Impact case study (REF3)

Institution: Bournemouth University	

Unit of Assessment: 3

Title of case study: New tools to identify older people at risk of malnutrition and improve their nutritional care

Period when the underpinning research was undertaken: 2014 – 2020

Details of staff conducting the underpinning research from the submitting unit:

Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Professor Jane Murphy	Professor of Nutrition	2008 - current
Dr Joanne Holmes	Senior Lecturer	2005 - current
Cindy Brooks	Research Assistant	2014 - 2016
Dr Nirmal Aryal	Post-Doctoral Research Assistant	2018 – current

Period when the claimed impact occurred: 2016 – 31 December 2020

Is this case study continued from a case study submitted in 2014? No

1. Summary of the impact (indicative maximum 100 words)

Malnutrition is a significant health problem for older adults and people with dementia living in the community. If left untreated, it can lead to increased need for health and social care support.

Professor Murphy's team has developed new research–informed tools and models that better identify those at risk of malnutrition at an early stage, enabling the delivery of person-centred nutritional care for those most at risk. These tools have been used by families, carers and care homes across the country. They have also informed national training frameworks, leading to improvements in the way practitioners deliver care. Early identification models have been used to support the identification of those at risk of malnutrition during the Covid-19 pandemic.

2. Underpinning research (indicative maximum 500 words)

Malnutrition affects 1,300,000 (or 1 in 10) older adults living in the community, which contributes to the GBP23,500,000,000 per year health and social care spend in the UK (BAPEN, 2015). The health consequences are far-reaching and can lead to increased need for healthcare and increased mortality. Early identification and intervention for those at risk of malnutrition can prevent decline in health, improve wellbeing and reduce healthcare costs.

Research undertaken by Professor Murphy as part of the Malnutrition Priority Setting Partnership demonstrated that one of the key priorities for research into malnutrition and nutrition screening was the need for novel practical approaches to screening and the need for tools that would allow for early intervention to prevent malnutrition [R1].

Further research, funded by the Burdett Trust for Nursing (GBP131,321) and led by Professor Murphy, demonstrated that there are significant challenges with using the existing leading tool for identifying those at risk of malnutrition, despite NICE guidance and quality standards [R2]. Research demonstrated that using the Malnutrition Universal Screening Tool (MUST) requires training and guidance, which are not always available and that high levels of staff turnover in community teams also created a barrier to implementation [R2].

This led to research in conjunction with the Wessex Academic Health and Science Network (AHSN) and the Patients Association (PA), to modify and field test the Patient's Association Nutrition Checklist to assess and maximise its effectiveness. The resulting empirical research found the checklist identified 68 (out of 312) people at risk of malnutrition, while MUST only identified 31 [R3]. This was attributed to the checklist enabling the identification of people in earlier stages of malnutrition than MUST was able to identify [R3].

As well as identifying new ways of screening for the risk of malnutrition, Professor Murphy has also developed new interventions to reduce the risk of malnutrition in vulnerable groups. People with dementia (PwD) are particularly at risk due to reduced appetite, difficulties associated with eating, and swallowing problems. Ensuring appropriate nutrition and hydration is essential both to avoid malnutrition, functional impairments and comorbidities and to reduce the cost burden on health and social care [R4].

Professor Murphy led a two-year research project funded by the Burdett Trust for Nursing (GBP128,222) to identify and understand best practice for the provision of nutrition for PwD in care homes. The research deployed innovative wearable technology for PwD in care homes to measure levels of physical activity, sleep patterns and energy expenditure, combined with information about residents' energy intake and nutritional status [R4]. It found that needs varied enormously between individuals, demonstrating the importance of person-centred care when considering how to support PwD to eat and drink well.

Working in partnership with users, beneficiaries and those involved with care delivery – including nurses, care managers, councils and Clinical Commissioning Groups - the research has informed a new model of person-centred nutritional care [R5]. This has led to the production and dissemination of a toolkit to establish high-quality nutrition education and training, equipping health and care workers and family carers with the skills and knowledge they need to improve nutrition in PwD [R6].

3. References to the research (indicative maximum of six references)

R1-R6 reflects the highest quality inter-disciplinary research conducted in collaboration with service users, practitioners and stakeholders to have the maximum impact and benefit for practice and care, rigorously peer- reviewed and published in relevant high-quality international journals.
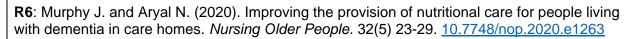
R1: Jones D.J., Murphy, J. et al. (2020). Priority setting for adult malnutrition and nutritional screening in healthcare: a James Lind Alliance. *J Hum Nutr Diet*. 33(2) 274-283. 10.1111/jhn.12722

R2: Bracher M., Murphy J.L., Steward K., Wallis K., May C.R. (2019). Implementing professional behaviour change in teams under pressure – results from phase one of a prospective process evaluation of a new procedure for screening and treatment of malnutrition in community care for older people (INSCCOPe). *BMJ Open*. 9(8) https://bmjopen.bmj.com/content/9/8/e025966

R3: Murphy J.L., Aburrow A., Guestini A., Brown R., Parsons E. & Wallis K. (2020) Identifying older people at risk of malnutrition and treatment in the community: prevalence and concurrent validation of the Patients Association Nutrition Checklist with 'MUST'. *J Hum Nutr Diet*. 33(1) 31-37. https://doi.org/10.1111/jhn.12710

R4: Murphy J., Holmes J., Brooks,C. (2017). Measurements of daily energy intake and total energy expenditure in people with dementia in care homes: the use of wearable technology. *J Nutr Health Aging*. 21 927-932.https://doi.org/10.1007/s12603-017-0870-y

R5: Murphy J.L., Holmes J., Brooks C. (2017). Nutrition and dementia care: Developing an evidence-based model for nutritional care in nursing homes. *BMC Geriatrics*.17(55) https://doi.org/10.1186/s12877-017-0443-2

R6: Murphy J. and Aryal N. (2020). Improving the provision of nutritional care for people living with dementia in care homes. *Nursing Older People*. 32(5) 23-29. 10.7748/nop.2020.e1263

4. Details of the impact (indicative maximum 750 words)

Detecting malnutrition early

As a result of Professor Murphy's research, the Patient's Association Nutrition Checklist was validated against MUST and then modified to become two checklists, one for use by patients and their carers and one by health and social care practitioners [E1a,b]. It has been downloaded over 2,000 times. Professor Murphy wrote guidelines for using the checklist during the Covid-19 pandemic [E1c] and councils and NHS Trusts across the country have been using it to screen their vulnerable populations for malnutrition [E2a,b,c,d].

Malnutrition became a higher risk during the pandemic because of social distancing and isolation. Testing for malnutrition was problematic because it was more difficult to see people in clinical settings. As the checklist was designed to be used by patients and carers, as well as professionals, it became a vital tool for diagnosing malnutrition in the community during this period. As an example, the British Dietetic Association (BDA) recommended that "If regular weighing is not possible during the pandemic, please consider using the subjective measures of MUST or the Patients Association Nutrition Checklist to identify risk of malnutrition when conducting virtual reviews. Both are validated tools." [E3]

Eat Well Age Well, a national project tackling malnutrition in older people living at home in Scotland incorporated the checklist into Scottish national training and guidelines; the Malnutrition Advice Line and Age Scotland advice line. As a result, 527 staff and volunteers have been trained and 682 older people in the community have been screened to date [E4]. 105 (15%) were identified as being at risk of malnutrition and signposted to organisations for further support. Case studies included a 91-year-old and a 74-year-old who both gained weight after being given dietary advice after screening [E4].

Developing interventions to prevent malnutrition

Informing national training standards
The dissemination of the team's nutrition and dementia research through Health Education England (HEE) led to the identification of training gaps for the health and social care workforce.

Key aspects of the research were embedded in the 'National Dementia Training Standards Framework' published in 2018 [E5a], directly informing essential knowledge and skills on nutrition and hydration across 9 of the 14 subjects for food and nutrition [E5a – Appendix 10]. This supports workforce development of 1,620,000 jobs in adult social care (Workforce Intelligence, Skills for Care 2019). It also underpins the Welsh Government's best practice guidance for nutrition in care homes [E5b].

The Head of Programme Delivery at HEE, said: "*Professor Murphy's research has informed policy, been of great value to practitioners and improved the health of people living with dementia.*" [E6]

Use in care homes
Professor Murphy's research into interventions to prevent malnutrition in PwD living in care homes led to the development of a training toolkit to deliver person-centred nutritional care for PwD, comprising a workbook, film and guide [E7a, E7b].

The tools have been embedded into national stakeholder policy documents and resources, including those produced by the National Association of Care Catering, and incorporated into

guidance on websites including Dementia UK, the Malnutrition Task Force and Social Care Institute for Excellence [E8a,b,c,d].

The toolkit is freely available to download from BU's website. Over 1,700 known recipients of the downloaded resources (including nurses and allied health professionals, hospital and care home staff from the UK and overseas) have reported benefits and action to reconfigure nutritional care.

A national survey of practitioners and care staff who have used the toolkit (47 respondents) shows significant changes in knowledge and attitudes and quality improvements in nutritional care [R5]. 82% of respondents engaged with the guidance on a regular basis and over 70% reported that people with dementia had better appetites and were eating more. Two of the participants made the following comments:

"*We used the workbook as a superb resource to input in our action plan to improve nutrition care in our borough across health and social care providers for people living at home and in a residential home.*" (Commissioner of Care Services) [E9].

"*I was just amazed at what little could be done to make such a big difference. One of my residents has put on a stone in weight since we have been referring to the advice from the book.*" (Care Home Manager) [E9]

Supporting carers and family members
Building on the success of the toolkit for the care workforce, the team produced a guide for family carers of PwD [E7c].

4,000 hard copies were distributed nationally, and people have reported positive impacts on the health and wellbeing of PwD. A survey of carers who used the guide found positive changes to PwD's appetite and fluid intake, with feedback demonstrating that carers have been empowered to make changes to support their relatives, "I always bought semi-skimmed milk for mum as that is what she always had. I have now changed over to whole milk. I didn't know about adding dried skimmed milk powder to food and drink. That is something I have learnt [as a result of the guide]. I have started buying more finger food which she likes and finds it easier to eat." [E10]

5. Sources to corroborate the impact (indicative maximum of 10 references)

E1a. The Patients Association & Wessex Academic Health Science Network (2018), *The Patients Association Nutrition Checklist, Patient Version*.
E1b. The Patients Association & Wessex Academic Health Science Network (2018), *The Patients Association Nutrition Checklist, Professionals Version.*
E1c. Wessex Academic Health Science Network, Bournemouth University, the Patients Association and the Malnutrition Task Force (2020), *The Patients Association Nutrition Checklist, explanatory guide in light of Covid-19*.

E2. Examples of organisations using the Patients Association Nutrition Checklist:
E2a. NHS Kernow CCG, (2020), *Adults At Risk Of Poor Nutrition Due To Shielding Or Self-Isolation*. [online] Available at: https://www.kernowccg.nhs.uk/your-health/nutrition/adults-at-risk-of-poor-nutrition/ [Accessed 23 September 2020].
E2b. patientwebinars.co.uk, (2021), *Overview Of COVID-19 Recovery Advice | Patientwebinars.Co.Uk*. [online] Available at: https://patientwebinars.co.uk/condition/covid-19-recovery-advice/ [Accessed 24 September 2020].
E2c. Rdemembers.com (2020), *How To Support Good Nutrition And Diet During The COVID-19 Pandemic – RDE Members – Royal Devon And Exeter NHS Foundation Trust*. [online] Available at: https://www.rdemembers.com/how-to-support-good-nutrition-and-diet-during-the-covid-19-pandemic [Accessed 23 September 2020].

E3. British Dietetic Association (2020), *Nutrition Considerations And Recommendations For Managing Patients With Or Recovering From Covid-19 In The Community*.

E4. Eat Well Age Well (2020), *Eat Well Age Well Project Work Using The Patients Association Nutrition Checklist*. Edinburgh.

E5a. Health Education England (2018), *Dementia Training Standards Framework*. [online] Available at: https://www.rdemembers.com/how-to-support-good-nutrition-and-diet-during-the-covid-19-pandemic/ [Accessed 22 June 2018]. (Appendix 10)
E5b. Welsh Government (2019), *Best Practice Guidance Food And Nutrition In Care Homes For Older People*. Section 2: p.62, section 4: p.16, section 6: p.10.

E6. Health Education England (2020), Testimonial letter.

E7. Understanding Nutrition and Dementia Toolkit. [online]. Available from: http://www.bournemouth.ac.uk/nutrition-dementia containing the following:
E7a. Ageing & Dementia Research Centre & The National Centre for Post-Qualifying Social Work and Practice (2018), *Eating And Drinking Well With Dementia: A Guide For Care Staff*. Bournemouth University.
E7b. Ageing & Dementia Research Centre & The National Centre for Post-Qualifying Social Work and Practice (2016), [Second edition]. *Eating and Drinking well: Supporting people living with dementia*. Workbook. Bournemouth University.
E7c. Ageing & Dementia Research Centre & The National Centre for Post-Qualifying Social Work and Practice (2019), *Eating and Drinking Well with Dementia: A Guide for Family Carers and Friend.* Bournemouth University.

E8a. Malnutritiontaskforce.org.uk. n.d. *Dementia Including John's Campaign | Malnutrition Task Force*. [online] Available at: https://www.rdemembers.com/how-to-support-good-nutrition-and-diet-during-the-covid-19-pandemic/ [Accessed 13 December 2020].
E8b. Murray, S., (2019), Menu Planning And Dining In Care Homes. National Association of Care Caterers, pp.4,8.
E8c. Dementia UK. n.d. *Eating And Drinking For A Person With Dementia - Dementia UK*. [online] Available at: https://www.rdemembers.com/how-to-support-good-nutrition-and-diet-during-the-covid-19-pandemic/ [Accessed 6 March 2020].p.4
E8d. Scie.org.uk. (2021), *Eating Well With Dementia - SCIE*. [online] Available at: https://www.scie.org.uk/dementia/living-with-dementia/eating-well/#:~:text=Eating%20well%20at%20home&text=Consider%20whether%20the%20approach%20to,any%20chewing%20and%20swallowing%20problems. [Accessed 6 March 2020]. See resource links.

E9. Ageing and Dementia Research Centre (2020), *Survey responses to guide from Care Home Staff.* Bournemouth University.

E10. Ageing and Dementia Research Centre (2020), *Eating and Drinking Well with Dementia - a Guide For Family Carers and Friends.* Survey responses. Bournemouth University.