The Lantern Project: shining a light on food in aged care

The Lantern Project aims to improve mealtime and dining experiences for residents in aged care settings, in response to the unacceptably high levels of malnutrition among older Australians, particularly those with dementia. Project founder and dietitian **Cherie Hugo** explains

Meet Mr B, an aged care home resident living with dementia. Mr B had a history of significant overnight agitation and presented with confusion as to time and place, poor oral intake and dysphagia.

Mr B had ill-fitting dentures which resulted in staff downgrading Mr B to a pureed diet prior to a speech pathology review. His profound vision and hearing impairment meant staff were providing Mr B with full assistance with his meals, with no ability to cue him for each mouthful due to sensory deficits. Mr B simply could not see or hear verbal cues as to when the next mouthful was coming and what food and fluid was being offered. This led to confusion, lack of mealtime engagement and a resulting poor dietary intake.

Recommendations involved replacing the batteries in Mr B's hearing aid and ensuring his hearing aid and glasses were worn during all meals. A dental review was also recommended.

Lantern Project Collaboration members tour the edible garden at NoosaCare on Queensland's Sunshine Coast

Staff were prompted to guide Mr B to hold his own cup and cutlery, and offer verbal cues and assistance where required. The result? Hearty conversation around the meal served, Mr B independently holding his own cup and drinking well in between mouthfuls of the meal, satiety at the end of the meal, resulting in Mr B having a more settled overnight sleep, engaging in conversation during mealtimes, and an upgrade to thin fluids and soft diet achieved by addressing identified sensory deficits (sight, hearing, touch), leading to an improved mealtime experience. In brief, a happier, more nourished Mr B.

Mealtimes are so much more than nutrients on a plate. They are a time to connect with others, savour flavours, colours, textures and smells, trigger memories and create joy.

The Lantern Project was borne of the need to improve the quality of life of older adults through the joy of food. I started The Lantern Project in 2013 to explore and illuminate ways to further improve the food and dining experience for people in aged care settings.

The project is a national collaboration, meeting monthly on the Gold Coast with webinar linkups for participants across the country. There's now more than 500 members across Australia and overseas including aged care managers, catering managers, dementia consultants, healthcare workers, carers, accountants, dietitians, speech pathologists, researchers, horticultural therapists, representatives from peak industry bodies, and resident advocates.

The project welcomes all aged care stakeholders to join in the monthly conversation and group brain-storming with the goal to problem solve and develop innovative solutions and inform action-based research via Bond University.

In the five years since The Lantern Project began we have learnt so much. Key successes to date include:

Aged care residents and school children at a planting afternoon in the edible garden at Sandbrook Aged Care Home on Queensland's Gold Coast. Edible gardens – involving residents in garden care, harvesting and use of vegetables within the menu – are one of the ideas supported by The Lantern Project. Photos courtesy The Lantern Project

- Development and release of Lantern's EXPLORE app, a story capture tool designed to identify food service priorities.
- Producing The Lantern Aged Care Food Safari 'Little Things' video series – short videos shared online, demonstrating innovations occurring in aged care home food service that have had a big, positive impact on the lives of residents.
- Development of The Lantern Approach, a set of evidence-based guiding principles designed to improve the dining experience for residents in aged care.
- Collaboration with key seafood industry leaders to improve access to local

Points for practice

Cherie Hugo

- Ask people regularly about their food preferences: it's a great conversation starter and an opportunity to discuss past preferences and gain insights into foods most likely to be accepted.
- Capitalise on sweet foods. The tendency for a person to crave sweeter foods as dementia progresses is well known and increases the chances of meeting their energy and protein requirements. Consider dairy accompaniments when offering desserts to help boost protein intake.
- We eat with our eyes. Visually appealing and familiar foods are more readily consumed. Meals requiring texture modification are more likely to be accepted when presented in a recognisable way rather than as a series of coloured blobs.
- Sharing meals offers many benefits including an opportunity for positive social interaction, conversation, triggering of memories and mirroring of eating habits – all of which naturally assist in improving food intake and reducing the risk of malnutrition.
- Food-first approaches* are recommended before consideration of oral nutritional supplements. Directing funds towards fresh, quality, flavoursome meals in preference to a liquid supplement offers benefits beyond merely providing nutrients. A recent research study outlined that while oral nutritional supplements may offer short-term improvements in energy intake for people with dementia, they are unlikely to improve weight management long term or offer other dementia-related outcomes (Simmons *et al* 2010). The study recommended an emphasis on practical and achievable food-focused strategies along with attention around the dining environment to improve oral intake of people with dementia (Jansen *et al* 2015)
- Don't forget dental care. Oral health impacts the mechanics of chewing and swallowing, risk of pneumonia, taste acuity, mouth comfort, appetite, nutritional status, quality of life and dignity.

Examples of ideas supported by the Lantern Approach:

- Themed menus and events can trigger memories (see https://vimeo.com/223269303 for an example of how NoosaCare in Queensland creates a themed menu once a month based on residents' cultural backgrounds).
- Resident involvement in mealtime activities – creates purpose and a sense of belonging.
- Edible gardens – involving residents in garden care, harvesting and use of vegetables within the menu.
- Tapas menus – to promote independence and dignity.
- A focus on dining room ambience – lighting, music, seating arrangements and avoidance of distractions.
- Staff training to support effective food-first priorities above supplement use.
- Engaging the senses – staff training to support texture modified meal presentation, improve flavours and enhance appetite and preparation to eat through enticing mealtime aromas.
- Involvement in meal and menu planning – food story capture and analysis through the Lantern Project's EXPLORE app.

Cherie Hugo is Director of My Nutrition Clinic and founder of The Lantern Project

Australian seafood in the aged care setting.
- The project's research arm has 11 papers currently published and under review.
- Three working groups are currently looking at 'dining experience', 'legal and quality food issues', and 'food activities connecting generations'.

The underlying issue of malnutrition

The Lantern Project's aim of improving mealtime and dining experiences in aged care settings is in response to the unacceptably high levels of malnutrition among older Australians. Malnutrition is a known risk for older Australians, particularly those with dementia. More than one in two aged care residents are malnourished, with figures between 10-30% for people living in the community (Watterson *et al* 2009).

There is a scarcity of studies into the prevalence of malnutrition in people with dementia in Australia, but it is generally accepted that the prevalence of malnutrition is significantly higher for people with dementia than those without (Milte *et al* 2017; Meijers *et al* 2014). International studies reviewed in a 2014 report, *Nutrition and Dementia*, indicate that up to 50% of people with dementia in residential aged care have inadequate food intake (ADI 2014).

The reasons for malnutrition are complex – Mr B's initial experience shows just one example of a potential pathway towards malnutrition. Many factors increase malnutrition risk: disease (Gallagher *et al* 1996; Visser *et al* 2006), anorexia (Rasheed & Woods 2013), reduced sensory input associated with ageing (Huang & Shanklin 2008), reduced access to food choice (Remsburg *et al* 2001), lack of mealtime assistance (Hugo *et al* 2017b), funding issues (Hugo *et al* 2017a,b,c), inappropriate meal provision, inadequate nutrition support and poor dentition (Hugo *et al* 2016) are just a few. Dementia is typically associated with many malnutrition risk factors including dysphagia (difficulty in swallowing), impaired sensory function and an increased sensitivity to environmental factors in the dining room.

Targeting malnutrition

Malnutrition directly affects quality of life. A malnourished person experiences muscle wasting which increases risks of falls, reduces stamina and limits independence. It hampers skin integrity and immune function, a common catalyst for pressure areas and impaired wound healing. Hospital readmissions are increased, mood is negatively impacted and morbidity and mortality sharply rise with decreasing nutritional status. For people with dementia, accessing a dietitian and speech pathologist regularly to optimise oral intake can prevent detrimental and costly consequences related to malnutrition.

Lantern Project research

The Lantern Project research began in 2014 with my PhD research project into Quantifying the Value of Nutrition in Aged Care, through Bond University, and has been looking at the complexity of the mealtime experience to highlight strategies that improve quality of life. Cost-benefits of nutrition, staff training, food-first approaches* along with the connection between oral health,

---

* A food-first approach means prioritising food, mealtime ambience and staff support (training and adequate staffing during mealtime periods) in preference to commercial nutrition supplements for residents.

malnutrition and quality of life (Hugo *et al* 2017a,b,c; Hugo *et al* 2016) have been explored.

One example of innovation through our research is the creation and piloting of The Lantern Project's SenseMaker© EXPLORE app, a story capture tool to gain real-time food service insights from residents, family, staff and visiting health professionals and guide innovations to improve food satisfaction, intake and quality of life. The app is explained in more detail later in this article.

The Bond University-led research studies have been conducted in conjunction with the monthly Lantern collaboration meetings, culminating in the development of The Lantern Approach, a framework that aged care facilities can use to support quality improvement and accreditation around the food and dining experience. This framework offers an evidence-based guide to improve the quality of life of older Australians through improving the mealtime experience. The guide will be available on The Lantern Project website in 2018.

Lantern Project learning

In this article we share a few key learning points from The Lantern Approach. Further information as to how organisations can integrate this approach is available via The Lantern Project website at www.thelanternproject.com.au.

Food is a safe investment

In collaboration with the StewartBrown financial benchmarking survey**, The Lantern Project research identified the current Australian average raw food spend in aged care as $6.08 per resident per day with downward trends of $0.31 per resident per day over the 2015-2016 period (Hugo *et al* 2017a). Diet quality can be adversely impacted by limiting the food budget and figures tend to support this fact with supplement trends increasing over the same period by $0.50 per resident per day (Hugo *et al* 2017a).

As well as increasing the overall cost of food, studies have highlighted poor long-term acceptance of nutritional supplements among aged care residents with dementia (Milne *et al* 2009). So spending more on supplements is false economy, especially if they are not consumed. Research also highlights a reduced oral intake among residents with dementia when prescribed supplements (Simmons *et al* 2010). Supplements can act as a meal replacement rather than a supplement if appropriate nutrition input and mealtime strategies are not in place.

A Lantern Project research study (Hugo *et al* 2017c) involving malnourished aged care residents, including people with dementia, looked at the implementation of Lantern Approach food-first strategies. Food strategies, combined with staff training sessions, improved nutritional status, average weight and quality of life while also offering cost savings of 5%.

Tip for practice

Consider food-first strategies and involve an accredited practising dietitian to ensure nutritional adequacy. If supplements are considered / prescribed, keep a detailed food / fluid chart for two days prior to and then for two days following to monitor impacts on actual intake.

Increased staffing to assist with supplement provision and monitoring of effectiveness is required – but with this increased staffing, food-first approaches may be as effective or more effective than supplements (Simmons *et al* 2010). Short-term use of supplements can be both positive and negative in terms of a person's nutritional intake and weight, but is unlikely to have longer term weight and functional impacts.

Launch of the Lantern Project's Little Things videos in 2017 with aged care and research stakeholders at Bond University

Mealtime enjoyment is key

Meals are an opportunity for people to experience joy, recall memories, promote connection and enhance communication. A great meal and dining environment

** The StewartBrown Aged Care Financial Performance Survey incorporates detailed financial and supporting data from over 950 residential aged care facilities and 500 Home Care programs across Australia. The quarterly survey is the largest benchmark within the aged care sector and provides an insight into the trends and drivers of financial performance at the sector, facility or program level.

The language of food

Sandra Gilbert

Food is a language that can unlock memories for a person living with dementia. The language of food transcends race, sex, age, class and yes, even dementia.

Focus on the passion food can evoke in people rather than just the nutritional value of food. Although we all do it in different ways, the one thing every culture in the world does is prepare food and eat it. This shouldn't change after a diagnosis of dementia.

At the Memory Support Unit at NoosaCare in Queensland:

- We have planted verdant edible gardens that the residents tend to, harvest and then use in the preparation of their meals. There is a large chook run, and the residents feed the chooks daily and collect the eggs.
- We offer two fully functional kitchens that residents prepare meals in with staff or cook in with their families.
- Staff dine with residents to promote social conversation and provide an opportunity to model eating habits and encourage mirroring.
- We have a range of dining options, including a dining room with tables of four, an intimate dining room for no more than six residents, outdoor dining areas and the option of meals on the run as well as healthy snack options (eg fruit, savoury muffins, cheese crackers) available for residents 24 hours a day.
- We use local, seasonal produce to prepare meals, and also develop relationships with local producers.
- Flexible mealtimes – for example, breakfast may start at 5am when the first resident rises and finish at 11am when the last resident rises for the day.
- We also identified that the language of food needs to give dignity to the person living with dementia, so we have replaced the term 'pureed food' (generally associated with babies) with 'smooth food', and the 'finger food menu' has been replaced with a 'tapas menu' to give more dignity to our residents who prefer to dine on the run.

Sandra Gilbert is Facility Manager, NoosaCare and Lantern Project founding member

The Lantern Project collaborators (from left) Ngaire Hobbins (dementia consultant and author), Professor Liz Isenring (Bond University), Cherie Hugo (project founder) and Tibor Paller (aged care chef consultant) at the Dietitian's Association of Australia's 2017 conference in Hobart

encourages this, whereas a poor meal and dining experience thwarts conversation, dampens mood and affects food intake. Mealtime experiences can make up 70% of the waking hours of an aged care resident's day and the majority of their social interaction. They directly influence the person's quality of life.

Engaging the five senses is essential for mealtime enjoyment:

Taste: Taste changes as we age, specifically reduced taste acuity. Dry mouth problems are common too, and both issues can hamper mealtime enjoyment. Amplifying flavours, particularly sweet choices, can improve food intake.

Smell: Enhancing mealtime aromas before a meal provides physiological cues to the body to prepare to eat. Increased salivary flow, increased appetite and focus on mealtimes improves the chances of a successful mealtime. Making popcorn, using a bread-making machine and brewing coffee are other simple ways to infuse aroma into the environment in preparation for mealtimes.

Touch: Be mindful of dexterity changes – some people may find it challenging to use cutlery effectively and to pick up cups, making it harder to eat and drink independently. The comfort of the dining chairs can also be the difference between the person having a settled and an unsettled mealtime experience.

Sound: Background noise, such as televisions being left on, rattling medication trolleys, vacuum cleaners and the loud scraping of plates within the dining area can negatively impact food intake and should be avoided. Soothing music may be helpful.

Sight: Adequate lighting can be a game-changer at mealtimes for those struggling with impaired vision. Reducing visual distractions such as televisions and activities such as medication rounds and improving dining ambience help to improve focus on the meal. One study demonstrated the benefits, including enhanced food intake, of the calming effect of aquariums in the shared dining room of aged care homes (Edwards & Beck 2002). Choosing table settings that contrast with the table/tablecloth and with the food can also assist with mealtime focus by making it easier to see the plate and food.

Care around the presentation of meals – particularly for those requiring a pureed meal – reduces food wastage, can increase enjoyment and restores dignity for residents dining with others consuming normal texture meals (see box below for examples).

Overcoming food challenges through observation, engagement and stories

Dementia presents a series of challenges that can have an effect on a person's food intake and enjoyment of mealtimes, including:

- changes in food preferences
- communication of food likes and dislikes may become more difficult
- changes in hunger/satiety cues
- reduced ability to prepare and access foods independently
- dexterity issues reducing mealtime independence
- reduced focus on meal event
- extended time consuming meals
- hoarding or playing with foods
- agitation and difficulty sitting for the entire mealtime
- spitting out food, biting cutlery or refusing to open mouth.

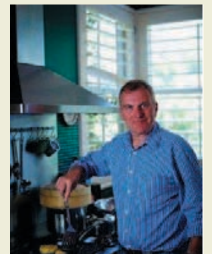
Understanding an individual's views and values around the dining experience can be easier through use of the SenseMaker© EXPLORE app – a tool developed through Lantern Project research to capture and analyse food stories with the purpose of highlighting resident-informed food priorities and the resulting areas to focus on areas within an organisation's food and dining environment.

Aged care residents, including those with early to mid-stage dementia, are encouraged to share a food memory around a food experience – be it distant or recent – and respond to a series of questions around how they felt about the memory.

The tool informs mealtime priorities to guide targeted changes in response to these priorities. One example of a site-specific priority from the pilot testing was around the language used to describe the meals in a new menu introduced by one aged care organisation across all its facilities. Residents' stories related to their being unfamiliar with the

Promoting independence and food intake through finger foods

- Vegetables can be steamed, boiled or served raw, depending on what the person prefers and can manage – broccoli florets cooked, zucchini sticks, celery sticks with cream cheese, potato wedges, corn fritters, cooked asparagus spears.
- Breads and cereals – vary the options and keep sandwiches small to make them easier to manage. Options include buttered toast/crumpets/English muffins, soft muesli bars, crackers with soft cheese, pizza slices, Nutrigrain and scones.
- Meat and meat alternatives – chicken breast cut into pieces, hard boiled eggs quartered, mini quiche, frittata, omelette rolled and cut with filling inside, salami sticks, sausages cooked and sliced into chunks, small fish cakes and meatballs.
- Fruit – peel if preferred, however leaving the skin on can make for easier handling on slippery fruits such as peaches or nectarines. Try slices of apple, pineapple rings, seedless grapes, fruit muffins, small tart shells with cooked apple, fruit smoothies in small cups, dried fruit.



Peter Morgan-Jones

Peter Morgan-Jones is HammondCare Food Ambassador and Lantern Project founding member

menu items and, as a result, they perceived the food choice was reduced. In response, staff held a workshop with residents to rename the menu items. Stories collected three months after this change demonstrated that residents felt they now had more choice. However, the food items were exactly the same, they were just labelled with more familiar names.

Education and awareness

Knowledge is key and appropriate training for health care staff can lead to significant improvements in those residents needing assistance during meals. The Lantern Project, along with individual members of the project, provide specific targeted training for aged care staff and organisations to improve food intake among older Australians on topics related to food and dining experiences specific for dementia, malnutrition and dysphagia. Consulting services to improve the dining experience, upskill catering staff and maximise nutritional intake are available. ■

For further information on The Lantern Project, resources and consultancy, email Cherie Hugo at cherie@mynutritionclinic.com or visit www.thelanternproject.com.au

References

ADI (Azheimer's Disease International) (2014) *Nutrition and Dementia: A Review of Available Research.* Available at: https://www.alz.co.uk/sites/default/files/pdfs/nutrition-and-dementia.pdf

Edwards NE, Beck AM (2002) Animal-Assisted Therapy and Nutrition in Alzheimer's Disease. Western Journal of Nursing Research 24(6) 697-712.

Gallagher Allred CR, Coble Voss A, Finn SC, McCamish MA (1996) Malnutrition and Clinical Outcomes: The Case for Medical Nutrition Therapy. *Journal of the American Dietetic Association* 96(4) 361-9.

Huang H-C, Shanklin CW (2008) An Integrated Model To Measure Service Management And Physical Constraints' Effect On Food Consumption In Assisted-Living Facilities. *Journal of the American Dietetic Association* 108(5) 785-92.

Hugo C, Cockburn N, Ford P, March S, Isenring E (2016) Poor Nutritional Status Is Associated With Worse Oral Health And Poorer Quality Of Life In Aged Care Residents. *Journal of Nursing Home Research* 4(2) 118-22.

Hugo C, Isenring E, Sinclair D, Agarwal E (2017a) What Does It Cost To Feed Aged Care Residents In Australia? *Nutrition & Dietetics*. Available at: http://onlinelibrary.wiley.com/doi/10.1111/1747-0080.12368/full

Hugo C, Isenring E, Miller M, Marshall S (2017b) Cost-Effectiveness Of Food, Supplement And Environmental Interventions To Address Malnutrition In Residential Aged Care: A Systematic Review. *Age & Ageing*.

Hugo C, Rathbone E, Isenring E (2017c) Lantern Food-First Strategies Demonstrate Improvements In Dietary Intake, Nutritional Status, Quality Of Life And Cost Savings Compared To Usual Care In Aged Care Residents: The Nourish Study. *Journal of Nursing Home Research*.

Jansen S, Ball L, Desbrow B, Morgan K, Moyle W, Hughes R (2015) Nutrition and Dementia Care: Informing Dietetic Practice 36-46.

Meijers JM, Schols JM, Halfens RJ (2014) Malnutrition In Care Home Residents With Dementia. *The Journal of Nutrition, Health & Aging* 18(6) 595-600.

Milne AC, Potter J, Vivanti A, Avenell A (2009) Protein And Energy Supplementation In Elderly People At Risk From Malnutrition. The Cochrane *Database Of Systematic Reviews* (2)CD003288.

Milte R, Shulver W, Killington M, Bradley C, Miller M, Crotty M (2017) Struggling To Maintain Individuality – Describing The Experience Of Food In Nursing Homes For People With Dementia. *Archives Of Gerontology And Geriatrics* 72 52-58.

Rasheed S, Woods RT. Malnutrition And Quality Of Life In Older People: A Systematic Review And Meta-Analysis (2013) *Ageing Research Reviews*12(2) 561-6.

Remsburg RE, Luking AMY, Baran P, Radu C, Pineda D, Bennett RG *et al* (2001) Impact of a Buffet-style Dining Program on Weight and Biochemical Indicators of Nutritional Status in Nursing Home Residents: A Pilot Study. *Journal of the American Dietetic Association* 101(12) 1460-3.

Simmons S, Zhuo X, Keeler E (2010) Cost-Effectiveness Of Nutrition Interventions In Nursing Home Residents: A Pilot Intervention. *The Journal Of Nutrition, Health & Aging* 14(5) 367-72.

Visser M, Deeg DJ, Puts MT, Seidell JC, Lips P (2006) Low Serum Concentrations Of 25-Hydroxyvitamin D In Older Persons And The Risk Of Nursing Home Admission. *The American Journal Of Clinical Nutrition* 84(3) 616-22.

Watterson C, Fraser A, Banks M, Isenring E, Miller M, Silvester C *et al* (2009) Evidence Based Practice Guidelines For The Nutritional Management Of Malnutrition In Adult Patients Across The Continuum Of Care. *Nutrition & Dietetics* 66:S1-34.

Resources for carers

- **The Lantern Project Collaborative monthly meetings:** The Lantern Project Collaborative meets on the Gold Coast on the first Friday of each month to progress the work of the project, strengthen networks. Membership is free and gives access to The Lantern Project Online Forums to connect and collaborate, share ideas and experiences about good food and nutrition in aged care with others across Australia. Details: http://thelanternproject.com.au/lantern-project-collaborative/

- **Peter Morgan Jones' cookbooks:** *It's All About The food Not The Fork!* (www.hammond.com.au/shop/information-for-carers/its-all-about-the-food-not-the-fork) and *Don't Give Me Eggs That Bounce* (www.hammond.com.au/services/food-culture/dont-give-me-eggs-that-bounce) feature recipes to support people with dementia, older people and people with swallowing difficulties to enjoy appetising and nourishing food, including appetising smaller meals that can be eaten without the need for cutlery. HammondCare also runs Dining for Engagement training workshops for catering staff caring for residents with dementia.

- **The work of Ngaire Hobbins**, writer and educator on food, ageing and brain health and expert on nutrition for aged care: www.ngairehobbins.com.

- **Dementia Mealtime Assessment Tool (DMAT):** The DMAT is an online tool that enables carers to assess, select interventions and generate a person-centred care plan to enhance mealtime eating abilities and improve the mealtime environment in people with dementia. Details: www.thedmat.com

- **Innovation and Changes Forum, Aged Care Hospitality Services (20 April)** – a detailed look at aged care cookery, recent changes and where it is heading. Part of the week-long Tasting Australia food festival in Adelaide, South Australia from 13-22 April 2018. Details: http://www.tastingaustralia.com.au

- **The Lantern Project's SenseMaker© EXPLORE App**, available from Google Play or iTunes, or via the project website http://thelanternproject.com.au/how-you-can-get-involved/share-your-story-with-us/.

- **My Nutrition Clinic's Nutrition Masterclasses** for health care staff in aged care: www.mynutritionclinic.com.au/Nutrition-services/training/

- **Further reading:** *Struggling to Maintain Individuality: Describing the Experience of Food in Nursing Homes for People with Dementia. A* research study by R Milte and colleagues (*Archives of Gerontoloy and Geriatrics* 2017). Available at: https://www.ncbi.nlm.nih.gov/pubmed/28552702

See Research News p35 for a summary of this study.