

### Food waste: other issues and settings should be considered

Dear Sir,

We found the recent paper by Caswell (2008) very interesting. The author discussed Britain's battle against food waste and provided a thought-provoking summary of the economic aspects of such a matter. Along with this, the author highlighted the environmental impact of packaging disposal. This paper focused solely upon waste at a household level, but there are other situations in which waste control could better be managed in order to help reduce this problem.

One such example is waste from hospital catering services. The problems of hospital food waste have been described in the scientific literature, and in the UK (Barton *et al.* 2000) the problem appears so important as to require the production of specific guidelines by the National Health Service (NHS) to manage waste (NHS 2005). Hospital food waste can be identified as 'plate waste' (*e.g.* food tried by patients but incompletely consumed) and 'tray waste' (wastage of complete trays of food because of over-ordering or because the patient had been discharged, transferred or ordered 'nil by mouth'). It is suggested that approximately 40% of all food supplied in British hospitals is wasted, and in 2000 the cost of this in a 1200-bed hospital (Nottingham University Hospital) was estimated at £229 034 per annum (Barton *et al.* 2000). This means that throughout the UK (where there are approximately 146 500 beds in total) total waste would amount to £28 million (Department of Health 2000). However, given the recent rate of inflation of food prices [reported in the popular press to be at a rate of 14.6% in mid 2008 (see Caswell 2008)], as well as the fact that the above estimate fails to include services such as long-term care facilities, this cost estimate is likely to be considerably higher.

In addition to the financial and environmental impact of this waste, it must also be considered in terms of its impact on patients in hospitals. Within the

UK, as well as elsewhere in Europe, hospital food waste is high, and food consumption falls short of nutritional requirements (Allison 2003). Barton *et al.* (2000) have described how high food wastage is associated with reduced energy and protein intakes in patients, and this in turn has an impact in terms of malnutrition-related complications, (recovery from disease, trauma and surgery, infection-related mortality and increased length of hospital stay) (Norman *et al.* 2008). The problems and cost of undernutrition are not just confined to hospitals – in long-term care home facilities, the extent of undernutrition may be as high as 65% (Arvanitakis *et al.* 2008).

Money-saving and cost-effective interventions are now considered an important part of nutritional policies in all aspects of healthcare (Darmon *et al.* 2008). In the UK in 2003, the annual cost of managing disease-related malnutrition was estimated to be approximately £7.3 billion (Darmon *et al.* 2008). Despite the lack of prospective data on cost savings that can be made through appropriate nutritional intervention, in Europe preliminary evaluations have suggested a reduction of total costs of up to 50% (Norman *et al.* 2008). It is therefore essential to ensure that food provided in hospitals and care settings is offered in a way which encourages consumption, in order to ensure nutritional adequacy and reduce the costs associated with both food wastage and the associated costs of undernutrition.

The role of individuals in reducing these problems also needs to be considered. At a household level, education campaigns are believed to be one of the best channels through which to improve understanding about waste and therefore reduce its impact. In terms of hospital waste, there is now an increasing awareness about current waste management practices and problems such as disease-related malnutrition among healthcare professionals. Patients and hospital staff should be made aware of the potential problems of undernutrition in those who are in hospital and other institutions on a long-term basis, and appropriate measures should be put in place to ensure that these patients receive an adequate diet in order to avoid under- and malnutrition. The optimisation of nutrition support can be achieved through simple interventions involving people at every level of the food chain, from its preparation, through delivery, and both the provision and monitoring of intakes (Pedrolli & Cereda 2008a, 2008b; Cereda & Pedrolli 2009).

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## Conflict of interest

The authors certify that there are no affiliations with or involvement in any organisation or entity with a direct financial interest in the subject matter or materials discussed in the manuscript.

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