Malnutrition 'self-screening' with 'MUST' in hospital outpatients predicts health-care outcomes

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Patients 'self-screening' using a patient friendly 'Malnutrition Universal Screening Tool' ('MUST') has recently been investigated in hospital outpatient clinics and shown to have concurrent validity with trained health-care professional screening[1]. The extent to which 'self-screening' can predict health outcomes and use of health-care resources is unknown. The aim of this study was to investigate the predictive validity of outpatients 'self-screening' with 'MUST'.

The study involved 205 patients (mean age 55 (SD 17) years; 56% male) randomly recruited from gastroenterology (40%) and non-gastroenterology clinics (60%), who screened themselves for malnutrition risk (80.5% at low risk, and 19.6% at medium + high risk). Health-care use was collected prospectively from electronic records during the subsequent 6 months (hospital admissions, length of hospital stay (LOS) and outpatient appointments (OP)).

Outpatients at risk of malnutrition from 'self-screening' with 'MUST' experienced significantly more hospital admissions (including emergency admissions), significantly more outpatient appointments and had longer hospital stays (table). When adjusted for age, sex and type of clinic (gastroenterology v. non-gastroenterology), length of hospital stay became significant, admissions and outpatient appointments remained significant.

Health-care use at 6 months	Low risk	Med + High risk	P
Hospital admissions (% of patients)	22.4%	50%	0.001#
Emergency admissions (% patients)	5.5%	20%	0.011#
Number of hospital admissions/patient	0.42±1.1	0.90±1.1	0.016*
LOS (d/patient)	1.43±4.7	3.08±6.0	0.065*
Total number OP visits/patient	1.75±2.5	3.41±3.4	0.001*

Mean±SD; #Chi^2, *ANOVA, med = medium. When adjusted for age, sex and type of clinic, mean results remain the same but significance increases (number of hospital admissions $P = 0.007$; LOS $P = 0.037$).

The average cost for hospital admissions[2] per patient in the whole group was significantly greater (115%) for the patients at medium + high risk of malnutrition compared to low risk (£2357 ± £2999 v. £1096 ± £2900).

This study shows that 'self-screening' for malnutrition (medium + high risk according to 'MUST') predicts increased resource use (predictive validity) with important health economic implications. Similar predictive validity results have been found in studies of health-care professionals' screening of inpatients[3] and outpatients[4].

1. Stratton RJ *et al*. (2010) *Proc Nutr Soc* (submitted abstract).
2. Curtis L (2009) Unit Costs of Health and Social Care 2009. http://www.pssru.ac.uk
3. Stratton RJ *et al*. (2006) *Br J Nutr* **95**, 325–330.
4. Cawood AL *et al*. (2010) *Proc Nutr Soc* **69**, OCE2, E149.