Supplementary Material 8. Summary of intervention details of Review 3 included studies (using TIDieR items*) according to intervention type and study design

Study	Brief name	Recipient	Why (rationale, theory or goals)	What (materials)	What (procedures)	Who provided	How (mode of delivery; individual/ group)	Where	When and how much	Tailoring	Modification of IV throughout study	Strategies to improve or maintain IV fidelity	Extent of IV fidelity
Improving staff information, knowledge and skills – subcategory: training (n=8)													
Naughton (2018)	Communication skills training	Nursing students	Plwd have complex communication needs, especially during acute hospital admissions, and the best way to promote practice change is to embed fundamental skills during core training of nurses who will work in that system. Training was based on the VERA framework	Not described	Students in intervention and control groups were encouraged to attend any Trust dementia training and received standard support including mentors, link lecturers, and clinical tutors. Students from one university undertaking older adult unit placements in seven acute care teaching hospitals as a standard part of students' programme.	Lecturers	Face-to-face training with follow-up short reflective discussions during clinical placement facilitated by lecturers	Acute care teaching hospitals	2.5-hours face-to-face dementia training and short reflective discussions during clinical placement facilitated by lecturers. Students received the training at the start of their older adult unit placement. The duration of placements ranged from 4 to 12 weeks and the numbers of students per unit ranged from 1 to 8	Not described	Not described	Not described	Not described
Schindel (2016)	Gentle Persuasive Approaches (GPA) educational program	Nursing staff	Focused on filling identified gaps in existing education programs, and including application of dementia communication principles, PCC strategies and explaining that certain behaviours arise due to unmet needs and task-focused care delivery	A manual provided to all participants	The GPA program comprised of 4 modules: PCC principles (module 1), brain changes common in dementia and delirium (module 2), communication and interpersonal strategies (module 3), and staff-specific self-protective skills and team/patient/ family debriefing and reassurance techniques (module 4) that are safe, effective and respectful to use when interacting with Plwd	Clinician educators certified as GPA coaches after completion of a 2-day facilitator program	The GPA curriculum was delivered to staff in groups of 18-20 by teams of 3 certified GPA coaches. Delivery is interactive, including case studies, learning exercises, video vignettes, and small group work	Multisite acute care hospital	The GPA coaching teams delivered the education during 7.5-hour single-day sessions. Each coaching team was composed of 1 of 4 clinical nurse specialists who served as lead coaches and 2 staff coaches (40 in total) who were representatives from each clinical area involved in the study	Not described; authors stated that when implementing and evaluating dementia programs, it is important to ensure that such interventions are standardized in terms of preparation of and delivery by trainers	Not described	Authors stated that all staff were cross-trained to ensure standardization between groups	Authors stated that all staff teaching partners supported the implementation and sustainability of GPA in their respective practice units during clinical interactions
Smythe (2014)	Brief Psychosocial Training Intervention (BPTI)	Staff working with Plwd	Aimed to develop, pilot and evaluate a brief psychosocial training intervention by adapting an existing competency framework to meet the needs of acute hospital staff	Not described	Phase 1 involved adapting an existing competency framework and developing the BPTI using focus groups. In phase 2, feasibility and staff's experiences of implementing the BPTI on the wards compared with a standard teaching approach or no training was examined. Each session started with a conversation outlining training objectives and delivering important messages, followed by working alongside the staff member, feedback and reflection	One mental health nurse/researcher with teaching experience and two general nurses	Staff had to be seen individually to deliver the training. Staff in the BPTI group were not required to leave the clinical area to attend the training; the standard teaching approach consisted of a 6-week, classroom-based rolling	3 wards in acute hospital setting	The BPTI was designed to be delivered for 1 hour a week over 5 weeks; the standard teaching approach consisted of a 6-week, classroom-based rolling program	Potential focus group participants were consulted about the BPTI parameters and content to promote a sense of ownership and identify their needs	Initially, it was expected staff would be trained in small groups of 5, but it proved impossible due to time pressures and staff rotas restrictions. Staff had to be seen individually and this increased the time needed to deliver the training while limiting chances	A manual was written and used to ensure implementation fidelity	30 participants received the BPTI and most staff did not attend the standard training. Authors stated that in practice, one of the trainers had to backfill for staff. It was difficult to ensure implementation fidelity as trainers were constrained by competing organisational demands

							program. Delivery was didactic and focused on physical health needs				for role modelling and group teaching, thus diluting the impact		
Asomaning (2016)	Pilot educational program for staff caring for patients with behavioral issues related to delirium and dementia	Direct care staff (members from the geriatric champions group and staff on the acute care for elders unit)	Aimed to explore the development and impact of a pilot educational program focused on improving direct care staffs' capacity, confidence, and competence in working with geriatric patients with behavioural disturbances related to dementia/ delirium	Not described	Utilizing the tools of comprehensive decision making frameworks, two Nurse Practitioners in Geriatrics developed and implemented a program consisting of 3 workshops. Each of the workshops focused on different areas of education and skill development; workshop 1: improve knowledge related to dementia, delirium and associated behaviours; workshop 2: improve ability, skill and confidence in responding to behavioural disturbances using the Gentle Persuasive Approaches for Dementia Care curriculum; workshop 3: apply knowledge learned in previous workshops through standardized patients use and gain confidence by applying this knowledge	Nurse practitioners in Geriatrics	Workshop formats included didactic education, experiential and small-group learning, case-based application through simulation, and the use of standardized patients. In collaboration with the University of Toronto Standardized Patient Program, scenarios that mimicked real-life situations were developed for participants	Urban tertiary care hospital	16-hour, 3-workshop program offered 3-4 times per month over the course of four months	The educational program was developed after a needs assessment, aligning the program with existing internal initiatives such as the inter-professional geriatric champions group and developing learning objectives based on identified care and knowledge gaps	Not described	Not described	Not described
Galvin (2010)	'Dementia-friendly hospitals: Care not crisis' educational program	Nurses, social workers, pastoral care, discharge planners, physical therapists	The impetus for the program came out of the recognition that many of the Helpline calls received at the Alzheimer's Association St. Louis Chapter dealt with the poor outcomes of hospital visits for Plwd	Participants were given handout material for future reference	The curriculum consisted of 5 learning modules (Introduction, Medical Overview, Approaches to Communication and Behaviour, Dementia Friendly Care, and Connecting the Caregiver)	Each module was delivered by a different specialist in that particular area: a physician delivered the Medical Overview module, while a social worker from the Alzheimer's Association delivered the Connecting the	The curriculum contained both didactic information and incorporated group learning by asking groups to review case studies and generate care plans and discharge plans using forms specific to each institution	Community hospitals; location of training not described	The program lasted 7 hours including breaks and lunch	Using feedback from focus groups and pilot programs, the curriculum was revised to incorporate group learning. Upon completion of the pilot programs, a national advisory panel was constituted to assist with curriculum development and program evaluation tools	Not described	Not described	Not described

						Caregiver module							
Palmer (2014)	Dementia Friendly Hospital Initiative (DFHI) Education Program	Nurses, therapists, social workers, chaplains	The particular risk profile of hospitalised patients with dementia supports the need for staff education on the specialized care required for Plwd recognized on a national level	Standard slides covering key topics were developed and used consistently by all presenters. A binder with copies of the slides and handouts of important information was given to participants for future reference	All-day program consisting of 5 modules: Module 1: introduction to the DFHI program and care of patients with dementia in a hospital setting. Module 2: medical overview of dementia and Alzheimer's disease. Module 3: communication and behavioural challenges that can occur when caring for individuals with dementia, suggested strategies to deal with these challenges. Module 4: overview of specific dementia friendly care strategies. Module 5: discussion of early discharge planning, and resources to support individuals with dementia and their caregivers	A staff member of the Alzheimer's Association or a volunteer dementia expert presented the modules	The DFHI program consisted of 5 modules of didactic content, slides, videos, learning activities, and handouts	Community hospitals; location of training not described	Full-day program. One hospital requested that the program be presented on six different dates so that only a few staff members needed to attend each time, thus minimizing disruption in bedside coverage. Alternatively, another hospital hosted a single program for 92 staff members	Several important modifications were made to the mostly didactic program which had previously been pilot tested. Duplication within and between the various modules was removed, more videos and active learning strategies were added, and case studies and exercises were added to the program to engage learners	Not described	Not described	Not described
Sampson (2017)	Whole-system train-the-trainer model for dementia awareness	Hospital staff (nurses, healthcare assistants, doctors, facilities staff)	The UK Government issued a mandate to Health Education England, to train 100,000 UK health and social care staff in "Tier 1" dementia awareness. The aim was to evaluate the impact of a system-wide training program in dementia care for acute hospital staff	A new curriculum of dementia training was developed by a general hospital lead nurse and a dementia training specialist with clinical working groups consisting of 40 clinicians. These included a basic "Tier 1" level training module for all staff using "Barbara's Story"	The development of the training program included several stages: Establishment of an expert working group, Dementia consensus working conference, Dementia consensus workshops, Development of project actions, Development of training curriculum, Engaging local senior managers, Train-the-trainer program, and Staff training	Experienced dementia trainer	Nominees trainers attended workshops for two full days of coaching before being signed-off as competent. The target was to train staff at a minimum of 1 hour at "Tier 1" level. This involved classroom teaching, on the ward training, or one-to-one coaching in practice. The community of practice held regular meetings during this period to share and learn from experiences	Acute hospital trusts	The new curriculum consisted of 24 targeted, interactive, and experiential dementia training modules, taking between 30 minutes and an hour to deliver. The train-the-trainer program was delivered between July and October 2012, while the staff training was between December 2012 and August 2013.	During development of training, the curriculum was standardized to allow participating Trusts to be compared but could be tailored to the specific job role or area of responsibility. Then each participating hospital developed a bespoke package for staff training	Not described	Not described	Train-the-trainers courses were completed by 52 staff and 33 of these (63%) became active trainers. A total number of 2,020 dementia training sessions were delivered to individual staff and 1,700 questionnaires were distributed.
Surr (2016)	Person-centred Care	Acute hospital staff	Aimed to evaluate the efficacy of a specialist training	2-level training: Foundation	The program started with a train-the-trainer day where nominated	Nominated peer facilitators	The training has a flexible format that	NHS Trust	3.5 day PCTAH program, comprised of two levels: Foundation (0.5 day) and	The training program was designed by the	Not described	Not described	Not described

	Training for Acute Hospitals (PCTAH) program	(majority nurses)	program regarding improving attitudes, satisfaction and feelings of caring efficacy in provision of care to Plwd	level training included modules on PCC, types and impact of dementia, identification of and meeting emotional needs, impact of the physical environment, effective communication, identifying and meeting physical health needs and redefining and supporting behaviours staff may describe as challenging. Intermediate level training provided learners with a more in-depth knowledge of each topic area covered at the Foundation level	peer facilitators delivered sessions from the Foundation level PCTAH to peers and gained feedback on their delivery. Foundation level training is a 3.5-h program delivered either as a half-day or a series of seven 30-min modules. Intermediate level training provides learners with a more in-depth knowledge of each topic area covered at the Foundation level, through six half-day modules	holding senior clinical roles across the Trust	supports a range of delivery approaches that can be adapted by each ward or staff group to maximise the practicability of disseminatio n of the training across the workforce. The training was delivered to two cohorts of staff simultaneou sly i.e. both cohorts received Foundation level training and then both received Intermediate level training	Intermediate (3 days), delivered over a 3–4 months period. The training was delivered between June and August 2012	authors, specifically for acute hospital settings. The content was based on the knowledge gaps of acute hospital staff identified in the literature and discussions with nurse managers about staff training needs			
Improving staff information, knowledge and skills – subcategory: tailored strategies (n=3)													
Mador (2014)	Individualiz ed nursing consultatio n service	Plwd/ delirium, Nursing staff	Aim was to determine whether individualized advice on non-pharmacological strategies for hospitalized older patients with confusion and behavioural problems can improve levels of agitation and reduce the use of psychotropic medication	Not described	Within 24 hours of randomization, EPN assessed patients in treatment group, formulated a management plan for non-pharmacological strategies to help manage the patient's behaviour, discussed the plan with the ward nursing staff and then provided ongoing support and education for the nursing staff to enable them to carry out the strategies. All patients in the study received usual care which included a review by a geriatrician for medical advice on the patient's confusion and behavioral disturbance	Extended Practice Nurse (EPN)	Not specified	Metropolitan teaching hospitals in South Australia	Not described; the intervention is reported to be from the time of randomization to date of discharge (median length of follow-up was 9 days)	The strategies were tailored to the patient's needs and included addressing the safety of the patient (close supervision, minimizing restraint use, reducing falls risk), communication with the patient (simple sentences and one-step instructions, reorientation, validation), basic nursing care (hydration and meal set-up, continence issues), targeted	Not described	Not described	Authors stated that adherence was not formally measured

										behavioral strategies (diversion techniques and behavior modification with reinforcing desired behaviour, dressing in own clothes, music, use of a doll, including family)			
Miller (2004)	Elder Care Supportive Interventions Protocol (ECSIP): nursing and family support IVs designed to reduce discomfort and consequences of delirium	Plwd/ delirium, family	Elderly patients are generally under-treated for discomfort by health-care providers, in part because they have difficulty in reporting discomfort and using pain rating scales. Family caregivers are a major source of knowledge and can collaborate with the health-care team to reinforce discomfort management strategies that are underused by staff	Environmental props were placed on doors, medical records, and the Kardex to alert and remind staff of the study, e.g. a colored copy of the ECSIP along with each patient's client profile was placed in the front of the nursing records as soon as patients were enrolled	The intervention program for nursing staff included four components: a 2-hour educational program addressing confusion and discomfort; an implementation team that refined the protocol and discussed the intervention progress; undergraduate nursing students serving as elder care assistants (ECAs) assisting in patient interventions, and environmental props. The ECSIP protocol included: Client profile (within 24 hours of admission research assistants contacted caregivers to obtain information regarding patients' routines of rest and physical activity, preferences for foods and diversional activities, personal history including preferred name, and particular manifestations of discomfort), Individualized care protocol (1. prevention and control of discomfort using data from client profiles, 2. maintaining a familiar environment with meaningful communication and sensory input based on patients' routine patterns and preferences), Elder Guide (included 3	Nursing staff and undergraduate nursing students	The protocol included the following components: Client profile, Individualized care protocol, Elder Guide; ECAs made daily phone contact with family members or paid caregivers	A geriatric medical unit and an orthopedic/trauma surgical unit of a tertiary care academic hospital	Not described; however measures were taken within 24 hours of admission to unit, within 48 to 72 hours after admission, and within 24 hours prior to discharge; average length of stay was 9 days	Research assistants obtained information regarding patients' routines, preferences for foods and diversional activities, personal history including preferred name, and particular manifestations of discomfort. This information was then to be used by nursing staff to individualize the care protocol	Not described	A review of the frequency data of selected aspects of the ECSIP indicated the nursing staff did not consistently implement the interventions	Environmental interventions were performed more frequently than those associated with mobilizing or encouraging patient independence with feeding. E.g. patients were observed to be kept covered (54%), have the head and foot of the bed adjusted (38%), and be assisted with turning and repositioning (28%)

					components provided verbally and in writing in a “Thank You for Coming” booklet: 1) the family as valued members of the health-care team, 2) explanation of the physical environment with descriptions of common equipment and treatment devices, 3) financial and transportation assistance)								
Luxford (2015)	Implementation of TOP 5 clinician-carer communication tool	Clinicians, carers, local liaison staff	Strategies to improve the use of carer knowledge by clinicians have the potential to aid communication and support personalised care. The study aimed to explore the use of the TOP 5 tool	Staff education was provided in the use of TOP 5 at each hospital along with a toolkit including TOP 5 forms, information brochures for family and carers, background information and promotional material for local use. A log data pro forma was provided to all hospitals for collection of monthly ward-level data by nominated clinicians during the implementation period. Development of strategies was recorded on a 1-page form	First each hospital identified a local implementation team to champion TOP 5 use. TOP 5 engages clinical staff in a structured process with carers to elicit and record up to 5 important non-clinical ‘tips’ and management strategies to improve patient care. A face to face conversation with a carer, leads to the mutual development of the strategies recorded on a 1-page form which is then attached to the patient’s charts at the bedside. Locating the form at the bedside ensures staff can access, use the information and pass the information on at handover	Not described; Each hospital identified a local implementation team: a local site liaison (LSL), executive sponsor, clinical champion and a carer support group contact. Clinicians used the TOP 5	Staff education was provided in the use of TOP 5 at each hospital with wards nominated locally as being the most relevant wards for an intervention involving Plwd	Public and private hospitals	TOP 5 was implemented by each hospital site over a 12-month period, between September 2012 and August 2013. Clinical staff met with carers to elicit and record up to 5 important non-clinical ‘tips’ and management strategies to aid communication and support personalized care	A flexible approach to local nomination of wards within the hospital was taken to ensure local ‘buy-in’ by allowing clinicians to consider where best to implement TOP 5	Early in the implementation period, a few clinicians reported difficulty in translating the carers’ tips into a workable strategy as they lacked confidence to write strategies based on ‘non-clinical’ tips. This issue was addressed through further training and the development of lanyards for clinician use demonstrating how to write an effective TOP 5	LSL staff were surveyed about the process of implementing TOP 5 at 6 and 12 months via an online survey, collecting data about types of clinicians, position levels and time involved in conducting a TOP 5, and perceived enablers and barriers to implementation	Of the 22 hospitals, 21 implemented TOP 5 during the 12-month period. An average of six TOP 5s were undertaken/month by each hospital (range: 1–24/month), typically conducted by a nurse. 23% of Plwd had a TOP 5 at the outset and 64% by the end of the implementation period. The average time to complete a TOP 5 with a carer was 21 minutes
Improving staff information, knowledge and skills – subcategory: following care protocol (n=1)													
Beernaert (2017)	Care Programme for the Last Days of Life -CAREFuL	Elderly people in the dying phase with a small proportion having dementia	End-of-life care for elderly people in acute hospital wards is suboptimum. Delivery of optimum end-of-life care is challenging because dying people often have complex and multifaceted	The care guide is a document designed to guide health-care staff in making choices in caring for people who are dying. Supportive documentation such as	The program involved: (1) an implementation guide, (2) the care guide for the last days of life (care guide), and (3) supportive documentation. The implementation guide incorporates 9 components that must be completed and includes a	Specialist palliative care team	As part of a multi-professional document with guidelines of care a section relating to points of attention was checked and	Acute geriatric wards in the Flemish Region, Belgium, providing diagnostic assessment and treatment of elderly patients	CAREFuL was implemented over a 6-month period and the group were assessed for 1 year after the intervention, during which the care guide continued to be used	Not described	Not described	Authors stated that they developed an implementation strategy, which included training and a guide on implementation of the program, and developed a quantitative process assessment instrument to assess and monitor the quality of	The fidelity measures during the study showed that CAREFuL was implemented according to the protocol in most of the wards, although physicians in wards assigned

			needs. Based on three care pathways for the dying patient, the program was developed to improve the quality of end-of-life care in acute geriatric hospital wards	information leaflets for family carers about entering the dying phase was developed to complement the care guide	detailed 2-day training package to help health-care staff in educating and supporting their colleagues in using the care guide in a correct and compassionate way. The care guide is initiated when the multidisciplinary team decides that a patient is likely to die within days or hours, on the basis of clinical assessment		completed every 4 hours					implementation. Several fidelity measures were done during the intervention implementation process, such as whether a project steering group was formed for the ward	to the CAREFuL group often did not take part in the training. After the training sessions, all wards started using the care guide for the last days of life. The proportion of dying patients cared for with use of the care guide during the 12 months after the implementation period varied from 38% to 100%. The mean proportion across the wards was 60%
Increasing ward capacity (n=1)														
Bateman (2016)	Volunteer training program in PCC	Volunteers (community members from a range of background s)	Use of trained 'sitters' has been recommended as an important adjunct to care for Plwd/delirium in acute hospitals, particularly where family members are not available but the cost and resources of available programs limit transferability in rural settings	For identification, volunteers were provided with a gold polo t-shirt with 'hospital volunteer' embroidered on the front	The volunteer training program, was underpinned by the principles of person-centred dementia care. Once assigned, volunteers completed a personal profile with the patient or with their family carer recording personal preferences and social information to maximise PCC. Their main role was engaging with and providing PCC support to Plwd/delirium	Training delivered by first author and a colleague from Alzheimer's Australia NSW	Not described	Rural acute hospital	The core training was facilitated over 4 days with an additional half day for mandatory hospital education. Care was provided over two shifts: 8 am – 12.30pm and 3–7pm, excluding weekends and public holidays. They cared for an average of 3.5 patients per shift (range 1–7 patients) with an average patient length of stay of 15 days (range 3–54 days)	Once assigned, volunteers completed a personal profile with the patient or with their family carer recording personal preferences and social information to maximise PCC.	Not described	Regular meetings were held with nurse unit managers and volunteers to monitor the program and address issues as they occurred. Post-study, program procedures were reviewed and change management techniques have successfully sustained the program	Not described
Activity-based interventions (n=6)														
Di Napoli (2016)	Individualized Social Activities Intervention (ISAI)	Older adults with mild to moderate cognitive impairment	The need-driven dementia-compromised behaviour model suggests that behavioural symptoms are an indication of unmet social needs. Interventions that increase participant's engagement in meaningful social activities will likely improve QoL and decrease BPSD	Personal interests and functional status assessed with the Assessment Tool for Individualizing Activities. A fill-in-the-blank Participant Review gathered information about participant's family, religion, occupation, hobbies, music,	Therapists matched the data from the assessments with participant characteristics to prescribe a list of potential activities that are not routinely available within the facility	Trained research assistant	Not specified; The most frequently delivered activities in the study included reminiscence /life review or casual conversation , puzzles/cards/board games, listening to music, and doing	State-supported geriatric psychiatric facility	IV group received the ISAI for approx. 30-60 minutes for up to 15 consecutive days	The intervention was individualized based on participants' interests, cognition, and functional status	Not described	A treatment implementation model measuring individual treatment components was applied. Patient's adherence with treatment regimen was assessed by the number of completed sessions, total time spent engaging in activities and participant engagement as perceived by therapist. Delivery was rated by an independent reviewer	61.5% participants engaged in all 15 sessions of the ISAI; the average total time participants spent engaging in activities was 616.88 minutes; therapists perceived the participants as actively engaging in the activities; 98% of the brief quizzes assessing participant's

				and other personal interests			art					listening to one randomly chosen audiotape session from early and one from late in treatment. To learn structured interview assessment, assessors practiced the assessment with the principal investigator (PI) until an adequate mastery was obtained. All assessments were audiotaped and the PI randomly reviewed about 10% of the recordings to ensure that the delivery was standardized and appropriate	understanding of the completed activities were answered correctly; 93.1% of the sessions and 98.9% of the assessments were appropriately delivered
Gitlin (2016)	Tailored Activity Program for Hospitals (TAP-H)	Plwd, family caregivers	Activities tailored to interests and abilities of Plwd may be useful by aligning cognitive/functional capacity with environmental expectations and enable individuals to positively re-engage in their environments. To understand its implementation potential and if TAP-H can be "normalized" within hospital settings, the study drew upon Normalization Process Theory	Not described	A research team member conducted brief telephone interviews with family members to obtain patient background information, and functional and behavioural profiles. TAP-H involves up to 11 sessions during hospitalization with three phases: assessment and activity planning, activity implementation and staff training (CNAs, RTs), and generalization (helping staff use strategies for care challenges; reviewing activities with families at discharge)	Occupational therapists (OTs), then Certified Nursing Assistants (CNAs) and Recreational therapists (RTs)	Brief telephone interview with families, face-to face with families and patients, discussion and coaching CNAs and RTs	Medical Behavioural Unit	TAP-H involves up to 11 sessions during hospitalization that unfolds in three phases: assessment (sessions 1-2), implementation (sessions 3-7), generalization (sessions 8-10)	OTs interviewed families to obtain information about patient previous roles, habits, interests. Separate patient assessments informed activity choice, grading of activities to capabilities and strategies needed to support engagement	Not described	OTs documented number (dose) and duration (intensity) of sessions. Time in minutes was examined for each session across participants and overall. CNAs and RTs also recorded each time they used prescribed activities independently of OT sessions	Average number of treatment sessions per patient was 8.00 (SD = 2.71, range = 3–13). Average time spent per session was 38.18 min (SD = 10.01, range = 19.09 – 57.50). CNAs and RTs used activities independently of OT sessions for 65 times (24 times = CNAs; 41 times = RTs)
Weber (2009)	Psychotherapeutic day hospital program	Plwd and concomitant BPSD	Psychotherapeutic interventions focusing on caregiver burden are thought to represent a useful complement to pharmacotherapy, and BPSD may be amended with person-centred psycho-dynamic interventions that address the emotional	Not described	The intervention consists of music therapy, movement therapy, psychodynamic therapy and sociotherapy; Family interventions include the assessment of communication patterns, offer relief for caregivers' burnout and opportunities to formulate a request for help; Liaison meetings	The care team includes two residents in psychiatry, one senior resident, one movement therapist, one music therapist,	Combination of individual and group psychotherapy. During each attended week, each patient participates in four mixed gender groups of maximum 10 participants. Participants'	Psychiatric day hospital	All participants attend the therapeutic community 2-3 times/week for a 6-hour day, including lunch	Not described	Not described	Not described	Not described

			needs of older Plwd		assure the coordination of professional caring networks and provide continuous assessment and advice necessary for the success of a shared project	one psychologist, one social worker and four nurses	personal goals and achievements, therapeutic progress and drug management are discussed in individual interviews. The care program is completed by a weekly administrative and organizational meeting including both participants and staff members						
Cheong (2016)	Creative music therapy (CMT)	Plwd/ delirium	Music therapy has been used to improve engagement and decrease agitation in Plwd mostly in long-term care settings, and it may hold promise in acute care settings. Main approach used was the Nordoff-Robbins CMT, a patient-centred, improvisational approach to individual and group music therapy based on the premise that every individual has an ability to respond to music	Not described	Plwd would have been receiving usual care before the music session, and would continue with usual care afterwards. The music therapist engaged the patient in both active music making or music listening and worked toward building a work of aesthetic value by embracing whatever musical material the patient offered	Board certified music therapist	Group or one-to-one music sessions	Acute care unit	Day 1: Plwd observed for 30 min without CMT at 3 times; day 2 & 3: Plwd observed for 30 min before and after a 30-min CMT session; study ran over a 3-month period	Based on individual's profile and response to music, the music therapist modified and adapted techniques to meet the patients' needs; CMT sessions included playing familiar songs of patient's choice	Not described	Not described	Not described
Daykin (2017)	Inclusive participatory music activity to support wellbeing	Plwd	Rationale was to address the need for non-pharmacological approaches and evaluate their use in a busy hospital setting. Art therapies including music can help to reduce	Not described	Sessions lasting up to 2 hours were held in an activity room close to the ward. Following a similar structure, each session began with a brief performance of a classical piece on the viola by the musician, played as participants arrived and as tea and biscuits were being	Led by a professional orchestral musician trained to work with Plwd	In groups of between five and eight, participants (patients, their care staff, and visitors), attended sessions led by a professional	Acute elderly care service in hospital, activity room	Weekly sessions lasting up to 2 hours for 10 weeks	Authors stated that intervention was not described as music therapy which is often individually based and focused on clinical goals	Not described	Not described	Authors stated that as some patients were discharged during the study, each participant received on average 2-3 music sessions

			behavioural problems and promote communication and connection with others		distributed. A series of participatory activities was next, beginning with singing familiar songs and playing hand-held percussion instruments. Reminiscence was one element, and activities also included song-writing and composing, and participants were invited to conduct using a baton as the musician improvised in response		orchestral musician						
Windle (2018)	Visual arts program	Plwd	The program was developed for this research through a theoretical investigation of the contextual factors and mechanisms which shape outcomes. Cultural activities including art interventions have the potential to improve a broad range of outcomes for Plwd including well-being, QoL, cognitive function, and communication	Training materials not described; Materials provided depended on the task and included water-based paints, pastels, colour pencils, collage material, glue, iPad, quick drying modelling clay, and print-making supplies	The community arts partners came together for training prior to the start of the study. Artists from each regional organization delivered the sessions in their respective geographical research site. Site 2 (NHS hospital wards) could not visit a gallery due to staff restrictions leaving the hospital, therefore the artists brought a small selection of artworks to the participants to facilitate discussions	Lead artist with prior experienc e and training in art and dementia facilitated each session, supported by a second artist	Groups sessions, structured so that the first half was an art viewing activity, focusing on a small number of artworks, followed by art-making	Across 3 research settings including one county hospital in Derbyshire	Each site was expected to deliver four waves of the program, each wave being 12 weeks in length, delivered once a week for two hours to small groups (maximum of 15 participants)	Sessions were flexible and dependent upon the varying degrees of cognitive impairment presented to the artists	At site 2-hospital the protocol was modified after the second wave of intervention delivery to also include recruitment from a day care service for Plwd	Not described	A post-intervention review meeting with the artists indicated the program was delivered according to the core principles. Across sites participants attended an average of 7 sessions
Special care units (n=4)													
Goldberg (2013)	Specialist medical and mental health unit (MMHU) designed to deliver best practice care for Plwd/delirium	Plwd/delirium	Aimed to develop and evaluate a best practice model of general hospital acute medical care for older people with cognitive impairment	The 28 bed specialist unit was an acute geriatric medical ward	Features of the specialist unit included joint staffing by medical and mental health professionals; enhanced staff training in delirium, dementia, and PCC dementia care, environmental modification to meet the needs of those with cognitive impairment, provision of organised purposeful activity, delirium prevention, and a proactive and inclusive approach to family carers. Physical restraints were never used.	Specialist mental health staff, including three nurses, an OT, and regular twice weekly visits from psychiatrist . There was additional geriatrician time, physiotherapy, speech and language therapy. Three healthcare	Not described/NA	Special unit in large acute general hospital	NA; Regardless of allocation, patients had access to standard medical and mental health services, rehabilitation, and intermediate and social care	Not described	Not described	Not described	Not described

						assistants worked as activities coordinator							
Tay (2018)	Acute hospital dementia unit (Care for Acute Mentally Infirm Elders-CAMIE)	Plwd/ delirium	Plwd are often subjected to functional decline and emotional distress during hospital stay. PCC with specialized psychosocial interventions, minimally obtrusive medical care, and physical restraints-free practice holds potential to improve patient outcomes	The unit has 10 beds, a kitchenette, lounge and dining area, and a sizable outdoor space	All CAMIE staff attend a 2-day in-house training workshop on PCC to learn theoretical and practical applications of PCC in relation to caring for Plwd. Care is operationalized under two protocols: (1) enhanced medical care protocol, which includes moderating intrusive interventions (e.g., catheters, feeding tubes), appropriate and modest use of psychotropic medications, a physical restraints-free policy, careful attention to hydration, bowel and bladder care, and encouraging mobilization and (2) enhanced psychosocial care protocol, which includes prioritizing patient needs over tasks, encouraging family members and volunteers to provide companionship, and engaging in daily structured activities (e.g. recreational/ group activities, music therapy). CAMIE has a higher nurse staffing compared with a conventional ward with a staff-to-patient ratio of 4-to-10 (vs. 3-to-10) in the day and 3-to-10 (vs. 2-to-10) at night	Multi-disciplinary team of doctors, nurses, and allied health professionals including a dietician, social worker, pharmacist, physio, occupational, and speech and music therapists. There are also volunteers daily who help to feed the patients and engage them in conversation and activities. Family caregivers can also participate in patient care	CAMIE includes flexibility in custodial activities such as shower and feeding times, engaging patients in activities of interest (e.g., music listening), and encouraging social integration (e.g. communal dining).	Special unit within urban acute hospital	NA; Patients were admitted to the CAMIE unit if they suffered from confusion due to dementia, with/without delirium based on the confusion assessment method criteria, and concomitant acute medical problems	Upon admission, a patient's background information is obtained from the patient and his/her family via a "Know Me Better" form, which is placed at the patient's bedside to facilitate individualized care	Not described	Not described	Not described
Skea (1996)	Comparison of two models of residential care for Plwd	Plwd with complex and demanding care needs	To evaluate two approaches of residential care as an alternative to the long-stay mental hospital ward for elderly with dementia	Unit 1 has 24 beds, of which 19 were initially designated for long-term care and five for respite care. These are arranged in two six-bed, two four-bed and four single	Long-stay psycho-geriatric wards in Leicestershire hospitals were replaced by a variety of alternatives. A community hospital ward (unit 1) providing an enhanced version of traditional hospital care; a scheme developed in partnership with a charity (unit 2) operating an	Unit 1: a minimum of 2 qualified nurses on each shift, 3 nursing assistants and a ward aide. Unit 2: 3	Unit 1 staff-resident ratio 1:4. In unit 2 each house group is manned by a minimum of two members of staff at any one time (1: 4.5)	Unit 1: community hospital ward in Loughborough, Unit 2: situated in Leicester	The main points of evaluation in both units were at baseline, 6 and 12 months, plus a 24-month observational follow-up in unit 1	Not clearly described; The mission statement of unit 2 is 'to offer a range of choice, opportunity and support designed to enable and encourage	Not described	Not described	Not described

				rooms. There are separate dining and lounge areas, and meals are provided from the central hospital kitchen. Unit 2 is a free-standing purpose-built facility made up of 4 separate, though linked, house groups, each accommodating 9 residents. Each house group consists of a central lounge with a dining area and a small kitchen. Every resident has their own private bedroom with en-suite shower and toilet	explicit policy emphasizing resident choice, opportunity, support and independence. The more qualified staff (RMNs, SRNs) have greater responsibility for running the house groups and carrying out tasks such as administering medication	registered mental nurses (RMNs) and 8 resident support workers (RSWs) without formal nursing qualifications. The late shift is staffed by 3 state registered nurses (SRNs), 1 state enrolled nurse (SEN) and 8 RSWs				residents to live as independently as possible…'			
Volicer (1994)	Dementia Special Care Unit (DSCU) compared to traditional long-term care (TLTC)	People with advanced stage of AD	To respond to unique care requirements of patients with advanced AD, and compare the impact of a DSCU to a TLTC in terms of discomfort, use of medical resources and mortality	Not described	At the DSCU site, patients were homogeneously grouped on three designated DSCUs and cared for by staff trained in management of AD, with main emphasis at on the maintenance of patients' comfort. At the TLTC site, AD patients were dispersed among several TLTCs that also provided care to cognitively intact patients	Medical coverage was provided by academically unaffiliated full-time physicians at the TLTC site, and affiliated part-time physicians with nurse practitioner support at the DSCU site. Nurse staffing patterns were similar at both facilities	The main emphasis at the DCSU was on the maintenance of patients' comfort instead of striving for maximal survival. All of these patients had advance proxy planning which, in most cases, limited some medical interventions	Veterans Administration Hospitals, geropsychiatric facilities	Care was provided throughout the stay in the unit and observation period was 3 months after admission	DSCU patients had advance proxy planning	Not described	Not described	Not described
Support for carers (n=1)													
Catic (2013)	Advanced Dementia Consult Service (ADSC)	Plwd, family carers	Patients with advanced dementia are commonly admitted to the hospital where they often receive care that is of	A pocket-sized booklet was developed and given to all proxies to provide standardized Information.	ADCS included: 1. In-patient consultation, 2. Printed decision support for proxies, and 3. Post-discharge telephone support to proxies and feedback to primary care providers. A consult form	Geriatricians, palliative care nurse practitioners	An in-person or telephone meeting between the proxy and the ADCS team was held within	Teaching urban hospital	In the 3-month control period (November 2011-January 2012), eligible patients were identified using a physician order entry (POE) pop-up upon admission, and they	Not described	Not described	Not described, pilot	Not described

	limited clinical benefit and inconsistent with preferences. Whether targeted in-hospital consultation can improve the quality of their care is unknown	The booklet provided to proxies was written by a palliative care nurse practitioner and four geriatricians then edited based on feedback from an independent practitioner panel and three proxies of patients with advanced dementia	was used including key palliative care issues and administrative metrics. An in-person or telephone meeting between the proxy and the ADCS team was held within 24 hours of admission and covered the following: proxy understanding of the clinical situation and advanced dementia, goals of care, aligning the goals of care with decision-making, palliative care and hospice, and proxy's needs. At discharge, the ADCS team sent the patient's primary care providers a 1-page report summarizing the consultation focusing on recommendations for symptom control, goals of care, and advance care planning. Two weeks post-discharge, the proxy was telephoned to review the patient's health status, advance care planning, decision making, and proxy needs	24 hours of admission	received usual care. In the 3-month intervention period (February 2012 – April 2012) eligible patients were identified as those possibly having advanced dementia by the POE pop-up and had a consult requested using a second pop-up appearing on the system when patients met specific criteria on the first pop-up	

*For an explanation and elaboration of each item, please refer to the TIDieR (Template for Intervention Description and Replication) checklist and guide. BMJ 2014;348:g1687 http://www.bmj.com/content/348/bmj.g1687;
AD: Alzheimer's disease, BPSD: behavioural and psychological symptoms of dementia, CNAs: Certified Nursing Assistants, IV: intervention, NA: Not applicable, PCC: person-centred care, Plwd: people with dementia, RTs: recreational therapists