

BMJ Open Quality Improving mealtimes for patients and staff within an eating disorder unit: the next chapter

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ABSTRACT

Objectives Mealtimes are an integral part of treatment for patients in an eating disorder inpatient unit. However, they are often distressing and anxiety provoking for both patients and staff. A consequence of patients' distress is an increase in eating disorder behaviours specific to mealtimes. This is the second paper detailing a quality improvement project following on from an initial paper outlining the first test of change. The aim of this quality improvement project was to decrease the number of eating disorder behaviours at mealtimes in the dining room through the implementation of interventions identified through diagnostic work.

Methods/design The Model for Improvement was used as the systematic approach for this project. Baseline assessment included observations in the dining room, gathering of qualitative feedback from staff and patients and the development of a form which identifies eating disorder behaviours completed by staff. Interventions in the form of three change ideas have so far been introduced including (1) a host role in the dining room, (2) a guide to the dining room for new staff along with competencies and (3) a dining goals group. The impact of the three interventions is assessed.

Results The introduction of the interventions has overall reduced the average number of eating disorder behaviours per patient in the dining room by 33%.

Conclusions This paper reports the challenges and successes of continuing a QI project through the COVID-19 pandemic and the need for multiple tests of change to improve a complex problem. The results demonstrate a consistent reduction in eating disorder behaviours over a period of nearly 2 years.

PROBLEM

Eating disorders (ED), such as anorexia nervosa (AN), have the highest death rate among all mental health illnesses. Those with severe ED may require admission into a specialist ED unit to undergo a multifaceted treatment plan, including a focus on weight restoration plan and psychological treatment. The dining room forms an integral part of treatment as a place for patients to work towards restoring a healthy relationship with food.¹

The use of the dining room within the inpatient setting is important because inpatients

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ The dining room is a main treatment approach in a specialist eating disorder unit; however, there is very little evidence around its therapeutic usage.

WHAT THIS STUDY ADDS

⇒ This study adds its findings to the literature around the treatment of patients on an eating disorders unit using the dining room environment to effectively support the recovery of patients.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE AND/OR POLICY

⇒ This paper highlights effective practical interventions using a multidisciplinary QI approach to support patients to reach a healthy relationship with food within the dining room environment of an eating disorders unit.

with AN who restore weight through eating and drinking and reach a healthy body mass index (BMI), together with therapy, achieve better outcomes.²

As a main treatment approach, the dining room has been reported by patients and staff as a very stressful environment. For patients, this can manifest itself in increased eating disorder behaviours such as eating very small mouthfuls, hiding food, smearing food or eating foods in a certain order, which leads to maintaining the eating disorder.

This paper outlines the continuation of a quality improvement project, the initial part of which we published in this journal last year.¹ Our aim throughout the project is to understand the system of our dining room, including the environment, purpose and processes and how people interact with these and each other. This will determine how we can make changes to improve mealtimes as a therapeutic intervention to promote recovery.

BACKGROUND

When people are at the stage where they need to be admitted to hospital for treatment of an eating disorder, their physical health is severely compromised.³ This situation has been made worse during the pandemic owing to a shortage of beds and patients deteriorating while waiting for a bed.⁴ Cognitive impairment and higher anxiety can be as a result of lower BMI.⁵

Weight regain is a key target for treatment of AN. A recent study has looked at implementing the therapeutic treatment, integrated Cognitive Behavioural Therapy (ICBT-E), onto our unit in Oxford. It showed that 70% of patients receiving treatment maintained normal weight at 1 year after discharge from hospital, without bingeing or purging behaviours, in contrast with less than 5% of those in alternative programmes that result in partial weight restoration and lower readmission rates.² Part of the success of this treatment has been to aim for faster weight restoration of 1–1.5 kg/week. Mealtime management in the dining room is integral to this treatment package. Dietary restraint can be one of the key maintaining factors of an eating disorder and the dining room has a big role in tackling behaviours, such as enabling patients to break their self-imposed rules around eating.

There is very little evidence in the literature as to the therapeutic usage of the dining room and a lack of guidance around mealtime management in eating disorder units resulting in wide variation in practice.⁶

Neither leading guidelines in ED^{3,7} include specifics such as mealtime practices. One study has highlighted that inpatients and outpatients have different reactions to food and the form of meal support needs to match the context.⁸ This has led us to consider how we support patients in the dining room.

Eating disorder behaviours in AN are thought to be influenced by anxiety.⁹ The authors probed associations between mealtime anxiety and food intake among individuals with AN and highlighted that premeal anxiety was significantly associated with reduced calorie intake at mealtimes. Impaired cognition and anxiety in turn makes initial engagement with treatment even harder and mealtimes can be perceived battlegrounds.¹⁰

To increase our understanding of this area, we initiated a quality improvement project in 2020. The background to the project and an outline of our first intervention are detailed in the previous report.¹ The initial change idea we introduced was to have a dedicated staff member in the dining room acting in a floating capacity (known as the host role). This reduced the average number of eating disorder behaviours per patient in the dining room by 35%. Data on eating disorder behaviours in the dining room continue to be collected weekly by staff and is now part of ward routine.

Advancing on the success of our first intervention, this paper outlines the next stages of our QI project informed by ideas from the ward coproduced driver diagram created together with staff and patients.¹

Setting

Cotswold House Oxford is part of the HOPE Provider Collaborative which covers a geographical population of 3.5 million. Patient demographics taken from another recent study between 2017 and 2020 of our patient group (n=120) illustrate that the average age of patients admitted is 28.9 (17.1–60), 97% identify as female, average admission BMI is 14.4% and 99% had primary diagnosis of ICD-11 Anorexia Nervosa with 25% being detained under the Mental Health Act (remaining: Atypical Anorexia Nervosa).² A high rate of comorbidities for this cohort includes depression, anxiety disorders, autistic spectrum disorder and personality disorder.

The unit historically has had 14 beds and 6 day-patient spaces. It was built during the 1800s as part of Oxford's asylum. During the pandemic, we have been operating at 80% capacity together with a virtual day patient service due to the constraints of being based in a Victorian building. Admissions have been further affected by other factors in January-March 2022 such as the entire heating system needing to be replaced which also affected the number of beds available, together with our first outbreak of COVID-19 with the ward temporarily closing to new admissions and all affected patients isolating and having to eat in their bedrooms.

There are two dining rooms on the unit, the main dining room, which was the focus of our interventions (all patients attending the main dining room were included), and a practice dining room upstairs, which some patients progress, further on in treatment, to aid independent eating.

Staff normally eat with patients in the dining room; however, because of infection control changes through the pandemic, staff have been unable to eat with patients, which has led to the loss of role modelling of normal eating in the dining room.

Design

The project team consisted of the Dining room project working party. This working party was established while introducing the first intervention of the host role and represents a sustainable change in the system which is embedded sufficiently now to withstand project staff leaving. The team includes the dietitian, dietetic assistant (DA), occupational therapy technical instructor (OTTI), modern matron, two nurse leads and the QI research lead. The patient group and ward team were regularly consulted and involved at all stages of the project. We placed a lot of focus on ensuring whole ward involvement and used several approaches to keep everyone informed and provide opportunities for involvement. This included sending regular updates by email and communicating in person at staff meetings. We have recruited new members to form part of the project activities, particularly relating to our third test of change. We have also disseminated the progress of this project in relevant trust meetings, such as the Quality and Learning group and the Quality Committee to ensure executive-level engagement. Finally,

the project board on the ward with relevant information about the project is updated regularly by the DA and patient group together.

Patient involvement

Patients were involved in the design and conduct of this research. During the initial stage, outcome measures and interventions were informed by discussions with patients. Throughout the project, patients have been consulted about developing and implementing each intervention.

As the results emerged, the patient group was updated on the project board to keep everyone informed.

Strategy

The project aimed to decrease eating disorder behaviours in the dining room by 50% within 1 year of starting the project. Our first test of change is described in our previous publication. In this section, we describe the subsequent tests of change and associated PDSAs following that work. In our third test of change, we particularly focused on sustainability and the integration of our work into routine practice.

TEST OF CHANGE TWO: INDUCTING STAFF

PDSA cycle one—Newcomer's Guide

Plan

In our second test of change, we reviewed the driver diagram with both staff and patients. As a result of these discussions, we decided to target staff training. The focus was to develop a guide on the dining room for staff with support from patients and staff. This included collating information in the existing patient information pack given to patients on admission. Additionally, we pulled together the various ward documents compiled by a range of staff over the years and had discussions with the staff and patient groups around what would be useful for staff to know to maintain consistency in support dining room activities.

Do

A draft of the guide was handed out to staff and discussed at three separate staff meetings (due to shift work patterns and to include as many staff as possible). The guide was also discussed with the patients upstairs in the practice dining room, who had experienced the main dining room on admission and were further on in their treatment. Subsequently, this was named the 'Newcomer's Guide' and was implemented on 10/2/2021, 8 months after the first change had been introduced.

Study

The working party continued to meet every fortnight and review progress. Baseline data were collected weekly on ED behaviours.

Qualitative feedback was gathered from new staff as the second intervention was implemented. This was collected by one of the senior nurses and involved her emailing each new staff individually and logging their feedback.

Feedback was very positive and included:

'Newcomer's Guide is handy for every staff, and primarily it provides the roadmap for new teams. All patients begin their treatment in the main dining room; consequently, this dining room accommodates the most seriously ill patients. And I feel so proud when they express better feelings.'

'I was given the Newcomer's guide prior to my commencement to work in the ward. It was extremely helpful to me as there were so much to learn in familiarizing the routine specially in relation to the patients' mealtime and their meals.'

Act

The guide was emailed to all existing staff to ensure consistency and reduce variation in existing practice. All new starters are now given a copy of the Newcomer's guide to read through before they start working on the unit.

The planning for the next PDSA cycle started within weeks of implementing the guide. The implementation guide was useful, but we agreed that due to the amount of information and detail, it was of limited use for agency/temporary staff. One member of staff suggested creating flashcards containing the essential information for this workforce which we agreed to implement as the next PDSA cycle.

PDSA cycle two—flash cards

Plan

We agreed on how to capture the essential information from the Newcomer's Guide into an easily accessible card which we left in a box in the Nurses' Office on the ward. We introduced mini flashcards of 'dos and don'ts' in the dining room, particularly for new starters and agency staff as a prompt which they could refer to while on a shift and keep in a pocket.

Do

The flashcards were printed and laminated and left in the Nurses office for staff. The job of printing and laminating the cards was allocated to one of the band 4 healthcare assistants.

Study

Regular audits were introduced and carried out by senior nurses to ensure the flashcards were available and being used in the Nurses' Office. During the initial stages of introducing the flashcards, the cards kept disappearing from the ward and when audited, at times, none were available in the office. It was subsequently proposed by the nursing team that the flashcards were attached to the spare access badges the agency staff carry to ensure the information was always available. This has been successful in ensuring that 100% of the flashcards are consistently available to staff.

Act

Further to discussions with staff and the patient group, it was also raised that alongside the guide and flashcards, we needed to develop competencies for new staff working in the main dining room as part of the induction programme developed to ensure staff were being developed and given the skills to support them to support patients in the dining room. We have a high vacancy rate for qualified nursing staff, and it is common to have some turnover in healthcare assistant roles. Subsequently, we are dependent on agency staff who work consistent shifts on the ward and need training.

PDSA cycle three—induction competencies

Plan

The competencies were developed by the dietitian and the senior nursing staff and centred around their experiences of supporting patients and staff in the dining room. Competencies were based around the meal service, meal support to give to patients and troubleshooting common problems during mealtimes. The competencies also cover common scenarios and problem solving.

Do

The competencies were subsequently piloted on seven newly recruited healthcare assistants by one of the senior nurses. Staff were emailed the competencies prior to starting on the ward. Using the existing buddy system for new starters of allocating them with an experienced staff member for their first 2 weeks and being supernumerary, new staff were asked to complete the competencies during this 2-week period. The competencies include a checklist, so they can demonstrate that they have completed them.

Study

Qualitative feedback was again gathered from new staff as the competencies were implemented. This was collected by one of the senior nurses and involved her emailing each new staff individually and logging their feedback. It was also addressed during supervision of the staff with supervisors assessing the competencies. Feedback from staff was positive, highlighting the helpfulness of having a framework to work around when starting a new job:

‘The dining room competencies have given me the confidence to host the meal and be aware of the right things to do’.

‘The dining room competency enables newcomers like me to get a bird’s eye-view about the daily routine of the ward and the needs of the patients as well as on how to support our colleagues.’

‘It’s good to know what needs to be done in the dining room to feel competent with staff and patients. It encourages us to be more proactive in completing tasks (especially with different routines for six meals a day) during the induction period and strengthens my confidence in the dining room, which I understand is the hardest place for patients to be in. It also lets

other staff members know that we are aware/competent of what needs to be done in the dining room, and that we can be trusted to be allocated for meal prep/host.’

Act

We met patients and staff to agree on and start planning the next test of change, using our driver diagram to guide us.

TEST OF CHANGE THREE: DINING GOALS GROUP

PDSA cycle one—initial group set up

Plan

Premeal and postmeal groups were a change idea identified by patients and staff on the driver diagram which aligns with the ICBTE model for inpatient units.¹¹ The group provides opportunities where eating disorder behaviours are identified and worked on. This is an important process as some behaviours may be so entrenched that patients may be unaware they are taking place or may not associate the behaviour with their eating disorder, contributing to maintaining their eating disorder. At the outset of the third test of change, we discussed with patients and staff the process of providing feedback with options being either individually or in a group format. The initial reaction from patients was mixed, the main concern being that it would involve discussing their eating disorder behaviours with other patients. On reflection, we decided to try the group format, acknowledging that it would require a sensitive approach as not all patients will feel comfortable with having certain sorts of conversations. We also discussed the importance of generating ideas and solutions to tackle the eating disorder behaviours with patients and staff.

Do

We started the test of change on 18 June 2021. The group was jointly run by the DA and OTTI on a weekly basis. Patients and staff filled out an existing individual 24-hour meal and snack feedback form to identify ED behaviours, areas for support and to set goals for the coming week (see online supplemental appendix A). The feedback sheets highlight certain behaviours that staff have witnessed and give patients a chance to acknowledge their own behaviours. This helps them take ownership of the ED behaviours and question why they engage with certain behaviours, linking in with the ICBTE.

Study

The fortnightly working party meetings reviewed the progress. Outcome measures continued to be collected weekly around ED behaviours. A tweak was made to the sheet to include weekly goals. A clear format for the group was established to follow each week by the DA and OTTI. This included taking a positive approach including questions such as what has gone well this week, rather than solely focusing on negative aspects (avoiding a potential copycat effect around behaviours) and taking a

problem-solving approach, working more on generating solutions. The format of the group changed to:

- ▶ What has gone well this week?
- ▶ What ED behaviours/rules in the dining room need working on? (look at feedback from staff).
- ▶ Did you achieve your goal? If yes, how did you manage and what skill/strategies worked?

Act

There was evidence of patients supporting each other and discussing what they can do differently. Another PDSA cycle around the group was agreed on, specifically looking at SMART goals and incorporating them into goal planning.

PDSA cycle 2: goal setting and incorporating it into care planning

Plan

It was noted by staff during the group that there were some difficulties with the goals being too general or the same from week to week. The team discussed the role of goal setting for progression but also as a basis for discussion. Some patients were referencing barriers not relating to the dining room and goals that were either not directly related or not measurable. The feedback form was changed to include SMART goals for the week ahead focusing on specific examples and small action-oriented goals to provide patients with an opportunity to see progress. Common ED behaviours that patients set goals around include tackling: tearing and breaking of food into tiny pieces, eating at a slow pace, competing with other patients to finish last, cutting food into small pieces, not putting enough food onto cutlery and avoiding fear foods.

Do

The new group format was used the week after the feedback form was changed.

Study

Patient feedback was gathered both in writing and verbally. As a result of feedback from the patients, nursing

staff were actively encouraged to join the group. The patients raised that having more staff in the group would be helpful as it is often the staff who notice behaviours that need to be worked on.

Informal quotes from patients and staff were obtained to increase buy-in and the DA and patient group added these comments to the project noticeboard on the ward. Quotes included how patients found it helpful to talk about their ED behaviours in a less stressful environment than the dining room. Staff were also updated by email and in a face-to-face training session on the update of the dining room project, for example, positive feedback to staff for support given and changes to the form. Subsequently, there is now better staff attendance and engagement in the group.

Act

Future tests of change are currently being considered. This includes creating a simulation video for staff training with support from the Trust's simulated learning lead and QI research lead. In the meantime, the team is working to ensure the current changes are sustained and monitoring the effect these have on the overall aim of the project to reduce eating disorder behaviours at mealtimes.

RESULTS

During the project, we regularly looked at the data to see if this was having an impact on the aim of the project to relate the changes to the measurement. The number of ED behaviours for each meal was totalled and divided by the number of completed forms, giving the mean average ED behaviours observed per patient. Results to date show a 33.44% reduction in observed ED behaviours between baseline and the post-test period (incorporating the three tests of change). This is similar to the figure reported in the previous paper (35%). Results between baseline period and the third test of change (feedback group) saw a 43.68% reduction in observed ED behaviours. Reviewing the run chart in [figure 1](#), we observe no improvements during the second test of change, but

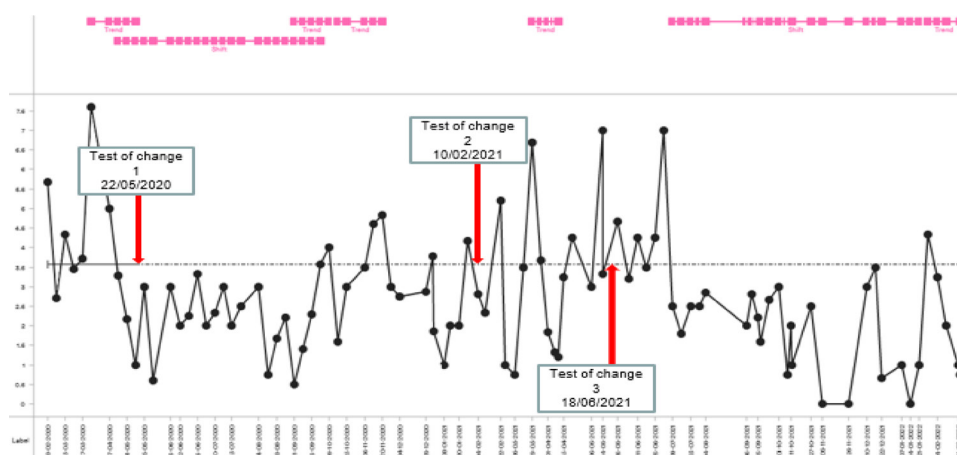


Figure 1 Run chart of the observed ED behaviours. ED, eating disorders.



we are aware of some challenges regarding the patient population during this time. Additionally, we considered that a more consistent approach by staff may be initially confronting and challenging to patients who may have used these to maintain behaviours they were not ready to change, resulting in heightened anxiety and potentially more ED behaviours. Nevertheless, this test of change focused on continuity and consistency across staff involved in the dining room project. We did observe a sustained shift below the median line during the third test of change and a downward trend in recent weeks. Overall, this suggests an improvement in the project towards the initial aim set.

For the second test of change, staff provided positive feedback for the newcomer's guide. Staff stated that it was good to know what needs to be done in the dining room to feel competent and confident with staff and patients. Feedback also pointed out that the guide provides a consistent approach across the team as well as role clarity. Also, staff pointed out using the guide as a reference point, something that was particularly useful when there was so much to remember.

For the third test of change, patients provided positive feedback. Patients discussed how the group provided a peer support approach to identify areas for support and identify goals. Many appreciated the light-hearted and upbeat approach of the group to help them move away from negative feelings and promote accountability when battling ED behaviours. Finally, many patients appreciated the staff being present and supporting them to discuss ED behaviours in a less stressful environment.

DISCUSSION

We have had two main limitations resulting from this project. The first is that we have not been able to always be consistent with data collection happening on the same day every week. The nature of the work and additional pressures due to COVID-19 does mean that consistency for carrying out data collection on the same day is not always possible. At times, we have had clusters of data collection together and this may have impacted on our observations. However, this is unlikely to affect the overall picture as we have collected data for a long period of time. Second, while we have had increased engagement in the project, we have not always had sufficient staff attendance in our third test of change, particularly in relation to the feedback group and their input into care planning.

There are two key lessons following on from our project. The first is the importance of a whole ward/service approach to carrying out quality improvement. Our project significantly benefited from an interdisciplinary approach. This was vital when gathering different perspectives for a consistent approach to dining room activities and integration into routine practice (see online supplemental appendix B). Although we have had some challenges with engagement, we have benefited from the feedback and steer from colleagues across the team

when refining our tests of change. In the first paper, we highlighted that staff engagement was a major challenge. Having the two nurse leads in the core working group as well as the therapy assistants had a positive impact in helping further engagement. It has taken 2 years to reach a more sustainable position with the project accepted by the team and ongoing. A key learning outcome has been that persistence is key to engagement. Even more importantly, our patients have provided vital feedback to our tests of change and have been critical in ensuring that what we do is fit-for-purpose and keeps the patient at the centre of all our activities.

The second is that the sustainability of a project does rely on how close it sits within practice. This is especially important for projects like ours that introduce an additional measure and additional associated tasks. By integrating our observations and feedback into care planning, it creates an additional value to the observed ED behaviours beyond data collection. This helps staff understand the importance of this data and it can also be used collaboratively to have candid discussions with patients and empower them to play an active role in their own recovery. Quite often, these are conversations that require candid and often challenging discussions, so using a measure, such as observed behaviours from both patients and staff, provides a basis for these discussions and a unique way of care planning in a systematic manner.

CONCLUSION

We present a continuation of our QI project with findings that thematically link to a previous article. Building on our initial findings, we carried out two further tests of change. One test focused on enhancing awareness of ward staff around the project and creating more a more structured and informed induction for new substantive staff as well as temporary/agency staff. The next test of change focused maximally on using collected observations and feedback and integrating this into care planning. These findings add to the applied research and healthcare literature on how to effectively support patients in the dining room, which is arguably the most stressful part of their treatment. Our feedback group, focusing on empowering patients to take responsibility for their care, provides an applied example of using the principles of CBT-E, the approach adopted by Cotswold House. From a practical perspective, these two thematically linked papers provide a package that other inpatient ED units may find useful, providing an observation framework and creating a purposeful feedback group, linked to care planning.

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data. LG and DFH wrote the first draft. All authors contributed to the final draft. LG accepts full responsibility for the work and/or the conduct of the study, had access to the data, and controlled the decision to publish.

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Patient consent for publication Not applicable.

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Appendix A: Meal and Snack Patient Feedback form example

Patient name: _____ Date: _____

Please use this to document any behaviours to work on that are maintaining your eating disorder e.g. sticking to time, certain rules and any unhelpful behaviours that need to be worked on e.g. smearing, crumbing, hiding or leaving food.

Meal	Patient feedback - How did I feel? What did I do?	Staff feedback
Breakfast	Really struggled with ED thoughts and feeling of guilt. Tried to not break toast Feeling full	I could see you was struggling but still managed to complete. Did need to remind you of your goal to stop pulling apart your toast, but you listen and managed this situation really well. This will get easier with rational thinking. Next time be mindful to use all spreads in the pot.
Mid-morning	I felt safer to eat in smaller piece as I feel greedy	I notice that you broke your crisps into really small pieces, next time try to take one at a time without crushing. If you would like to talk about why you are doing this, please come find me. This example could be used for cereal bars, biscuits, chocolate bars, cakes.
Lunch (Hot meal)	Struggle with the amount of food, don't like it when the foods are mixed up. Like to eat foods one at a time. Finding it hard to accept staff serving me as am worried they are over serving me. Find joining in on conversation difficult.	I could see you was struggling, but staff have portion guide they follow for every meal. Try to vary what you are putting on your fork. Conversation is a useful tool to help distract you from ED thoughts. However, some patients prefer not to engage and this is ok, could let staff know how you feeling before going into the dining room. Other tools used in the dining room could be ice glove, sensory items, prompt cards. Talk to staff for ideals or ask in dining goals group.
Mid afternoon	Still feeling full, don't want any more food.	It may be helpful to view your meal plan as a prescribed part of your treatment plan.
Evening meal (coldmeal)	Struggled with not making the sandwich myself, feel the need to check the filling.	All sandwiches are made the same. Try working on not checking filling or breaking it up. Remember to not cut the sandwiches as it is already cut in half. Its ok to eat food with your hand. Also be aware of the time frame within the dining room expectation. Staff can remind you of the time left if this is helpful.
Evening snack	Find this meal really stressful, not sure off my options. Like black coffee don't want to add milk	There is guidance on the wall in the dining room if unsure. Could speak to Dietetic Assistant. Milk or soya is part of having a coffee/ tea. Think of it as part of your prescribed meal plan.

Appendix B Visual demonstration of integration into practice