designing RCTs in the field of medical nutrition and when interpreting the results of existing or emerging data.

## The role of dietitians and other healthcare professionals (HCPs) in delivering value in nutritional care

On a daily basis, value decisions are taken by HCPs, although they may not recognise them as such.<sup>2</sup> The provision of optimal nutritional care provides an opportunity for HCPs to deliver value to the health economy as well as individualised benefits to patients.

This is evidenced by published research in which a service evaluation of the impact of implementing the 'Malnutrition Pathway' on healthcare use and costs in general practice, showed that, over a 6 month period, implementing the Pathway in GP practices (including provision of dietary advice and ONS to those at high risk of DRM) led to significant reductions in healthcare use; 62% reduction in hospital admissions, 67% reduction in length of hospital stay and 25% reduction in number of GP visits.<sup>21</sup> The costs incurred to manage malnutrition such as HCPs' time and ONS were found to be more than offset by the savings associated with the reduction in healthcare use with savings of up to -£395.64 per person for medium and high risk patients combined and up to -£997.02 for high risk patients alone.<sup>21</sup> Patients also showed high satisfaction with the dietetic intervention provided.<sup>21</sup> Extrapolation of these figures in a budget impact calculation based on local implementation savings for those at high risk of malnutrition shows an estimated cost saving of £383,196-641,084 per population of 100,000.<sup>21</sup> This equates to savings of £11.5-19 million for an ICS with a population of three million, even when accounting for the cost of treatment. Identifying and managing DRM in primary care, for example with dietitians as first contact practitioners (FCPs), also offers potential benefits to reduce the burden of DRM in secondary care, i.e. by reducing hospital admissions. However, the development of these roles is still in its infancy with clinical priorities still being defined with likely significant regional and local variation. Ultimately, the responsibility for identifying and screening patients at risk of DRM must sit across multiple professions using simple, easy to use care pathways focusing on patient-centred outcomes. With 3 million people at risk of DRM, dietetic expertise in primary care provides an opportunity to upskill the wider workforce to ensure that early recognition and intervention takes place to avoid deterioration in nutritional status. Historically, interventions that required increased spending in primary care to realise cost saving in secondary care (e.g. reduced admissions) may have been viewed less favourably. Integrated budgets mean this should no longer pose a barrier.

## Conclusion

In day to day practice all HCPs continue to strive to balance the needs of the individual patient whilst also making best use of limited resources, necessitating daily value decisions whether at a population, organisational or individual patient level. An understanding of the different methods available to evaluate value for money in healthcare and how these relate to and influence clinical practice provides the ideal opportunity for dietitians to demonstrate value in healthcare through individual patient management, strategic leadership in implementing care pathways for the management of DRM, and in educating the wider healthcare workforce in delivering cost effective and patient-centred nutritional care.

### About the British Specialist Nutrition Association

BSNA is the trade association representing the manufacturers of products designed to meet the particular nutritional needs of individuals; these include specialist products for infants and young children (including infant formula, follow-on formula, young child formula and complementary weaning foods), medical nutrition products for diseases, disorders and medical conditions, including oral nutritional supplements, enteral tube feeding and parenteral nutrition, as well as companies who aseptically compound chemotherapy, parenteral nutrition and CIVAS.



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