

# Malnutrition in various care settings in the UK: the 2007 Nutrition Screening Week survey

Marinos Elia, Barry Jones and Christine Russell

**Marinos Elia**

MD FRCP, Professor of Clinical Nutrition and Consultant Physician, Institute of Human Nutrition, University of Southampton, and Southampton University Hospital NHS Trust

**Barry Jones**

MD FRCP, Consultant Gastroenterologist, Department of Gastroenterology and Nutrition, Russells Hall Hospital, Dudley and Chair, Royal College of Physicians Nutrition Committee

**Christine Russell**

SRD, Freelance Consultant Nutritionist, Northampton

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The largest UK survey on nutritional screening took place in September 2007. It was coordinated by the British Association for Parenteral and Enteral Nutrition (BAPEN) and involved 175 hospitals (9,722 patients aged 18 years and over), 173 care homes (1,610 residents) and 22 mental health units (336 patients). Previous surveys employed a range of different criteria to assess nutritional risk, often in small population samples in different care settings at different times, making it difficult to obtain an overview of the problem. In the BAPEN survey, the prevalence of malnutrition in all care settings, for clinical and public health purposes, was assessed using criteria based on the Malnutrition Universal Screening Tool (MUST).<sup>1</sup> The tool has three components:

- current weight status (body mass index (BMI), which identifies patients who are underweight or overweight/obese)
- weight loss in the previous three to six months
- acute disease effect that has resulted (or is likely to result) in no intake for more than five days.

Each of these components can contribute to the risk of malnutrition. The overall prevalence of malnutrition (medium and high risk) on admission to hospital was found to be 28% (22% high risk, 6% medium risk), and did not differ significantly between acute (27%) and community (non-acute) hospitals (29%).

## Main findings

- 1 Since nutritional screening was undertaken within 72 hours of hospital admission, the survey highlighted a large problem originating in the community. It emphasised the need to establish strategies to prevent and treat malnutrition in the community before patients are admitted to hospitals.
- 2 Malnutrition is a major problem that needs serious attention. The hospital prevalence of malnutrition at a given point in time is expected to be greater than the admission prevalence (28%) because malnourished patients stay in hospital longer than non-malnourished (low-risk) patients (generally 20–70% longer). For a 30–50% longer length of hospital stay the point

prevalence of malnutrition in hospital is expected to be 34–37% assuming no deterioration in nutritional state following admission and no mortality.<sup>2</sup>

- 3 Malnutrition needs to be considered by all healthcare workers on all wards receiving adults of all ages with all types of diagnoses. The survey shows that malnutrition is common on admission to all wards although, as expected, there were significant differences between types of ward (eg 41% in oncology and 15% orthopaedic/trauma), and between diagnostic categories (eg 43% in patients with gastrointestinal disease and 21% in those with cardiovascular disease). Hospital malnutrition is not a problem affecting just older subjects. The prevalence (per 100 patients) was only 25% greater in those over 65 years than those less than 65 years, almost identical to that reported in a large survey of hospitalised patients in the Netherlands.<sup>3</sup>
- 4 The survey indicated that malnutrition continues to be under-recognised and therefore under-treated. Only about half (49%) of hospitals with a nutrition screening policy reported routine weighing on admission to all wards (weighing of only 25% of patients from such hospitals involved in the survey), and less than 30% reported recording height, which suggests that many patients were not screened to identify whether they were malnourished or at risk of developing malnutrition. Various bodies including the National Institute for Health and Clinical Excellence,<sup>4</sup> Council of Europe,<sup>5</sup> NHS Quality Improvement Scotland,<sup>6</sup> and the Department of Health's Nutrition Action Plan (England)<sup>7</sup> recommend routine screening on admission to hospital, using validated and reliable tools such as MUST. Since nutrition screening policies were reported to exist in most hospitals (89%) and most patients did not have their weight measured (a key component of most screening procedures), many hospitals were not only failing to follow national/international guidelines, but also failing to follow their own hospital policies. Interestingly, the prevalence of malnutrition was

found to be greater in hospitals that did not undertake routine weighing than in those that did (on some or all wards; 32% v 26%), in those in which the estimated proportion of patients screened was low (less than a quarter of patients) than in those in which it was higher (30% v 26%), and in those that did not undertake an audit on nutritional screening than in those that did (31% v 27%). The reasons for these and for other differences found in the report require attention. Since the admission prevalence of malnutrition reflects problems in the community, however, it is relevant to consider the major nutritional inequalities (according to MUST type criteria and nutrient deficiencies, such as vitamin C) which have been reported to exist not only within but also between geographic regions in England.<sup>8,9</sup> The quality of community and hospital healthcare also needs to be considered including management structures that link them.

Although the emphasis of this editorial has been on undernutrition, the survey also provides a stark reminder of the growing problem of obesity. Of patients admitted to hospital, 22% were obese with a BMI of 30 kg/m<sup>2</sup> or more. As with undernutrition, behaviour and lifestyle need to be changed through integrated strategies outside hospitals (although hospitals also have a role to play).

This brief commentary has focused on the findings of the hospital component of the survey rather than on care homes (30% prevalence of malnutrition) and mental health units (19% prevalence of malnutrition). The prevalence was found to vary according to the type of care home (or mental health unit), diagnostic category (primary clinical problem) and age of subject, but with no overall significant differences between England, Wales, Scotland, and Northern Ireland. Of residents admitted to care homes in the previous six months, 28% had a BMI of less than 20 kg/m<sup>2</sup>, and 18% less than 18.5 kg/m<sup>2</sup>. Underweight admissions were two- to threefold more common than those related to obesity. The most common diagnostic category/clinical problem was neurological disease, which includes dementia and stroke. Disease-related malnutrition in the community increases with age, and detrimentally affects physical and psychological function, well-being and independence, with important implications on the costs of long-term care.<sup>2,10</sup> With the increasing age of the older population, the cost of disease-related malnutrition is likely to rise even further.

Finally, it is hoped that this survey will contribute to the government's Nutrition Action Plan.<sup>7</sup> It has defined the absolute and relative magnitude of the malnutrition problem in various care settings using the same validated and reliable nutritional

screening procedure. It has provided feedback of results to individual centres and groups of centres, so that the local results can be benchmarked against the national picture, and it has provided recommendations to improve nutritional care. This care should begin with identification of malnutrition, which in turn should be linked to care plans. These care plans often begin in one care setting and continue in another, for example from hospital to community. Implementation of measures to improve nutritional status in the community and its detection in institutions, such as hospitals, represents a major challenge to the NHS.

The report, *Nutrition screening survey in the UK in 2007: hospitals, care homes and mental health units*, can be accessed via the BAPEN website [www.bapen.org.uk](http://www.bapen.org.uk) free of charge. It can also be purchased from the BAPEN office.

## References

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