

## Conference on ‘Malnutrition matters’

### Symposium 9: Competent to care A train-the-trainer method of teaching as a way of implementing the correct use of the ‘Malnutrition Universal Screening Tool’ in Norfolk: is it effective?

Rachel Lee\* and Fiona Scott

Norfolk & Norwich University Hospitals NHS Foundation Trust, Colney Lane, Norwich NR4 7UY, UK

Malnutrition is frequently undetected in care homes. It is recommended that residents are screened on admission and at suitable intervals thereafter. It is aimed to implement the ‘Malnutrition Universal Screening Tool’ (‘MUST’) in all care homes in Norfolk in order to fulfil this recommendation. Following a pilot of successful (but time-consuming) ‘MUST’ training a train-the-trainer package was developed as a practical way of achieving this goal. Courses were held in 2007, each comprising a study day and an assessment of each trainer delivering training. Trainers were provided with a dossier of training support materials. Data were collected at the study day and 3 months after the course to evaluate its effectiveness. Sixty-seven trainers were trained, all of whom rated the course as effective in preparing them to deliver training. At their assessments 96% were able to explain ‘MUST’ accurately. Of the new trainers 44% returned follow-up questionnaires and copies of sample care plans. The majority of care plans showed ‘MUST’ scores had been calculated accurately and appropriate nutrition care plans had been set up and evaluated. The train-the-trainer model is an effective method of training large numbers of care-home staff to use ‘MUST’. One of the unexpected benefits observed was the ownership taken by the trainers, which was demonstrated by the enthusiasm and confidence with which they subsequently trained their colleagues.

#### Malnutrition: Nutritional screening: ‘MUST’ training

The cost of malnutrition in the UK has been estimated to be £7.3 × 10<sup>9</sup>/year<sup>(1)</sup>. The results of the BAPEN nutrition screening week found that 28–32% of residents in care homes were malnourished<sup>(2)</sup>. However, in everyday practice malnutrition is not always identified and therefore not treated<sup>(3)</sup>.

The National Institute for Health and Clinical Excellence recommends that all hospital patients and care-home residents should be weighed and measured on admission<sup>(4)</sup> and advises that this screening should include BMI and unplanned weight loss. The ‘Malnutrition Universal Screening Tool’ (‘MUST’) is based on BMI and weight loss and is a validated objective screening tool<sup>(5–7)</sup>

that identifies adults who are underweight and at risk of malnutrition, as well as those who are obese. It also provides guidelines for management.

Before 2004 nutritional screening in Norfolk hospitals and care homes was inconsistent, with a variety of tools used; if screening was carried out at all. With the launch of ‘MUST’ it was decided that this tool should be implemented throughout Norfolk in all care settings. Between 2004 and 2006 the specialist intermediate services dietitians at the Norfolk and Norwich Hospital developed a training package that was piloted on a ward in a local community hospital<sup>(8)</sup> and in six Norfolk County Council Adult Social Services care homes (S Merriman, F Scott,

**Abbreviations:** CSCI, Commission for Social Care Inspection; ‘MUST’, ‘Malnutrition Universal Screening Tool’.

\*Corresponding author: Rachel Lee, fax +44 1603 287413, email rachel.lee@nnuh.nhs.uk

K Paterson, R Lee and L Wainwright, unpublished results). An evaluation of these pilots has shown that the training provided was effective, 'MUST' was considered easy to use and malnutrition risk could be calculated accurately.

However, if 'MUST' was to be used in all settings in Norfolk thousands of staff would need to be trained, which was not possible within the workload of the specialist intermediate services dietitians. Discussions with Norfolk County Council Adult Social Services about a possible solution resulted in the provision of funding for a half-time dietetic post for 1 year to develop, deliver and evaluate a train-the-trainer course for 'MUST' in Norfolk care homes. A 'train-the-trainer' course involves giving in-depth training to one individual from a workplace (in this case a Norfolk care home). This individual subsequently undertakes the training of colleagues in their workplace, so that training of one individual is thereby cascaded to many others. In addition, in Norfolk, many of the care homes have historically organised themselves into small groups or clusters for training purposes, as an efficient way of sharing resources. Thus, these cluster groups might provide an additional pathway for cascading 'MUST' information to carers outside the immediate workplace, which would make this particular course even more time efficient.

### The training package

The training sessions started in February 2007 with seven courses being held between February and December 2007. The course was provided free of charge for private care homes and Social Services residential homes, with some private care agencies also choosing to attend. The course was advertised on the website of Norfolk Care Brokerage, through Norfolk County Council Social Services, via inspectors working for the Commission for Social Care Inspection (CSCI) and by local dietitians.

Each course consisted of 1 d of formal teaching, which was facilitated by the authors, and follow-up in-service assessments of the new trainers delivering their own training sessions to colleagues during the 5 weeks following each course. Each new trainer was also provided with a dossier of training materials. There was a maximum of ten delegates on each course, which was considered to be manageable number for the assessment part of the course.

The teaching was divided into morning and afternoon sessions. The morning session consisted of basic training on how to screen for malnutrition risk using 'MUST' and explanations on how to treat any risk identified. A workbook had been developed for this session and for new trainers to use themselves when training colleagues. The workbook was in three sections: screening; setting up nutritional care plans; evaluating and developing the care plans. The package was specifically developed to contain a variety of exercises, taking into account the need to cover the different learning styles (based on the VARK system developed by Fleming & Mills<sup>(9)</sup>) of the target audience. At the end of each section learning was consolidated by the completion of various case studies, exercises etc., so that each section built on the previous one and the training followed a logical sequence. Local guidelines

were developed on how to treat any risk identified by the screening process. The case-study exercises were based on these guidelines so that delegates had an opportunity to practise using them. Simple care-plan templates were also developed.

During the afternoon session delegates participated in a variety of activities aimed at consolidating knowledge acquired in the morning, practising training delivery and ensuring they felt confident and able to deliver their own training sessions to colleagues.

The training pack included copies of the workbook that could be photocopied to use when delivering training sessions and a 'teachers' handbook' that contained step-by-step explanations of how to calculate a 'MUST' score, tips and suggestions for training and answers to all the case studies. The pack also included a presentation that the delegates could use when delivering their own training and a resource list for equipment, as well as master copies of care plans, guidelines and food charts for use in their workplace once 'MUST' had been introduced.

The second part of the course was the in-service assessment (assessment of new trainers cascading information to their colleagues). At least one of the authors observed this training to ensure that the information being taught by the new trainers was accurate, but also to help explain any points if the new trainer needed further clarification. A checklist was used to assess each section of 'MUST' training and both authors attended the first two in-service assessments to ensure consistency between the two authors when assessing new trainers. Colleagues trained by the new trainers were asked to complete a case study at the end of the session, which was used to determine their level of understanding. The new trainers were assessed as competent if they had covered all the necessary information accurately and were confident in their knowledge of 'MUST'.

### Data collection

On arrival for the day's formal teaching course delegates were asked to complete a baseline questionnaire relating to current nutrition practices within the workplace, current screening, food provision and reliance on nutritional supplements. The day concluded with trainees completing an evaluation of the training.

At 3 months after the initial day course new trainers were sent a follow-up questionnaire, which covered topics similar to those in the baseline questionnaire. The purpose was to compare follow-up and baseline data to assess whether nutrition practices within the care home had changed as a result of completing the train-the-trainer course. This follow-up questionnaire also asked the trainers about the training they had received, including the assessment process, and whether they felt equipped to deliver their own training sessions effectively.

At this stage the new trainers were also asked to send copies of a sample of completed care plans, which were audited to check for accuracy in the calculation of a 'MUST' score and appropriate use of the guidelines and then cross-checked to ensure inter-rater reliability.

In addition to the collection of these data, CSCI inspectors were asked to complete a questionnaire when visiting care homes. This questionnaire aimed to identify whether the care home had sent a member of staff on the course and whether participation in the course had resulted in the cascading of 'MUST' training to other care homes.

### Results

Sixty-seven delegates attended the seven courses run between February 2007 and November 2007, of whom fifty-six worked in care homes, four were from Social Services and six were from private care agencies. In total 84% of these new trainers were subsequently assessed and with one exception they all delivered a satisfactory training session. All sixty-seven trainees completed a baseline questionnaire. The response rate for the follow-up questionnaire was 44%.

#### *New trainers' evaluation of the training and resources*

The content and delivery of the training programme was rated by 100% of the trainees as being effective or very effective in meeting the objectives of the course. Similarly, at the 3-month follow-up 100% of responders rated all aspects of the training and resources as effective in equipping them to train their colleagues, with the workbook and teachers' handbook rated as most useful, with average scores of 4.7 and 4.8 respectively (1 being least effective and 5 being most effective).

Subjective feedback on how the training and/or resources could be improved included:

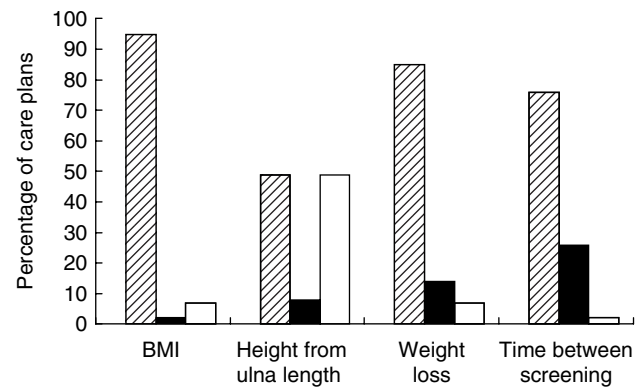
'maybe spread training over 2 days as lots of information for 1 day'; 'refresher sessions and more on mid-upper arm circumference'; 'managers need to be involved'; 'resources clear, can't see any way to change'; 'good, well compiled handbooks'.

#### *Assessments*

Accuracy of cascading 'MUST' was tested using a case study, which was completed by two to four of the new trainers' colleagues. The calculation of the 'MUST' was well performed (average mark 9.2 of a maximum of 10;  $n = 178$ ).

During the assessment several key themes were considered, the last of which was a subjective measurement as determined by the authors. The key themes included: 'was 'MUST' explained correctly?', 'were guidelines/food charts/actions explained correctly?', 'was new trainer confident and/or enthusiastic?'

'MUST' was explained correctly by 96% of the new trainers and the remaining 4% were mostly correct in their explanations (i.e. they needed to refer to one of the assessing authors to verify points from time to time). The guidelines, food charts and actions were covered correctly by 84% and 4% were mostly correct (12% were not assessed on this theme). Overall, 94% of new trainers were enthusiastic and considered to have good levels of



**Fig. 1.** Analysis of 167 completed sample care plans returned by new trainers for the accuracy of 'Malnutrition Universal Screening Tool' calculations. (▨), Correct; (■), incorrect; (□), not applicable.

confidence in teaching the 'MUST', 4% were considered adequate and 2% poor.

#### *Sample care plans*

Copies of 167 completed care plans were returned. They were all checked and cross-checked for correct calculations of the 'MUST' score and the suitability of the actions chosen for nutritional management (according to risk).

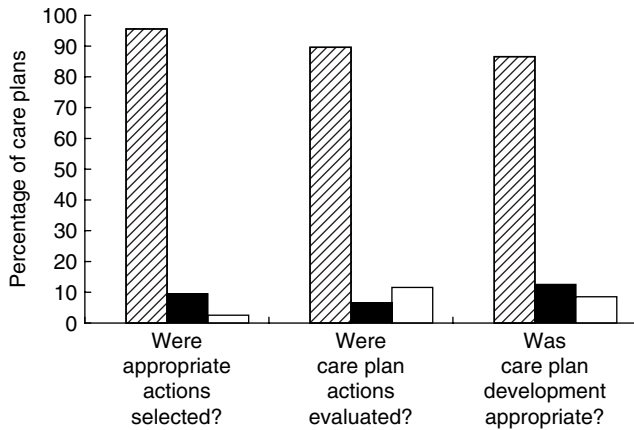
In >90% of the care plans BMI had been calculated accurately. Approximately 50% of the care plans had used recalled or actual height, so that calculating height from ulna length was not necessary. However, where ulna length had been used 86% of the care plans showed correct calculation of height. Percentage weight loss had been accurately calculated in 83% of care plans, but in only 74% of care plans was screening being repeated at the time interval recommended in the guidelines (Fig. 1).

Appropriate actions were identified in >90% of the care plans, 87% had been evaluated and 84% had been developed correctly following evaluation (Fig. 2).

#### *Malnutrition screening and treatment practices*

Data were collected from the baseline and 3-month follow-up questionnaires to audit any changes in practice resulting from the training. The questions were split into two sections: 'screening' (weighing, obtaining height etc.) and 'actions' (foods available outside meal times, fortification etc.).

These results were a comparison of those care homes that completed both questionnaires. For all aspects of practice assessed the findings indicated that more care homes were screening and implementing the guidelines at 3 months than at baseline. The biggest differences between baseline and 3 months were the percentage of care homes obtaining heights of their residents (44% at baseline, 92% at 3 months), those carrying out regular screening (32% at baseline, 96% at 3 months) and those recording nutrition-related information (68% at baseline, 100% at 3 months; Fig. 3).



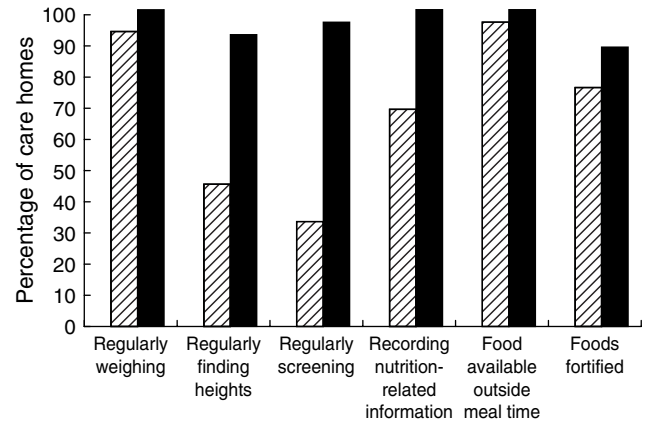
**Fig. 2.** Analysis of 167 completed sample care plans returned by new trainers to determine whether the care plans were set up, evaluated and developed appropriately? (▨), Yes; (■), no; (□), not applicable.

At baseline the majority of care homes that were already screening residents carried out this procedure monthly. At 3 months follow-up the most common interval was still monthly (55% of care homes), but many care homes were reporting screening according to guidelines for the level of risk identified (e.g. they were screening weekly for those at high risk). Of concern was the finding that despite a member of staff attending the course 4% of homes were still not screening. The reason given was poor staffing levels, which meant that effective 'MUST' training by the new trainer to colleagues had not been carried out and therefore the staff did not feel confident in using the tool.

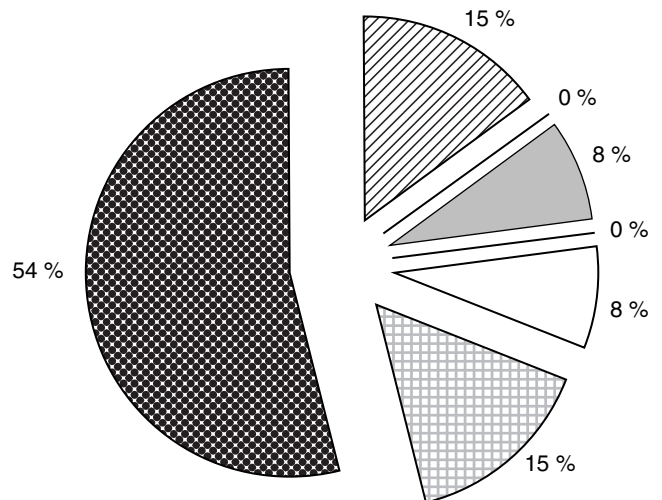
From baseline to follow-up the use of full-fat milk increased from approximately 60% of care homes to >80%. Using full-fat milk was an action recommended in the training for those individuals identified as 'at risk' of malnutrition. At 3 months follow-up 100% of the homes had food available outside mealtimes, with biscuits being the most popular food available (by 3 months 100% reported that biscuits were now available between meals). Cold or hot drinks were also commonly available. Less popular at baseline were bread, cheese and biscuits, yoghurt and soup. However, all these items increased in availability at 3 months, particularly cheese and biscuits (40–65%) and yoghurt (45–64%).

*The Commission for Social Care Inspection questionnaire*

CSCI inspectors returned questionnaires completed at thirty-one care homes, of which 32% had sent a member of staff on the train-the-trainer course or were on the waiting list and have since attended. Regular weighing of residents was reported by 100% of the homes, with monthly weighing in 87% and regular screening was reported by 68% of the homes, with 65% of those reporting monthly screening. When asked what tool they were using 70% stated that they were using or due to use 'MUST', 15% were using 'the home's own', 5% were using the MNA<sup>®</sup> (mini nutritional assessment; Nestle Nutrition Institute, Vevey, Switzerland) and 10% reported using other less



**Fig. 3.** Comparison of malnutrition screening and treatment practices at care homes before training (▨) and at 3 months follow-up after training (■).



**Fig. 4.** Results of the Commission for Social Care Inspection questionnaire showing which personnel trained the care-home staff to use the 'Malnutrition Universal Screening Tool'. (▨), Trainer from same home; (▨), company trainer; (■), trainer from same cluster group; (▨), Social Services trainer; (▨), drug company representative; (▨), dietitian direct training; (□), other.

well-known nutritional screening tools. The nature of 'the home's own' tool was not specified either in terms of the name of the tool or details of the variables it used.

The main purpose of the CSCI questionnaire was to examine whether 'MUST' training had been cascaded to other care homes by the new trainers and not just used to train colleagues in their own workplaces. Fig. 4 shows which personnel had delivered the 'MUST' training. The majority of care homes had received their 'MUST' training from their own new trainer who had attended the train-the-trainer course (>50%), 15% had received training directly from a dietitian, 15% had received training from a trainer working for a group of homes (e.g. large commercial groups of care homes) who had attended the train-the-trainer course and 8% had received training from a Social Services trainer who had attended the train-the-trainer



course. No care home reported receiving 'MUST' training from a drug or nutritional supplement company representative. No care home had received 'MUST' training from a new trainer working in another home but in the same cluster group. The remaining 8% reported being trained by an 'other' trainer, although the source of these trainers was not specified (Fig. 4).

### Conclusion

Overall, the new trainers found that this model of training was an effective method of learning how to use 'MUST' and they found the guidelines useful in establishing a care plan. They also felt that this training equipped them to train other care-home staff. Some new trainers felt the training should be spread over 2 d. An extension of the training period would allow a very thorough and comprehensive course, but with the current constraints in time, staffing and workload of both the new trainers and the authors such a development was not thought practical.

In-service assessment of the new trainers when delivering their own training sessions showed that the majority could deliver effective sessions and were able to explain 'MUST' and the local guidelines accurately. Their colleagues could complete a test case study accurately in most cases, showing that they had learned effectively from the new trainers how to calculate a 'MUST' score and establish a care plan. The majority of new trainers displayed enthusiasm for 'MUST' and treating malnutrition, which they conveyed well to their audience, suggesting a high degree of ownership. However, this aspect of the training was very time consuming and it was felt that in future it may not be necessary as most new trainers needed very little guidance when delivering their own session. If the authors were not carrying out assessments for all new trainers there would be more time to spend training new trainers from more care homes.

In-service assessment of the new trainers' training sessions was based on objective data as well as some subjective data as viewed by the authors. In order to minimise error a checklist had been developed before the assessments to ensure that all the new trainers cascaded the same essential aspects of 'MUST' calculation and care plan development; these features needed to be explained accurately to establish competency. Ideally, both authors would have carried out each assessment to allow comparable views; however, this practice was not possible within the time available to work on this project. However, the authors did attend two assessments jointly at the start of the training to ensure reliability between assessments as much as possible.

The sample care plans returned at follow-up 3 months after training showed that calculations contributing to a 'MUST' score were mostly accurate and appropriate actions had been selected. However, percentage weight loss proved to be the variable calculated least well, which suggests that more time may need to be devoted to discussing and practising this aspect in any future training.

The main problem identified was the evaluation of actions once they had been put into place and subsequent

appropriate development of the care plan. Although the importance of evaluating actions was highlighted during their training day, new trainers devoted less time to this aspect when training their colleagues; it was often rushed through at the end of the session because of time constraints. It may be suggested in future that the training is split into more than one session so that this important aspect can be discussed at greater length.

Some important changes had occurred between baseline and follow-up 3 months after the training. More care homes were weighing, obtaining heights and screening their residents. Those homes that were not screening, despite attending the training, reported that this situation was a result of poor staffing levels, which had meant that the training of staff had been difficult. Some new trainers also reported that the attitude of some colleagues had been a barrier to implementing 'MUST' and this issue is now included for discussion in the train-the-trainer course. It was also noted from feedback and observations within the homes that implementation was much more successful in those homes in which the new trainers were fully supported by the manager or owner.

Other changes in practice had occurred, including a much wider range of foods being available as snacks between meals and more use of full-fat milk.

The authors wanted to establish whether the new trainers had cascaded the training to others outside their workplace. The information collected from the CSCI questionnaire shows that the majority of homes who had had formal 'MUST' training received it directly from a dietitian or from a new trainer from the same workplace who had attended the train-the-trainer course. However, no care home reported receiving training from a trainer from outside their home or within a cluster group. This outcome was disappointing as it was hoped that this training would lead to further cascading of 'MUST' beyond the new trainer's workplace. The exception had been large commercial groups of care homes, from which designated trainers attended the train-the-trainer course and subsequently cascaded the training to all the homes in the group, making it a very efficient method of implementing 'MUST'.

If the funding from Norfolk County Council Adult Social Services is made available for another year of the train-the-trainer courses the authors are aware that they need to look at recruitment to the courses and the best use of time. Possibly, the assessment element could be omitted or new trainers could 'pair up' for the assessment, which would halve the time required. Alternatively, it may be more effective just to assess those trainers who are from large commercial groups of homes, who will be cascading training to many homes.

Future developments may include the production of an electronic self-teaching package as a means of reaching even more care-home staff.

### Acknowledgements

Funding was provided by Norfolk County Council Adult Social Services. The authors declare no conflicts of interest. The authors jointly contributed to this manuscript.

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