Dissertation Academic Paper

Title: Evaluation of a care home in the Republic of Ireland on the staff’s decision-making process of nutrition support for its residents for the prevention and treatment of malnutrition.

Student Number: st20086810

2018

Supervisor: 

Student Declaration In Respect of Individual Work

I declare that the whole of this work is the result of my individual effort and that all quotations from other authors have been acknowledged.

Dissertation submitted in partial fulfilment of the requirements of Cardiff Metropolitan University for the Degree of Bachelor of Science with Honours.

Signed: 

Date: 17/05/2018
Abstract

**Background:** Malnutrition currently affects approximately 145,000 adults in the Republic of Ireland. Malnutrition comes at a huge cost to the Health Service Executive (HSE) with healthcare costs estimated to be three times higher with malnourished patients. Future predictions propose that the cost to the HSE will continue to rise as a result of the ageing population in Ireland. It is estimated that by 2040, one in four Irish people will be over 65 in comparison to one in nine now. Malnutrition prevention strategies in the community such as the care home setting may help alleviate future burdens on the HSE and improve patient quality of life. The aim of this study was gain a greater insight into the decision making of nutrition support intervention of staff within a care home in the Republic of Ireland to evaluate the process of malnutrition prevention.

**Methods:** A cross sectional study design was selected for the purpose of this study. Purposive sampling was used to gather a sample group of five staff members working within the care home, a care home manager, nursing staff and a member of the catering team.

**Results:** Thematic analysis of the interview transcripts revealed the main themes of deciding on nutrition support in the care home depended on education and training, good communication, patient centered care and availability of nutrition support options.

**Conclusions:** In conclusion, it is evident there is a lot of room for improving malnutrition education and food first initiatives within the care home setting. This small-scale study suggests it is imperative that pathways are in place across care home settings to combat the risk of malnutrition throughout the Republic of Ireland in view of the ageing population and anticipated pressure for the HSE in the coming years.
Introduction

Malnutrition currently affects approximately 145,000 adults in the Republic of Ireland (IRSPEN, 2017). Malnutrition comes at a huge cost to the Health Service Executive (HSE) with healthcare costs estimated to be three times higher with malnourished patients. The cost to the HSE is estimated to be over 1.4 billion euro which accounts for approximately 10% of the government’s healthcare budget (Rice, 2012).

Future predictions propose that the cost to the HSE will continue to rise as a result of the ageing population in Ireland. It is estimated that by 2040, one in four Irish people will be over 65 in comparison to one in nine now (Central Statistics Office, 2011). Although the highest concentration of those malnourished lies within the acute setting, a greater number of people, around 95%, are within the community setting. Studies in the U.K have found that 35% of individuals on admission to care homes are malnourished or at risk of malnutrition (Russell, 2014). Strikingly, 70% of those who leave hospital weigh less and are most likely to be at risk of being malnourished as evidenced by the ‘Malnutrition Carousel’ which can be seen in Appendix A (BAPEN, 2017).

Malnutrition

The World Health Organisation defines malnutrition as deficiencies, excesses or imbalances in a person’s intake of energy (WHO, 2017). The term malnutrition for the purpose of this study refers to undernutrition, including weight loss and micronutrient deficiencies or insufficiencies. On an individual level, the consequences of malnutrition can lead to a poor quality of life and an increased risk of mortality and morbidity (Gandy, 2014). Subsequently, malnutrition can affect every organ in the body and results in increased susceptibility to
illness and an increase in complications (BAPEN, 2017). Within the acute or community setting, malnutrition is often due to poor appetite and intake in an individual who may have an underlying illness or inflammatory condition (IRSPEN, 2017). Other causes of malnutrition may include mental health conditions such as dementia or digestive issues such as ulcerative colitis and crohn’s disease (NHS, 2017). The consequences of malnutrition include individuals visiting their G.P.’s more, having three times the number of hospital admissions and staying in hospital more than three days longer than those who were well nourished (Guest et al, 2011).

Screening is a fast and inexpensive method used as the first point of contact to detect those with a significant risk of malnutrition so that action plans for monitoring and treatment can be implemented (Gandy, 2014). The Malnutrition Universal Screening Tool (MUST) is used throughout the Republic of Ireland and meets all key characteristics for an effective screening tool. MUST is an evidence based tool (Elia, 2003) and is used in hospital wards, general practice and community settings. The MUST screening tool can be seen in Appendix B (British Association for Parenteral and Enteral Nutrition, 2013).

Research suggests that improved education on malnutrition prevention and treatment may lead to more successful nutritional outcomes. A study from Beaumont Hospital Dublin focused on using quality improvement methods to improve malnutrition screening on a frail elderly ward (O Donoghue et al, 2016). The aim of the study was to use quality improvement methodologies to increase the usage rates of the Malnutrition Universal Screening tool (MUST). Although the SMART goal for the team was to increase screening rates by 60%, an increase of 80% was achieved and sustained. Following the success, the
Irish Health Service QI division intends to use this framework as a template for similar projects and could be recommended for malnutrition prevention in hospitals and care homes. Although there is research in the acute setting, there is a lack of research within the Republic of Ireland in relation to the use of MUST screening in residential care homes.

**Irelands Ageing Population**

At present in Ireland, there are 540,000 people over the age of 65, accounting for 12% of the total population (Central Statistics Office (CSO), 2011). The CSO projects this is set to rise to 1.4m or 22% of the total population by 2040. In the same period, the number of people aged eighty and over in Ireland is estimated to rise from 130,600 to 458,000 an increase of 250%. The growth of the ageing population has never been seen before in Ireland (The Irish Longitudinal Study on Ageing (TILDA), 2014).

A main area of concern when considering Ireland’s ageing population is the implementation of effective long-term care. As the population of the elderly increases so too does the prevalence of malnutrition. This will lead to an increased cost due to the prevention of malnutrition within the ageing population (Elia, Stratton,2011). Consequently, the number of people requiring residential care is increasing. A recent study suggests the number of people aged 65 and over requiring residential care will rise to 12,270 by 2021, an increase of 59% (TILDA, 2014). Based on a total cost of €939 million for the Nursing Homes Support Scheme in 2014, a projected increase of 3.2% results in an additional demographically-driven cost pressure of €30 million in 2015. This is based on continuing levels of utilisation and per capita costs (Department of Health, 2015). The HSE must be equipped in future to provide places for the ageing population. A publication by University College Dublin (2010)
has addressed malnutrition and specifically the repercussions for our HSE. It is suggested that the ageing population and risk of malnutrition is under recognized, under detected and under treated.

Good nutritional status is imperative for the elderly population. A decline in body weight, especially in older people, is generally associated with a decline in lean body mass which may give rise to a number of adverse effects such as loss of strength, sarcopenia, decreased mobility, increased risk of falls and decreased the quality of life (Waters et al, 2010).

**Nutrition Support**

Oral nutrition support is a collective term used to describe the nutritional options available via the oral route, to manage people who have been identified as malnourished or at risk of malnutrition (NICE, CG132, 2006). Oral nutrition support may present in the form of food fortification or oral nutrition supplements (ONS). ONS can be defined as high energy and protein oral supplements in liquid pudding or powdered form, which have been commercially manufactured to be taken under medical supervision (Letoha, 2002).

Food fortification involves enriching an individual’s diet using nutrient dense foods, and adding excess calories without increase of food volume. Examples include adding skinned milk powder to milk, soups and puddings, or adding cream, butter, cheese, gravy to a daily diet where appropriate. Food fortification must be used with patient centered care. This includes taking time to understand the persons likes and dislikes and best times for eating during the day (Elia, 2003). Good nutritional care, adequate hydration and enjoyable
mealtimes are crucial to maintaining the health, well-being and independence of older people (Mulvihill et al, 2001).

There are conflicting studies in terms of the benefits of ONS. Stratton and Elia (2010) reported that ONS use is associated with reduced mortality in malnourished patients. Contrastingly, Milne et al (2009) reported that there was no overall significant effect on mortality in supplemented patient groups. The lack of confidence in the evidence may suggest the need for larger scale research studies to be conducted. Also, there is the issue of non-compliance with ONS, as well as difficulties reporting intakes (Stratton et al, 2003).

There are few studies documenting compliance with ONS in Ireland. Mc Cormick et al (2007) reported a hospital based intervention based on using an ONS administrative round separate to the general medicine round. The study also involved placing signs above the patient’s beds who required assistance while taking ONS. Compliance was measured to increase from 74% to 93% six months after the intervention.

**Dietetics Intervention**

Registered dietitians are the only qualified health professionals that assess, diagnose and treat diet and nutrition problems at an individual and wider public health level (BDA, 2017). Within the community setting in Ireland, it is widely reported that healthcare professionals such as general practitioners and community nurses give dietary advice to those at risk of malnutrition without the appropriate nutritional education and are giving advice which is not evidence based (Loane et al, 2004). It has also been reported that many healthcare professionals within the community setting have received minimal undergraduate training
in nutrition (Mowe et al, 2008). This further encourages the role of the dietitian within the primary care team in the community.

One measure in which to combat the lack of nutritional knowledge within the community is through educational interventions in accordance with the best practice guidelines for the management of malnutrition. Kennelly (2012) carried out a study to determine the impact of a community dietetics intervention on ONS prescribing practices and expenditure one year later. Results concluded that the intervention improved ONS prescribing practices without increasing expenditure on ONS.

For health care professionals who are involved in nutrition screening, it is imperative to understand the clinical reasoning process for nutrition support and research into this may help our understanding of what is necessary to provide successful screening programmes within care homes in the Republic of Ireland for the future. Although there have been studies in Ireland regarding the cost of nutrition support, little research has been done into the decision-making process in which staff undertake to decide on nutrition support for residents within the care home.

The aim of this research is to evaluate the use of nutrition support within the community, specifically a residential care home in the Republic of Ireland. The evaluation will be conducted by identifying the process of decision making through interviews with staff members of the care home. The interviews will be carried out with, nursing home management, nursing and catering staff.
Materials and Methods

Study Design

This was a cross-sectional study, using interviews for qualitative analysis. Qualitative analysis is a useful method of analysing data when it is necessary to understand underlying experiences and decisions made based on certain behaviour (Sutton, 2015). This underlying principle fits into the method of this study as our aim is to understand clinical reasoning behind decision making. Qualitative analysis tries to get to the reasons behind decision making and how these choices came to be decided (Hogan et al, 2009). Consequently, there are some weaknesses to qualitative research for instance, smaller sample size and time consuming (Denzin & Lincoln, 2011), however overall it was appropriate for this study.

A cross sectional study design has been used previously in research involving a care home, staff and residents (De Paor, 2010). The interview style is more appropriate than a questionnaire as there may be more information to be collected to gain a greater insight into the care home (Denzin, 1989). A cross-sectional study is best suited for this research as its aim, is to find out the phenomenal, situation, attitude or overall picture as it stands at the time of the study (Kumar, 2014). Through this method of research, it was possible to focus more on meanings and experiences (Silverman, 2010).

Participants

The sample chosen for the study were recruited from a care home based in the Republic of Ireland. This sample choice was made because care home workers are involved primarily in caring for the elderly population and those who are at higher risk of malnutrition.
The sample size was small as the interviews were thorough and a smaller sample size is more feasible for undergraduate research. The sample involved different members of the team within the care home including, nursing staff, catering staff, and the care home manager. The importance of nursing home staff is their role in nutrition screening of patients and assessing the risk of malnutrition. The caterers have a role in providing adequate nutrition for members of the care home. Food can have an important role to play in the prevention of malnutrition. Making meals more appealing, palatable and creating variety from week to week can increase appetite. Subsequently, the caterers can create food fortification methods such as adding cream, butter and cheese to dishes to increase energy and protein intake which may be important in preventing malnutrition for the elderly age group. Finally, the care home manager could give an insight into the guidelines adhered to by the care home for malnutrition prevention and additionally, the cost of supplementations within this setting and if there is a possibility to decrease costs by increasing malnutrition awareness and using food first initiatives.

Exclusion criteria does not apply to this sample as the sample group are specific to the objectives of the proposed study and the participants were chosen using purposeful sampling. Purposeful sampling is a technique commonly used in qualitative research to gather deep insights into behaviours with limited resources (Patton, 2002). This method of sampling involves selecting individuals who are experience in a certain area of interest, specifically for this study, malnutrition (Cresswell, 2011). Additionally, availability and the willingness to participate while communicating opinions and behaviours is imperative for this kind of qualitative research (Bernard, 2002).
This form of purposive sampling does indeed involve selection bias as the participants were selected specifically. This may be seen as a limitation as the sample is not representative of the whole population. However it was deemed appropriate for an undergraduate dissertation. This study was approved by the Cardiff School of Health Sciences, Cardiff Metropolitan University Ethics panel prior to data collection (Appendix C).

**Materials and Procedure**

The care home manager was contacted to provide information about the study and the participation of members of their staff. An email was sent with the support of my dissertation supervisor. All participants were provided with information about the purpose of the study and what taking part would entail. Literature (Appendix D) and consent forms (Appendix E) were sent to the care home via email and were also provided prior to each interview as the interviews were recorded. The care home manager was contacted via telephone to arrange interview date and times. The face to face interviews took place in July 2017. Semi-structured interviews were created centred around a set of predetermined open-ended questions (Appendix F). This interview style was appropriate for the research as it allows the researcher to gain a great insight into understanding the specific topic of interest (Bernard,1988). The development of the questions was supported by existing literature presented in the literature review and using open ended questions allowed for further development of responses (Britten,1995).

The interview questions were designed to ensure the interviews lasted no longer than thirty minutes which minimizes participate burden. To minimize maleficence the data collection
tool was designed to avoid potentially sensitive or invasive questions and to be completed within a specific time frame of thirty minutes.

To ensure anonymity no names were mentioned throughout the course of the interview or while collecting and quantifying the data. Time is needed to prepare, conduct, transcribe and analyse a semi-structured interview for scientific research. The number of interviews scheduled must take into account available time and resources.

**Data Analysis**

Data analysis was undertaken manually using thematic analysis. Interviews were carried out and subsequently transcribed (Appendix G). This method of data interpretation and analysis can be difficult and complex (Richards, 1994). Comparisons and considerations were highlighted before the themes in the data were identified that were well defined and accurate. Thematic analysis is a helpful tool for highlighting common themes from the discussion (Braun & Clarke, 2006).
Results

In total, five interviews took place. The sample included a care home manager, two staff nurses, one healthcare assistant and one member of the catering staff. The sample included five females and one male all of whom have been employed by the care home for at least five years.

- Participant 1 was a care home manager (P1)
- Participants 2 and 3 were staff nurses (P2, P3)
- Participant 4 was a healthcare assistant (P4)
- Participant 5 was a member of the catering team (P5)

The main themes and subsequent sub-themes are highlighted in Table 1.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-Theme</th>
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<tbody>
<tr>
<td>Education and Training</td>
<td>MUST training</td>
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<td>Nutritional requirements in the elderly</td>
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<td>Patient Centred Care</td>
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<td>Importance of Communication</td>
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<td>Nutrition Support</td>
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<td>Oral nutrition supplements (ONS)</td>
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<td>Food First</td>
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Table 1: Themes highlighted from interview transcription
Education and Training

*MUST Training*

Although the participants regularly use MUST and understand the step-by-step process. None of the staff have received any training in this area or have not been giving any further education or training on MUST in a long time.

“Well we did (receive MUST training), a long time ago”. (P1)

“Em, no I don’t think there was a training for it as such (MUST) but I was shown how to use it many years ago and I use just use it so often now you know”? (P2)

“No, we haven’t had any training (on MUST)”. (P3)

“If I ever had any questions anyway sure I would always just ask one of the nursing staff”

(P4)

“I haven’t had any training on malnutrition”. (P5)

*Nutritional requirements in the elderly*

“No (Didn’t receive education on nutritional requirements for the elderly)”. (P1)

“No I haven’t really (received any education on the nutritional requirements for the elderly)”. (P3)

“I don’t really know a whole lot about nutrition of foods if I’m being honest”. (P4)

“I would be interested to learn a bit more about nutrition”. (P4)

“The food I make wouldn’t differ for the elderly residents”. (P5)

*Patient Centered Care*

“One particular lady has a poor appetite- as a result of dementia. She likes cappuccino flavour milkstyle – heated. So it’s really about finding what the patient enjoys”. (P1)
“Another lady – doesn’t like anything milky, she would have fresubin juce blackcurrant or apple.

We always make sure we have a supply of them”. (P1)

“sometimes for people with dementia if you just mash it up like comfort food they will be more likely to eat it, we find here anyway”. (P1)

“The patients sometimes help back at Christmas time making mince pies – you have to include them it is their home” (P1)

“Everything that the residents get in the home here is really fresh and they all enjoy it you know. I think it’s important to know what someone likes and dislikes cause then you know when you’re waiting on the dietitian to come you know what sorts of foods to offer them and stuff”. (P2)

“We always let the patients try different flavours and stuff so they can find something they prefer which is important you know cause then of course they are more like to be given them”. (P2)

“I would like to learn more and you know hopefully in some way that would then help us to give benefits to the residents we have here”. (P2)

“You know the more information we have then the better care we can provide to the residents”. (P3)

“You just have to be patient with everyone and try your best that is all we can do”. (P4).
Importance of Communication

Communication with family

“But like we would have residents who were 5-7 months in hospital before they got to us. And it’s generally their families who tell us they’ve lost so much weight or they show us photographs of what they looked like before they got to us”. (P1)

“normally their family would tell us if there were any concerns when they first come in”. (P2)

“Then we would enquire about their past weight so a lot of our residents would have dementia so their families are really important for us to help gather information”. (P3)

Poor communication from previous hospital admissions

“So if on arrival we feel they are malnourished, you know what I mean sometimes we get people and they have been months in hospital and have lost massive amounts, well we can only speculate sometimes, because generally the hospital don’t tell us how much the person has lost while they were in there”. (P1)

Oral Nutrition Support

Dietitian Support

“We call upon a dietitian to come and help us make a plan” (P1)

“It is really important then for us to get the dietitian on board and put a plan in place to ensure that these residents at risk don’t lose any more weight” (P3)

“But look if we felt someone had quite high requirements or whatever then we wouldn’t hesitate to contact the dietitian for some advice” (P3)
Oral nutrition supplements

“They also come and give us training session, talk about new products and how to use products”. (P1)

“The drinks like in the big bottles it would be hard to finish them off as they are quite big but it just depends on the person”. (P4)

Food first initiatives

“Yeah there is butter added to potatoes”. (P1)

“we would start a food chart so we can monitor what their intake is like more often”. (P2)

“you know stuff like mashed potatoes would have the extra milk and butter in it”. (P2)

“they would sometimes have biscuits then as well with their tea” (P2)

“we offer fortified milk at lunchtime”. (P2)

“I have the knowledge and skills to use food fortification and where possible there will be a lot of energy provided in all the meals- no menu analysis as such” (P5)

“We haven’t had milkshakes - We always have snacks out and about for people to have like bananas and yoghurts for people to take if they want” (P4)
Discussion

The aim of this research was to evaluate the use of nutrition support within a residential care home in the Republic of Ireland. The evaluation was conducted by identifying the process of decision making for nutrition support of staff members through face-to-face interviews in the care home. The interviews were carried out with nursing home management, nursing and catering staff.

The main findings suggest there are four main themes that play a part in the decision making of prevention of malnutrition within a care home using nutrition support. These themes can be identified as; education and training, the importance of communication, patient centered care and the nutrition support options available.

A number of limitations apply to this study and should be noted; the study had a small sample size of five participants all from the same care home setting. This limits the study as there are concerns if this sample size can be a fair generalisation of the population (Brutus,2013). Subsequently, using one care home was the most practical method for undergraduate research as there was limited time and resources. Further studies could include more care home settings to gather a wider picture of the current status of malnutrition identification and prevention and the different treatment pathways in place.

Purposive sampling was used as the participants were gathered by and known to the researcher. This presents itself as a limitation as the participants responses may have been biased (Holloway,2005). The sample consisted of four females and one male which is an unfair representation between genders. Face-to-face interviews may also be a limitation to
this study as a result of self-reported data as it rarely can be independently verified (Rosenman, 2011). Self-reported data can contain sources of bias such as selective memory, attribution and exaggeration. There are many reasons individuals might offer biased estimates of self-assessed behaviour, ranging from a misunderstanding of the question to social-desirability bias (Howard, 1979).

At present, there are no studies within the Republic of Ireland to estimate the prevalence of malnutrition within the elderly population in the community. Smaller studies conducted can provide a slight insight. The British Association for Parenteral and Enteral Nutrition (BAPEN) conducted a nutrition screening week survey which was the first of its kind in Ireland, in 2010. Although the data collected from the care home setting was minimal, the mean BMI of residents was 24.3 kg/m$^2$ which was lower than the mean BMI for those in the hospital setting. Subsequently, twenty-three per cent of the care home residents had a BMI below 20kg/m$^2$ (Russell, 2011). To get a better assessment of the nutritional status of care home residents in Ireland, further screening week studies could be undertaken in the future to help gain a greater understanding of the current malnutrition statistics in the care home setting in the Republic of Ireland.

A study carried out by Mowe et al (2008) reported that many healthcare professionals within the community setting have received minimal undergraduate training in nutrition. These findings coincide with the results of this study in which the participants have noted the lack of training available in the identification and prevention of malnutrition. In the U.K a programme ‘Focus on undernutrition’ has led the way in combating barriers to achieve adequate nutrition status for the elderly (NHS, 2018). The pilot programme in County
Durham carried out training in homes involving MUST education and food first initiatives. The training homes seen a 41% increase in calories for those malnourished and the homes involved in the study with no training provided shows a 33% decrease in calories. In conclusion, improved education and training can lead to greater patient outcomes. This programme further highlights the role of the dietitian within the primary care team and the need for adequate educational programmes to be carried out within the community setting.

One measure in which to combat the lack of nutritional knowledge within the community is through educational interventions in accordance with the best practice guidelines for the management of malnutrition (NICE, CG32, 2006). Kennelly (2012) carried out a study to determine the impact of a community dietetics intervention on ONS prescribing practices and expenditure one year later. This intervention comprised of both an education programme together with the provision of a new community dietetics service. The changes in nutrition care practice were monitored by reviewing community dietetics records. Results concluded that the intervention improved ONS prescribing practices without increasing expenditure on ONS.

Increased awareness and improvements in education may also help alleviate the financial burden associated with malnutrition. ONS prescribing costs in the Republic of Ireland under the General Medical payments scheme increased by 42% over a four-year period (from 18 million euro in September 2003 to 25.5 million euro in September 2007) (HSE, PCRS, 2008). Kennelly (2012) reported that prior to that study, it was estimated that ONS accounted for 56% of the “Clinical Nutritional Products” under the General Medicines Scheme. Overall, ONS accounted for approximately two percent of total expenditure by the HSE (831 Million
euro) on medicine and non-medicine from the GMS scheme in 2004 (General Medical Services Payments Board, 2004).

Patient centered care and the importance of communication were themes identified from this study as being important factors for staff in the decision making process for nutrition support. The Malnutrition Task force (2013) has outlined working together as a key principle in their best practice guidelines. The staff within this care home understand there is a gap in communication between the hospital and the care home specifically the lack of communication with the hospital on patient discharges. Similarly, studies in the U.K suggest that 70% of those leaving hospital are at risk of malnutrition (BAPEN 2017). This statistic mirrors the thoughts of the participants in this study who believe there should be more communication from hospitals regarding the nutritional status of the resident, which subsequently also coincides with patient centered care.

Furthermore, both of these themes may be used in conjunction with food first approaches to help increase nutritional status within the care home. A quality improvement project carried out in the U.K (NHS, 2018) reported the impact of food first approaches for an intervention of a malnourished resident in a care home. The Food First approach included, fortified milk offered twice a day, fortified meals and puddings, increased snacks and fortified milkshakes offered once a day. The resident gained 4kg within 12 weeks and improved wound healing was also observed (NHS, 2018).

Within the care home, nursing staff provide and oversee patient care, observe nutrition intake and tolerance, and interact continually with the patient and their family caregivers,
yet they are rarely included in nutrition care (Willard, 2007). With this in mind, future recommendations could include a new section of the nursing care plan more specific to malnutrition identification, prevention and treatment. The revised care plan could feature specific personality traits of the patient which may improve dietary intake such as flavour preferences of ONS, preferred snacking times and favourite foods. A food first approach could also be introduced into the home as the care home manager discussed long waiting times for a dietitian assessment. This could include a nationwide menu analysis of meals provided within care homes including fortified recipes for snacks and milkshakes. This could help to alleviate pressure on the care staff when they identify residents at malnutrition risk.

To conclude, the ageing population and probable increasing demand for care of the elderly deem it imperative that actions are taken to combat the risk of malnutrition through adequate identification, prevention and treatment. There are limited dietitians available with most recent statistics suggesting there are only 120 community dietitians in the Republic of Ireland. Effective pathways must be in place to support care home workers through food first initiatives. Such recommendations may help to alleviate the costs and pressure anticipated within the HSE over the coming years as a result of the fast-growing ageing population.
References

Bernard HR. (2002). Research methods in anthropology: Qualitative and quantitative approaches. 3rd Alta Mira Press; Walnut Creek, CA.


Sutton, J. (2010). Qualitative Research: Data collection, analysis and management. CJHP.


World Health Organisation. (2017). What is malnutrition? Available at:
Appendix A The Malnutrition Carousel

The Malnutrition Carousel

- 25-34% of hospital admissions are at risk of malnutrition
- More GP visits
- More prescriptions
- More hospital admissions
- Longer stay, more complications
- More support needed after discharge from hospital
- More likely to need care
- 70% of patients weigh less on Hospital discharge
Appendix B: MUST

'Malnutrition Universal Screening Tool'

'MUST' is a five-step screening tool to identify adults, who are malnourished, at risk of malnutrition (undernutrition), or obese. It also includes management guidelines which can be used to develop a care plan.

It is for use in hospitals, community and other care settings and can be used by all care workers.

This guide contains:
- A flow chart showing the 5 steps to use for screening and management
- BMI chart
- Weight loss tables
- Alternative measurements when BMI cannot be obtained by measuring weight and height.

The 5 'MUST' Steps

Step 1
Measure height and weight to get a BMI score using chart provided. If unable to obtain height and weight, use the alternative procedures shown in this guide.

Step 2
Note percentage unplanned weight loss and score using tables provided.

Step 3
Establish acute disease effect and score.

Step 4
Add scores from steps 1, 2 and 3 together to obtain overall risk of malnutrition.

Step 5
Use management guidelines and/or local policy to develop care plan.

Please refer to The 'MUST' Explanatory Booklet for more information when weight and height cannot be measured, and when screening patient groups in which extra care in interpretation is needed (e.g. those with fluid disturbances, plaster casts, amputations, critical illness and pregnant or lactating women). The booklet can also be used for training. See The 'MUST' Report for supporting evidence. Please note that 'MUST' has not been designed to detect deficiencies or excessive intakes of vitamins and minerals and is only in adults.
### Step 1 – BMI score (& BMI)

<table>
<thead>
<tr>
<th>Height (feet and inches)</th>
<th>Weight (kg)</th>
<th>Weight (stones and pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4'10&quot; 4'11&quot; 5'0&quot; 5'1&quot; 5'2&quot; 5'3&quot; 5'4&quot; 5'5&quot; 5'6&quot; 5'7&quot; 5'8&quot; 5'9&quot; 5'10&quot; 5'11&quot; 6'0&quot; 6'1&quot; 6'2&quot; 6'3&quot;</td>
<td>[Values]</td>
<td>[Values]</td>
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Note: The black lines denote the exact cut off points | 30, 20 and 18.5 kg/m², figures on the chart have been rounded to the nearest whole number.
Step 1
BMI score

<table>
<thead>
<tr>
<th>BMI kg/m²</th>
<th>Score</th>
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<tbody>
<tr>
<td>&gt;20 (Obese)</td>
<td>0</td>
</tr>
<tr>
<td>18.5-20</td>
<td>1</td>
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<tr>
<td>&lt;18.5</td>
<td>2</td>
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Step 2
Weight loss score

<table>
<thead>
<tr>
<th>Unplanned weight loss in past 3-6 months</th>
<th>Score</th>
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<tbody>
<tr>
<td>&lt;5%</td>
<td>0</td>
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<tr>
<td>5-10%</td>
<td>1</td>
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<tr>
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Step 3
Acute disease effect score

If patient is acutely ill and there has been or is likely to be no nutritional intake for >5 days
Score 2

Step 4
Overall risk of malnutrition
Add scores together to calculate overall risk of malnutrition
Score 0 Low Risk  Score 1 Medium Risk  Score 2 or more High Risk

Step 5
Management guidelines

0 Low Risk
Routine clinical care
- Repeat screening
- Hospital – weekly
- Care Homes – monthly
- Community – annually for special groups e.g. those >75 yrs

1 Medium Risk
Observe
- Document dietary intake for 3 days if subject in hospital or care home
- If improved or adequate intake – little clinical concern; if no improvement – clinical concern - follow local policy
- Repeat screening
- Hospital – weekly
- Care Home – at least monthly
- Community – at least every 2-3 months

2 or more High Risk
Treat*
- Refer to dietitian, Nutritional Support Team or implement local policy
- Improve and increase overall nutritional intake
- Monitor and review care plan
- Hospital – weekly
- Care Home – monthly
- Community – monthly
- Unless detrimental or no benefit is expected from nutritional support e.g. imminent death.

All risk categories:
- Treat underlying condition and provide help and advice on food choices, eating and drinking when necessary.
- Record malnutrition risk category
- Record need for special diets and follow local policy

Obesity:
- Record presence of obesity. For those with underlying conditions, these are generally controlled before the treatment of obesity.

Re-assess subjects identified at risk as they move through care settings
See the "MUST" Explanatory booklet for further details and the "MUST" Report for supporting evidence.
### Weight before weight loss (kg)

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### Step 2 - Weight loss score

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"MUS T" is a five-step screening tool to identify adults, who are malnourished, at risk of malnutrition (undernutrition), or obese. It also includes management guidelines which can be used to develop a care plan.

It is for use in hospitals, community and other care settings and can be used by all care workers.

This guide contains:

- A flow chart showing the 5 steps to use for screening and management
- BMI chart
- Weight loss tables
- Alternative measurements when BMI cannot be obtained by measuring weight and height.

The 5 'MUS T' Steps

**Step 1**
Measure height and weight to get a BMI score using chart provided. *If unable to obtain height and weight, use the alternative procedures shown in this guide.*

**Step 2**
Note percentage unplanned weight loss and score using tables provided.

**Step 3**
Establish acute disease effect and score.

**Step 4**
Add scores from steps 1, 2 and 3 together to obtain overall risk of malnutrition.

**Step 5**
Use management guidelines and/or local policy to develop care plan.

Please refer to *The ‘MUS T’ Explanatory Booklet* for more information when weight and height cannot be measured, and when screening patient groups in which extra care in interpretation is needed (e.g. those with fluid disturbances, plaster casts, amputations, critical illness and pregnant or lactating women). The booklet can also be used for training. See *The ‘MUS T’ Report* for supporting evidence. Please note that ‘MUST’ has not been designed to detect deficiencies or excessive intakes of vitamins and minerals and is of use only in adults.
Appendix C: Ethics Approval

When undertaking a research or enterprise project, Cardiff Met staff and students are obliged to complete this form in order that the ethics implications of that project may be considered.

If the project requires ethics approval from an external agency (e.g., NHS), you will not need to seek additional ethics approval from Cardiff Met. You should however complete Part One of this form and attach a copy of your ethics application and letter(s) of approval in order that your School has a record of the project.

The document Guidelines for obtaining ethics approval will help you complete this form. It is available from the Cardiff Met website. The School or Unit in which you are based may also have produced some guidance documents, please consult your supervisor or School Ethics Coordinator.

Once you have completed the form, sign the declaration and forward to the appropriate person(s) in your School or Unit.

PLEASE NOTE:
Participant recruitment or data collection MUST NOT commence until ethics approval has been obtained.

PART ONE

| Name of applicant: | [Redacted] |
| Supervisor (if student project): | [Redacted] |
| School / Unit: | Cardiff School of Health Sciences |
| Student number (if applicable): | [Redacted] |
| Programme enrolled on (if applicable): | BSc (Hons) Human Nutrition and Dietetics |
| Project Title: | Evaluation of the use of the ‘food first’ approach to nutritional support in a residential care home. |
| Expected start date of data collection: | 26/06/2017 |
| Approximate duration of data collection: | 4 months |
| Funding Body (if applicable): | n/a |
| Other researcher(s) working on the project: | n/a |
| Will the study involve NHS patients or staff? | No |
| Will the study involve taking samples of human origin from participants? | No |

Does your project fall entirely within one of the following categories:

- Paper based, involving only documents in the public domain | No |
- Laboratory based, not involving human participants or human tissue samples | No |
- Practice based not involving human participants (e.g., curatorial, practice audit) | No |
- Compulsory projects in professional practice (e.g., Initial Teacher Education) | No |
- A project for which external approval is required (e.g., NHS) | No |

If you have answered YES to any of these questions, make this clear in the non-technical summary. No further information regarding your project is required.

If you have answered NO to all of these questions, you must complete Part 2 of this form.

In no more than 150 words, give a non-technical summary of the project.
Malnutrition affects approximately 145,000 adults in the Republic of Ireland, with a huge cost to the Health Service Executive. The proposed research aims to evaluate the use of ‘food first’ as nutrition support within the community setting, specifically a residential care home.

The evaluation will be conducted identifying the process of decision making through interviews with care home staff. The questions in the interviews will be based on the following objectives:

1. Identifying the awareness of malnutrition and the implementation of food first nutrition support within the care home setting.
2. Identifying the protocol for oral nutrition supplementation for residents.
3. Evaluating perceptions of staff for what is recommended for treating residents at risk of malnutrition and the guidelines used.
4. Identifying practices that the care home are undertaking to reduce costs.

DECLARATION:
I confirm that this project conforms with the Cardiff Met Research Governance Framework

Signature of the applicant: Sarah Duggan
Date: 22/06/2017

Name of supervisor: Denise Parish
Date: 22/06/2017

PART TWO

A RESEARCH DESIGN
A1 Will you be using an approved protocol in your project? no
A2 If yes, please state the name and code of the approved protocol to be used

A3 Describe the research design to be used in your project

Research Design: A cross sectional study using structured face to face interviews collecting qualitative data from residential care home staff.

Potential participants will be members of staff from a residential care home. The participants will include different members of staff including, care home management, nursing staff and catering staff. The qualitative data will be collected by conducting interviews with the staff. The interviews will include questions which are based on the aim and objectives of the study around the use of food first nutritional support in their care home. Each participant will be asked the same interview questions and prompts revolving around the objectives will also be used. The interviews will last approximately 20 minutes and will be carried out in the nursing home. Five interviews will be recorded using a mobile phone. All participants will be given a consent form agreeing to participation in the interview, recording of the interview, and also the use of quotes in any publications. Please see attached for the interview schedule and blank

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1 An Approved Protocol is one which has been approved by Cardiff Met to be used under supervision of designated members of staff; a list of approved protocols can be found on the Cardiff Met website here
consent form. The care home manager has given permission for the researcher to come in to the home to collect data (see attached). All participants will be informed of the right to withdraw from the study at any time. All data will be anonymous with participants being allocated a code dependent on their role. The care home will not be identified. The inclusion criteria for the participants will be: Care Home Management Nursing Staff Catering Staff

There is no exclusion criteria.

The sample size will be small aiming for 5 participants. Transcripts will be made from the data collected. Participants will be provided with the opportunity to read the transcripts and be asked to agree that this is a true representation of the interview. All data will be stored confidentially in accordance with the University data storage policy, under the responsibility of the Principal Researcher. Thematic analysis will be used to identify the themes of the interview transcripts. All raw data will be destroyed on completion of the exam board.

A4 Will the project involve deceptive or covert research? No
A5 If yes, give a rationale for the use of deceptive or covert research n/a
A6 Will the project have security sensitive implications? No
A7 If yes, please explain what they are and the measures that are proposed to address them n/a

B PREVIOUS EXPERIENCE
B1 What previous experience of research involving human participants relevant to this project do you have? None
B2 Student project only
What previous experience of research involving human participants relevant to this project does your supervisor have?
BSc and MSc dissertations plus supervising undergraduate and postgraduate nutrition research since 2006.

C POTENTIAL RISKS
C1 What potential risks do you foresee?
Participant
Time: inconvenience to take part
Anxiety: Taking part in the interview the participant may feel anxious to answer questions relating to work

C2 How will you deal with the potential risks?
Participant
Time: Interview designed to take no longer than 30 minutes. The interviews will take a place at a time most convenient to the staff of the care home.
Anxiety: Ensure the participants are aware the interview is fully confidential and all data will be anonymous with ID codes applied to transcripts. The residential care home will not be named in the write up of this study or in any subsequent publications / dissemination.

When submitting your application you MUST attach a copy of the following:
- All information sheets including the Cardiff Met logo on the top
- Consent/assent form(s) – including the Cardiff Met logo on the top
An exemplar information sheet and participant consent form are available from the Research section of the Cardiff Met website.
Appendix D: Participation Sheet

Project reference number:

Title of Project: Evaluating the use of food first in the community, specifically a residential care home.

This project was stimulated by previous research investigating the cost of oral nutrition supplements within residential care homes. We want to identify the decision making process for nutrition support in malnourished residents. We want to find this out in order to help develop future decision making for nutrition support in care homes.

- This is an invitation to you to join the study, and to let you know what this would involve. The study is being organised by [name], a final year BSc (Hons) Human Nutrition and Dietetics student at Cardiff Metropolitan University.

- If you want to find out more about the project, or if you need more information to help you make a decision about joining in, please contact the study supervisor [name] at [email address].

Your Participation in the Research Project

Why you have been asked
We are asking staff members of a residential care home.

What happens if you want to change your mind?
If you decide to join the study you can change your mind and stop part way through the completing the interview. You will not be asked why you’ve stopped. We will completely respect your decision.

If you choose to complete the interview in full, you are consenting to take part in the research.

You can also withdraw for up to two weeks following the interview participation. You will need to contact the research supervisor to do so and your decision will be completely respected.

What would happen if you join the study?
If you agree to join the study, then we will ask you to complete an interview carried out by the researcher about your experiences of nutrition support in malnourished residents. This will take place the care home and will last no longer than 30 minutes.
Are there any risks?
We do not think there are any significant risks if you take part in the study.

Any special precautions needed?
None

What happens to the interview results?
Sarah is responsible for putting all the information from the study into a computer programme.

Are there any benefits from taking part?
There are no direct benefits to you for taking part.

How we protect your privacy:
All the information we get from you is anonymous, and everyone working on the study will respect your privacy. The residential care home you are employed in will not be named in the write up or any subsequent publications or dissemination events.

All interviews are anonymous and we will not require your name or any personal details from you. There is no information that could let anyone work out who you were.

At the end of the study we will destroy the information we have gathered.
Appendix E: Consent Forms

PARTICIPANT CONSENT FORM

Reference Number: [ST20086810]
Participant ID Code: [40]
Title of Project: Evaluating the use of food first in the community, specifically a residential care home.
Name of Researcher: Sarah Duggan

Participant to complete this section: Please initial each box.

1. I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. [ ]

2. I understand that my participation is voluntary and that I am free to withdraw for up to 2 weeks, without giving any reason. [ ]

3. I agree to take part in the above study. [ ]

4. I agree to the interview/focus group/consultation being audio recorded [ ]

5. I agree to the use of anonymised quotes in publications [ ]

______________________________________   ___________________
Signature of Participant                           Date

_______________________________________  ___________________
Name of person taking consent                      Date

____________________________________
Signature of person taking consent

* When completed, 1 copy for participant & 1 copy for researcher site file
Appendix F: Research Tool

Research Tool
Interview Questions

My name is Sarah and I am a final year student studying on the BSc (Hons) Human Nutrition and Dietetics degree at Cardiff Metropolitan University. I have a keen interest in community dietetics and in particular, nutrition support in the elderly and I appreciate this opportunity to further my research. I would like to thank you for your time and cooperation by taking part in this interview. The interview will last no longer than 30 minutes and I will be asking general questions about the decision making process for residents who may require nutrition support to meet their nutritional requirements. Before we begin would you like to ask any questions?

1. **Describe how you would identify that one of your residents was malnourished.**
   - Are residents assessed on admission?
   - How often are residents assessed?
   - What tools are used within the care home for assessment?
   - Is there education around malnutrition and correct screening e.g. MUST training
   - Using different signals e.g. eyeball assessment, monitoring food record chart.

2. **What actions would you take to manage a resident who is identified as at risk of malnutrition?**
   - Is there a nutrition support pathway in place?
   - Does the care home provide food fortification in meals?
   - Offering high calories shakes during the day?
   - Does the catering team have access to recipes?
   - Are residents offered ONS without prescription?

3. **What would help you to manage your residents to meet their nutritional needs?**
   - Are nutritional guidelines for the elderly being met?
   - Are there residents with specific needs?
   - Is there regular monitoring of residents who may have increased nutritional needs e.g. sores?
   - Are staff educated on the nutritional needs of the elderly?
   - Are food record charts being filled in regularly, snacks and drinks offered?
   - Does the care home have access to the support of a dietitian?

4. **What practices are you undertaking to reduce the costs of meeting nutritional requirements?**
• How are ONS prescribed?
• Is there a pathway for supplement prescription?
• Are oral nutrition supplementation costs monitored?
• Who pays for the ONS – the cost?
Appendix G: Interview Transcriptions

Education and Training

*MUST Training*

Although the participants regularly use MUST and understand the step-by-step process.

None of the staff have received any training in this area or have not been giving any further education or training on MUST in a long time.

“Well we did (receive MUST training), a long time ago”. (P1)

“Em, no I don’t think there was a training for it as such (MUST) but I was shown how to use it many years ago and I use just use it so often now you know”? (P2)

“No, we haven’t had any training (on MUST)”. (P3)

“If I ever had any questions anyway sure I would always just ask one of the nursing staff”

(P4)

“I haven’t had any training on malnutrition”. (P5)

*Nutritional requirements in the elderly*

“No (Didn’t receive education on nutritional requirements for the elderly)”’. (P1)

“No I haven’t really (received any education on the nutritional requirements for the elderly)”. (P3)

“I don’t really know a whole lot about nutrition of foods if I’m being honest”. (P4)

“I would be interested to learn a bit more about nutrition”. (P4)

“The food I make wouldn’t differ for the elderly residents”. (P5)
Patient Centered Care

“One particular lady has a poor appetite- as a result of dementia. She likes cappuccino flavour milkstyle – heated. So it’s really about finding what the patient enjoys”. (P1)

“Another lady – doesn’t like anything milky, she would have fresubin juce blackcurrant or apple.

We always make sure we have a supply of them”. (P1)

“sometimes for people with dementia if you just mash it up like comfort food they will be more likely to eat it, we find here anyway”. (P1)

“The patients sometimes help back at Christmas time making mince pies – you have to include them it is their home” (P1)

“Everything that the residents get in the home here is really fresh and they all enjoy it you know. I think it’s important to know what someone likes and dislikes cause then you know when you’re waiting on the dietitian to come you know what sorts of foods to offer them and stuff”. (P2)

“We always let the patients try different flavours and stuff so they can find something they prefer which is important you know cause then of course they are more like to be given them”. (P2)

“I would like to learn more and you know hopefully in some way that would then help us to give benefits to the residents we have here”. (P2)

“You know the more information we have then the better care we can provide to the residents”. (P3)
“You just have to be patient with everyone and try your best that is all we can do”. (P4).

**Importance of Communication**

**Communication with family**

“But like we would have residents who were 5-7 months in hospital before they got to us. And it’s generally their families who tell us they’ve lost so much weight or they show us photographs of what they looked like before they got to us”. (P1)

“normally their family would tell us if there were any concerns when they first come in”. (P2)

“But then we would enquire about their past weight so a lot of our residents would have dementia so their families are really important for us to help gather information”. (P3)

**Poor communication from previous hospital admissions**

“So if on arrival we feel they are malnourished, you know what I mean sometimes we get people and they have been months in hospital and have lost massive amounts, well we can only speculate sometimes, because generally the hospital don’t tell us how much the person has lost while they were in there”. (P1)

**Oral Nutrition Support**

**Dietitian Support**

“We call upon a dietitian to come and help us make a plan” (P1)

“It is really important then for us to get the dietitian on board and put a plan in place to ensure that these residents at risk don’t lose any more weight” (P3)
“But look if we felt someone had quite high requirements or whatever then we wouldn’t hesitate to contact the dietitian for some advice” (P3)

**Oral nutrition supplements**

“They also come and give us training session, talk about new products and how to use products”. (P1)

“The drinks like in the big bottles it would be hard to finish them off as they are quite big but it just depends on the person”. (P4)

**Food first initiatives**

“Yeah there is butter added to potatoes”. (P1)

“we would start a food chart so we can monitor what their intake is like more often”. (P2)

“you know stuff like mashed potatoes would have the extra milk and butter in it”. (P2)

“they would sometimes have biscuits then as well with their tea” (P2)

“we offer fortified milk at lunchtime”. (P2)

“I have the knowledge and skills to use food fortification and where possible there will be a lot of energy provided in all the meals- no menu analysis as such” (P5)

“We haven’t had milkshakes - We always have snacks out and about for people to have like bananas and yoghurts for people to take if they want” (P4)