Clinical Audit Report

'Divisional Den funded project': The Dementia Mealtime Assessment Tool

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1.0 Abstract/Summary

The project was funded via the 'Divisional Den' to pilot the use of a resource designed by the author called the Dementia Mealtime Assessment Tool (DMAT). The DMAT is a simple user friendly resource that can potentially be used by both healthcare professionals & carers of people with dementia to help identify behavioural feeding difficulties related to dementia at mealtimes. The DMAT also provides suggested interventions for overcoming the feeding difficulties although this aspect was not under investigation in this project. The main aim of the project was to discover if the DMAT could provide a useful resource to help in the management of feeding difficulties in people with dementia in a hospital environment. The DMAT is conceptualised from currently available guidelines and research and is produced into a format allowing anyone caring for someone with dementia to use the resource by observing the person with dementia at a mealtime and recording the observations. Feeding difficulties in dementia lead to weight loss and malnutrition, while the ability to feed oneself is one of the last activities of daily living to be lost.

The DMAT was trialled on the Elderly Care Unit (ECU) on 13 participants and was administered by healthcare assistants. The test period was run over a two week period during the lunch time meal which is the main meal of the day. Results of the observations were recorded on the DMAT sheet.

The results showed that there are many common behavioural feeding difficulties related to dementia present within people on the ECU. The DMAT was successful in helping record the specific feeding difficulties attributed to the person being observed. The DMAT was able to be used by staff without prior knowledge of the DMAT and without any training on the DMAT providing evidence for simple usability.

The implications for current practice is that the DMAT is a useful resource that can be used to aid the assessment of behavioural feeding difficulties in dementia and that non medically trained individuals are effective in using the DMAT as a practical resource.

The implications for future practice are that targeted individual interventions can be suggested to overcome the behavioural feeding difficulties in dementia with the aim of this being that the person with dementia is better able to feed themselves and less reliant on nursing staff to feed them.

2.0 Introduction

This service development project was initiated thanks to internal funding granted to the author's department via the HUH 'Divisional Den' scheme. The 'Divisional Den' was an innovative idea that allowed staff members to present a project proposal to the 'Divisional Den' board members and obtain funding to complete the project. This project was one of the chosen submitted projects and its theme was around dementia and feeding difficulties. The author was the project manager with full responsibility for all aspects of the project which took place between April 2013 & September 2013.

Background

There are currently 800,000 people with dementia in the UK and the current financial cost of dementia to the UK is £23 billion with this predicted to grow to £27 billion by 2018 (Alzheimer's Society, 2013). It is estimated that 25% (1 in 4) of general hospital beds in the NHS are occupied by people with dementia, rising to 40% or even higher in certain groups such as elderly care wards or in people with hip fractures (DoH, 2012).

Dementia is an incurable condition caused by diseases of the brain which over time seriously impairs the ability of someone with dementia to live independently. Many people with dementia also have other long term medical conditions or develop them during the course of their illness (DAA, 2010).

People with dementia stay longer in hospital than people without dementia and they are often subject to delays on leaving hospital, readmission & inter-ward transfers. The longer they stay the worse the effect on the symptoms of dementia and the individuals physical health with use of antipsychotic drugs more likely & discharge to a care home also becoming more likely (Alzheimer's Society, 2009). Shorter lengths of stay can lead to substantial savings if significant improvements in quality of care are made (DoH, 2012), with the Alzheimer's Society estimating hundreds of millions of pounds across the system as a whole might be achievable if people with Dementia leave hospital one week earlier. The National Audit Office (NAO) highlights potential savings for the NHS of at least £284 million per year through improving dementia care (DAA, 2010).

Some interesting findings from the Alzheimer's Society Counting the Cost report (2009) that relate to this project themes of behavioural feeding difficulties in dementia are as follows:

• 89% of nursing staff identified working with people with dementia as quite challenging e.g. managing difficult behaviour, not having enough time to spend with patients and provide one-to-one care
• 77% of carers were dissatisfied with the overall quality of dementia care provided e.g. nurses not recognising or understanding dementia, not being helped to eat & drink, a lack of person centred care

Recommendations from the report related to eating and drinking include; ensuring a form of nutritional screening is implemented, having a care plan that understands an individual's needs & preferences at mealtimes, encouraging volunteers to help at mealtimes and for the long term to provide dementia education to empower & inform hospital staff.

The report also highlights previous qualitative information from different organisations; in specific relation to eating and drinking the Hungry to be Heard report by Age Concern revealed 60% of older patients are at risk of becoming malnourished in hospital. It is also estimated that that 40% of older people admitted to hospital are already malnourished. The Nutritional Screening Week survey carried out in the Homerton found 33% of patients admitted were at risk of malnutrition meaning 1 in 3 patients have a poor nutritional status (2009).

A CQC survey in 2009 found that 1 in 5 hospital patients who have trouble feeding themselves do not get help with meals. The Royal College of Nursing (2007) reported 46% of nurses in a poll reported there was not enough staff to help patients eat & drink and 42% said they didn't have enough time to make sure they ate properly.

In hospital settings people with dementia are more likely than other older patients to lose self-care abilities, including self-feeding, and are much less likely to regain these abilities after discharge. Therefore the best practice requires an individualised care plan with the dual objectives of providing adequate food & fluid intake and maintaining the patient's ability to self-feed to the extent possible. As a patients eating & feeding behaviour can change during their hospital stay regular assessments and review of the plan are needed (Alzheimer's Association, 2007).

With all of these functional and institutional problems in mind it was thought a pilot project of an innovative idea to help address these problems in a simple & sustainable way should be trialled. Therefore the Dementia Mealtime Assessment Tool (DMAT) was used to identify potential behavioural feeding difficulties in people with dementia on the Elderly Care Unit (ECU) to help inform a possible service development.   The DMAT is a resource developed by the author (Lee Martin) and further details on the resource are discussed in the methods section.

In a previous audit the DMAT was trialled in a nursing home environment with a sample of 6 residents with all residents identified at nutritional risk (using a nutritional screening tool) and 50% having a confirmed diagnosis of dementia. The author of this report and a dietetic student

administered the DMAT as outlined in the method of this report. The small audit showed the DMAT to be a straightforward, useable resource to assess barriers to nutritional intake in people with dementia. This next stage of the development of the DMAT was its use in an acute setting as outlined in the next section.

3.0   Aim

To discover if the DMAT can provide a useful resource to help in the management of feeding difficulties in people with dementia in a hospital environment

Objectives

- Does the DMAT identify common feeding difficulties in people with dementia
- Can the DMAT be easily administered by untrained non-medically trained staff
- Are the results obtained from the DMAT reproducible over time
- Do staff using the DMAT see value in its application
- To discover what are the most common behavioural feeding difficulties observed in people with dementia on the ECU

4.0   Method

Background on the DMAT

The Dementia Mealtime Assessment Tool (DMAT) is an observational checklist tool where you witness someone with dementia or cognitive impairment during their mealtime and record your observations on the DMAT. The DMAT provides a list of common dementia related behaviours that may affect the ability of someone to consume their food and then provides suggestions on how to overcome these behaviours. An original copy of the DMAT can be found in the appendix (2).

The ability to feed one's self is one of the last activities of daily living to be lost. Mealtime difficulties with feeding can become a stressful time for both the carer and person with dementia. Feeding difficulties and the loss of independence in feeding yourself can lead to weight loss and malnutrition and poorer quality of life (Aselage, 2010).

The aim of the DMAT is to help the healthcare professional (HCP) / carer of someone with dementia to be able to identify feeding difficulties associated with mealtimes and then using suggestions from the DMAT try to overcome these difficulties with different interventions. It should take a maximum of 20-30 minutes to complete the DMAT on each individual, although it may be possible to observe two people at once in an acute setting, and there are currently 34 potential behaviours that may be observed which are split into three different sections on the tool.   Below is an example of some of the typical behaviours and some suggested interventions.

Dementia Mealtime Assessment Tool

Observed Behaviour: Style of Eating & Pattern of Intake	Suggestions for dealing with the behaviour:
Incorrectly uses spoon, fork or knife	Use custom utensils e.g. spoon head and fork head on same utensil, large handled utensil
Difficulty identifying food from plate	Use plates with simple design & colour contrast between plate & place mat/plate & food

Observed Behaviour: Resistive or Disruptive Behaviour	Suggestions for dealing with the behaviour:
Verbally refuses to eat or states: "No More, Finished, Not Hungry"	Remove meal for 5-10 minutes & then serve again. Investigate cause e.g. food preferences or food consistency
Stares at food without eating	Use verbal or manual cues to eat e.g. placing food or utensils into the persons hands, Model eating and offer encouragement

Observed Behaviour: Oral Behaviour	Suggestions for dealing with the behaviour:
Holds food in mouth	Use verbal cue to chew. Massage cheek gently. Experiment with different foods & flavours
Doesn't open mouth	Use verbal cue to open mouth. Touch lips with spoon. Manually assist with food.

Further Information

The DMAT has been conceptualised from the Caroline Walker Trust's practical guide; Eating well: supporting older people and older people with dementia (Crawley & Hocking, 2011). The information has been used and and turned it into a checklist tool (the DMAT) where you record the frequency of any observed behaviours. An example below shows 10 potential behaviours that may affect nutritional intake and how you would record this on the DMAT when witnessing the mealtime.

Observed Behaviour:

Style of Eating & Pattern of Intake	Yes / Often	No /Not Seen	Sometimes
Incorrectly uses spoon, fork or knife			
Unable to cut meat			
Difficulty getting food onto utensils			
Difficulty identifying food from plate			
Eats desserts/sweets first or prefers sweet food			
Eats only certain foods			
Eats too fast			
Plate wanders on table			
Eats other peoples food			
Incorrectly uses cups or glasses			

Key:
Yes = behaviour seen more than once
No = behaviour not observed today
Sometimes = behaviour observed at least once

Project Method

The Participants

A sample of 13 people was used as this was felt it would provide enough information to see if the DMAT is deemed to be a potentially useful resource. The participants should be diagnosed with dementia or exhibit signs of cognitive impairment. Although anyone with dementia and feeding difficulties may benefit from the DMAT, for the purpose of the project trial those identified at being at risk of malnutrition i.e. using the MUST score, may be more suitable subjects. Therefore the only exclusion criteria is those not having dementia or cognitive impairment, those not consuming oral food i.e. being tube fed, or those who are eating and drinking well.

Method Protocol

The person being assessed using the DMAT will be observed by a member of staff when they consume their main meal (lunch time). The observer (the member of staff) will witness the person from a distance far enough to see everything they do but not too close as to interfere or feel like they are intruding on the persons mealtime. While observing, the member of staff will record all observations on the DMAT sheet; which is a simple tick box recording system.

Participating staff will be able to see the DMAT sheet and ask any questions they have before the test period commences.

Test period

During one week a minimum of 10 people will be assessed using the DMAT by the same staff personnel e.g. Dementia Assistants. For example 2 people every day for 5 days get assessed = 10 people.
These 10 people will then be re-assessed exactly one week from when they were originally assessed by the same staff members.
By using the DMAT on the same person using the same member of staff 1 week apart it will help determine if the DMAT identifies the same or similar behaviours on different occasions.

All recorded observations will be analysed to determine the most common feeding difficulties witnessed.

5.0   Results

The results are broken down into 4 sections with charts and tables. These 4 sections relate to the 3 classes of feeding difficulty behaviours as outlined on the DMAT observation sheet and one section related to the pre-meal set up. A summary of each section is provided along with the data in number format and simple bar graph analysis.
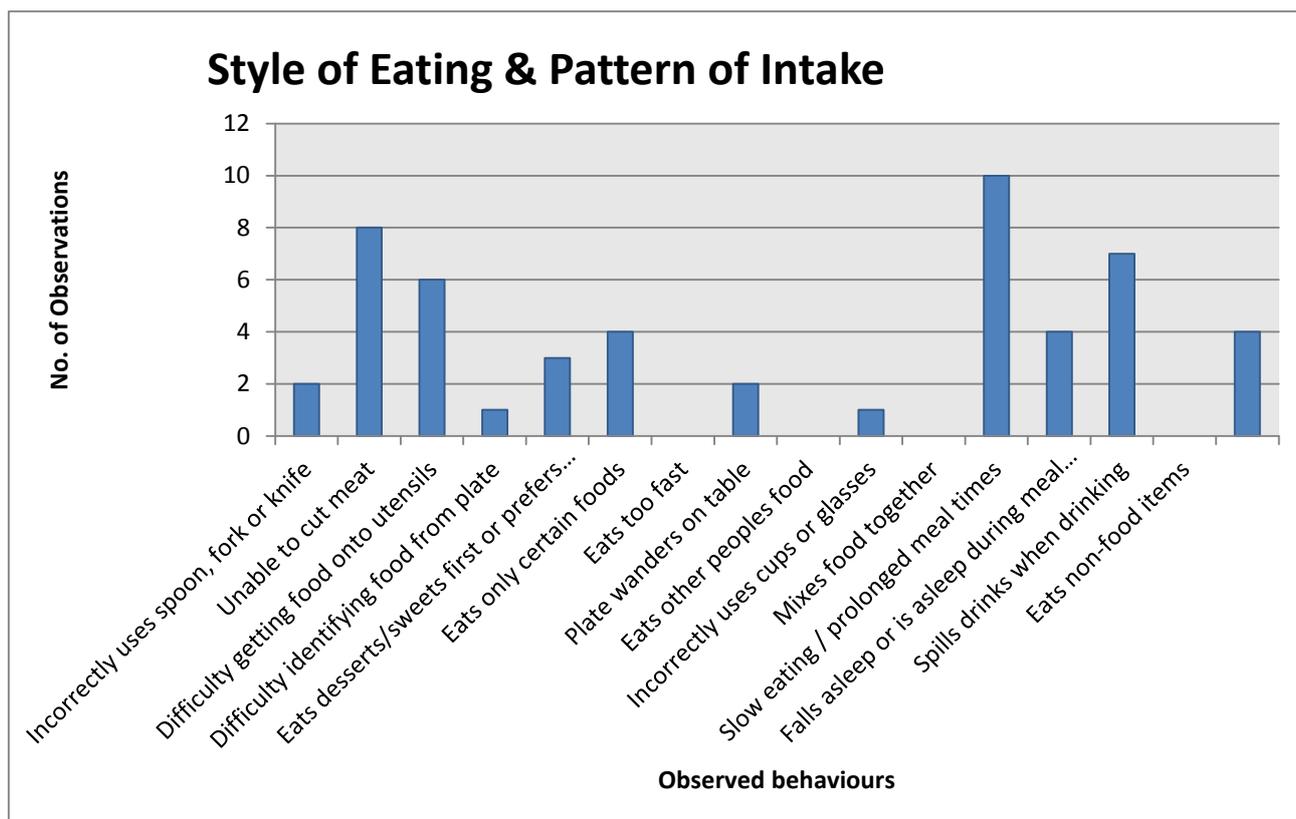
Chart 1:

Style of Eating & Pattern of Intake

Table 1:
Observed Behaviour: 13 observations

Style of Eating & Pattern of Intake	Total No. of times witnessed yes / often	sometimes	Total
Incorrectly uses spoon, fork or knife	1	1	2
Unable to cut meat	7	1	8
Difficulty getting food onto utensils	6		6
Difficulty identifying food from plate	1		1
Eats desserts/sweets first or prefers sweet food	2	1	3
Eats only certain foods	4		4
Eats too fast			0
Plate wanders on table	1	1	2
Eats other peoples food			0
Incorrectly uses cups or glasses		1	1
Mixes food together			0
Slow eating / prolonged meal times	8	2	10
Falls asleep or is asleep during meal time	4		4
Spills drinks when drinking	6	1	7
Eats non-food items			0
Doesn't eat lunch but eats breakfast and some dinner	1	3	4

Summary of table 1 & chart 1 - **Style of Eating & Pattern of Intake**

The main feeding difficulties observed were slow / prolonged meal times, inability to cut meat, spilling drinks when drinking and difficulty getting food onto utensils.

Other problems included sleeping during mealtimes & food preferences such as only eating certain foods, or sweet foods or eating breakfast but no lunch.

The least problematic feeding difficulties observed were incorrectly using cutlery (although paradoxically the main problems noted above relate to this e.g. inability to cut meat & difficulty getting food onto utensils, so maybe the question was not fully understood), difficulty identifying food from the plate (although 11 out of the 13 observations were using a coloured tray which may have helped with the colour contrast between table & plate& food), plate wanders on table & incorrectly uses cup or glass (although a main problem identified was spilling drinks & therefore there may have been confusion with this question also).

There were no observed feeding difficulties from eating too fast, eating other peoples food (unlikely in acute setting), mixing food together, or tries to eat non-food items (probably not available in acute setting).

It is very interesting that the use of the coloured trays may have helped to prevent the feeding difficulty of not being able to identify food from the plate which is common in those with dementia.
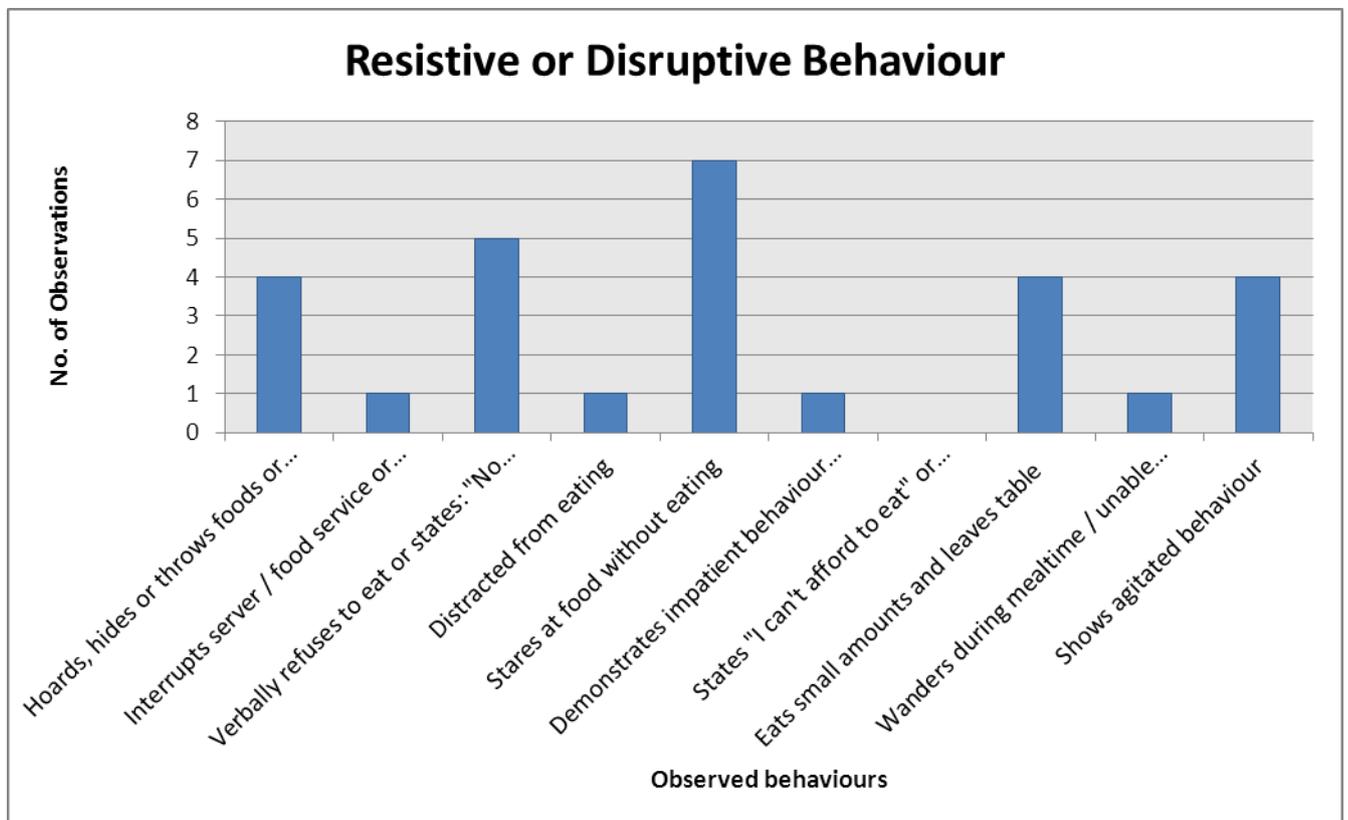
Chart 2:

Table 2:

Observed Behaviour: 13 observations	Total No. of times witnessed		
	yes /		
Resistive or Disruptive Behaviour	often	sometimes	Total
Hoards, hides or throws foods or Plays with food	4		4
Interrupts server / food service or wants to help	1		1
Verbally refuses to eat or states: "No More, Finished, Not Hungry"	4	1	5
Distracted from eating	1		1
Stares at food without eating	3	4	7
Demonstrates impatient behaviour during or before meal	1		1
States "I can't afford to eat" or wants to pay for meal			0
Eats small amounts and leaves table	4		4
Wanders during mealtime / unable to sit still for meals		1	1
Shows agitated behaviour	3	1	4

Summary of table 2 & chart 2 - **Resistive or Disruptive Behaviour**

The main feeding difficulties observed were staring at food without eating, verbally refusing to eat, showing agitated behaviour, eating small amounts and leaves table, & playing / hoarding / hiding / throwing food.

Other observations include interrupting server or wanting to help, is distracted from eating, demonstrates impatient behaviour before or during mealtime & unable to sit still for meals or wanders during mealtime.

Only difficulty not observed was stating they want to pay for their meal or can't afford to eat.
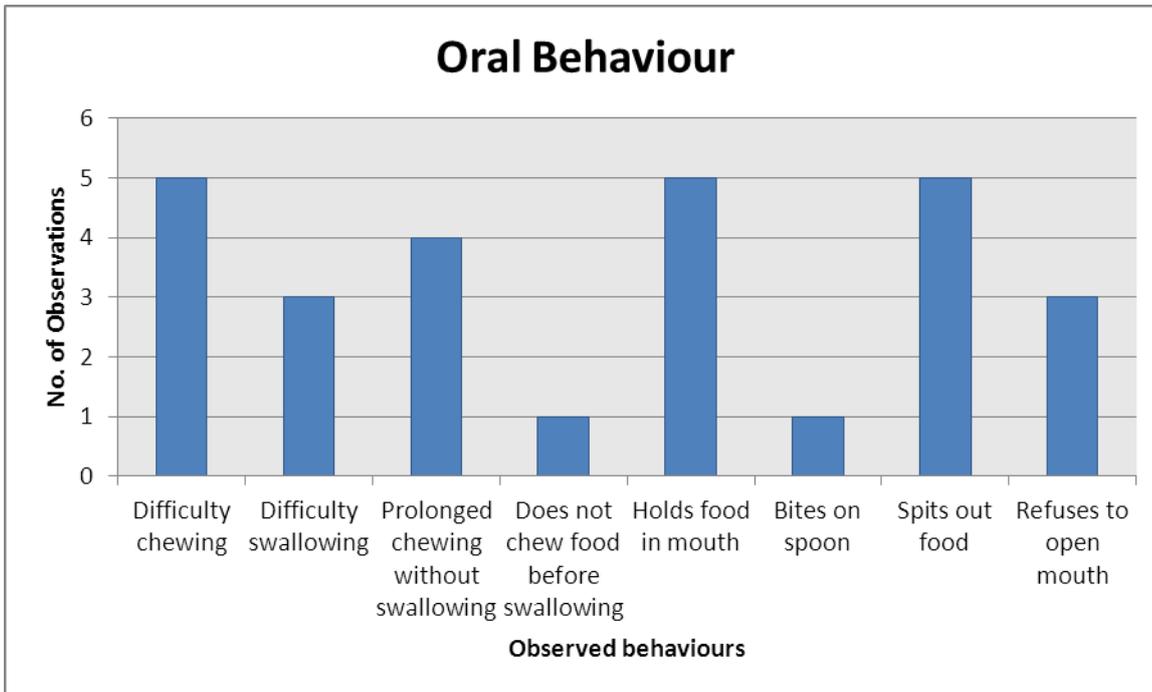
Chart 3:

Oral Behaviour

Table 3:

Observed Behaviour: 13 observations	Total No. of times witnessed		
	yes /		
Oral Behaviour	often	sometimes	Total
Difficulty chewing	4	1	5
Difficulty swallowing	1	2	3
Prolonged chewing without swallowing	4		4
Does not chew food before swallowing	1		1
Holds food in mouth	4	1	5
Bites on spoon	1		1
Spits out food	5		5
Refuses to open mouth	2	1	3

Summary of table 3 & chart 3 - **Oral Behaviour**

The main feeding difficulties observed were difficulty chewing, holding food in mouth & spitting out food.

Other commonly observed feeding difficulties were prolonged chewing without swallowing, refusing to open mouth & difficulty swallowing.

Less common observations were biting on spoon & not chewing before swallowing.

All of the feeding difficulties related to oral behaviour in dementia were witnessed at least once.
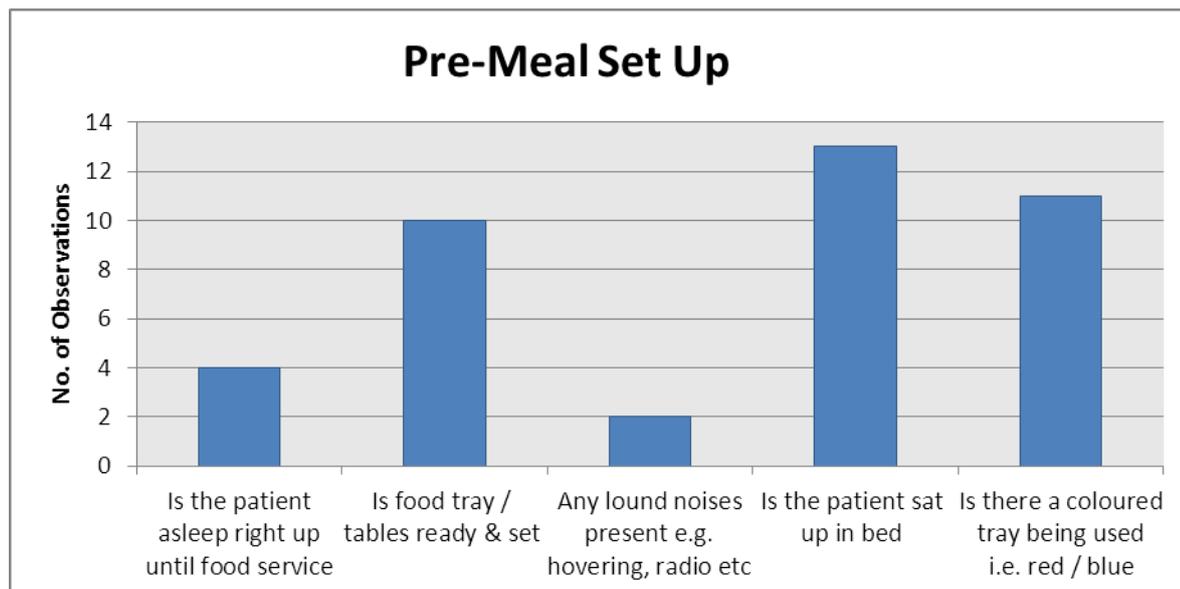
Chart 4:

Table 4:

Observed Behaviour: 13 observations	Total No. of times witnessed		
	yes /		
Pre-Meal Set Up	often	sometimes	Total
Is the patient asleep right up until food service	4	0	4
Is food tray / tables ready & set	10	0	10
Any loud noises present e.g. hovering, radio etc	2	0	2
Is the patient sat up in bed	13	0	13
Is there a coloured tray being used i.e. red / blue	11	0	11

Summary of table 4 & chart 4 - **Pre-Meal Set Up**

All 13 people observed were sat up in bed and 10 out of the 13 had their food tray / table set for meal service. This is a good result and shows parts of the Protected mealtimes Policy are being adhered to but getting someone to sit up for a meal doesn't necessarily mean that helps them feed themselves at the next stage. Four out of the 13 people were asleep right up until food service, which may relate to the 4 observations of people asleep during mealtime as shown in table & chart 1.

11 out of 13 people had a coloured tray in use; it is unknown if these were the correct colour or if this lead to the additional help needed according to the colour of the tray as outlined in the Coloured Tray Policy.

Surprisingly only 2 observations were recorded of loud noises and maybe this is due to the examples given of hovering & radio as it seems the radio was identified as being a loud noise.

The DMAT form also asked to note any other observed behaviour and the staff noted the following:

"Daughter present to help feed. Eats better when fed but does not want to be fed"
"Refused to open eyes & refuses to eat"
"Playing with side of bed"

6.0   Discussion

The discussion points will be related back to the original objectives of the project:

❖ Objectives: Does the DMAT identify common feeding difficulties in people with dementia & To discover what are the most common behavioural feeding difficulties observed in people with dementia on the ECU

The results from this project have shown many of the common behavioural feeding difficulties identified in people with dementia have been observed on the ECU ward. People with dementia experience feeding difficulties which usually worsen as the disease progresses and the behavioural feeding difficulties progress from *problems with style of eating & pattern of intake* to *resistive or disruptive behaviour* and finally *problems with oral behaviour*.   The DMAT is broken down into these three sections to help identify the different stages. The majority of feeding difficulties seen on the ECU were in the *style of eating & pattern of intake* which makes sense as these difficulties are more common in the early stages of dementia and these are the majority of patients seen on the ECU.

It is highly recommended to study the table in Appendix 3 which provides an overview of the most common feeding difficulties identified from the project and a list of suggestions for overcoming these feeding difficulties.   The majority of the suggested interventions cost nothing or cost very little and require little organisational changes, while others will require a new look at how people with dementia who have feeding difficulties are treated on the acute ward setting. All of these potential interventions will have different costs attached to them, for example money, time, training etc. and which one is the best option is best decided by an MDT approach.

The vast majority of the suggestions are designed to get the patient to feed themselves therefore helping to reduce dependence on staff and lead to less demand on staff time for feeding. Research shows that once you lose the ability to feed yourself then your risk of malnutrition increases and the associated problems related to this also increase i.e. poor wound healing, weight loss, increased stay in hospital.

❖ Objective: Can the DMAT be easily administered by non-medically trained staff

The fact that the DMAT was all filled in correctly with hardly any missing data shows how easy it was for staff to use. There was no training provided to the staff on how to use the DMAT and the staff that administered the DMAT were of Band 2 grade.

❖ Objective: Do staff using the DMAT see value in its application

Feedback from staff was an original objective of the project however no feedback was provided from the ECU staff members on using the DMAT although feedback was provided from a volunteer who conducted a separate mini-project on wards separate from the ECU. The volunteer felt the DMAT was very easy to use, took 7 minutes on average to administer and does not require training to be used. The findings from this are presented further in the appendix (5).

❖ Objective: Are the results obtained from the DMAT reproducible over time

In the end a sample of 13 people were used on ECU, however it is unknown if the same people were reviewed on two separate occasions one week apart as was initially intended in the methodology. It was not clear if the same person was reviewed using the DMAT one week apart,

or if this was performed by the same staff member, therefore the assessment of the tools reproducibility would need to be reviewed another time. This could form part of a research proposal in the future.

During the mini-project I started on other wards outside of the ECU a volunteer managed to use the DMAT on two separate occasions one week apart on the same participant and the case study below shows an example of what was recorded on the DMAT during these two separate observations.

❖ Case Study: Only one person was able to be witnessed exactly one week apart although this unveiled some uses findings: (Thomas Audley)

On week one the patient was unable to cut their meat while on week two the nurse cut their meat for them, it was also felt by the observer that on week one "Adapted cutlery may help patients ease in eating" (observed via DMAT: unable to cut meat). In week one the patient had trouble identifying food from the plate and was not using a coloured tray, while in week two the patient did not have any trouble identifying food from the plate but was using a coloured tray. This corresponds with findings from the main project which showed that no-one had trouble identifying food from their plate but they were nearly all using coloured trays which may provide the contrast needed to overcome this common feeding difficulty in dementia. Finally on week one the patient was observed having slow eating / prolonged meal times; the same week they had difficulty identifying food from plate & unable to cut meat and without use of coloured tray, while on week 2 with the coloured tray in place and the nurse cutting the meat there was no observed prolonged mealtime / slow eating.

Overall it is felt the aim of the project has been achieved: To discover if the DMAT could provide a useful resource to help in the management of feeding difficulties in people with dementia in a hospital environment.

❖ Use of coloured trays:

11 out of 13 people had a coloured tray in use; it is unknown if these were the correct colour or if this lead to the additional help needed according to the colour of the tray as outlined in the Coloured Tray Policy. The coloured tray is like a red flag to identify a problem but there are still many factors causing a need for that coloured tray. From the results it is clear the DMAT can help identify and record the main causes of why a patient was put on a coloured tray. Although the DMAT is paper based it has a practical application and through the suggested interventions could help the patient on a coloured tray feed themselves rather the nursing staff doing this. This will obviously free up nursing time to be spent on those requiring full feeding or in need of more complex care.

Limitations

The method stated that the participants should be identified as being at nutritional risk using the MUST score. However this did not happen and it is unsure how the participants were identified. It is assumed it was mainly the diagnosis of dementia or cognitive impairment, perhaps along with known feeding problems, that prompted these people to be chosen.

A better analysis of the participants would be recommended for future testing of the DMAT although this would ideally be in a research setting and was not necessary for this development project.

Difficulties

Unfortunately the Dementia Steering Group, which was the most important place for information exchange and networking for this project, had to be abandoned soon into the start of the project. This made it harder to maintain the profile of the project as something that was of benefit and interest without a driving force behind it. Managing the entire project without the knowledge of, or partnership with key senior members of staff made it harder to find the right person to speak to at times.

Highly appreciated is all the additional work Lynne De Gastro and her team helped with to make sure the project still went ahead despite the ECU being in the middle of a refurbishment. There were several times when it took much longer than expected to get things going but during this time a separate mini-project was commenced with some interesting results which is also available in the appendix (5). The mini project could not have been completed without the help of Deirdre Burke and Judith the volunteer.

The results from this mini-project found that the three behaviours that were the most common were; **Unable to cut meat, Difficulty identifying food from plate, Slow eating / prolonged meal times**. This provides data for potential action points to combat these common problems e.g. ensuring plenty of soft food options, or that nurses are cutting up meat, or adapted cutlery is provided to the patient to cut their meat. Suggestions to overcome these common issues can be found in the table in Appendix 3.

7.0   Conclusions

The DMAT has shown it can identify common feeding difficulties. It may provide a cost effective solution to overcome these feeding difficulties. It would be interesting to see if the DMAT can lead to improved health outcomes and improvements in the treatment of in people with dementia in future investigations. Often a few inexpensive measures combined with knowledge of the person and an understanding of how dementia affects them is all that is needed to help provide nutritious food for people with dementia (Alzheimer's Society, 2009).

The NICE-SCIE guidelines (2007) state health & social care staff should identify specific needs of people with dementia arising from problems with nutrition and the care plan should record and address these needs. The DMAT may be a useful tool to help in identifying these needs and provide some practical suggestions for staff to utilise.

The social and environmental context of meals provides critical cues for recognition of food and appropriate eating behaviours in people with dementia (Alzheimer's Association, 2007) therefore improving these parameters through adherence to the Protected Mealtimes policy and the Coloured Tray policy is recommended. The DMAT is a resource in development and in its current form could provide a useful and practical aid to staff caring for those with dementia. If staff who treat people with dementia see value in its application it should be incorporated into care practices and audited to see if it can help improve health outcomes. Only further testing could prove if the DMAT can truly identify feeding difficulties accurately and reliably and then through the suggested interventions help to improve health outcomes. This lends itself to an application to a research

proposal which could benefit the Homerton and would advance the DMAT from a resource into a measurement instrument.

Time spent feeding people with dementia requires a huge staff resource with no guarantee the person will eat enough anyway. The ultimate goal should be to provide an environment where the patient with dementia is able to feed themselves. This will lead to a better quality of life and less demand on staff so they can attend to those who really need full feeding or other care. It is hoped the DMAT can help provide a catalyst to achieving these goals.

8.0   Recommendations

- Ensure Protected Mealtimes Policy is adhered to and audited with an emphasis on implementation of current recommendation in the policy

Surprisingly only 2 observations were recorded of loud noises and maybe this is due to the examples given of hovering & radio as it seems the radio was identified as being a loud noise. More likely is the fact that the normal noises of the ward environment, which are loud, and will seem even more so to someone with dementia, are not recognised as noisy by the staff on the ward.   It would be interesting to measure decibel levels on the ward during mealtimes and non mealtimes to see if there is any difference in noise levels. The Protected Mealtimes Policy suggests it is important to keep noise levels to a minimum at mealtimes as a noisy environment can negatively affect the amount consumed. Protected Mealtimes (PM) should be a priority on the ECU to help improve the mealtime environment, ensuring it is conducive to eating. The PM are also designed to help with the use of coloured trays and providing assisting and encouraging of intake.

- Ensure Coloured Tray Policy is adhered too and audit with an emphasis on implementation of current recommendation in the policy

11 out of 13 people had a coloured tray in use; it is unknown if these were the correct colour or if this lead to the additional help needed according to the colour of the tray as outlined in the Coloured Tray Policy. It is very interesting that the use of the coloured trays may have helped to prevent the feeding difficulty of not being able to identify food from the plate which is common in those with dementia. The coloured tray system should be particularly encouraged on dementia wards to not only help identify those who need assistance but also to provide a colour contrast between plate and table to help the patient identify their food easier.

- Importance of oral feeding difficulties being addressed by liaison with Speech & Language professionals and adequate suitable options available from hospital catering

All of the feeding difficulties related to Oral Behaviour in dementia were witnessed at least once. Importance of SLT & training along with consistency of food is imperative, as is the availability of these options on the hospital menu. Liaison with SLT, catering & nutrition steering committee would be appropriate to discuss this.

- Finger food options available on the menu or from hospital catering may help overcome some of the most common behavioural feeding difficulties observed

If you look at the table attached in appendix 3, which is on the most common observed feeding difficulties and suggested interventions to overcome these, you will notice that finger foods are highlighted several times as an appropriate response to many common feeding difficulties. It would be important to find out what finger food options are currently available and what possibilities there are in expanding the range via liaison with the nutrition steering committee and catering department.

- A focus group or discussion with key personnel and staff working at the ground level with people with dementia to attain their views on the DMAT and if they believe it would be a useful resource

A presentation of this report will be made to the key stakeholders involved in this project and their views will be sort on what they feel would be the best ways to take results of the project forward. It is a shame the dementia steering group had to stop operating but if this group is to start again then the results of this project can be disseminated through this group to interested parties and can be used to gather the views of staff working closely with patients who could benefit from the DMAT. If it is unlikely that the dementia steering group will re-commence then perhaps another working group related to dementia and looking at practical ground level interventions could discuss the implications of this project.

- Update the DMAT to include suggestions made from users of the DMAT and using data from the results to improve the DMAT resource

Only difficulty not observed from the Resistive or Disruptive Behaviour section was stating they want to pay for their meal or can't afford to eat. This item could be removed from the list of behaviours. There were no observed feeding difficulties from eating too fast, eating other peoples food (unlikely in acute setting), mixing food together, or tries to eat non-food items (probably not available in acute setting) so these could perhaps be removed as well. Another item could be added as suggested; "Does the nurse cut up the food before serving?" Also the recording terms used of observations could be improved as suggested: "Instead of *sometimes* option 0-1 may be better as the person administering the questionnaire may not see the patient eating everday and won't have a long term view of the patient of which the option implies. More than 2 times instead of *often* may give a more accurate impression of the patient's eating ability. This would make the vague terms of *sometimes* and *often* redundant and replaced with a better scoring system.

- Explore the availability of adapted cutlery as outlined in the coloured tray policy and if this could be incorporated as part of the DMAT in the future

The coloured tray policy allows staff to consider if a patient would be able to independently eat / make eating easier if adapted cutlery is used. If this is deemed to be the case they would need to request assessment for adapted cutlery by the occupational therapist (OT). It would be interesting to know how often this actually happens and what the outcome is of this intervention. Liaison with the OT would be needed to take this forward. It may be the case that by using the DMAT it could help nurses better identify who would benefit most from this particular intervention.

- To trail the DMAT with meal time volunteers instead of employed staff to see if similar results are found therefore helping to make the DMAT more sustainable

This item could be discussed with key stakeholders to determine its feasibility.

9.0 Strategy for implementation

See Appendix 1 for this.

10.0 Date for re-audit

This service development idea which has grown from its original audit source back in 2010 would probably suite a research framework and as such this avenue will be looked at further by the author to continue the work created here.

Appendix 1   Audit action plan (template attached)
Appendix 2   Dementia Mealtime Assessment Tool (this is the data collection form used)
Appendix 3   Summary Table: Main identified behavioural feeding difficulties on ECU & suggested interventions
Appendix 4   Feedback on using the Dementia Mealtime Assessment Tool (DMAT)
Appendix 5   Dementia Mini Project: Results & Feedback from volunteer involved in the Mini Project

Appendix 1: Audit action plan

Recommendation	Suggested actions	Staff responsible	Planned completion date	Actual date
Ensure Protected Mealtimes Policy is adhered to and audited with an emphasis on implementation of current recommendation in the policy	To assess what possibilities there are for a decibel level test on ECU before, during & after mealtimes	Lee Martin (LM)	Dec 13	
	To audit the Protected Mealtimes Policy on ECU & implement any suggestions from outcomes	LM & Student project?	Oct 14	
Ensure Coloured Tray Policy is adhered too and audit with an emphasis on implementation of current recommendation in the policy	To audit the Coloured Tray Policy use on ECU & implement any suggestions from outcomes	LM & Student Project?	Oct 14	
Importance of oral feeding difficulties being addressed by liaison with Speech & Language professionals and adequate suitable options available from hospital catering	Highlight results of project to SLT and discuss implications i.e. training & development	LM	Dec 13	
	Highlight results of project to nutrition steering committee and catering to discuss soft food options and if there is an increased need for options on ECU	LM	Dec 13	
Finger food options available on the menu or from hospital catering may help overcome some of the most common behavioural feeding difficulties observed	Highlight potential need of more finger food options on the hospital menu or extra finger food provision by discussion with catering & Nutrition Steering Committee (NSC)	LM	Nov 13	
	Possible use of DMAT as an audit tool to help identify those who would benefit from finger foods	LM	Nov 13	
I suggest a focus group or discussion is made with key personnel and staff at the ground level to attain their views on the DMAT and if it would be a useful resource	Presentation to key stakeholders involved in this project leading to a discussion about further development and how this would proceed.	LM	Oct 13	
	Use the presentation above to suggest the idea of a focus group to discuss the merits of the DMAT and any practical application going forward	LM	Oct 13	
	The next stage in the development of the DMAT is to see if the interventions suggested by the DMAT to overcome feeding difficulties work in practice	LM	Oct 14	

Update the DMAT to include suggestions made from users of the DMAT and using data from the results to improve the DMAT resource	Implement suggested recommendations on improving the DMAT from users of the tool	LM	Oct 13	
Explore the availability of adapted cutlery as outlined in the coloured tray policy and if this could be incorporated as part of the DMAT in the future	To discuss with the OT department a potential audit on adaptive cutlery use and gather their opinions on how the DMAT could help with this intervention	LM	Dec 13	
To trail the DMAT with meal time volunteers instead of employed staff to see if similar results are found therefore helping to make the DMAT more sustainable	This recommendation can be proposed when a presentation on the project is given to key stakeholders.	LM	Oct 13	

Appendix 2: DMAT Observation Record Sheet

	Please tick any observed behaviour

Observed Behaviour:

Style of Eating & Pattern of Intake	Yes / Often	No / Not seen	Sometimes
Incorrectly uses spoon, fork or knife			
Unable to cut meat			
Difficulty getting food onto utensils			
Difficulty identifying food from plate			
Eats desserts/sweets first or prefers sweet food			
Eats only certain foods			
Eats too fast			
Plate wanders on table			
Eats other peoples food			
Incorrectly uses cups or glasses			
Mixes food together			
Slow eating / prolonged meal times			
Falls asleep or is asleep during meal time			
Spills drinks when drinking			
Eats non-food items			
Doesn't eat lunch but eats breakfast and some dinner			

Resistive or Disruptive Behaviour	Yes	No	Sometimes
Hoards, hides or throws foods or Plays with food			
Verbally refuses to eat or states: "No More, Finished, Not Hungry"			
Interrupts server / food service or wants to help			
Distracted from eating			
Stares at food without eating			
Demonstrates impatient behaviour during or before meal			
States "I can't afford to eat" or wants to pay for meal			
Eats small amounts and leaves table			
Wanders during mealtime / unable to sit still for meals			
Shows agitated behaviour			

Oral Behaviour	Yes	No	Sometimes
Difficulty chewing			
Difficulty swallowing			
Prolonged chewing without swallowing			
Does not chew food before swallowing			
Holds food in mouth			
Bites on spoon			
Spits out food			
Refuses to open mouth			

Pre-Meal Set Up	Yes	No	Sometimes
Is the patient asleep right up until food service			
Is food tray / tables ready & set			
Any lound noises present e.g. hovering, radio etc			
Is the patient sat up in bed			
Is there a coloured tray being used i.e. red / blue			
Any other observed behaviour:			

Appendix 3: Main identified behavioural feeding difficulties on ECU & suggested interventions

Style of Eating & Pattern of Intake	Suggestions for dealing with the behaviour:
Slow eating / prolonged mealtimes	Serve food on warmed plates. Offer smaller portions more often. Allow 1 hour to eat & re-warm if needed.
Unable to cut meat	Provide cut meats, soft meats or **finger foods.** Special knives may help if reduced grip strength is identified
Spills drinks when drinking	Offer a straw or a two-handled cup if acceptable, offer small amounts of fluid at a time in suitable cup
Difficulty getting food onto utensils	Try a plate guard or lipped plate, use a deeper spoon or trying **finger foods** may take the pressure off cutlery use
Incorrectly uses spoon, fork or knife	Use custom or large handled utensil. Try verbal cues & show correct use, refer to OT. Try **finger foods**
Incorrectly uses cups or glasses	Offer cup with handles or straw, use verbal or manual cues and show correct use, use coloured cups & liquids
Resistive or Disruptive Behaviour	**Suggestions for dealing with the behaviour:**
Stares at food without eating	Use verbal cueing & prompting to encourage self-feeding & demonstrate eating motions so the patient can imitate Lighting - make sure adequate light over meal place / move patient to window bed
Verbally refuses to eat or states: "No More, Finished, Not Hungry"	Remove meal for 5-10 minutes & then serve again. Investigate cause e.g. food preferences (esp. cultural foods) or food consistency; consider soft & possibly single textured food & check for underlying physical or swallowing difficulties Person may benefit from receiving assistance from one specific carer or have consistency in feeding practices
Shows agitated behaviour / irritability	Check the environment* Calming music may help reduce agitation (esp. verbal & physically non-aggressive behaviours) If patient is being fed consider using the same carer to feed rather than using different carers, check pain assessment
Eats small amounts and leaves table & Wanders / unable to sit still for meals	Encourage the use of **finger food** to take away or have while wandering. Check environment* is calm. Walk person before meal & plan route that ends with the mealtime. Ensure good intake at more appropriate times e.g. breakfast
Oral Behaviour	**Suggestions for dealing with the behaviour:**
Difficulty chewing	Provide softer food options. Check dental health
Holds food in mouth	Use verbal cue to chew. Massage cheek gently. Experiment with different food textures & flavours Try foods with heightened sensory input e.g. salty, cold, carbonated, spicy, crunchy.
Spits out food	Check for bites that are too big or food is liked, or temperature or texture is appropriate. Reassess if this food is still liked - if you don't like a food you spit it out! Check seasoning & cultural / religious preferences
Prolonged chewing without swallowing	Use verbal cue to chew & swallow. Provide soft, easy to swallow foods. Liaise with SLT
Doesn't open mouth	Use verbal cue to open mouth. Touch lips with spoon. Manually assist with food. Try straws for drinks Softly stroking someone's arm & talking to them about the food can help
Difficulty swallowing	Liaise with speech & language therapist. Stroke throat to encourage swallowing.

*Negative environmental influences at mealtimes include visual overstimulation in a crowded room, poor lighting, lack of visual contrast when objects are close together or on top of each other, auditory confusion secondary to background noise.

Appendix 4: Feedback on using the Dementia Mealtime Assessment Tool (DMAT)

Please answer the questions below which will form part of the evaluation of the project, you can answer with one word or as many words as you like.   The opinions of staff that use the DMAT are highly valued!

1. Was the DMAT easy to use? Yes very easy to use

2. How long, on average, did it take to administer? 7 minutes

3. Do you think it is useful, and if so why? And if not, why?

4. What was missing? / What would make it better?

   Does the nurse cut up the food before serving

5. Does using the DMAT interfere with normal activities on the ward?

6. What, if any, benefits can you see from using the DMAT? i.e. patient benefit / staff benefit?

The patient and staff feel supported in that helpful questions are used to identify any difficulty the patient maybe in.

7. Do you think the DMAT requires training to be used? No

8. This final question is specific to how we record information on the DMAT sheet;
   Do you think we need to clarify and distinguish the amount of times a feeding difficulty is observed and recorded? e.g.
   Instead of *observed behaviour* **Sometimes** use *observed behaviour* **0-1 times**
   Instead of *observed behaviour* **Yes / Often** use *observed behaviour* **>2 times**

   Instead of sometimes option 0-1 may be better as the person administering the questionnaire may not see the patient eating everday and won't have a long term view of the patient of which the option implies.

   More –than 2 times may give a more accurate impression of the patient's eating ability.

   Many thanks for your time in completing this; leemartin@homerton.nhs.uk

Appendix 5: Dementia Mini Project:

Results from using the DMAT on other wards e.g. Thomas Audley, Edith Cavell, Priestly

Observed Behaviour: Total 5 Participants

Style of Eating & Pattern of Intake	Total
Incorrectly uses spoon, fork or knife	1
Unable to cut meat	2
Difficulty getting food onto utensils	1
Difficulty identifying food from plate	2
Eats too fast	1
Plate wanders on table	1
Incorrectly uses cups or glasses	1
Slow eating / prolonged meal times	2
Falls asleep or is asleep during meal time	1
Spills drinks when drinking	1

Resistive or Disruptive Behaviour	Total
Hoards, hides or throws foods or Plays with food	1
Stares at food without eating	1

Oral Behaviour	
Prolonged chewing without swallowing	1

Pre-Meal Set Up	
Is the patient asleep right up until food service	4
Is food tray / tables ready & set	5
Any loud noises present e.g. hovering, radio etc	1
Is the patient sat up in bed	5
Is there a coloured tray being used i.e. red / blue	2

Comments:
Might be useful to have adapted cutlery to encourage patient to eat main meal instead of just the desserts (the DMAT has two questions related to this which were not answered / left blank during the observation of this resident i.e. Eats only certain food & Eats desserts / sweets first or prefers sweet food)
Patient uses hand to help put food on fork (ticked observation: Incorrectly uses spoon, fork or knife & Difficulty getting food onto utensils). He could be positioned better in a chair to assist with eating as he is stooped (do we need to invest in better chairs for eating meals?). I moved a yoghurt pot closer to make it easier for him to use his spoon (volunteer dietitian).

Summary of Results:

The majority of feeding difficulties identified were concerning the Style of Eating & Pattern of Intake. While the Resistive or Disruptive Behaviour and the Oral behaviour had significantly less observations. This is to be expected as it is usually only as the dementia progresses do people show signs of resistive / disruptive behaviour and oral feeding difficulties and the patients were from wards where you would not expect there to be people with advancing dementia. The three behaviours that were the most common were; **Unable to cut meat, Difficulty identifying food from plate, Slow eating / prolonged meal times.** This provides data for potential action points to combat these common problems e.g. ensuring plenty of soft food options, or that nurses are cutting up meat, or adapted cutlery is provided to the patient to cut their meat.

Feedback from staff on using the DMAT

The member of staff who was a volunteer within the dietetic department feedback after using the DMAT over several weeks on different wards.

The staff member felt the DMAT was very easy to use, took 7 minutes on average to administer and does not require training to be used. An improvement could be a question asking; "Do staff / nurses cut up the food before serving?" It was felt a benefit of using the DMAT was "the patient and staff feel supported in that helpful questions are used to identify any difficulty the patient may be in". Finally more specifically to improve the accuracy of the tool it was thought the following changes would benefit how behaviours are recorded on the DMAT:

"Instead of *sometimes* option 0-1 may be better as the person administering the questionnaire may not see the patient eating everyday and won't have a long term view of the patient of which the option implies".

"More –than 2 times may give a more accurate impression of the patient's eating ability".