



REDUCE missed oral healthcare: The outcomes of and learnings from an implementation project in an acute geriatric unit

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Abstract

Oral healthcare is one of the most missed aspects of fundamental care. Failure to provide reliable and effective daily oral healthcare for older patients can lead to hospital-acquired pneumonias, longer hospital stays, increased health costs, and poor patient experience. The objective of this study was to codesign, implement, and evaluate an oral healthcare intervention for older adults in a geriatric unit. This mixed methods implementation project combined the hospital's quality improvement processes with the i-PARIHS knowledge translation framework. Multilevel facilitation guided the development of multidisciplinary implementation strategies, which were co-designed, tailored, and implemented at the ward and organizational level, targeting: awareness/engagement; clinical guideline development; building workforce capacity; access to appropriate products; patient awareness and support; utilization of multidisciplinary/dental referral pathways; and systematizing oral healthcare documentation. Gaps between evidence-based and current oral healthcare practice were identified through audits of practice and interviews with patients. Interviews and surveys with staff evaluated the feasibility and acceptability of the oral healthcare intervention and the success of implementation strategies. At the conclusion of the project, awareness, attitudes, and capacity of staff had increased, however, we could not demonstrate change in multidisciplinary oral healthcare practices or improvements for individual patients. Despite mixed success, the project informed discussions about including oral healthcare as a national healthcare standard for the acute care sector in Australia. Attempts to address oral healthcare may have started locally, but its impact was through policy change, which will empower health practitioners and managers to support practice change more widely.

KEYWORDS

acute care, implementation, older adults, oral care, oral health

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1 | INTRODUCTION

Older adults are at high risk of poor oral health status, with dental caries, periodontal disease, and tooth loss prevalent in this age group (Gil-Montoya et al., 2015). Poor oral health, in turn, carries a high risk of systemic infection and malnutrition and therefore impacts older people's overall health (Scannapieco & Shay, 2014), psychological health, quality of life, and wellbeing (Ohi et al., 2022). Further, oral health problems in older age are risk factors for frailty and the subsequent susceptibility to adverse events including falls, institutionalization, dementia, and death (Dibello et al., 2022). Recently an 'oral frailty phenotype' has been defined as "an age-related gradual loss of oral function together with a decline in cognitive and physical functions, and a cluster of major adverse health-related outcomes in older age, including mortality, physical frailty, functional disability, quality of life, hospitalization, and falls" (Dibello et al., 2022).

Many common oral health problems in older people can be prevented or managed by providing evidence-based oral healthcare and timely dental referral (COAG Health Council, 2016; Janssens et al., 2016; Lewis et al., 2016). A pivotal timepoint to instigate such intervention may be when an older adult is hospitalized, particularly when admitted to a specialist geriatric unit. Unfortunately, the potential for oral healthcare intervention in healthcare institutions is often not realized; oral healthcare has been described as one of the most frequently missed aspects of fundamental care in hospital (Bail & Grealish, 2016; Kalisch et al., 2009). Fundamental care incorporates the core aspects of a patient's daily care needs (Kitson et al., 2014) such as personal care, nutrition, and mobility. Yet, in acute care

environments, patient care is prioritised towards the highly visible, medical-related treatments over less visible, fundamental care activities despite findings that a lack of fundamental care leads to longer hospital stays and greater costs (Bail & Grealish, 2016; Kitson et al., 2014).

Recent international quality improvement initiatives, (Baker & Quinn, 2018; Munro & Baker, 2018; NHS, 2019), suggest that, despite the best intentions, provision of reliable and effective daily oral healthcare by hospital staff is not straightforward. The literature, summarized in Figure 1 (Taylor & Murray, 2023), illustrates the multidimensional factors across many levels of healthcare that contribute to missed oral healthcare, and highlights it as one of the 'wicked' healthcare problems to be tackled. 'Wicked' is used deliberately in this context as it refers to a problem that is difficult to solve because of its complex and interconnected nature (Walls, 2018). Improving oral healthcare for older people in the acute care setting therefore requires a multifaceted, interprofessional strategy underpinned by implementation science and knowledge translation principles (Hunter, Kim, et al., 2020).

The primary objective of this study was to implement an oral healthcare intervention for hospitalized older adults using the local health network's existing quality improvement process and evaluate the implementation process using the integrated-Promoting Action on Research Implementation in Health Services (i-PARIHS) framework (Harvey & Kitson, 2015). The overarching intention is that findings from this project will illustrate how 'wicked' healthcare problems can be tackled through a strong theoretical approach coupled with a flexible response to context.

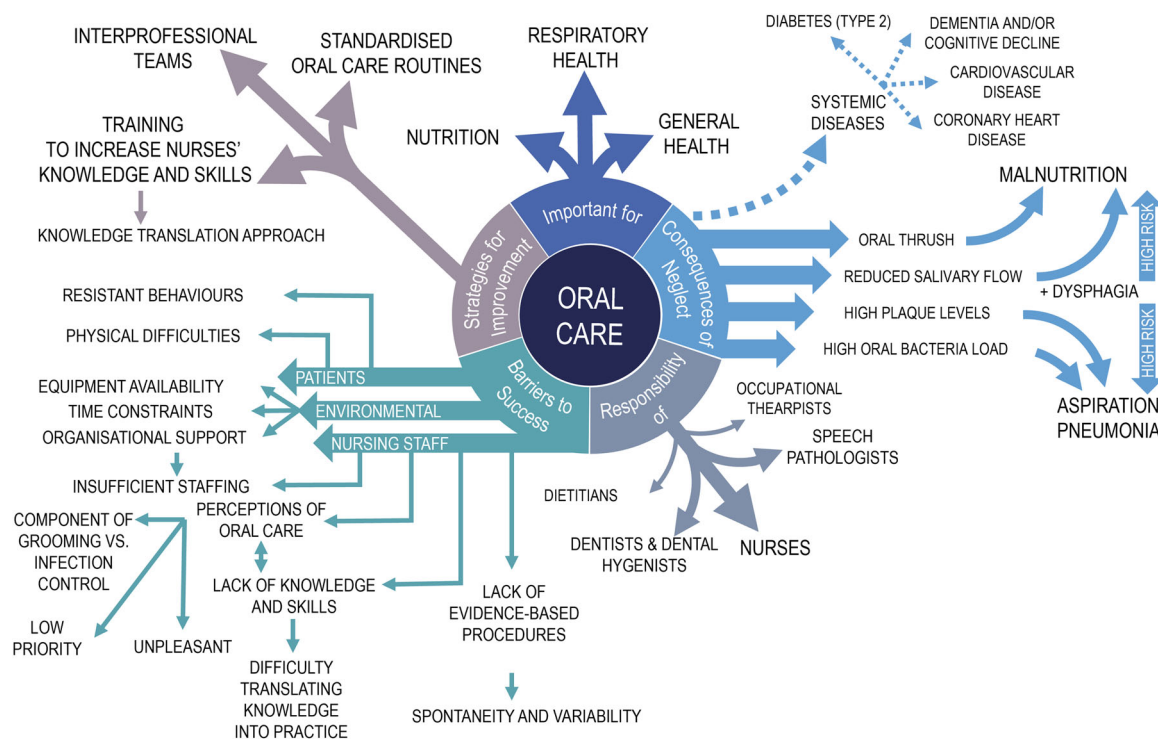


FIGURE 1 Multidimensional factors influencing the oral healthcare of older people.

2 | METHODS

2.1 | Project design

This mixed-methods study implemented an oral healthcare intervention in a Geriatric Evaluation and Management (GEM) unit between July 2020–April 2022. Ethical and governance approvals were provided by the relevant human research committees of the institutions involved. The project consisted of three integrated components: A. Multi-disciplinary collaboration and implementation of strategies to improve oral healthcare practices; B. Evaluation of the implementation process (acceptability, feasibility, barriers and enablers) and C. Evaluation of clinical practices (uptake) and patient outcomes. Evaluation data were collected at three timepoints, pre-, mid-, and post-implementation to evaluate the feasibility and acceptability of such an intervention, the impact of context, as well as the impact of the multi-disciplinary implementation on clinical practices and patient outcomes. A description of the evaluation measures is provided below and is summarised in Table 1. Evaluation, in turn, circled back to inform codesign of further implementation strategies and recommendations for the sustainability of the intervention.

A. Multi-disciplinary collaboration and implementation

This study used the i-PARIHS framework (Harvey & Kitson, 2015) to inform the overall implementation of an oral healthcare intervention in the GEM unit. i-PARIHS specifies four core constructs of i) innovation, ii) recipients, iii) context, and iv) facilitation, with facilitation as the key ingredient.

- i) The innovation in this study is best practice oral healthcare as recommended by SA Dental (SA Dental, 2023) and now outlined in the National Safety and Quality Health Service Standards (Australian Commission on Safety and Quality in Health Care, 2023). This includes an oral health assessment; an individualized oral healthcare plan based on the needs identified in the oral health assessment, including referrals for specialist management, specification of the frequency for oral care, and the products, equipment, and level of assistance the patient requires; delivery and documentation of regular oral hygiene at least twice daily; and evaluation of the effectiveness of oral care. The implementation components included raising awareness of the importance of oral healthcare, revising the health network's oral care procedure, building workforce capacity to deliver oral healthcare; providing access to appropriate oral care products and equipment; improving patient support; utilizing multidisciplinary/dental referral pathways; and ensuring sustainability through systems change (Table 2).
- ii) The recipients are the individuals and teams enacting the change, namely the clinical staff on the GEM unit, and their patients.

- iii) The context is the GEM unit, which belongs to the broader organization of a local health network, itself situated in the wider healthcare system and policy environment.
- iv) This study employed multi-level facilitation (2x internal novices, 4x external experienced, 1x external expert) to navigate individuals and teams through the complex change processes involved and the contextual challenges encountered. The internal novice facilitators, a registered clinical nurse (level 2) and a speech-language pathologist from the GEM unit, worked with the local multidisciplinary team and the local health network's quality improvement process to: assess the local context; conduct audits of baseline care practices and patient outcomes; identify strategies to develop multidisciplinary approaches to oral healthcare; identify and address barriers/enablers to these strategies; implement multidisciplinary strategies; evaluate staff acceptability and appropriateness of the multidisciplinary strategies; and conduct post-implementation audits of care practices and patient outcomes. The internal facilitators were mentored by external experienced facilitators to support the knowledge translation process with the explicit intention of building capacity within the health service for clinicians to be able independently introduce and sustain other complex healthcare innovations. The external experienced facilitators were academics from the disciplines of nursing, speech-language pathology, and psychology and who collectively had expertise in fundamentals of care, knowledge translation, oral healthcare, and project management. They provided support through mentoring and guiding the internal novice facilitators in i-PARIHS processes; providing training in evidence-based oral healthcare for older patients and quality improvement to the multidisciplinary team; scheduling and chairing meetings of the project team and the project reference group; and evaluating the implementation process through patient and staff interviews, staff surveys, and analysis of audit data. One external expert facilitator supported the project team through advising on project design, knowledge translation, and specific i-PARIHS processes. The project team employed two research assistants throughout the project, one of whom worked as a dental hygienist and was purposely recruited to the role for her familiarity with the clinical area. The project team was further advised by a project reference group which was comprised of key stakeholders at the divisional level, including the nurse unit manager of the GEM unit; divisional director of nursing; allied health manager; senior consultant geriatrician; health service safety, quality, and risk manager; GEM patient and family representative; health service special care dentist; and state-wide service lead dentist.

Data were collected at three timepoints (pre-, mid-, and post-implementation) by the facilitators using the Mobilizing implementation of iPARIHS (Mi-PARIHS) Facilitation Planning Tool (Hunter et al., 2023) to evaluate how the inner context of the ward level, the inner context at organization level, and the outer context of the broader healthcare system shaped the experience of recipients

TABLE 1 Evaluation measures, timing and participation.

Purpose of evaluation	Data source	Incl/exclusion criteria and process	Pre-implementation (February 2020)	Mid-implementation (August 2021)	Post-implementation (February-April 2022)
Implementation research					
Acceptability, feasibility, barriers and enablers	Staff interviews	All clinical staff working on GEM Unit were invited to participate in the study. Written consent was obtained. (Interview questions available in supplementary material).	N = 15 (7x Registered Nurses, 3x Enrolled Nurses, 1x Social Worker, 1x Physiotherapist, 1x Allied Health Assistant)	N = 11 (6x Registered Nurses, 1x Enrolled Nurse, 1x Social Worker, 1x Physiotherapist, 1x Allied Health Assistant, 1x medical intern)	N = 10 (4x Registered Nurses, 2x Enrolled Nurses, 1x Dietitian, 1x Physiotherapist, 1x Allied Health Assistant, 1x Occupational Therapist)
Acceptability, feasibility, barriers and enablers	Patient interviews	All inpatients of the GEM Unit were invited to participate in an interview of approx. 10 min duration if they had been assessed by a RN as being able to give consent. Patients were excluded if they were unable to give consent due to cognitive impairment or delirium, had inadequate English proficiency or were too unwell to participate due to medical or psychological reasons. (Interview questions available in supplementary material).	N = 10 (further details not recorded)	N = 10 8 males, 2 females Mean age = 77.1 years Median LOS = 30 days	N = 10 4 males, 6 females Mean age = 82 years Median LOS = 12 days
Acceptability, feasibility, barriers and enablers	NoMAD survey	Clinical staff were invited to anonymously fill in this measurement instrument which is based on Normalization Process Theory (Survey included as supplementary material).	N = 10 (7x nurses, 1x Social Worker, 1x Dietitian, 1x unknown)	N = 9 (7x nurses, 1x Occupational Therapist, 1x Allied Health Professional)	N = 8 (5x nurse, 3x unknown)
Acceptability, feasibility, barriers and enablers	Mobilising Implementation of i-PARIHS (Mi-PARIHS) Facilitation Planning Tool	Contains 34 questions pertaining to the i-PARIHS constructs of 'Innovation', 'Recipients' and 'Context' (local, organizational and outer). For each question, a rating is selected from -2 (barrier) through to +2 (enabler).	Conducted by the local facilitators, an RN and an SLP. Refer to findings in text - Results A.	Conducted by the local facilitators, an RN and an SLP. Refer to findings in text - Results A.	Conducted by the local facilitators, an RN and an SLP. Refer to findings in text - Results A.
Quality improvement					
Clinical practices and patient outcomes	Audit of oral health care practices	This audit tool measures current practice against best-practice standards at an individual patient level. It was based on the criteria developed by Central Adelaide Local Health Network with permission by authors. The tool was adapted to suit the GEM Unit context. (Audit tool included as supplementary material).	N = 21 patients (of the Unit's 25 bed capacity patients) Conducted by one local facilitator with assistance from nursing staff in October and November 2020.	N = 25 patients (of the Unit's 25 bed capacity) Conducted by one local facilitator in April 2022.	N = 25 patients (of the Unit's 25 bed capacity) Conducted by one local facilitator in April 2022.

TABLE 2 Oral healthcare implementation strategies employed at the ward and organizational level.

Ward level	Organizational level
<p>1. Raising oral healthcare awareness/engagement</p> <p>In-person staff huddles and the ward communication board were used by the local facilitators to communicate using fun facts about oral healthcare and inform staff about the project.</p> <p>Under auspice of the project, staff adopted their own call name which aligned with their ward name '<i>Whittaker Smiles</i>'.</p> <p>A celebratory launch of <i>Whittaker Smiles</i> was timed to coincide with Australia's national Dental Health Week's 'Keep your Smile for Life' campaign. The launch represented a culmination of work whereby staff were ready to implement a range of strategies on the unit.</p>	<p>Key stakeholders' project reference group was convened and met quarterly.</p> <p>Presentations to hospital nurse leadership group, health service safety and quality committee, hospital multi-disciplinary education program.</p> <p>Use of the health service's multimedia sites/newsletters to communicate to a wider audience.</p> <p>Development of a promotional project video.</p>
<p>2. Oral healthcare clinical guideline</p> <p>Audit tool piloted then used pre- and post-implementation to measure current practice against the best-practice guideline.</p>	<p>Review of the hospital procedure for mouth care by the project group with creation of a revised oral healthcare document to be endorsed by the health network's executive.</p>
<p>3. Building workforce oral health capacity</p> <p>Two education sessions were provided by content expert about the importance of oral healthcare, products, equipment and practices especially for vulnerable patients. On-line resources for further training were highlighted</p> <p>An education session consisting of a practical hands-on session re mouthcare for older and care resistant patients provided by health service's dental hygienist.</p> <p>Best practice and dental referral quick reference sheets were developed.</p>	<p>Development of an on-line oral healthcare education resource for hospital staff using existing material from SA Dental services and the existing on-line training platform.</p> <p>Commencement of interaction with health service nurse educators to review the course and consider integration into staff development learning platform.</p> <p>Networking and relationship building between the local ward, broader health division, and the health service dental clinic staff</p>
<p>4. Improving staff access to appropriate oral healthcare products</p> <p>Ordering of recommended oral healthcare aids and products for use on the ward.</p> <p>Introduction of oral healthcare trays and products.</p>	<p>Consultation with health service's nursing directors to review and approve the costing and ordering of recommended oral healthcare products.</p>
<p>5. Improving patient oral healthcare support</p> <p>Patients received an oral healthcare tray on admission according to their needs.</p> <p>Consumer oral healthcare booklet available to assist with patient education.</p> <p>Multidisciplinary ward team (MDT) to check with patient what level of assistance is needed with oral healthcare and document this in their care plan.</p>	<p>Division to review content of dental oral healthcare brochure and adapt to better suit local ward context</p>
<p>6. Utilizing multi-disciplinary/dental referral pathways</p> <p>Quick reference sheet developed to prompt multidisciplinary input and dental referral.</p>	<p>Networking and relationship building between the local ward, broader health division, and the health service dental clinic staff.</p>
<p>7. Systematizing oral healthcare</p> <p>Documenting oral healthcare as a separate activity to grooming.</p> <p>Including oral healthcare information in the multidisciplinary discharge summary.</p> <p>Identifying and referring patients in need of dental care to health service dental clinic.</p>	<p><i>Whittaker Smiles</i> added as a standing agenda item on the health service safety and quality committee</p> <p>Health Division to ascertain how to embed better oral healthcare ordering such as using Acronym expansion and changes to incorporate evidence based OHAT tool into the electronic medical record system.</p>

(ward staff and patients), and the uptake of the innovation. Specifically, the Mi-PARIHS tool assisted the project team to identify the biggest barriers and enablers in each domain, which the project team could then purposely target with the implementation strategies.

B. Evaluation of implementation processes

To evaluate the acceptability, feasibility, and perceived success of the implementation project, data were collected from clinical staff and patients using interviews and surveys. The measures were designed to enable identification of barriers and enablers to implementation success, evaluate staff acceptability, evaluate the appropriateness of the multidisciplinary strategies that were trialled, assess the value of facilitation, and gauge the experience of patients.

i) Staff perceptions via interviews and survey

Qualitative methodology using semi-structured interviews explored the perceptions of clinical staff on the GEM unit. The interviews were conducted at three timepoints (pre-, mid-, and post-implementation) by a research assistant who was not a part of the facilitation team. Convenience sampling was used where all clinical staff working on the GEM Unit were invited to participate in the study if they met inclusion criteria and were willing to participate. Written consent was obtained from participants before conducting the audio-recorded interviews. The semi-structured nature of the interviews meant that particular content was captured from all participants, and they were also able to offer their own unique perceptions (Patton, 2015). Questions explored participants' oral healthcare beliefs, and perspectives about the barriers and facilitators to oral care assessment, planning, and care delivery and their experience of the implementation project itself (Supplementary material). A sample of 10 staff participants (approximately 25% of the permanent staff numbers) was considered adequate to uncover the issues that were raised for staff during the implementation process. The interviews were transcribed by a professional transcription company, and transcripts were deidentified, checked for accuracy, and entered into Microsoft Excel for initial analysis by the research assistant. Using conceptual content analysis (Duncan, 1989), the research assistant coded the data deductively to categories relevant to the research question. Coding was conducted on a case-by-case basis with an iterative focus on the descriptive content. Codes were deductively collated to categories to quantify and highlight common characteristics and descriptions from the data.

Clinical staff were also invited to anonymously complete a survey using the NoMAD measurement instrument, which is an implementation measure based on Normalization Process Theory (Finch et al., 2018). The survey had 25 questions about participants' belief in the oral healthcare project and how much it was a part of their role or their ward's practice. Participants rated statements on a 5-point Likert-type scale with responses ranging from strongly agree to strongly disagree (Supplementary material). These data, collected at three timepoints (pre-, mid-, and

post-implementation), were collated quantitatively by the research assistant. The research team familiarised themselves with these data and mapped common content with the findings from the staff interviews. The research team used an inductive analytical and data-driven approach to review and confirm the findings, content, and quotes. Generalisations were interpreted carefully by the team to ensure congruence of the data to draw conclusions about staff perceptions.

ii) Patient interviews

All patients on the GEM Unit were invited to participate in an interview of approximately 10 min duration with the research assistant if they had been assessed by a nurse team leader as being able to give informed consent. Patients were excluded if they were unable to give consent due to cognitive impairment or delirium, had inadequate English proficiency or were too unwell to participate due to medical or psychological reasons. As a convenience sampling method was chosen for pragmatic purposes, a sample size of 10 patient participants (approximately half of the patient numbers in the ward at each timepoint (pre-, mid-, and post-implementation)) was considered adequate to explore a range of patient experiences. Once written consent was obtained using 'communication-accessible' verbal explanations and written/pictorial information sheets (Rose et al., 2003), the research assistant conducted a structured interview comprised of questions related to the patient's oral health literacy, beliefs and experiences whilst in hospital (Supplementary material). Responses were recorded in writing during the interview by the research assistant. Data were analyzed using descriptive content analysis (Duncan, 1989) by the project team.

C. Audit of clinical practices and patient outcomes

A purpose-made audit tool was developed to measure current oral healthcare practice against best-practice standards at an individual patient level before and after implementation. It was used with permission from the cocreator (author ALK) and adapted to suit the GEM Unit context. This audit tool evaluated oral health against criteria including assessment, planning, consultation with patient and family, tools and products, oral care delivery, documentation, and specialist medical, dental or allied health referrals (Supplementary material). Criteria were assessed via documentation in medical records or by asking or observing the patient at their bedside, and were documented as either present (yes), absent (no), or unable to assess. The local facilitators conducted the audits aiming to evaluate all patients in the ward at each timepoint. Results were collated and presented as a prevalence count to determine the percentage of patients on the unit who had received each aspect of oral care. Findings were interpreted by the project team.

Finally, qualitative and quantitative findings were triangulated using method triangulation (Carter et al., 2014). Method triangulation is a process of using multiple methods of data collected about the same phenomena, in this case using staff and patient interviews, staff surveys, and patient audit data. A convergent method was followed,

where all data sources were merged for analysis, after having been analysed separately (Fetters et al., 2013). The merged results provided a comprehensive and accurate representation of the implementation process and outcomes.

3 | RESULTS

A. Multi-disciplinary collaboration and implementation

The facilitators met with members of the multidisciplinary team over the course of the project, both at a ward level and at an organisational level, to brainstorm various strategies to support the introduction of best-practice oral healthcare specific to the GEM context. Strategies were implemented at ward level by the local facilitators and staff and at the organizational level, through members of the reference group. These strategies are presented in Table 2, grouped according to the main components of the oral healthcare intervention. At the ward level, the main implementation strategies were awareness-raising at nursing huddles and education sessions, providing an oral care package (toothbrush, low-foaming toothpaste, denture bowl, and oral healthcare booklet) to every patient at admission, and developing a short checklist for oral care delivery and pathways for referrals that staff could carry with them. At the organisation level, implementation focused on a multidisciplinary revision and endorsement of the health network's oral care procedure and approval of costs and procedures for ordering specialist oral care products and equipment.

Context was assessed using Mi-PARIHS at pre-implementation, mid-implementation, and post-implementation to inform the project team of the barriers to and enablers of the proposed implementation strategies and how these could be addressed. At pre-implementation, in early 2020, support at the organizational level was high, as the wider healthcare system in Australia was imposing financial penalties related to hospital acquired complications and breaches in comprehensive care standards. At the ward level, there was enthusiasm for the project by local champions but there were also perceived barriers surrounding the local culture, with staff not having a shared view on what was being implemented or what the plan was, not having clarity about their roles and responsibilities, feeling as if change frequently happened to them, and identifying lack of time and resourcing as an ongoing barrier. Project momentum was also hindered by delays in the recruitment and training of local facilitators. Positively, the innovation was considered an advantage over current practice and as being informed by strong evidence.

At the mid-implementation assessment in August 2021, both the local and wider health landscape had shifted significantly. A restructuring of the ward took place in late 2020, with bed numbers reduced from 30 beds to 25 and a change in patient profile. The predominately rehabilitative environment changed to one with more long-stay patients awaiting transfer to residential care, including older patients aged in their 80s and 90s with complex needs, cognitive impairment, dementia and/or delirium, and high oral

health risk exacerbated by care-resistant behaviours. Additionally, COVID-19 disrupted the priorities of the wider healthcare system and changed organizational priorities from prevention of hospital acquired complications to more of a "survival" mode of managing the pandemic. This impacted the project due to ward staff shortages, increased work pressures, role reassignment for both local facilitators, and senior staff having extended leave or being seconded to other leadership roles. State-wide COVID-19 directives also prevented external facilitators from visiting the ward. In response, the project team shifted the goals and focus of the project to be less ambitious, more focused, and more realistic during this time, which enabled the project team to maintain staff trust and belief in the project.

At the post-implementation timepoint in February 2022, the COVID-19 pandemic continued to significantly impact the wider healthcare system, the organization, and the local ward. However, by shifting the focus of oral healthcare delivery to small goals, staff maintained a shared view of the project, increased their knowledge and skills in implementing oral healthcare and began to view the intervention as more accessible, useable, trusted, and valued.

B. Evaluation of the implementation process

i) Staff perceptions

Staff were interviewed before commencement of the project ($n = 15$), at mid-implementation ($n = 11$) and at conclusion of the project ($n = 10$). Collectively, interviewees were registered nurses ($n = 17$), allied health professionals ($n = 7$), enrolled nurses ($n = 6$), allied health assistants ($n = 3$), and a medical officer ($n = 1$). Additionally, 27 staff completed the NoMAD survey across the three timepoints. Staff who participated were not identifiable to the project team, so some may have been interviewed or surveyed at single or multiple time points.

At commencement of the project, all staff (15/15) commented on the importance of good oral healthcare *"It's important. Oral health can prevent other diseases in older people"* [Enrolled nurse]. Six (6/15) expected that the project would increase their knowledge and awareness of oral health, 3/15 expected the project to improve their skills and capacity to care for patients, and one thought it would increase the stock of appropriate oral healthcare products. With respect to the role of the facilitators, 4/15 reported being unsure of what to expect, whilst others (6/15) expected them to provide education, guidance, and leadership to the staff and patients.

By the mid-implementation point, more staff (7/11) reported that the project was creating greater awareness and knowledge about oral healthcare *"Increasing awareness for staff and patients. Patients are supplied with a little pack"* [Physiotherapist]. Four reported an improved stock of oral healthcare products. Their perceptions of the role of facilitators remained similar, that of providing knowledge, support, and reminders to complete oral healthcare.

By completion of the project, 7/10 staff reported that the project had had a positive impact in terms of increasing information

and awareness of oral healthcare and strategies for delivery and improved access to oral healthcare products, but only three reported noticing an improvement in patients' health, oral hygiene, nutrition, and mouth comfort. Four reported that oral healthcare was still not done well. *"There's always room for improvement. The staff are really aware of it, but some of our patients are difficult to get the job done and stay safe at the same time"* [Senior nurse]. *"It's important but can't always get oral healthcare to happen"* [Enrolled nurse]. Half of the staff interviewed (5/10) reported feeling confident that the impact of the project would continue, and a further three were hopeful. *"I think so. It's definitely drawn my attention. It's always been beneficial for more people to be aware of it, made a bit more of a higher focus. From OT perspective, we probably need to take more time to look at oral care as well. Making it a bit more of the patient's routine in the morning"* [Occupational therapist].

Enablers of implementation included access to education and oral healthcare products, and the strong leadership and enthusiasm of the local facilitators. Ongoing challenges for staff in providing oral healthcare, echoed by the facilitators themselves, were: not having the skills to assist the patients with cognitive impairment, dementia, and/or delirium who frequently resisted oral healthcare; lack of time, busy workloads, and competing priorities; the impact of COVID-19 on staffing numbers, staff turnover, the proportion of casual and rotating staff; and staff not liking to do it. Future enablers suggested included: patient education and/or reminders about the importance of oral healthcare to empower them to complete their own oral healthcare; better bathroom access and set up; training from dental staff with dementia-specific skills; having oral healthcare on the electronic medical record system to prompt planning and documentation; continued access to oral healthcare aids and products; ongoing staff education and new staff orientation; and more oral healthcare reminders, visual cues and posters on the ward.

ii) Patient interviews

Thirty patients were interviewed in total, 10 at each timepoint. In the pre-, mid-, and post-implementation interviews, all patients reported that it was very important to have their mouth cleaned while in hospital. They associated the importance of oral health with their ability to eat and enjoy food, believing the way their mouth feels makes a difference to how much they eat. At mid-implementation, 9/10 reported knowing that an unclean mouth can cause infections but, at post-implementation, only 4/10 reported being aware of the consequence of poor oral health for infection and their general health.

Throughout the project, very few patients had all their natural teeth, with most reporting that they either wore a denture (full upper, full lower, or both) or a partial denture. Many patients reported problems with their teeth and/or denture (missing, broken, or ill-fitting denture), and dry mouth (pre- $n = 6/10$, mid- $n = 7/10$, post- $n = 6/10$). Unfortunately, despite patients reporting oral health problems, these were not recognised by the staff through an oral health assessment with few patients reporting that staff had checked their mouth.

Most patients claimed that they were able to clean their mouths independently (pre- $n = 9/10$, mid- $n = 10/10$, post- $n = 9/10$) and had the products and equipment they needed to do so (pre- $n = 7/10$, mid- $n = 9/10$, post- $n = 7/10$). However, only one patient reported being asked about their oral healthcare needs and reminded and/or checked by nursing staff to clean their mouth. The number of patients who reported having cleaned their teeth, denture, and/or mouth twice per day were 7/10 at pre-implementation, 6/10 at mid-implementation and 2/10 at post-implementation. Of those who reported not being able to clean their teeth, denture, and/or mouth twice a day, none reported receiving the help they needed and hence expressed dissatisfaction with the oral healthcare received. *"They would've [assisted me] if I asked for help. But it's way back on the list"* [Patient]. Concerningly, one patient reported that they had cleaned their teeth only four times in 2 weeks.

Patient reported barriers to oral healthcare in hospital included: being in an unfamiliar environment and needing to change habits and routines; poor mobility, the distance to bathroom, not having access to a basin; feeling sick; inadequate access to oral healthcare products; lack of privacy and embarrassment; and not asking for help because they don't want to bother nurses who are busy doing other things. Patient reported enablers to oral healthcare in hospital included: being closer to a basin or bathroom; having the right equipment and products nearby; and being reminded or asked whether they need help.

C. Audit of clinical practices and patient outcomes

Pre- ($n = 21$) and post- ($n = 25$) implementation audits indicated that many patients did not have an oral health assessment as part of their general admission assessment. The numbers of assessments being completed fell from 14/21 (66%) pre-implementation to 10/25 (40%) post-implementation. Of the patients who had an oral health assessment, few oral health problems were identified and documented by staff, which contrasts with the patients' self-reports. Presence of natural teeth or denture (full, partial, or implant over-denture) was not routinely documented, and dentures were frequently listed as part of a patient's belongings rather than identified and recorded as part of the oral health assessment. The electronic medical record system's oral cavity assessment provided limited oral health criteria with which to help staff assess a patient's oral health status and trigger the need for multidisciplinary team input and/or dental referral. There was also inconsistent use of the in-built functionality of the electronic medical record system to create an oral healthcare-specific heading in the documentation of a patient's daily progress/care, which would have helped to serve as a reminder for staff to document the oral healthcare plan.

With respect to planning and delivery, oral healthcare instructions provided limited information; the level of assistance required by a patient and the type of oral healthcare aids and products to be used were not documented, and oral healthcare needs were not routinely

discussed with the patient. The frequency of ordering oral healthcare for twice a day improved from 13/21 (62%) pre-implementation to 21/25 (84%) post-implementation, although, because the order was often not signed off as being completed, it was difficult to ascertain whether oral healthcare delivery did take place as ordered. While no specific products were documented in the care plan, observation during the audit illustrated that the percentage of patients who had oral healthcare aids or products available to them at the bedside had increased to 24/25 (96%) at post-implementation. A post-implementation check, however, found that few of the recommended oral healthcare aids and products were available in the ward's supply for staff to access when needed.

Most patients had access to plain tap water at the bedside pre- (21/21) and post-implementation (21/25). The remaining 4/25 patients had cordial, a sweet, concentrated syrup mixed with water to create a sweet beverage, instead of the recommended plain water. Multidisciplinary team involvement in oral healthcare was minimal, with referrals most likely to be to and/or from a speech-language pathologist. Despite efforts to codesign and confirm a "quick guide" for multidisciplinary consultation and dental referral pathways, there were no records of dental referral taking place. A comparison of the audits results pre- and post-implementation are illustrated in Figure 2.

A full report of the project's methods, implementations strategies, outcome measures, results and recommendations is available from Flinders University (Lewis et al., 2022). In summary, while awareness and attitudes improved, there was little evidence of the staff identifying oral problems, prescribing individualized care, or following through with the delivery of that care. Oral health outcomes from the type of care being provided were not routinely evaluated.

4 | DISCUSSION

This implementation study, which aimed to implement and evaluate an oral healthcare intervention for hospitalized older adults, had mixed outcomes. The project team successfully fostered collaboration between clinical teams, hospital management, and researchers to identify the gaps in current oral healthcare practice and improve awareness and attitudes of staff. However, while a suite of multilevel and multidisciplinary implementation strategies was designed to improve and sustain adherence to evidence-based oral healthcare, we were not able to show a change in clinical practice in terms of multidisciplinary oral healthcare improvements for individual patients within the time frames of the project. This finding is consistent with other studies, which similarly concluded that, although oral healthcare may seem deceptively simple in terms of fundamental care provision, hospital staff often struggle to provide consistent and effective daily oral healthcare (Baker & Quinn, 2018; Kitson et al., 2014; Munro & Baker, 2018; NHS, 2019; Taylor & Murray, 2023). Here we propose reasons for the successes and limitations of this research in the context of other similar studies, so that others, clinicians and researchers alike, may benefit from our observations.

The project team started with a strong theoretical approach to this implementation project, by having an understanding of, and tools for, using knowledge translation theory (Kitson et al., 2018). There was a supportive environment including, engaged health senior management, a well-resourced multidisciplinary healthcare team and environment in the local health network, expertise from the regional dental service, and university researchers with methodological experience in knowledge translation. With this preparation, the team anticipated success. However, even at the pre-implementation stage

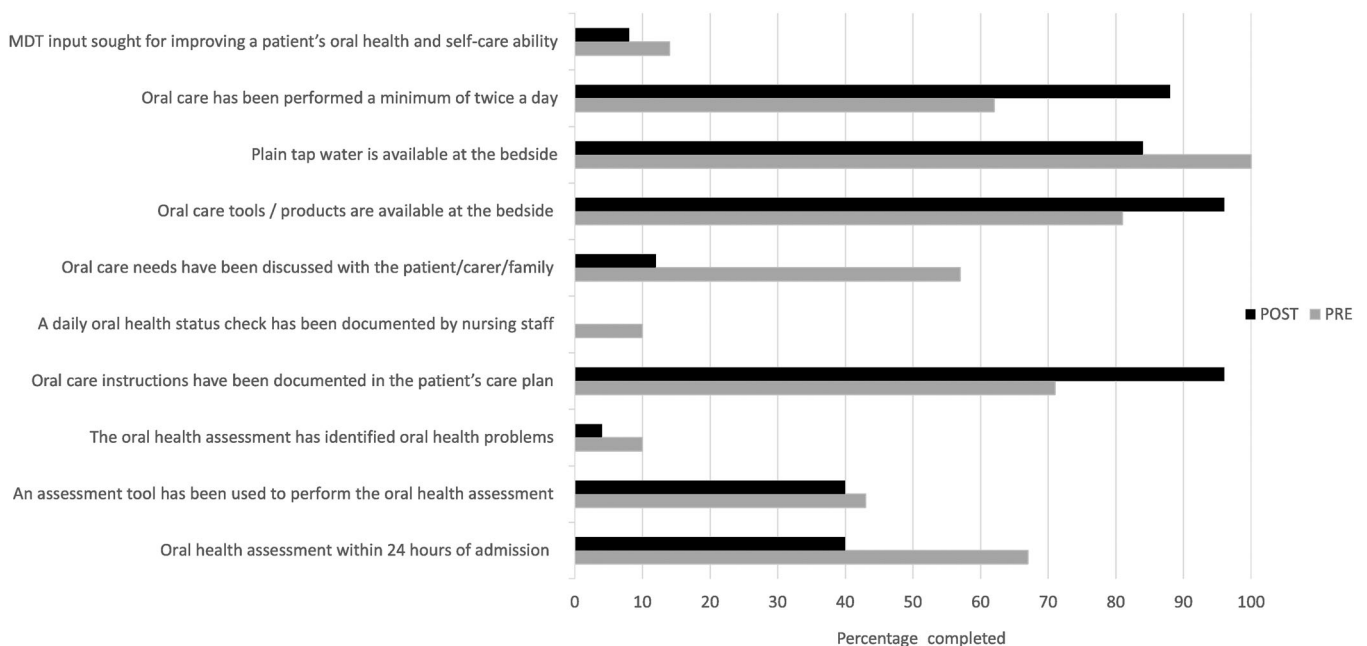


FIGURE 2 Audit of oral healthcare practices pre and post implementation.

in early 2020, we encountered barriers requiring constant re-negotiation of goals and strategies with the local health network's clinicians and managers (Murray et al., 2022). Major barriers arose during the implementation phase when the COVID-19 pandemic hit the healthcare system internationally in 2020 and changed the operational landscape for both local ward staff and the wider health organization. Staff at the forefront of care needed to upskill immediately about airborne disease and personal protective equipment and procedures. COVID-19 itself infected many patients and staff, impacting the type and quality of care that was delivered in hospital. Being in close physical proximity and asking a patient to take off their mask to conduct an oral health assessment or oral care was fear-inducing and not encouraged. The reallocation of duties of the local facilitators, along with the shift to only virtual support by the external experienced facilitators, changed the interpersonal communication and interactions among the project team members, which are known to be critical for implementation project success (Hunter, Young, et al., 2020).

The project team reflected that the most successful adaptation to this changed context and the resultant barriers came when we pivoted from endeavouring to engage the healthcare staff and facilitators in understanding structural change and fostering ownership/leadership of the implementation, as an often-cited mandate for knowledge translation (De Brún et al., 2019), to providing them with explicit directions. Clinicians and the local facilitators indicated to the researchers that they recognised the importance of oral healthcare and had a desire to "get it right," but they wanted to know specifically what actions to take. They effectively "positioned" the researchers with the authority to direct them. By defining and agreeing upon small tangible steps to implement, and engaging in smaller Plan-Do-Study-Act (PDSA) cycles (Harvey & Kitson, 2015), such as ensuring every patient on admission had an oral healthcare tray with toothpaste, toothbrush and good oral hygiene pamphlet, and running in-house training sessions, clinicians built their confidence and became empowered to create more change. This finding is consistent with other studies, which reported that, in the face of burnout and fatigue during the COVID-19 pandemic, clinicians preferred to focus on local-level, high-quality care. (Khurshid et al., 2021; Vinoya-Chung et al., 2020) and trying to engage healthcare workers in system level changes and forcing them to take leadership can actually be disempowering (Khurshid et al., 2021).

Similarly, at an organizational level, we recognised that each of the health managers involved could champion the implementation message and take action in their own realm of influence, for example, approving the ordering of oral care products and procedures, without understanding the complexity of an implementation project and being methodological experts. The project team left the reference group with a work plan outlining specific steps to assist them with embedding and sustaining healthcare practice change (Lewis et al., 2022). We reflected that taking the complexity out of knowledge translation theory for individuals was our most successful approach.

Although the immediate findings of this project may not indicate comprehensive implementation success, particularly for patient outcomes, some less tangible and arguably more impactful outcomes emerged. The project resulted in awareness raising and capacity building of ward staff and the roll-out of oral care interventions across all inpatient areas of the hospital. Barriers to and facilitators of practice change identified in this project will inform the design of this roll-out to maximise uptake. Further, the project informed discussions with the Australian Commission on Safety and Quality in Healthcare about oral healthcare being included as a national healthcare standard for the acute care sector and resulted in an oral healthcare resource for the care of adult patients prepared by senior author, AL, which is now available on their website for all hospitals to use (Australian Commission on Safety and Quality in Health Care, 2023). This is a positive step forward as inclusion of oral healthcare as an organizational infection control strategy and embedding it in surveillance and monitoring/audit processes as part of national standard, may be the strongest impetus yet for practice change. Paradoxically, although the current project may not have created significant practice change in oral healthcare on one geriatric unit, this impact at a high-level policy/system level will filter through to support practice change at the ward level for multiple end-users.

5 | CONCLUSION

In conclusion, to make impactful and sustainable change, it was important to make both system and local level changes (Kitson et al., 2018), but also to maintain a flexible mind-set about how this could be achieved. Sustained change required deliberate alterations in clinical governance structures and actions across multiple levels of an organization involving multiple disciplines, and could not depend on the beliefs and intentions of individual staff members (Johnson & May, 2015). Implementation needed to be agile and involve the right people for the right tasks/processes at the right time, ensuring they feel empowered and had agency within their circle of influence. This responsiveness is the nature of collaboration in knowledge translation and requires investment in facilitation, both as a role and as a process (Harvey & Kitson, 2016).

AUTHOR CONTRIBUTIONS

Joanne Murray, Sarah C. Hunter, Tiffany Conroy, and Adrienne Lewis made substantial contributions to the conception and design of the work and the acquisition, analysis, and interpretation of data. Alison L. Kitson contributed to the conception and design of the research. Zita Splawinski and Heather Block were involved in acquisition, analysis, and interpretation of data. Joanne Murray, Sarah C. Hunter, Tiffany Conroy drafted the majority of the manuscript, but all authors were involved in reviewing the manuscript critically for important intellectual content. All authors approved the final version of the manuscript to be published and have agreed to be accountable for all aspects of the work.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in Research @ Flinders at <https://researchnow.flinders.edu.au/en/publications/>, reference number <https://doi.org/10.25957/g0y8-m635>.

ETHICS STATEMENT

Ethics approval (HREC/19/SAC/298) was granted by the Southern Adelaide Clinical Human Research Ethics Committee. All patient participants involved in the audit and interviews provided written consent. Staff participants provided written consent ahead of completing the survey or interview.

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REFERENCES

- Australian Commission on Safety and Quality in Health Care. (2023). *Resources for the NSQHS Standards*. Australian Commission on Safety and Quality in Health Care. <https://www.safetyandquality.gov.au/standards/nsqhs-standards/resources-nsqhs-standards#nsqhs-standard-fact-sheets>
- Bail, K., & Grealish, L. (2016). 'Failure to maintain': A theoretical proposition for a new quality indicator of nurse care rationing for complex older people in hospital. *International Journal of Nursing Studies*, 63, 146–161. <https://doi.org/10.1016/j.ijnurstu.2016.08.001>
- Baker, D., & Quinn, B. (2018). Hospital acquired pneumonia prevention initiative-2: Incidence of nonventilator hospital-acquired pneumonia in the United States. *American Journal of Infection Control*, 46(1), 2–7. <https://doi.org/10.1016/j.ajic.2017.08.036>
- De Brún, A., O'Donovan, R., & McAuliffe, E. (2019). Interventions to develop collectivistic leadership in healthcare settings: A systematic review. *BMC Health Services Research*, 19(1), 72. <https://doi.org/10.1186/s12913-019-3883-x>
- Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neville, A. J. (2014). The use of triangulation in qualitative research. *Oncology Nursing Forum*, 41(5), 545–547. <https://doi.org/10.1188/14.ONF.545-547>
- COAG Health Council. (2016). *Healthy mouths, healthy lives: Australia's National Oral Health Plan 2015-2024*. COAG Health Council. <https://www.health.gov.au/resources/publications/healthy-mouths-healthy-lives-australias-national-oral-health-plan-2015-2024>
- Dibello, V., Lobbezoo, F., Lozupone, M., Sardone, R., Ballini, A., Bernardino, G., Mollica, A., Coelho-Júnior, H. J., De Pergola, G., Stallone, R., Dibello, A., Daniele, A., Petruzzi, M., Santarcangelo, F., Solfrizzi, V., Manfredini, D., & Panza, F. (2023). Oral frailty indicators to target major adverse health-related outcomes in older age: A systematic review. *GeroScience*, 45, 663–706. <https://doi.org/10.1007/s11357-022-00663-8>
- Duncan, D. F. (1989). Content analysis in health education research: An introduction to purposes and methods. *Health Education*, 20(7), 27–31.
- Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs—Principles and practices. *Health Services Research*, 48(6), 2134–2156.
- Finch, T. L., Girling, M., May, C. R., Mair, F. S., Murray, E., Treweek, S., McColl, E., Steen, I. N., Cook, C., Vernazza, C. R., Mackintosh, N., Sharma, S., Barbery, G., Steele, J., & Rapley, T. (2018). Improving the normalization of complex interventions: Part 2-validation of the NoMAD instrument for assessing implementation work based on normalization process theory (NPT). *BMC Medical Research Methodology*, 18(1), 135. <https://doi.org/10.1186/s12874-018-0591-x>
- Gil-Montoya, J., Ferreira de Mello, A. L., Barrios, R., Gonzalez-Moles, M. A., & Bravo, M. (2015). Oral health in the elderly patient and its impact on general well-being: A nonsystematic review. *Clinical interventions in aging*, 10, 461–467. <https://doi.org/10.2147/cia.554630>
- Harvey, G., & Kitson, A. (2016). PARIHS revisited: From heuristic to integrated framework for the successful implementation of knowledge into practice. *Implementation Science*, 11(1), 33. <https://doi.org/10.1186/s13012-016-0398-2>
- Harvey, G., & Kitson, A. L. (2015). *Implementing evidence-based practice in healthcare: A facilitation guide* (1st ed.). Routledge. <https://doi.org/10.4324/9780203557334>
- Hunter, S. C., Kim, B., & Kitson, A. L. (2023). Mobilising implementation of i-PARIHS (Mi-PARIHS): Development of a facilitation planning tool to accompany the integrated promoting action on research implementation in health services framework. *Implementation Science Communications*, 4(2), 2. <https://implementationsciencecomms.biomedcentral.com/articles/10.1186/s43058-022-00379-y>
- Hunter, S. C., Kim, B., Mudge, A., Hall, L., Young, A., McRae, P., & Kitson, A. L. (2020). Experiences of using the i-PARIHS framework: A co-designed case study of four multi-site implementation projects. *BMC Health Services Research*, 20(1), 573. <https://doi.org/10.1186/s12913-020-05354-8>
- Hunter, S. C., Young, J. A., Lawless, M. T., Kitson, A. L., & Feo, R. (2020). Introducing an interactional approach to exploring facilitation as an implementation intervention: Examining the utility of conversation analysis. *Implementation Science Communications*, 1(1), 98. <https://doi.org/10.1186/s43058-020-00071-z>
- Janssens, B., De Visschere, L., van der Putten, G.-J., de Lugt-Lustig, K., Schols, J. M. G. A., & Vanobbergen, J. (2016). Effect of an oral healthcare protocol in nursing homes on care staffs' knowledge and attitude towards oral health care: A cluster-randomised controlled trial. *Gerodontology*, 33(2), 275–286. <https://doi.org/10.1111/ger.12164>
- Johnson, M. J., & May, C. R. (2015). Promoting professional behaviour change in healthcare: What interventions work, and why? A theory-led overview of systematic reviews. *BMJ Open*, 5(9), e008592. <https://doi.org/10.1136/bmjopen-2015-008592>
- Kalisch, B. J., Landstrom, G., & Williams, R. A. (2009). Missed nursing care: Errors of omission. *Nursing Outlook*, 57(1), 3–9. <https://doi.org/10.1016/j.outlook.2008.05.007>

- Khurshid, Z., McAuliffe, E., & De Brún, A. (2021). Exploring healthcare staff narratives to understand the role of quality improvement methods in innovative practices during COVID-19. *BMC Health Services Research*, 21(1), 1271. <https://doi.org/10.1186/s12913-021-07297-0>
- Kitson, A., Brook, A., Harvey, G., Jordan, Z., Marshall, R., O'Shea, R., & Wilson, D. (2018). Using complexity and network concepts to inform healthcare knowledge translation. *International Journal of Health Policy and Management*, 7(3), 231–243. <https://doi.org/10.15171/ijhpm.2017.79>
- Kitson, A. L., Muntlin Athlin, Å., & Conroy, T. (2014). Anything but basic: Nursing's challenge in meeting patients' fundamental care needs. *Journal of Nursing Scholarship*, 46(5), 331–339. <https://doi.org/10.1111/jnu.12081>
- Lewis, A., Kitson, A., & Harvey, G. (2016). Improving oral health for older people in the home care setting: An exploratory implementation study. *Australasian Journal on Ageing*, 35(4), 273–280. <https://doi.org/10.1111/ajag.12326>
- Lewis, A., Murray, J., Hunter, S. C., Conroy, T., Kitson, A., Splawinski, Z., Courage, D., Challen-Jordan, A., & Block, H. (2022). *REDUCE (tRanslating knowlEDge for fUndamental CarE): missed oral healthcare: it takes a team (Whittaker Smiles): Project Report*. <https://doi.org/10.25957/g0y8-m635>
- Munro, S., & Baker, D. (2018). Reducing missed oral care opportunities to prevent non-ventilator associated hospital acquired pneumonia at the department of veterans affairs. *Applied Nursing Research*, 44, 48–53. <https://doi.org/10.1016/j.apnr.2018.09.004>
- Murray, J., Hunter, S. C., Splawinski, Z., & Conroy, T. (2023). Lessons learned from the preimplementation phase of an oral health care project. *JDR Clinical and Translational Research*, 8(3), 299–301. <https://doi.org/10.1177/23800844221083966>
- NHS. (2019). *Mouth care matters programme*. NHS. <http://mouthcarematters.hee.nhs.uk/index.html>
- Ohi, T., Murakami, T., Komiyama, T., Miyoshi, Y., Endo, K., Hiratsuka, T., Satoh, M., Asayama, K., Inoue, R., Kikuya, M., Metoki, H., Hozawa, A., Imai, Y., Watanabe, M., Ohkubo, T., & Hattori, Y. (2022). Oral health-related quality of life is associated with the prevalence and development of depressive symptoms in older Japanese individuals: The ohasama study. *Gerodontology*, 39(2), 204–212. <https://doi.org/10.1111/ger.12557>
- Patton, M. Q. (2015). *Qualitative Research & Evaluation Methods* (4th ed.). SAGE Publications Inc.
- Rose, T., Worrall, L., & McKenna, K. (2003). The effectiveness of aphasia-friendly principles for printed health education materials for people with aphasia following stroke. *Aphasiology*, 17(10), 947–963. <https://doi.org/10.1080/02687030344000319>
- SA Dental. (2023). *Oral health care assessment and planning*. <https://www.dental.sa.gov.au/professionals/oral-health-resources/oral-health-care-assessment-plan>
- Scannapieco, F. A., & Shay, K. (2014). Oral health disparities in older adults: Oral bacteria, inflammation, and aspiration pneumonia. *Dental Clinics of North America*, 58(4), 771–782. <https://doi.org/10.1016/j.cden.2014.06.005>
- Taylor, A., & Murray, J. (2023). *Multidimensional factors influencing the oral healthcare of older people* Flinders University Dataset. <https://doi.org/10.25451/flinders.24330814.v1>
- Vinoya-Chung, C. R., Jalon, H. S., Cho, H. J., Bajaj, K., Fleischman, J., Ickowicz, M., Nassis, E., Wei, L. S., Kaufman, D., Xavier, G., Luong, K., DeOcampo, M., Conley, G., Iii, D. E., & Wei, E. K. (2020). Picking up the pieces: Healthcare quality in a post-COVID-19 world. *Health Security*, 18(5), 372–376. <https://doi.org/10.1089/hs.2020.0120>
- Walls, H. L. (2018). Wicked problems and a 'wicked' solution. *Globalization and health*, 14(1), 34. <https://doi.org/10.1186/s12992-018-0353-x>

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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