

P069 NUTRITION DAY 2009 IN ONE HOSPITAL IN SERBIA. WHAT SHOULD WE DO?

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Rationale: The aim of this study was to show and compare some results of nutrition status and nutrition support of patients who entered the Nutrition Day survey 2008 and 2009 at the Clinic for digestive surgery. Based on the outcome data we tried to give some directions for improvement of nutritional support for the patients.

Methods: We used data from questionnaires prepared by ESPEN organisation for Nutrition day in Europe. We evaluated nutrition status and support in abdominal surgical patients. Basic parameters were weight loss, reasons for losing kilos and types of nutritional support. We used t test for our data.

Results: Total number of patients was 123 in 2008 and 132 in 2009. There were few more patients with weight loss in 2009 than in 2008 ($p > 0.05$). The number of patients losing 0-4kg was significantly higher in 2009 (21.9%) comparing with 2008 (13.1%); ($p < 0.05$). Percentage of weight loss in a group of patients losing 5-8kg in these two selected years was without significant difference. Loss of more than 8 kg in 2009 had 20.4% and 29.9% in 2008 ($p < 0.05$); (table 1). In 2008 there were 28.95% patients with bad appetite but in 2009 the percentage was higher up to 57% ($p < 0.05$). There was also a higher number of those who had nausea (5.61% in 2008; 19.69% in 2009); ($p < 0.05$) and problems with swallowing and mastication (14% in 2008 and 29.54% in 2009); ($p < 0.05$). Only 5% of patients were on enteral nutrition support in 2009 while 14.6% of them in 2008 ($p < 0.05$). On parenteral nutrition support were 26% of patients in 2008 and 7.5% in 2009 ($p < 0.05$).

Table:

| ND in Serbia | Reporting weight loss | Category of weight decrease | | | |
|--------------|-----------------------|-----------------------------|-------|-------|----------|
| | | 0-4kg | 5-8kg | >8kg | Not sure |
| 2008 | 56.1% | 13.1% | 10.3% | 29.9% | 2.80% |
| 2009 | 57.5% | 21.9% | 10.6% | 20.4% | 4.6% |

Conclusion: Our patients need special nutritive approach. The data show the need for nutritional team in our hospital to introduce and follow the European recommendations and guidelines for nutrition and metabolism.

Reference(s) : I. Palibrk, M.V. Matic, P. Pesko, V. Rankovic, L. Tomasevic, M. Milenkovic, B. Nenadic, V. Masirevic. Nutrition day in Serbia, 30th Congress of ESPEN, Florence, 2008;3(Suppl.1):75.

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P149 NUTRITIONDAY 2008 IN HUNGARIAN HOSPITALS

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Rationale: Hungarian hospitals take part in the nutritionDay project since 2006. NutritionDay 2008 included the highest number of patients and units since the beginning. Our aim is to present the organization and structure of units regarding nutrition and the nutrition of the patients.

Methods: All the patients who gave informed consent were assessed with the standardised questionnaires for hospitals provided by the nutritionDay office. Data are presented as mean and standard deviations and 95% confidential intervals where applicable.

Results: There were 3962 patients (23.5% of the total cohort) from 221 units (26.6% of total units) participating in the survey. Their mean age was 62 [2–97] years, mean BMI proved to be 26.8±5.8. These data and also the gender ratio did not differ significantly from the European mean. Nutritional therapy was hospital food in 61.7%, enteral nutrition in 26.4%, and only 1.06% received supplementation. 17.0% of the patients had diabetes along their main diagnosis that was some kind of heart or circulatory problem in 26.5% of the cases. Weight-loss was reported by 36.1% of the patients, mainly 0–4 kg. 21.9% of the people reported loss of appetite as a reason of eating less. 17.08% ate less than one quarter of the provided breakfast. The weight of the patients was assessed at admission in 89% and occasionally in 11%. Nutrition team exists in 72% of the units. 0.49±0.72 dietitians are present in one Hungarian unit.

Conclusion: Hungarian in-patients ate more than the results of the whole cohort. Ratio of patients receiving hospital food was almost the same, but in the whole cohort more patients received supplements. Weighting the patients show almost the same situation. The staffing conditions are worse than in the whole sample, and also there are fewer nutrition teams in Hungary. Our results have to make aware all stakeholders of organizing nutrition in Hungarian hospitals about the importance of well-balanced hospital diet and the availability of supplements.

Disclosure of Interest: None.

P157 VALIDATION OF THE FOOD INTAKE IN THE NUTRITIONDAY PROJECT

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Rationale: In the framework of the project „nutritionDay in European hospitals“ (nD) food intake of patients is assessed in quartiles using a simple dish protocol. Since it seemed difficult for patients to differentiate between $\frac{1}{2}$ and $\frac{3}{4}$, the portion estimate “ $\frac{3}{4}$ -portion” is not used in the monitoring sheet. This study investigates the validity and accuracy of the food intake used in the sheets of the nD study.

Methods: Patients (n=100) in different wards of the Vienna General Hospital (AKH) were asked to estimate their food consumption at lunch filling out a sheet similar to the nD sheet 3b, but with the additional possibility to choose the portion size “ $\frac{3}{4}$ ”. Data were compared by weighing the meal before and after the lunch and calculating the percentage of the amount of food consumed.

In addition, digital photographs were taken of each patient's meal before and after lunch. Nursing staff (nurses n=20, assisting staff n=10) were asked to assess the portions' size of patients' food intake via the photographs and using the dish protocol.

Results: Patients' self-assessment in the sheets strongly correlated with the actual meal portions assessed by weighing the food eaten (r=0,616; p<0,0001). Similar results were obtained by the nursing staff when assessing the photographs (nurses: r=0,682; p<0,0001 and assisting staff: r=0,753; p<0,0001). The category “ $\frac{1}{4}$ ” is above 25% of the meal and “ $\frac{3}{4}$ ” was very near to “ $\frac{1}{2}$ ” and much below 75% (Table1).

Table:

Table1: Mean and CI of weight eaten in the different categories (%)

| category | consumption (%) |
|----------|-------------------|
| nothing | 10 (-3,2; 23,2) |
| 1/4 | 35,8 (28,6; 42,9) |
| 1/2 | 49,2 (43; 55,5) |
| 3/4 | 60,3 (45,2; 75,4) |
| all | 84,5 (79,7; 88,1) |

Conclusion: The findings of this trial underline the validity of the nD sheet used as well as the digital photography to classify portion sizes of patients. The “ $\frac{3}{4}$ ” option is ambiguous and does not give much additional information and thus may not be used in the nD audit.

Disclosure of Interest: none declared

P197 SELECTION BIAS IN CROSS-SECTIONAL STUDIES: LENGTH BIAS IN THE NUTRITIONDAY STUDY

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Rationale: The one-day audit nutritionDay in Europe is a multinational cross-sectional study with a follow-up period of 30 days. This type of sampling causes length bias as patients with longer length of hospital stay (LOS) are more easily included in the study. This analysis investigated the extent of this bias in the nutritionDay sample.

Methods: The nutritionDay was repeated three times and took place on 19. 01. 2006, 25. 01. 2007 and on 31.01.2008. Participation was open to any clinical unit that registered on the nutritionDay website and requested an anonymous centre and unit code. Every patient that was in hospital on the date of the nutritionDay had a chance to be included in the study. By nature of the cross-sectional study design, patients with longer LOS had higher probability to take part on nutritionDay. The length bias was compensated in the analysis by giving more weight to patients with shorter LOS (Una-Alvarez 2004) because the sampled patients may not represent the target population.

Results: A total of 26115 patients in 27 countries with available data on time spent in hospital before nutritionDay and available date on the total LOS were included in the study. In the unadjusted original sampled patients, the median (lower; upper quartile) of the LOS was 14 (8; 25) days. In the sample, adjusted for the length bias and censoring at 30 days after nutritionDay, the median (lower; upper quartile) of the LOS was 8 (4; 13) days.

Conclusion: The analysis showed that adjustment for length bias leads to very different estimates of LOS in such types of cross-sectional studies. This bias should always be taken into consideration when interpreting LOS data of cross-sectional study designs.

Reference(s) : Una-Alvarez J. Nonparametric estimation under length-biased sampling and Type-I censoring: a moment based approach Ann Inst Statist Math 2004; 56: 667-81.

Disclosure of Interest: All authors declare that they have no conflict of interest for this project.

P207 A MULTIDISCIPLINARY APPROACH TO RAISE NUTRITION DAY (ND) RECRUITMENT

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Rationale: ND is an auditing project of hospitalized patients. It takes place once a year simultaneously in 25 countries in Europe. Demographic, clinical and nutritional data is gathered. The Information is used to promote better nutrition treatment. It is crucial to recruit a high number of patients so that the information gathered and processed is most accurate. Our hospital is a 980 bed hospital composed of 36 wards. ND is conducted every year since 2006. In previous years a small professional and dedicated team of dieticians conducted the ND

We assume that joining forces and distributing different tasks to staff members according to their professional roles and skills can achieve better recruitment rates.

Methods: Combining forces of dieticians and nurses to achieve the above was preformed. ND project was presented to the head of the nursing staff. With her blessing head nurses of 12 wards were presented with the project and their cooperation was granted. On ND itself the nurses were in charge of recruiting patients and helping them fill out the questionnaires, the head nurse in each ward filled out the forms containing the information from the files and information regarding the whole unit, and dieticians preformed assessment of nutritional requirements and intake.

Results: 3 and 12 wards participated in ND of 2008 and 2009 respectively ($p < 0.05$). A higher number of patients participated (43 vs 187 $p < 0.05$) with higher participation within the wards 50% and 64% in 2008 and 2009 respectively ($p < 0.05$). On the whole a higher number of wards, patients and participation within the wards were achieved with the multidisciplinary approach.

Table:

| | Enhancing recruitment in ND | | Significance |
|---------------------------------------|-----------------------------|---------|--------------|
| | ND 2008 | ND 2009 | |
| Wards (n) | 3 | 12 | $p < 0.05$ |
| Patients (n) | 43 | 187 | $p < 0.05$ |
| Participation within wards (%) | 50 | 64 | $p < 0.05$ |

Conclusion: Joining forces on ND is an efficient way to enhance overall recruitment. Further ways to optimize recruitment are needed

Disclosure of Interest: None declared

P208 NUTRITIONDAY IN EUROPE – THE SIGNIFICANCE OF SNACKS IN THE FOOD INTAKE OF HOSPITALIZED PATIENTS

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Rationale: The audit nutritionDay in Europe evaluates comparable data on nutritional intake of hospitalized patients throughout Europe. This analysis investigates the differences in the consumption of snacks (SN) in various European regions and their contribution to an adequate energy supply of malnourished patients.

Methods: The food intake of 35077 patients in 27 countries was assessed on one day (nutritionDay) in 2006, 2007, and 2008 by use of questionnaires which were available in the respective languages. Data analysis was performed using the statistical software of SAS Institute Inc., version 9.1.

Results: 51% of all patients consumed at least one SN on nutritionDay. The highest proportion of patients eating SN was found in Central and Eastern Europe (63%), the lowest in Italy (32%). In all regions fruit was mostly preferred followed by cakes/biscuits. In contrast, cakes/biscuits were most popular in the UK whereas the northern countries showed the greatest variety of SN.

Patients who ate SN were younger ($p < 0,0001$), had a lower BMI ($p = 0,0028$), were more mobile ($p < 0,0001$), ate more of the lunch served on nutritionDay ($p < 0,0001$), had eaten more in the previous week ($p < 0,0001$) and received more visits ($p = 0,0004$). Patients in general surgery ($p = 0,0025$) as well as patients with diseases of ear-nose-throat ($p = 0,0077$) or gastro intestinal tract ($p < 0,0001$) ate less SN. Regarding SN consumption patients at risk of malnutrition did not differ from well nourished patients ($p = 0,2594$).

Conclusion: The analysis showed that frequency and sort of SN vary substantially in European regions. SN were eaten more often by patients who showed a better energy intake in general. Special effort is needed to sustainably enhance the energy intake by SN especially in patients at risk of malnutrition. Cultural preferences have to be taken into consideration to modify the acceptance and consumption of SN.

Disclosure of Interest: None declared

P212 NUTRITION DAY: OUR THREE YEAR EXPERIENCE

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Rationale: Our Unit participated in the 3 year project, 2006-08, annual multicenter single day audit, Nutrition Day promoted through ESPEN, which evaluates the actual nutritional status of hospitalized patients and how they were fed during the hospital stay.

Methods: We enrolled a total of 213 pts during the 3 audit days (Tab.1) from the Medical and Surgical Wards. Data collection was divided into 3 parts: section 1 refers to Ward characteristics, section 2 to pts clinical data, and section 3 represents the true questionnaire or screening tool which is subdivided in 2 units A and B. A contains pt's nutritional status data, while B shows their study day eating habits.

Results: The mean 3 year BMI was 25.7 ± 1.25 , higher than average. 83 pts (38.96%) referred of having lost weight in the past 3 months [46 pts (21.5%), 17 pts (7.98%) and 14 pts (6.57%), respectively between 0-4kg, 5-8kg, >8kg]

Answers to the questions:

A) "How well have you eaten during the last week?" were: Normal, 103 pts (48.35%); A bit less than normal, 64 pts (30.04%); Less than half of normal: 25 pts (11.73%); Less than a quarter to nearly nothing, 20 pts (9,38%); Missing, 1 pt (0,46%).

B) "I ate less because" of: Loss of appetite, 72 pts (33,8 %); Problems with swallowing/chewing, 13 pts (6,1 %); Nausea, 6 pt (2,81%); Other reasons, 26 pts (12,2%)

Table:

| Total pts 213 | Tab. 1 Mean Age | 73,33 (range 17-104) |
|-----------------|--------------------|----------------------|
| Sex M/F | 107 | 106 |
| Med/Surg | 113 | 100 |

Conclusion: The data collected during the 3 years show only a slight better trend in patient nutritional status at admission, and still underline the high prevalence of hospitalized pts which at admission already have a low dietary intake during the past 3 months. Over 50% of pts further reduce their intake during hospital stay. In spite of the presence of a Clinical Nutrition Unit, only 6 pts were on artificial nutrition (1 EN, 4 PN, 1 EN+PN) and only 4 received an oral protein supplement, showing the scarce attention that hospital wards give to nutritional status evaluation.

Disclosure of Interest: None declared

P217 NUTRITIONDAY PROJECT IN JAPAN: COMPARISON OF NUTRITION CARE AND NUTRITIONAL STATUS OF HOSPITALIZED PATIENTS IN JAPAN AND IN EUROPE.

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Rationale: The NutritionDay project is a Europe-wide, multicenter cross-sectional audit to assess nutrition care and nutritional status of hospitalized patients. The project was started in 2006. JSPEN (Japanese society for parenteral and enteral nutrition) decided to participate in the project and the first survey was done in Japanese hospitals on January 31, 2008. The purpose of this study was to compare the nutrition care and nutritional status of the Japanese hospitalized patients with that of European patients.

Methods: Methods: On NutritionDay 2008, data of 16,831 patients from 830 units were collected by means of questionnaires. In Japan, data of 1,900 patients from 113 units were collected. The data analysis was performed by NutritionDay Team in Vienna Austria.

Results: Although there existed some difference in the background of patient characteristics and method of nutrition care, major trends of nutritional status were similar in two regions. The data indicated high prevalence of weight loss (41%) both in Japan and in Europe. The similar outcome data as in Europe were also obtained in Japan; i.e. patients who ate 50% or less although they were allowed to eat had the highest mortality risk within 30 days after the NutritionDay.

Table:

| | Background and nutritional parameters | |
|---|---------------------------------------|------------|
| | Japan | Europe |
| BMI | 21.8 ± 4.0 | 25.5 ± 5.7 |
| Length of hospital stay | 29 | 16 |
| Outcome after 30 days | | |
| Still in hospital | 30.5% | 9.48% |
| Nutrition Therapy | | |
| Enteral | 5.37% | 11.4% |
| Nutrition Therapy | | |
| Parenteral (+enteral) | 15.76% | 6.61% |
| CVC lines | 9.68% | 7.01% |
| Weight loss within the last 3 months | 41.2% | 40.7% |
| Weight loss (>5kg) | 13.67% | 17.49% |

Conclusion: Although some difference exists in the nutrition care, major nutritional status of the Japanese hospitalized patients were similar to that of European patients.

Disclosure of Interest: none

P219 NUTRITIONDAY: RISK FACTORS FOR A PROLONGED HOSPITAL STAY

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Rationale: Different factors influence length of stay in hospitalized patients. The impact of nutritional state, food intake and other factors on the probability to get discharged was assessed in the nutritionDay project, a Europe-wide multicenter cross-sectional study, and calculated for the German data.

Methods: On the nutritionDay 2006 data of 16455 patients across Europe (Germany: 2105 patients from 105 wards) were documented using questionnaires. The probability to be discharged home during the 30 d follow-up after the nutritionDay was calculated as hazard ratios (95% confidence interval) in a multivariate analysis (competing risk analysis according to Fine and Gray, statistics software R).

Results: Thirty days after the nutritionDay 69.4% of patients were discharged home, 11.7% were transferred, 11.4% were still in hospital and 2.6% had died. The probability to be discharged was significantly reduced for the following parameters: older age (HR 0.995; 0.991-0.995); longer hospital stay before the nutritionDay (HR 0.973; 0.969-0.978); treatment in ICU (HR 0.83; 0.70-0.99); malignant disease (HR 0.83; 0.71-0.97); three to five (HR 0.72; 0.54-0.95) or more than five different drugs; lunch not eaten (HR 0.68; 0.51-0.91) or only eaten a quarter (HR 0.80; 0.66-0.97), patient not sure about weight loss (HR 0.71; 0.53-0.95), patient needs help to walk (0.75; 0.63-0.88), bedridden (HR 0.46; 0.35-0.61), no information about mobility (HR 0.51; 0.30-0.88).

Conclusion: The factors influencing length of stay are complex. In addition to severity of disease and older age a reduced food intake while in hospital and a low mobility were found to be independent risk factors for still being in hospital 30 d after the nutritionDay. These results stress the importance of nutritional state and food intake for the outcome of hospitalized patients and should, therefore, be more closely assessed and monitored in clinical practice.

Disclosure of Interest: none declared

P284 NUTRITIONDAY IN HUNGARIAN NURSING HOMES

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Rationale: The prevalence of malnutrition depends on criteria and number of criteria used. It is between 15% and 60% in Europe. Nutritional screening has to be simple and quick to perform, e.g. the Malnutrition Universal Screening Tool (MUST). Our aim is to present the main outcomes of the nutritionDay study and the results of MUST survey done at the same time.

Methods: All the residents who gave informed consent were assessed with the standardised questionnaires for nursing homes provided by the nutritionDay office and the MUST questionnaire.

Results: Altogether 2271 residents provided rateable data in the nutritionDay questionnaires and 1792 were screened with MUST. Demographic and anthropometrical data did not differ between the two surveys. Approximately once a month is screened the 42.4% of the residents and never is assessed 10.2% of them. Units estimated malnourished 3.52% of their residents. In contrast, 15.4% of the surveyed people were malnourished according to the BMI, and 26.1% of them according to weight loss. Using the MUST criteria, 77.0% of the residents have high risk of malnutrition. Different severity of the immobility and cognitive function was in significant ($p < 0.001$) relation with the MUST score. The highest risk of malnutrition could be detected in the elderly aged 70–79. Only 3.65% of the residents received any kind of artificial nutrition support. The residents who did not eat all the food presented the following reasons for this: the food was not properly made in 38.8%; the food was not served in proper time in 11%.

Conclusion: Any kind of nutritional screening is done rarely, and the estimation of malnutrition is inaccurate. The prevalence of malnutrition in Hungarian nursing homes is in accordance with international data. Most of the patients with high risk of malnutrition did not receive the proper nutritional therapy, and the declined food intake was due to cooking and timing problems.

Disclosure of Interest: None declared.

P051 GENDER DIFFERENCES OF NURSING HOME RESIDENTS - RESULTS OF THE NUTRITIONDAY AUDIT

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Rationale: To date, little data is available on gender specific questions of residents in nursing homes (NH). In recent years, the proportion of male residents in long-term care institutions rises. Therefore, we investigated whether there are gender distinctions regarding food intake.

Methods: The nutritionDay in NH 2007 and 2008 was a European 1-day multicenter audit. In this project, (mal)nutrition-related data of residents were collected by questionnaires. We analysed data with SPSS 17.0 by use of t-tests and logistic regression.

Results: 3853 women (74,9%,W) and 1293 men (25,1%,M) in 8 European countries took part in the evaluation. The mean age was 83,6±10 (W) and 75,4±12 (M) years. As expected, both body height (158±8 (W) vs. 168±10 (M) cm) and weight (63±15 (W) vs. 72±16 (M) kg) were different between the groups. Mean body-mass-index (BMI) was 25,1±6 (W) vs. 25,5±6 (M) kg/m² (p=0,017). 31% of women and 25% of men had a BMI below 22kg/m² (p<,0001).

At lunch on nutritionDay, more men ate the whole meal (66,8%) as compared to women (54,7%) (p<,0001, adjusted for age and BMI). Vice versa, more women ate half or much less of the meal (40,5% vs. 30,5%). The most frequently reasons for not eating were the same for both sexes: too big meal portions, inappetence or not a palatable meal. In addition, a higher percentage of women indicated that their meal portions were too big (p=0,001, adjusted for age and BMI).

Conclusion: Our data demonstrate that female and male residents differ regarding quantitative food intake at lunch on nutritionDay. One third of the residents had a BMI below 22kg/m², suggesting malnutrition or risk of malnutrition. Moreover, especially women did not make use of the food supply (independent of BMI). These data clearly show the complexity of successful nutritional management in nursing homes and that gender-specific nutritional questions need further examinations.

Disclosure of Interest: None declared

0018 OVERFEEDING, UNDERFEEDING, AND ASSOCIATION WITH ICU LENGTH OF STAY AND OUTCOME: DOES THE CALORIC TARGET MATTER? DATA FROM ICU NUTRITIONDAY.

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Rationale: Overfeeding and underfeeding have shown to determine important complications in critically ill patients, that affect the progression of disease. We analysed the data collected during ICU NutritionDay 2007 and 2008 in order to examine how different caloric target could change during the ICU stay.

Methods: We analysed the data from NutritionDay 2007 and 2008 from patients with enteral, parenteral or combined nutrition support from units with >75% outcome reported. Patients were divided into two groups depending on length of stay in the ICU below or above 7 days at the ICU nutritionDay.. Within each group we considered 4 sub-groups in relation to caloric intake: 0-10 Kcal/kg/day, 10-20 Kcal/kg/day, 20-30 Kcal/kg/day and > 30 cal/kg/day.. Based on SAPS2 at admission, we calculated the predicted mortality of each patient and the O/E ratio with 95% confidence intervals.

Results: We included 419 patients. In patients being below one week in the ICU O/E ratio were lowest for low caloric intake whereas for those already a week in the ICU reaching the target of 20-30 Kcal/kg/day is associated with best outcome (Table. 1).

Table:

O/E ratios in different feeding groups in units with >75% outcome.

| | n (<=7day) | O/E ratio (<=7day) | n (>7day) | O/E ratio (>7day) |
|--------------------|------------|--------------------|-----------|-------------------|
| <=10kcal | 56 | 0,6 | 16 | 1,36 |
| 10-20kcal | 67 | 1,04 | 67 | 1,18 |
| 20-30kcal | 67 | 1,14 | 71 | 0,98 |
| > 30kcal | 36 | 1,11 | 30 | 1,05 |

Conclusion: The caloric target of ICU patients appears to vary depending on the duration of actual stay in the ICU. Possible confounder related to actual practice and case-mix need further evaluation.

Disclosure of Interest: None declared