Appendix Table (*B. summary of studies*)

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| **Design** | **Population** | **Intervention (Intervention Code)** | **Outcomes measured and key results** |
| **Beer *et al.* (2011). Quality=++; Comment.** Education tailored to staff needs to improve multiple aspects of QOL for residents. Adequate methodology and analysis but poor attendance at education and very low return of staff questionnaires, possibly due to low staff engagement. | | | |
| Cluster RCT  39 facilities clustered in 4 conditions (staff education, GP education, staff + GP education, normal care control). Baseline (T1), follow-up at four weeks (T2), then six months after education finished (T3). | Residents: Group 1 Time 1=62, Time 3=41; Grp 2 T1=58, T3=41; Grp 3 T1=99, T3=74; Grp 4 T1=132, T3=95. Between 73% and 78% female; M age between 84.4 (SD=8.1) and 86.4 (SD=6.6). MMSE median between 10 (range 4-17) & 16 (range 8-20).  Staff: Overall sample size of 450 at baseline and 398 post-intervention. Not reported by condition. Low proportion who completed the attitude/knowledge survey, median age from 46 to 55, and mainly care assistants.  Attrition: Attrition fully described. Mostly due to resident death, more often male, took more medications and had lower QOL at baseline. Baseline and these differences controlled for in analysis. | Staff in nursing homes and GPs servicing them identify their primary dementia education needs. Used to devise an education package, comprising 30 min. modules which can be arranged to meet the needs identified and can be of varying lengths as required. Education delivered in groups to staff and face-to-face or by self-directed learning for GPs. Topics included: communication, personal care and activities, positive values, behaviours of concern, pain management, the 3 D’s (dementia, delirium, depression), and working between GPs and nurses. Concurrently, a dementia champion was recruited in each facility to help encourage change. Mean number of sessions provided unclear. **(4)** | Resident QOL: Self rated (QOL-AD) and staff/family rated (QOL-AD, ADRQL).  Challenging behaviours: NPI-NH and associated staff distress (NPI Distress scale).  Pain: Brief Pain Inventory, PAINAD.  QOC: Restraint: Frequency of any physical restraint.  Staff: Survey of attitude, knowledge, skills and care practice devised by research team.  Increase in pain documentation in intervention groups but shows increased pain. Increased documentation of case conferencing in intervention groups. Mixed results in QOL for facilities with better attendance but no consistent effect on any other variable for intervention staff. |
| **Boettcher *et al.* (2004). Quality=+; Comment.** Looking at the impact of PCC training (including ongoing support) on staff behaviours towards residents. Appears to be a convenience sample, with no control group. Statistics are satisfactory but there is a lack of follow-up. | | | |
| Uncontrolled before and after  Baseline (T1), 2 months post-training (T2). | Intervention residents: n=50.  Intervention staff: Certified Nursing Assistants (CNA) n=46; Nurses n=38; 93% female; 32% older than 40.  Attrition: No mention of attrition. | PCC education delivered to CNAs and nurse-mentors over 5 sessions and included such areas as communication skills and skills for individualising care plans. 4 further mentoring sessions covering observation, feedback, goal-setting, and problem-solving. Homework, role-plays and on-the-job coaching were included, as were giving mentors the tools and skills to support CNAs. CNAs and nurse-mentors also received individual coaching. **(4)** | Staff behaviour: Observation of staff/resident interactions on 7 domains (Behaviourally Anchored Rating Scales developed by researchers. Domains: Nonverbal initiation of person centred interaction; assistance with independence oriented tasks; conversation; interacting with residents using unique details of their lives; initiating lifestyle activities; responding to need-driven behaviours; person-centered interaction with family).  Significant improvements in 4 of 7 PCC domains: nonverbal initiation of PCC; assisting residents with independence-oriented tasks; verbal conversation; and using unique details of the resident’s life. |
| **Bourgeois et al.(2004). Quality=++. Comment.** Practical attempt to improve communication in personal care but no resident outcomes. | | | |
| Cluster controlled before and after  7 facilities which each have separate wings for intervention control groups.  Baseline (T1) lasting 4 weeks; after training lasting 2-3 weeks at about 4 weeks (T2), and three months later (T3). | Residents: Intervention=63, 81% female, age 84.17 (SD=6.57), MMSE 11.79 (SD=6.52); Control=62, 79% female, age 84.75 (SD=7.19), MMSE 11.73 (SD=6.73)  Attrition: No mention of attrition.  Staff: Intervention=57, 93% female, M age 35.5 (SD=7.70), 14.12 years education, 23 Licensed Practical Nurses (LPNs); Control=69, 88% female, M age 33.76 (SD=8.19), 14.83 years education. | Initially: One hour didactic lecture on effective communication skills during personal care and use of memory books. 12 page memory books produced were about residents' life including photos and also responses to problem behaviours which had helped staff. The memory book was an aid to both resident and staff. Staff were then mentored 1:1 during care interactions with their resident (M no. of sessions=8.35, range 3-15) until they showed use of the techniques required to criterion, including memory book. Finally, a ‘staff management system’ comprising daily self-monitoring forms, monitoring by trained LPNs and a staff motivation system (e.g. public posting of training progress). **(4)** | Knowledge: Test 1 hour and 1 week after didactic training.  Care interaction skills: Observation using computerised program. Looking for effective communication skills, effective instructions and ineffective instructions.  No difference between groups on knowledge.  All skills and effective instructions improved at T2. No effect for ineffective instructions. Skills maintained to T3: Announce ADL, wait 5 seconds before helping, clear instructions, and positive feedback. Use of the memory book declined to almost nothing. |
| **Bouwen et al. (2008). Quality=++. Comment.** Good study targeting falls. Controlled as much as possible for bias except that, in three facilities, they have both conditions | | | |
| Cluster RCT  10 wards from 7 facilities randomised in control (5 wards) and intervention (5 wards). 6 months preceding education (T1) and 6 months following education (T2). | Intervention Residents: N=210; 74.76% female; M Age=83.12 (SD=9.2); 152 score < 23 on the MMSE; 73.13% showed impaired mobility on TUGT.  Control Residents: N=169; 75.74% female; M Age=84.3 (SD=8.0); 99 score < 23 on the MMSE; 67.92% showed impaired mobility on TUGT.  \*Means scores not reported but authors suggest no differences in MMSE, nor mobility but do suggest difference in falls.  Attrition: attrition acknowledged but no details. | After a six month review of medical files undertaken by outside research staff and of which staff are unaware, staff received 'multi-facetted' training over six weeks on risk factors for falls and possible environmental or behaviour changes that could reduce risk. During the intervention nurses were also required to keep a fall diary, recording each fall, risk factors and possible interventions. **(1)** | Falls: From medical records, no. of falls pre-intervention (over 6 months) and post-intervention (over 6 months). Only falls with medical consequences were noted (e.g. nursing/doctor examination, medication, stitches).  No difference between intervention and control group in no. of falls. There was a 50% reduction in no. of people who have at least one fall post intervention. |
| **Burack et al. (2012). Quality=+; Comment**. This multi-faceted trial is clinically very impressive but did not address risk of bias. Despite a focus on improving QOC, the only outcome is CMAI, no staff measures. Only overall F-values are shown. Non-significant p-values are not shown unless approaching significance. | | | |
| Cluster non-randomised 7 facilities taken from 3 campuses comprise the treatment group, and 6 facilities from the same campuses comprise controls.  Baseline (T1) and 2 years later (T2). | Intervention Residents: Descriptive data only reported for residents remaining at T2: N=50; 62% female; M Age=83.84 (SD=8.8); M MDS-CPS=2.8 (SD=1.91).  Control Residents: N=51; 67% female; M Age=83.47 (SD=9.8); M MDS-CPS=3.18 (SD=2.15).  \* Baseline Imbalances: ADL (control group more impaired) and ethnic mix (more white residents in intervention group). Differences in ADL scores were controlled for in outcome analysis. No differences between groups on other factors like no. of co-morbid disease diagnoses.  Attrition: Attrition fully described. 100 died, were moved, could not be interviewed, or could no longer give consent (nobody to sign for them) by T2, leaving an overall sample of 101 with data at both time points. No sig differences between those who dropped out and those who remained. | Multifaceted intervention to create a culture of PCC: 1) Community coordinator positions. Education included: leadership, administration, human resources, investigations of incidents and accidents, environmental and social services, resident rights, and PCC. 2) Staff education about culture change and PCC. Education included: team-building; didactic customer service training, focusing on PCC and included trips to other facilities already implementing the culture change model. 3) Organisational and community structure changes. Flattening of the organisational framework. Department heads utilised as discipline specific experts. 4) Meaningful activities. Increased focus on implementing activities that reflected resident preferences and encouraging community based activities and staff participation. 5) Family involvement. Family members were educated about the culture change process, and were asked to participate. 6) Community coordinators and staff members participated in a flexible staff-scheduling process to reduce floating and promote consistent staffing. 7) Environmental changes were implemented, with a focus on person-centered needs. **(6)** | Challenging Behaviours: CMAI categories forceful behaviours (physical aggression), physical agitation (physically nonaggressive behaviour) and verbal agitation.  Changes in challenging behaviours at 24 months.  Intervention group maintained baseline levels of physical agitation and forceful behaviours, while control showed significant increase two years later. No significant finding for verbal agitation. |
| **Burgio et al. (2002). Quality=+; Comment.** Good study both clinically as well as methodologically. Examines the effect of education, plus different intensities of supervision on a ranges of QOC, Staff and QOL of life factors. It has all three components of the model and explores whether or not motivation makes a difference. Some selective reporting of results. | | | |
| Cluster and controlled before and after  Two groups: Formal staff management (FSM: involving extensive training plus staff motivational system), Control conventional staff management (CSM: received the same training but not the motivational system spread)  Baseline (T1), post-intervention (T2), follow-up after three months (T3) and six months (T4). | Intervention Residents: n=47; 85.11% female; M Age=82.17 (SD=10.10); M MMSE=6.69 (SD=9.17), M Barthel (ADL scale)=3.10 (SD=0.72), M CDR=2.55 (SD=0.79); Medications %: cardiovascular 32.14; analgesic 60.71; anticonvulsant 21.43; antidepressant 23.21; tranquilizing 21.43; anxiolytic 39.29. Intervention Staff: N=46; 93.33% female; M Age=40.19 (SD=9.73); All CNAs; M months working CNA=126.43 (SD=90.72), M months at facility=99.43 (SD=79.12), M yrs. education=13.07 (SD=1.26).  Control Residents: n=32; 65.63% female; M Age=77.4 (SD=11.73); M MMSE=6.59 (SD=7.59), M Barthel (ADL scale)=3.00 (SD=0.78), M CDR=2.52 (SD=0.69); Medications %: cardiovascular 42.42; analgesic 63.64; anticonvulsant 21.21; antidepressant 21.21; tranquilizing 21.21; anxiolytic 45.45. Control Staff: N=39; 89.47% female; M Age=39.44.19 (SD=10.27); All CNAs; M months working CNA=129.35 (SD=99.77), M months at facility=92.35 (SD=77.94), M yrs. education=13.11 (SD=1.33).  \*Imbalance to do with the different sizes of units - thus larger units allocated to FSM tend to have more admissions and this is a rolling study. Sig. more females in FSM treatment.  Attrition: Attrition described in some detail.  9 of the 88 residents withdrew between T1 and T2. Exact number remaining at 2 month follow-up and 6 month follow up are not reported.  25 staff withdrew between T1 and T2 due to moving units. No difference between those who withdraw and those who did not in length of time working a CNA, length of time they've worked in facility, education, gender, ethnicity, age. | All staff (CNAs, LPNs) received 4 weeks of behaviour management training comprising: 5-hrs of in-service training over 3 consecutive days during Week 1. Topics included: identifying environmental factors that could affect resident behaviour, communication skills and behaviour management techniques. Weeks 2-4 provided hands-on training in behavioural skills on the unit. CNAs were observed during care interactions and provided with feedback.  After the training period CSM units continued their normal supervision routine without additional training or feedback. FSM units implement the FSM system from intervention outset. This included: (1) clear and specific description of behavioural skills; (2) CNA self-monitoring; (3) LPN monitoring of CNA skills; (4) verbal and written performance feedback; (5) Incentives. Training in the FSM model was provided to staff and Supervisors received 2 hrs of in-service training and an average of two short, hands-on training sessions. **(3)** | Knowledge: Test immediately after education training.  Challenging Behaviour: CMAI. One item in CABOS: Resident agitation. Two separate ways of measuring: proportion of time % during personal care, and during observations through the day.  QOC: Observation of staff behaviour using 1) BMSC: Effective and ineffective behaviour skills occurrence per care session and communication skills (rate per hour): Effective communication skills (announcing single activities, positive statements, prompting single activities, delayed physical assistance following announcement, and after a verbal prompt); ineffective skills (announcing multiple activities, prompting multiple activities). 2) CABOT: positive statements (per hour), verbal prompts (per hour) and physical assistance to resident (% time) by CNAs during care interaction and during observations throughout the day.  Significant improvement in knowledge for both FSM and CSM post training. BMSC post training: Both groups show sig decrease in ineffective behaviour management but no difference between conditions. This was not maintained at 3 or 6 month. No time or group effects for effective behaviour management skills. Communication skills: For both groups, sig. improvement pre and post-training for 5 of the 7 effective strategies and the ability to delay physical assistance during care. Counterintuitively, announcing multiple activities sig. increased between pre and post-training. Announcing single activity both maintain improvement to 3 months but FSM superior at 6 months, CSM stays the same. There was no difference in delaying physical assistance after announcement at post-training but FSM significantly better at 6 months. FSM superior at 3 and approached significance at six months for verbal prompting of multiple activities. There is a general training effect for reduced resident agitation during care and increased positive statements both during care and during the day but no FSM effects and no other effect at 3 and 6 months. 3 month increases in positive statements during care were maintained, but still no difference between groups. Positive statements through day declined back to baseline at 3 and 6 months with no group differences. CSM staff interact with residents during day much more at 6 months than FSM group. |
| **Chang and Lin (2005)[[1]](#footnote-1) Quality=+; Comment.** Comprehensive feeding program, with a number of staff-related, QOC and QOL measures. Small sample size and no details about residents. Same study as below and large overlap in the papers. | | | |
| Controlled before and after  Baseline (T1), post program (T2). | Intervention Staff: n=31; 100% female; M yrs. Experience=3.6 (SD=3.2); All Nursing Aids (NAs).  Control Staff: n=36; 94.40% female; M yrs. Experience=5.2 (SD=2.5); All NAs.  No details around residents, except to say that residents in the intervention group were older. M Age: Intervention=84.2 (SD=4.0); control=72 (SD=5.8).  \*Baseline diffs in staff experience between conditions. Controlled for in analysis.  Attrition acknowledged with few details: 1 staff member left from control group after T2 due to family emergency. | Intervention group participated in a feeding skills training program. Training included 3 hours of didactic education, plus 1 hour of hands-on training. Topics covered areas like an overview of dementia and managing feeding problems. The protocol contained: instructions on preparing the mealtime environment, resident-staff interactions, and skills to deal with food refusal. Staff received a written manual on feeding skills. Class was followed by a 1-hour 1:1 hands-on training. **(2)** | QOL: EdFED; eating time; food intake  Staff: The Formal Caregivers’ Knowledge of Feeding Dementia Patients Questionnaire; Formal Caregivers’ Attitude toward Feeding Dementia Patients Questionnaire; Formal Caregivers’ Behaviors toward Feeding Dementia Patients Observation Checklist. Measures developed by principal investigator.  At T2, compared to the control group intervention staff more knowledgeable, more positive attitude and better feeding behaviours. Residents in treatment group had longer eating time and higher EdFED scores (i.e. greater feeding difficulty). No significant difference on food intake. |
| **Chang et al. (2006). Quality=+; Comment.** As above. Same study and almost identical paper, though the quality of life measures were not reported here. Slightly longer follow-up. | | | |
| Controlled before and after  Baseline (T1), post program (T2), and 4 weeks after that (T3). | Intervention Residents: n=20 (no other details).  Intervention Staff: n=20; 100% female; M Age=44.7 (SD=5.7); M yrs. Experience=3.6; M yrs. in current psn=1.7; All NAs  Control Resident: n=16 (No other details).  Control Staff: n=16; 87.50% female; M Age=40 (SD=9.3); M yrs. Experience=5.2; M yrs. in current psn=3.3; All NAs  \*Baseline diffs (Intervention nurses older, less experienced, been in current position fewer years and higher attitude scores) but controls for this in analysis.  Attrition acknowledged with few details: 1 staff member left from control group after T2 due to family emergency. | As Above. **(2)** | Staff: The Formal Caregivers’ Knowledge of Feeding Dementia Patients Questionnaire; Formal Caregivers’ Attitude toward Feeding Dementia Patients Questionnaire; Perceived Behavior Control Scale; Intention Scale=2 item visual analog; Formal Caregivers’ Behaviors in Feeding Dementia Patients Observation Checklist. Measures developed by principal investigator.  Knowledge better for intervention group staff; no difference in attitude, perceived behaviour control. Intention to feed frequency superior for intervention staff, but no diff in belief whether new feeding skills necessary compared to control.  QOC: Observed feeding behaviour by staff improves for the intervention group, not for controls, eg allowing more time and dealing with feeding problems. |
| **Charras and Gzil (2013). Quality=++; Comment.** Nice, simple and practical intervention looking at the effects of staff wearing street clothes of residents QOL. | | | |
| Cluster and controlled before and after  4 units (2 control, 2 intervention)  Baseline (T1) and 3 month follow-up (T2). | Total N=35; 97% female.  Intervention Residents: n=13; M Age=84.08 (SD=6.55); M MMSE=7.85 (SD=5.87).  Control Residents: n=14; M Age=80.78 (SD=9.86); M MMSE=9.37 (SD=6.39).  NB: not all able to take MMSE, so severity underrated.  Attrition acknowledged but limited details: Between Baseline and Time 2, 7 die and one is transferred. | Examined QoL-AD when staff wear street clothes for all care (other than hands on body care) and whether they wear uniforms. They did it for three months. Whether to be a uniform facility (2 SCUs) or a street-clothes facility (2 control SCUs) was decided by the staff themselves. **(5)** | QOL: QoL-AD.  T1 to T2 show that wearing street clothes leads to better global QoL-AD scores and items concerning ability to do chores around the house, family and self as a whole. Qualitative assessment suggests that it helps. Recognition of carers, more engagement in everyday activities, families after a time are in favour, caregivers feel more comfortable and engage more, and it's more hygienic not to have uniform on all the time. Only advantage of uniform is that residents quicker to recognise that it is time to get up than when staff have street clothes. |
| **Chenoweth et al. (2009). Quality=++; Comment.** Impact of DCM vs PCC vs control on a range of QOC and QOL variables. Enormous attention paid to cover most sources of bias, including assessor bias, as well as careful recruiting, using good instruments to make samples as matched as possible. | | | |
| Cluster RCT 3 clusters (Dementia care mapping, person centred care, usual care) -5 facilities each  Baseline (T1), 4 months after intervention (T2) and 4 month follow-up (T3). | DCM Residents: n=109; 83% female; M Age=83.00 (SD=7.6); Dementia Severity classification scale total score=76.0 (SD=7.0), GDS=5.6 (SD=1.3); Comorbid diseases=2.2 (SD=.94).  PCC Residents: n=98; 76% female; M Age=84.00 (SD=6.40); Dementia Severity classification scale total score=81.5 (SD=8.2), GDS=5.6 (SD=0.73); Comorbid diseases=2.0 (SD=1.1).  Control Residents: n=82; 73% female; M Age=85.00 (SD=6.6); Dementia Severity classification scale total score=75.8 (SD=8.0), GDS=5.3 (SD=1.1)  Comorbid diseases=2.4 (SD=0.86).  \* PCC intervention groups have lower TESS-NH safety, and PCC sites had more QUIS social interactions and care interactions. Resident characteristics: PCC sites had higher proportion with Resident Classification Scale (RCS) level 1 (High needs). Usual care sites have less severe dementia and more comorbid illness. Baseline differences were controlled for in analysis.  Attrition acknowledged with some detail: 18% lost, 236 remain in the study. Those lost have same CMAI and NPI as survivors. But survivors have lower QUALID. | Person centred care (PCC): 2-day training sessions in PCC for 2 care staff from each site. Topics included things like viewing behaviour as communication. Also explored how staff actions can contribute to behaviours and highlighted the importance of social interactions. Staff assisted to develop and implement PCC care practices for approx 1/3 of participating residents. Two visits to each site and regular telephone contact over the 4-month intervention period supported staff to change practices to include person-centred care for all residents.**(5)**  Dementia Care Mapping (DCM): Two care staff at each of 5 sites were trained by a Bradford-trained expert did mapping with DCM qualified researchers for 6 h per day for 2 days, to identify factors related to resident wellbeing. Staff then assisted to develop individualised care plans using the individuals’ histories, needs, and preferences. Trained staff helped others to implement PCC plans. Regular telephone support provided. **(2 and 5)** | Challenging Behaviour: CMAI, NPI-NH.  Psychotropic use: From records: Converted into equivalents.  QOL: QUALID.  QOC: Observation of staff behaviour using QUIS; falls, fractures, lacerations, bruises, medication mistakes, behavioural incidents, and admissions to hospital over 3 month period. Restraint: Number, type, duration of use of restraint during observations.  CMAI score was lower in sites providing mapping and person-centred care, compared with usual care. Fewer falls were recorded in sites that used mapping but there were more falls with person-centred care compared with usual care. There were no significant effects in any other variables. |
| **Chenoweth et al. (2014). Quality=++; Comment.** PC and PCE on QOL and QOC, including costs. Combination of interventions used to tease out the key elements. | | | |
| Cluster RCT Four conditions: 1) Usual care + usual environment (UC+HE): 8 homes; 2) PCC: 10 homes; 3) Person centred environment (PCE): 10 homes; 4) PCC + PCE: 10 homes  Baseline (T1), four months post intervention (T2), and 8 month follow-up (T3). | Intervention Residents:  PCC: n=155; 67% female; M Age=84 (SD=8.0); GDS=90% severe/very severe; 51% >3 medical/physical comorbidities; 58% receiving antipsychotics.  PCE: n=154; 66% female; M Age=84 (SD=8.0); GDS=82% severe/very severe; 35% >3 medical/physical comorbidities; 49% receiving antipsychotics.  PCC+PCE= n=150; 70% female; M Age=84 (SD=7.0); GDS=85% severe/very severe; 55% >3 medical/physical comorbidities; 38% receiving antipsychotics. Intervention Staff: 5 recruited at each of the 19 homes getting PCC (i.e. PCC and PCC + PCE and train them in PCC (n=95); 19 Care Managers, 19 RNs, 38 ENs/assistants in nursing, and 19 Diversional Therapists.  Usual Care + Usual Environment (UC+HE): n=142; 77% female; M Age=86 (SD=7.0); GDS=88% severe/very severe; 68% >3 medical/physical comorbidities; 35% receiving antipsychotics.  \* Residents in PCC and PCE homes have more antipsychotic meds and people in control homes have more co-morbid medical conditions, and they are least prevalent in PCE homes. Differences are controlled for in analysis Care service quality scores showing less room for improvement tended to be in PCC condition.  \* Completers and non-completers had similar characteristics and pre-intervention CMAI scores, DemQOL proxy scores, ERIC ratings and for all other outcomes.  Attrition fully described: 185 residents gone by Time 2, mostly died but two homes withdrew. Sample by condition at Time 2: UC+HE: 7 homes, n=95; PCC: 9 homes, n=98; PCE: 10 homes, n=105; PCC + PCE: 10 homes, n=118.  Total of 305 gone by Time 3, leaving 296. Cause mostly death, but some moved or now too sick. UC+HE: 7 homes, n=64; PCC: 9 homes, n=64; PCE: 10 homes, n=79; PCC + PCE: 10 homes, n=89. | Two main interventions assessed separately and together: Person-Centred Care (PCC) and Person-centred Dementia Care Environment (PCE).  PCC: Five staff (care manager, RN, 2 ENs, AIN, diversional therapist) from each of the 19 PCC homes were trained using experiential and adult learning approaches. 32 hours of off-site training including things like paying attention to residents’ feelings when they are agitated. This was followed by on-site supervision and telephone support.  PCE: Two experts in PCE planned and supervised the implementation of PCE interventions with AUD$10,000 per home in the 10 PCE alone homes and in 6 of 10 PCE and PCC homes. Prior to implementing PCE the Environmental Audit Tool (EAT) scores identified features in each home that could be improved. **(2)** | Challenging Behaviours: CMAI.  Mood/Affect: Cornell, ERIC (Emotional Responses, % positive interactions).  QOL: DemQOL proxy.  QOC: Care practice quality (QUIS, % positive interactions)  COSTS: It cost $AUS 136, 220 to deliver PCC to 19 homes=$7,169 per home. It cost $13, 964 total per home to deliver PCE (because not all homes did anything).  There are small but significant effects on QOL which improves over time for all the intervention sites but it is not clear whether it had occurred by T2 or T3. Significant small decline in agitation or PCC and PCE homes but not usual care and PCC + PCE. Improvement for the ERIC for the PCC + PCE condition. Cornell no effect. Improvements for the QOC Interactions for the PCC + PCE conditions up to T2 but it disappears again at T3. In summary, only the PCC + PCE condition flowed through to QOC and thence to improved ERIC but the QOC didn't last. |
| **Clare et al. (2013). Quality=++; Comment.** QOL and QOC impact from staff education and supervision around residents’ awareness. High quality, with careful methodology, including controlling for assessor blinding. | | | |
| Cluster RCT Two clusters: 1) AwareCare, 2) Control, each 4 facilities  Baseline (T1) and follow-up (T2; time not specified but appears to be directly after). | Intervention Residents: n=32; 78.13% female; M Age=82.30 (SD=7.4); all severe dementia.  Intervention Staff: n=32; 75.86% female; M Age=38.90 (SD=9.8); Level of Training: 5 no qualifications, National Vocational Qualification (NVQ) Level 1=2, Level 2=9, Level 3=9, RN=4.  Control Resident: n=33; 78.79% female; M Age=84.36 (SD=8.5); all severe dementia.  Control Staff: n=33; 82.14% female; M Age=38.80 (SD=9.9) Level of Training: 6 no qualifications, NVQ level 1=0. Level 2=9, Level 3=11, RN=2.  \* Intervention group more impaired on FAST. This was controlled for in analysis.  Attrition acknowledged with some details: No residents lost to follow-up but 3 Intervention staff left before T2; four control staff left facility and one on maternity leave. | Intervention took place over an 8-week period. In weeks 1 and 2, care staff participated in 2 x 90-minute training sessions covering: the nature of residents’ awareness, the AwareCare observational measure of awareness in severe dementia, and communication skills with severely impaired residents. For the second session, staff were each given an individualised schedule for observing 6 residents for a 10-minute period during weeks 3 to 8 and to participate in fortnightly group supervision sessions. Individual support was offered weekly between sessions and where staff members were unable to attend scheduled group supervision. **(3)** | QOL: QUALID, wellbeing (PRS).  Behaviour: Self-care, sensory ability and mobility (BASOLL).  QOC: Maslach, GHQ, ADQ, DCPA.  There was a significant improvement in QUALID for intervention residents when rated by family members but not when rated by staff. Staff scores considered more valid because family scores collected for only half the sample. There were no other effects.  Qualitative findings revealed 3 themes; 1. The intervention was informative and made staff feel more effective; 2. It was beneficial to spend more time with residents because it helped staff understand them better; and 3. They realised that residents more aware and responsive. |
| **Davison et al. (2007),** **Quality=+; Comment.** Well planned and executed intervention involving staff education and peer support but have not dealt with many sources of bias, like baseline imbalances - or even giving baseline characteristics. | | | |
| Cluster RCT Three clusters: 1) Dementia training, 2) Dementia training + support, 3) Control - each with 2 facilities  Baseline (T1), post-training (T2) and 6-month follow up (T3). | (Participants characteristics only reported for those who remained at follow-up)  Training + Peer Support Residents: n=35.  Training Alone Residents: n=46.  Whole resident sample (not reported by condition): 81.42% female; M Age=85 (SD=9). Dementia Severity not reported.  Training + Peer Support Staff: n=29.  Training Alone Staff: n=35.  Whole staff sample (not reported by condition): 90% female; M Age=45 (SD=11); 44 RN, 46 PCAs.  Control Residents: n=32.  Control Staff: n=26.  Attrition acknowledged with some details: 12 residents died and 42 staff withdrew (More from training without peer support than training +support or control). | Facilities received a dementia training program consisting of eight 60–90 min sessions, using both didactic and experiential learning. It focused on skills for caring for residents with challenging behaviours.  Staff identified topics for five peer support sessions (30-60mins, researcher facilitated). Enabled staff to discuss challenging behaviours and their emotional reactions to the behaviours and coping with work-related stress. **(3)** | Challenging Behaviour: CMAI.  QOC: Staff interactions with residents (Scale of Nursing Performance -adapted), Maslach, Staff nursing performance (The Self-Efficacy of Dementia Care).  No results on CMAI, Maslach, by 2 month follow-up and maintained at 6 month. Effect of training compared to control group from T1 to T2 was maintained at T3. However the effect is for training overall over controls. Having additional peer support makes no difference. |
| **Deudon et al. (2009). Quality=+; Comment.** Exceptional attention paid in this practical staff education and supervision program. Significant baseline differences on key outcome measures. | | | |
| Cluster RCT Two clusters: 1) Intervention, 2) Control, 8 facilities each  Baseline (T1), post-intervention at 8 weeks (T2) and 20 week follow-up (T3). | Intervention Residents: n=174; 77% Female; M Age=86.5 (SD=7.6); M MMSE=9.2 (SD=6.8)  Control Residents: n=132; 78.8% Female; M Age=86 (SD=6.7); M MMSE=12.1 (SD=6.0)  \*Control had more hospitalisations pre intervention than intervention. Intervention higher on CMAI global, physical aggression, physical non-aggress, and verbal non-aggress, NPI, and CMAI OS scores. Attempted to control for difference in some statistical tests.  Attrition acknowledged with some details: 2 residents lost for each group at T2; 16 lost from the intervention group at T3; 18 lost from the control by T3. Attrition mostly due to death. | Firstly, a 90-min teaching session on dementia, BPSD and the use of 4 instruction cards for staff, outlining practical ways of dealing with BPSD: 1) general guidelines on what to do/what to avoid with different behaviours. 2) How to act during the day to avoid or to decrease behaviours. 3) & 4) recommendations and examples of on non-pharmacological interventions to deal with individual instances of BPSD. The rest of the program consisted of individual and interactive sessions, with personalised, constructive advice and feedback. The importance of using the instruction cards in daily practice was reinforced. Trainers worked with each staff member for 2 hours, twice a week during the first month, and then once a week during the second month. The total training time was 24 h. **(3)** | Challenging Behaviour: CMAI, observation of challenging behaviour (CMAI-OS, frequency of 25 specific behaviours over 3 min period), NPI-NH (Psychotic and hyperactivity subgroup).  QOC: Psychotropic use, hospitalisations.  QOL: Measurement is unclear.  As analysed using Mixed Linear Models, the intervention led to improvement in challenging behaviour as measured by: the CMAI Global Score, the Physical non-aggression factor (PNA), and Verbal non-aggression (VNA) between T1 and T2, and T3; the CMAI OS, and one subscale of the NPI: The Hyperactivity Scale (which has most agitation). No change in the control group. No effect on hospitalisations, psychotropic use, and QOL. |
| **Dijkstra et al. (2002). Quality=++; Comment.** Targeted intervention looking at enhancing communication strategies for staff use with residents.Data collection points are not clearly defined. | | | |
| Randomised Controlled before and after  7 homes. Residents randomly assigned to intervention or control  Baseline (T1) and post treatment (T2). | Residents (not split by group): N=66; 83% Female; Early Stage Dementia: MMSE=20.9 (SD=2.7), M Age=83 (SD=5.6). Middle Stage Dementia MMSE=13.3 (SD=2.1), M Age=86.5 (SD=6.5). Late Stage Dementia: MMSE=5.3 (SD=2.8), M Age=85.6 (SD=6.1). There were 33 in each group with an even spread of early, mid to late dementia.  Intervention Staff: n=21; 85.71% female; M Age=36 (SD=7.7); Education M Yrs=13.2 (SD=2.2).  Control Staff: n=19; 84.21% female; M Age=36 (SD=7.1); Education M Yrs=14.2 (SD=0.9).  \*More females in resident treatment group.  No mention of attrition. | Communication enhancing strategies: 1. Personalised memory books. Staff were trained in use them as visual prompt and tool to reduce problem behaviours. 2. 1 hour didactic lecture and 2 - 4 week hands-on training around effective communication techniques during care routines (e.g. use of short sentences, postive feedback to residents, giving sufficient time to respond to an instruction). Support continues until staff reached a certain criterion on an assessment scale. **(4)** | QOC: from transcripts of conversations, discourse characteristics of staff.  QOL: from transcripts of conversations, discourse characteristics of residents.  Increase in coherence, decrease in empty phrase for residents the treatment group.  Increase in staff use of facilitators, such as cues and encouragement. |
| **Finnema et al. (2005). Quality=++; Comment.** Good clinical attempt to institute emotion-oriented care. Sound methodologically. | | | |
| Cluster RCT Two clusters: 1) Emotion-oriented care, 2) Control - 8 facilities each Baseline (T1), 7 month follow-up (T2) (additional data also collected after 3 months to check for confounders). | (Participants characteristics only reported for those who remained at follow-up)  Intervention Residents: n=100; 81% female; M Age=83.8 (SD=5.3); GDS Scores: Moderate to Severe=43%; Severe to Very Severe=54%; all within the facility for >1 yr. Intervention Staff: n=58; 87% female; M Age=30.8 (SD=8.0); 40 Nursing assistant; M Yrs Experience in Aged Care=6.64 (SD=5.6).  Control Residents: n=94; 81% female; M Age=83.6 (SD=5.8); GDS Scores: Moderate to Severe=51%; Severe to Very Severe=43%; all within the facility for >1 yr.  Control Staff: n=58; 87% female; M Age=30.2 (SD=7.4); 44 Nursing assistant; M Yrs Experience in Aged Care=6.72 (SD=4.1).  \* More of the intervention group had a global dementia diagnosis, and fewer Alzheimer’s and Vascular.  Baseline staff differences were controlled for.  Attrition fully described: The final resident sample at T2 with usable data is 67 Intervention, 79 control. Attrition due to death (33), transfer (14) or discharge home (1). 25 staff not available at follow-up due to sickness (11), pregnancy (2), transfer (9), lost questionnaires (3). Final staff sample with usable data is 46 intervention, 53 control. No difference between dropouts and survivors. | Model-care plan training: In all facilities, two half-day modules covering approaching one’s work methodically, and developing individualised care plans. Agreements reached in the multidisciplinary groups were monitored. Aimed to align with the normal functioning of the unit. One staff member per unit became an adviser. Supervision: Advisers received a minimum of 3 x half-day supervision on the floor and participated in three x one-day network meetings.  Intervention group: In addition to Model-Care plan training and supervision, training and supervision in the application of integrated emotion-oriented care. 1) Basic emotion-oriented care training for all staff members involved in care: Two day course on-site addressing staff members’ own experience, the phases of ego-experience of residents with dementia, and the application of non-verbal empathic skills. Training included an intermediary period of two weeks for homework. 2) 5 staff from each ward attended a course on ‘emotion-oriented care worker’ (team leader/head of ward, psychologist and 2-3 nursing assistants). Seven days of training over 7-8 months. Range of issues covered (e.g. how to make a life history, acknowledging resident’s experiences). 3) ‘Adviser emotion-oriented care’ training course for one motivated staff member per ward, who was then responsible for the implementation on their ward. Course was for 10 days over 9 months. Prior to implementation, they attended the basic and worker courses and learned to facilitate an emotion-oriented group for residents. 4 x one-day visits to wards to providing supervision on applying the approach in daily care and care forms, using empathic skills, and to give feedback around the multidisciplinary consultation group and the emotion-oriented group. **(6)** | Challenging Behaviour: BIP; BOP/ASEP; CMAI.  Mood/affect: Cornell.  Other behaviours: Geriatric Resident Goal Scale, Philadelphia Geriatric Center Morale Scale.  Staff: Organization and Stress Scale; GHQ-28; Jalowiec Coping Scale; Nursing Skills in Handling Dementing Elderly  \*Resident measures were used to develop composite scores for: Maintaining an Emotional Balance; Coping with invalidity; Agitation; Maintaining positive self-image; Developing and maintaining social relationships; Preparing for an uncertain future; Coping with nursing home environment.  Effects for resident only for those with mild to moderate dementia: Maintaining an emotional balance (less anxiety), and preserving a positive self-image (less dissatisfaction). For staff there are improvements relative to control on GHQ-28 (stress reactions). |
| **Fossey et al. (2006). Quality=+; Comment.** A comprehensive multi-targeted, case-specific intervention. Brevity of the article means that it is lacking some details. | | | |
| Cluster RCT 2 clusters (intervention and control) 6 facilities each  Baseline (T1) and 12 month follow-up (T2). | Intervention Residents: n=181; 35% female; M Age=82 (Range 60 to 98); 58% CDR Severe, 27% CDR moderate, 15% CDR None, Questionable, Mild.  Control Residents: n=168; 39% female; M Age=82 (Range 53 to 101); 58% CDR Severe, 20% CDR moderate, 23% CDR None, Questionable, Mild.  \*No baseline imbalances.  Attrition acknowledged with some details: Intervention – 69 lost to follow-up. Control – 54 lost to follow-up. Attrition mostly due to death.  \* Intention to Treat used in analysis, so 176 included for intervention and 170 for control. | Intervention included initial skills training (covering areas like the philosophy and application of person centred care and communication strategies), behavioural management techniques (including the Cohen-Mansfield approach), and weekly group supervision, supplemented by individual case supervision and supervision around issues requiring organisational change. A systematic consultation approach was employed to ensure that “whole home” issues (e.g. care practice) were addressed. **(3)** | Challenging Behaviour: CMAI, episode of aggression in past 12 months.  QOC: Psychotropic Use: percentage taking neuroleptics. Mean dose neuroleptics converted to Chlorpromazine equivalents, percentage taking other psychotropic. Falls.  QOL: DCM - Mean wellbeing; % of time asleep, and % of time withdrawn.  At 12 months follow-up, fewer people in intervention homes taking neuroleptics than controls. No other behavioural or QOL measure changed. |
| **Fritsch et al. (2009).** **Quality=+; Comment.** A worthwhile clinical QOC topic, covered obvious biases including baseline balance - though they do not report what the balance items were nor provide numbers residents and only minimal staff data. Genuine attempt to embed this into the facilities. | | | |
| Cluster and controlled before and after 2 Clusters (Intervention, Control), 10 units per condition  Baseline (T1), two weeks after the ten week intervention (T2) | No Resident information provided. Staff were the participants.  Staff: (Descriptives are not split by condition). Overall N=192 participated; Age Range 26 to 45 years; >90% female; 67% nursing assistants, 18% activity staff; yrs. of experience: 66% employed at the facility for >3 yrs., 18% >10 yrs. 17% were new to the facilities, having been employed for 1 year or less.  \*They report no differences between conditions but do not give specific values.  Attrition: No mention of attrition. | Train-the-trainer intervention: Staff volunteered for a one-day workshop and a 9-week on-site training with TimeSlip-certified trainers. Onsite training comprised a weekly visit for 8 weeks to model and then observe and comment on the storytelling process. Staff, with trainer assistance, arranged the creation of books of stories for use by storytellers and facilitators. Highly structured training program and certification process to promote consistency across sites. Program content: TimeSlips storytelling groups, with 10 – 12 residents meeting for one hour every week for 10 weeks. Facilitators -nurses ’ aides, social workers, and/or activity directors —handed out a playful theatrical picture to serve as the basis for the story and asked open-ended questions about the picture and recorded residents ’ responses. Facilitators then wove the responses into a story, periodically reading it back to the participants as it progressed. The story was later transcribed and, together with the picture, displayed in the residents’ unit. Stories were often included in a facility’s newsletter or collated into books for families. **(4)** | Mood/affect: Philadelphia Geriatric Center Affect Rating scale (Pleasure, Anger, Fear/Anxiety, General Alertness, Other/Neutral, Sadness).  Staff interactions with residents: QUIS observational scale: No. and quality of staff initiated interactions with residents (social, care, neutral, protective, oppressive).  Staff: Attitude to PWD, job satisfaction, Maslach.  QOL: Engagement on four resident engagement domains (social engagement, non-social engagement, disengaged, and challenging behaviour).  Higher levels of engagement in intervention facilities, and higher levels of disengagement in control facilities. Intervention facilities showed more frequent alertness, but also more frequent challenging behaviours, sadness and fear/ anxiety. Control group demonstrated more neutral affect. For QOC, observations show more staff initiated interactions for the intervention group with residents and a greater proportion of social interactions. Intervention group demonstrated more social eye contact, touch and verbal communication. Control facility staff demonstrated more care-related touch, and care-verbal interactions. Good outcome also for attitude with intervention group showing less devaluing residents and a more positive view of them than both control group and those that did not attend education. No effect on job satisfaction or burnout. |
| **Fuchs-Lacelle et al. (2008). Quality=+; Comment.** Good pain study, covering all the elements with good attention to randomisation, blinding, recruitment. Considers relevant staff variables. | | | |
| Cluster RCT 2 clusters (Intervention, Control), 21 units in all. Not clear if intervention gets 11 and control gets 10  Baseline (T1), at the end of 1 month (T2), month 2 (T3) and 3 month (T4). | Intervention Residents: n=89; 70.79% Female; M Age=84.89 (SD=6.54); Present Functioning Questionnaire=38.99 (SD=7.80); Physical limitations of residents: 2.25% none; 4.49% minimal (sight, coordination problems); 31.36% moderate (limited independent mobility or self-care); 43.82% severe (completely dependent on others for movement/self-care).  Intervention Staff: n=32; 100% Female; M Age=44.13 (SD=11.42); RN=12; Registered psychiatric nurse=6; Licensed practical nurse=5; Special care aide=9; M yrs. of experience=18.77 (SD=12.23).  Control Residents: n=84; 88.1% Female; M Age=85.39 (SD=7.0); Present Functioning Questionnaire=38.86 (SD=7.20); Physical limitations of residents: 0% none; 4.76% minimal (sight, coordination problems; 19.05% moderate (limited independent mobility or self-care); 76.19% severe (completely dependent on others for movement/self-care).  Control Staff: n=29; 96.55% Female; M Age=46.00(SD=9.88); RN=18; Registered psychiatric nurse=3; Licensed practical nurse=1; Special care aide=6; M yrs. of experience=22.02 (SD=12.23)  \*Sig differences between intervention and control residents (more physical impairment in control) at baseline, these were controlled for in analysis.  Attrition fully described: Total Residents lost before T1=8; by T2=18, T3=80. Final n=101. Attrition primarily due to death (71) and move to another facility (9). 67% of staff withdrew; Of the 61 enrolled at baseline, n=44 after 4 weeks, n=34 after 8 weeks; only 20 completed. Report no differences between those who drop out and those who remain. | Intervention: Participating staff were instructed in the use the PACSLAC. During the study period (3 months after initial instructions), staff were asked to complete the PACSLAC at least 3 times/wk. They also used an interpretation sheet to help decide if a score was high compared to typical residents. Staff were instructed to review PACSLAC results during their shift and participating staff were provided with action guidelines. Supervision: Research personnel visited weekly to allow staff to ask questions. Where staff experienced difficulties completing assessments, meetings were arranged to help.  Nursing staff in the control group completed an activity log at the same frequency as the intervention group completed the PACSLAC. Introduced during a meeting with the researcher. Weekly outreach visits were arranged by research personnel in a fashion that was analogous to the outreach visits for intervention group. **(2)** | Pain: 1. PASLAC – Observation measure of Pain behaviours. 2) Medication Quantification Scale (MQS), PRN.  Staff: Nursing Stress Scale; Maslach Burnout Inventory.  Regular PACSLAC use improved pain management practices, with increased analgesic medications in the intervention group compared to the control. As pain interventions increased, observable pain behaviours decreased. Nurses who used the PACSLAC reported decreased distress and burnout. No reduction in observed PACSLAC scores (by independent researcher) in intervention when compared to control. |
| **Goyder et al. (2012). Quality=+; Comment.** This is high quality education intervention, low quality methodologically. | | | |
| Uncontrolled before and after Baseline (T1) and immediately after 8 weeks training (T2). | Residents (not split by group): n=32; 53% female; M Age=83 (SD=6.2); M MMSE=11.3 (SD=4.7). Inclusion criteria means residents had to have anxiety or depression, as well as challenging behaviour Intervention Staff: n=25; 80% female; M Age=37.6 (SD=10.2); Care assistants=22 (88%); Activity Co-ordinators=3 (12%);no relevant qualifications 14 (56%), NVQ3 4 (16%), NVQ2 3 (12%), non-UK nursing qualification 3 (12%), studying for NVQ2 or above 15 (60%).  Attrition described with some details: One resident went to hospital and 2 staff withdrew (1 urgent leave; 1 dismissed). | 8 week program with two workshops with a three-week interval in between. The STAR DVD was integral (contains 8 scenes showing staff/resident interactions – challenging behaviours and successful management of those behaviours). Workshops were delivered on-site to groups of 11–14. Content: Understanding dementia and realistic expectations; communicating with and without words; using the ABCs; problem solving: get active; get active with the environment; Increasing pleasant events; team building; families; implementing STAR and preparation for individual training sessions; review of STAR concepts. Workshops were supplemented by individual sessions, delivered in either three or four sessions. **(2)** | Challenging Behaviour: Revised Memory and Behavioural Problem Checklist.  Mood/affect: Cornell, RAID (Anxiety).  QOL: QOL-AD.  Staff: ADQ, SCIDS.  Improvements in depression and BPSD for intervention group compared to control but not anxiety nor overall QOL for residents. Overall sense of competence did not increase, but there was improvement in ‘building relationships’ subscale and more hopeful (using ADQ) attitudes in intervention staff compared to control. |
| **Gozalo et al. (2014). Quality=+; Comment.** Great clinical attempt to change the way staff bathe residents. Some details missing, such as which condition residents dropped out of. | | | |
| Cluster randomised cross over trial  Two clusters 1) Intervention, 2) Delayed intervention (receives intervention after resident outcomes measured at Cluster 1 facilities), 3 facilities each  Baseline (T1), after three months (T2), then after a further 2 to 4 months (T3). | Cluster 1 Residents: n=134; Unit 1=84.6% female; Unit 2=31.8% female; Unit 3=44 % female; M Age: Unit 1=90.1 (SD=6.4); Unit 2=72.6 (SD=13.2); Unit 3=82.4 (SD=11.1); M CPS (Dementia severity): Unit 1=4.4 (SD=1.2); Unit 2=4.1 (SD=1.2); Unit 3=3.7 (SD=0.9).  Cluster 2 Residents: n=106; Unit 4=80% female; Unit 5=55.6% female; Unit 6=90.2% female; M Age: Unit 4=88.0 (SD=10.1); Unit 5=84.1 (SD=9.9); Unit 6=88.2 (SD=7.1); M CPS (Dementia severity): Unit 4=3.7 (SD=1.5); Unit 5=4.1 (SD=1.5); Unit 6=4.1 (SD=1.2). \* Baseline differences in age and gender in two of the facilities as well as incontinence and ADLs. All controlled for in analysis.  Attrition described with some detail: 41 drop out by time 2 - primarily deaths but also transfers and refusals. Unclear which cluster they come from. 76 drop-out after T2. Primarily deaths but 35 drop out because the study budget did not enable them to do observations at T3. One Cluster 2 facility did not provide medication information for post-intervention period, precluded from analysis. | The Bathing Without a Battle intervention involves the “use of different techniques designed to make showering, tub bathing, in-room bathing, and hair washing safe and comfortable for the persons receiving and giving care. Employs communication techniques appropriate for the resident’s impairment level, views behavioural symptoms as expressions of unmet need, respects the preferences of the resident, and regulates the physical environment with the goal of maximizing resident comfort” (p.798). Intervention used a train-the-trainer model. Each participating facility selected 3-5 staff members including at least one RN and 2-3 experienced CNAs/ENs who went on to train others. They attended a 2-day session covering resident behavioural expressions during baths and ways of preventing and managing distress. Training utilised video examples followed by role-playing and discussions. At the end of the pre-intervention period, trainers used the BWAB training materials to train CNAs working with residents with dementia, including any new CNAs employed during the study period. **(4)** | Challenging Behaviour: By observation: rate of verbal or physical aggression or both during bath time (CAREBA).  QOC: Bathing type and duration. Antipsychotic use.  Consistent with training, found a significant decline in showers and increase in in-bed bathing. Significant decrease in bathing duration overall. Between T1 and T3, there was a significant decrease in duration for: in-bed baths; bathing in a bathtub; and showers. No change for chair/commode. Significant decline in verbal and physical aggression and agitation during residents’ baths. Sig. reduction in calling for help/ protesting. Decline in anti-psychotic use. |
| **Gulpers et al. (2011). Quality=++; Comment.** Good intervention targeting restraint use with all essential ingredients. Plenty of attention paid to things like sample size but no reason given why they could not randomise the sample. | | | |
| Cluster and controlled before and after  2 clusters: 1) Intervention (6 facilities, 15 wards) 2) control (7 facilities, 11 wards) Baseline (T1), 4 months (T2) and 8 months (T3). | (Descriptive data is only reported for those who survived at 8 months)  Intervention Residents: n=317; 70% female; M Age=82.1 (SD=8.1).  Control Residents: n=201; 77% female; M Age=84.4 (SD=6.2).  \*Mean age of control group is higher. Controlled for in analysis.  Attrition fully described: Baseline to T2 (4 month F-UP): Intervention=35 lost (mostly deaths); Control=24 lost (mostly deaths).  T2 to T3: Intervention=A further 32 lost (mostly deaths); Control=A further 22 lost (mostly deaths)  \* More males dropped out. No other differences in drop outs. | EXBELT Intervention: 4 components: 1) policy change by management, prohibiting new belt use and reduction of current use; 2) staff education program; 3) individual consultation to nurses on the intervention wards; and 4) availability of alternative interventions intended to encourage safe mobility (e.g. sensor mats, exercise). **(6)** | QOC: Restraint: Observed belt restraint and other restraint measured 4 times during a 24 hour period; psychotropic use, falls and injuries.  50% decrease in use of belt restraint and wheelchair restraint at T3 for intervention group – both significant drops from T1. No difference in bed restraints for intervention group and no change in control group use of any restraint method.  There was a sig drop in use of at least one physical restraint device, full-enclosure bedrails and sleeping suits for intervention but not control group. Use of other restraints and alternative methods and psychotropics did not increase.  No differences between intervention and control groups in falls and injuries or psychotropic use. |
| **Gulpers et al. (2013). Quality=++; Comment.** Great attempt to reduce restraint use and good use of observation | | | |
| This is long-term follow-up (24 months) from Gulpers (2011)  See Gulpers (2011) for baseline resident characteristics and results to 8 months. | Intervention Residents: n=134; 73% female; M Age=80.9 (SD=8.0).  Control Residents: n=91; 84% female; M Age=83.9 (SD=6.6).  \*Mean age of control group as higher. Controlled for in analysis.  They also look at all residents living in both control and intervention homes 24 months after baseline. This is called the survey group (Intervention: n= 374 Control: n=315). They want to find out if the effects have held on for those who got the intervention, but also whether effects have generalised to those not in the intervention. | See description in Gulpers et al (2011). **(6)** | QOC: Restraint use (observation at four time points during a 24 hr period); use of belts; use of other restraints.  Residents in control homes, whether or not they had taken part in the original study, continued to use restraint relatively unchanged, despite having had the intensive workshop delivered to the control homes.  In Intervention homes, there was a significant drop in use of belts with surviving residents who took part in the original study (65% drop from baseline to 24 months), but also in the home as a whole, suggesting generalisation of effect. Also a drop for both intervention groups in using any other restraint, use of restraints/trays in wheelchairs, and full enclosure bedrails. |
| **Hoeffer et al. (2006). Quality=+; Comment.** Good education. Did not randomise facilities to conditions because of a desire to balance for staff and type of facility variables. | | | |
| Cluster randomised cross over  3 Clusters 1) PCC in showering, followed by PCC in towel wash, 2)PCC in towel wash followed by PCC in shower, 3) Control, 5 facilities each  Baseline (T1) and post-intervention 1 (T2), post-intervention 2 (T3). | Intervention Residents: PCC in showering n=24; PCC in towel wash n=22; 95.7% female. Intervention Staff: n=24.  Control Residents: n=23; 73.9% female.  Control Staff: n=13.  Descriptive for all residents (treatment groups + control): M Age=86.3 (SD=7.8)  Dementia Severity – M MMSE=2.2 (SD=2.4); M yrs. in facility=3.4 (SD=2.4).  Descriptive for all staff (treatment groups + control): M Age=37.5 (SD=8.1); 94.6% female; All CNAs.  \* Residents in treatment and control groups did not differ on age, race, education, length of stay, cognitive impairment, or agitated and aggressive behaviours at baseline. However, tended to be more women in treatment group compared to control.  \*Staff groups did not differ on age, race, gender or years worked in the facility.  Attrition acknowledged with few details: 4 residents withdrew due to sickness (not listed by condition). | Two person-centred bathing interventions introduced in treatment facilities with either showering or the towel bath. 2 days per week for four weeks: short didactic sessions covering areas like person-centred approaches to bathing; with staff, videotape reviews of staff bathing residents; coaching on person-centred approaches to showering or the towel bath. Process repeated at T3 (apart from didactic sessions) for whichever intervention had not been introduced yet. **(4)** | QOC: Observation of staff interactions with residents during bathing: Gentleness and verbal support (CBBRS); confidence and ease (Care Effectiveness Scale) and hassles (Hassles During Bathing Scale)  Improvements for intervention groups against controls in gentleness, verbal support, and ease but not on hassles for staff. However, there were nuances. There was an improvement for ease and hassles for the group as a whole (i.e including controls). For gentleness, verbal support, and ease it made no difference in which order nurses undertook showering or bathing in this crossover design - they were superior to controls in all three. For confidence however, there was only a treatment effects in the condition where nurses did Towel bathing in the first six weeks. Analysis at the facility level (10 treatment units versus 5 controls), indicated significant treatment effects compared with controls for Towel and bathing conditions combined in gentleness and ease but not for verbal support, confidence, hassles. |
| **Huizing et al. (2006). Quality=+; Comment.** Good education program around restraint use but short follow-up. | | | |
| Cluster RCT  2 Clusters (Intervention, 3 wards; Control, 2 wards)  Baseline (T1) and 1 month post-intervention (T2). | Intervention residents: T1 n=83; T2 n=86; T1 78.3% female; T2 73.3% female; T1 M Age=82.4 (SD=7.6); T2 M Age=81.8 (SD=7.7).  Control residents: T1 n=62; T2 n=58; T1 71% female; T2 69% female; T1 M Age=82.3 (SD=6.4); T2 M Age=82.7 (SD=6.6).  \*At baseline, intervention group were more depressed. Baseline differences were controlled for in analysis.  Attrition acknowledged with some details: After baseline 19 residents (8 control; 11 intervention) dropped out while 18 new residents (4 control; 14 intervention) were included. Post intervention, intervention group were more depressed and more cognitively impaired. | Based on an educational program of restraint use in Dutch hospitals and on advice of the Dutch Institute for Healthcare Improvement (CBO) combined with consultation with a nurse specialist. Taught by the nurse specialist and was carried out over a two-month period. Physical restraints discussed during five 2-hr meetings taught by the nurse specialist and carried out over two months. Topics covered things like the effects and consequences of restraint use. Staff were also invited to discuss real-life cases. **(2)** | Most measures from MDS.  ADL: MDS-ADL Self-performance Hierarchy.  Mood/affect: Depression: MDS-DRS.  Social Engagement: SES.  Mobility: A mobility scale was developed from 7 MDS items.  QOC: Restraint: Prevalence, intensity and type of restraint observed on 4 occasions over 24 hour period; Psycho-active drug use was determined from one item of the MDS; accident registration form was used to determine fall incidence and fall-related injuries.  Residents in the control group were more likely to experience increased restraint use than residents in the intervention group and more residents in the control group were restrained at night. Mobility and cognitive status acted as confounding factors in the regression analysis. Control group had a significantly increased use of multiple physical restraints over time compared to no significant changes in the intervention group. There was a significant increase in the mean score of restraint intensity in the control but not the intervention group. Similarly, the control group but not the intervention group showed an increase in the use of sleep suits as restraint between T1 and T2 – but there were no other significant findings for other types of restraint. |
| **Jeon et al. (2013). Quality=+; Comment.** Basic trial of education around care planning. | | | |
| Uncontrolled before and after  Pilot  Baseline (T1) and 9-13 weeks post intervention (T2). | Intervention Residents: n=52; 84.8% female M Age 65-74: n=13; 75-84: n=31; 91.3% severe (GDS); 9 have either psychosis, depression and/or anxiety.  No. of physical/medical co-morbidities range from 1-7 (primarily hypertension, osteoporosis, heart disease and diabetes); Psychotropics: daily average of 1, range 0-5. 15% have psychotropics PRN.  Intervention Staff: n=209; 75.6% Assistants in Nursing (AINs), 18.2% RNs; 5.8% Diversional Therapists 0.5% ENs.  Attrition mentioned with few details: 6 died or moved. | ACFIiET program: Use resident ACFI-BEH scores to instigate a BPSD care plan from the toolkit and provide resident information to individualise care plans. The toolkit comprised five components, implemented consecutively over 8–12 weeks. Training aimed at different levels (AINs to RNs): 1. Alzheimer’s Australia ‘Understanding the Brain and Behaviour’ DVD; 2. Presentation on dementia (need driven dementia, person centred care); 3. Individual face-to-face staff training for those who do care planning. Focus on BPSD assessment and care plan prevention/management strategies; 4. BPSD management resource cards (A5 size) on: communicating usingPCC; assessment of BPSD; identifying BPSD triggers; and behavioural strategies; 5. Algorithms for management strategies for wandering, aggression and depression. **(2)** | Challenging Behaviour: The RAWS-long-term care version (wandering scores); CMAI, physical and verbal only reported. They appear to have combined the two verbal and two physical components.  Mood/affect: Cornell.  QOC: Amount of care planning for BPSD.  The intervention did not improve depression, BPSD, or wandering compared to baseline, and staff did not use the care plans, which was the object of the exercise. |
| **Kovach et al. (1999) Quality=+; Comment.** Multi-facetted intervention attempting to reduce discomfort in residents. Key information is missing, like details around follow-up timeframes. | | | |
| Uncontrolled before and after  Pilot Baseline (T1) and follow-up (T2, timeframe unspecified). Project lasted 1yr.  Nurses collected data prior to instituting the ADD Protocol and 2 weeks after implementing the protocol for a particular resident. | Residents: n=104; M Age=85 (range 46-100); Inclusion criteria is diagnosis of dementia, signs and symptoms that commonly indicate pain or discomfort and inability to communicate needs (so severe dementia). Staff: n=32; No other details provided.  Attrition: No withdrawals. | Education for up to 3 staff from each Residential Aged Care Facility (RACF) (“change agents”) on pain management including use of Assessment for Discomfort in Dementia protocol (ADD). First education session (8 hrs – lecture and case-based workshops) covered pain assessment for the cognitively intact resident and analgesic pharmacology. The second session, 3 months later, lasted for 4 hours, and focused on the cognitively impaired resident and incorporating the ADD Protocol into institutional procedures. They were taught how to educate staff in areas like assessing someone who cannot verbally describe their pain. Facility change agents complete an Action Plan including 14 target indicators of institutional commitment to pain management and ADD protocol. Intervention: Introduce ADD protocol to 32 RACF. ADD Protocol started if a resident displayed signs or symptoms of possible discomfort (physical and/or affective). Implementation and documentation was facilitated through the use of the form. Steps included: 1. Assessment for physical causes for discomfort (didactic education and handouts). Where the source of discomfort was identified, interventions or consultation with the appropriate health care providers took place. 2. Resident’s history explored, including family consultation. Examine possible links with current symptoms and consult as needed. 3. If source was not identified, nurses were taught to assume that the symptoms could be either physiological or nonphysiological. Nonpharmacological comfort interventions were implemented. 4. If nonpharmacologic interventions were unsuccessful, staff were educated to administer (in conjunction with GP) an “as needed” nonopioid analgesic. If the response was at all positive, request scheduled analgesic. 5. If there was no response to “as needed” analgesics, consultation took place with the advanced practice nurse, medical physician, or geriatric psychiatrist. **(6)** | QOL: Pain Behaviours.  QOC: Frequency of analgesics and psychotropic in previous 7 days (scheduled, PRN), use of non-pharmacological comfort interventions.  Pain: Discomfort-DAT tool.  Introduction of the ADD increased use of scheduled analgesics and non-pharmacological interventions but made no difference to anti-psychotic use and PRN analgesics. Reductions in behavioural symptoms associated with discomfort. |
| **Kovach et al. (2006). Quality=+; Comment.** Clever way to ensure the capture of data from the time someone starts manifesting pain, and it's actually done by the nurses. No staff data. | | | |
| Cluster RCT Two clusters (intervention and control)  Baseline (T1),2 wks post-test (T2) & 4 wks post test (T3) (collection of daily logs commenced after staff see the resident in pain – so variable length of time post-training). If there was no evidence of symptoms after 8 weeks, the resident was dropped from the study. Maximum follow-up was 12 weeks. | Intervention Residents (Descriptives given for Time 2 sample): n=57; 73.68% female; M Age=86.58 (SD=7.05); M MMSE=7.35 (SD=6.13). FAST: Stage 4=3; Stage 5=1; Stage 6=33; Stage 7=20; M Length of Stay mths=20.18 (SD=18.30).  Staff (Descriptive given for both groups combined):  n=54; 46 RNs and 8 LPNs.  Control Residents (Descriptives given for Time 2 sample): n=57; 77.19% female; M Age=86.53 (SD=6.83); M MMSE=8.26 (SD=6.29); FAST: Stage 4=2; Stage 5=0; Stage 6=29; Stage 7=26; M Length of Stay mths =26.79 (SD=21.43).  \* No baseline differences in demographics or pain  Attrition described with few details: 13 Lost (9 deaths, 4 transfer). Unclear which condition. | Intervention training (7 hrs): Nurses educated to use the Serial Trial Intervention (STI) pain and discomfort. Case study exams were used until STI was implemented ≥85% accuracy. Nurses then implemented the STI in response to behavioural symptoms in RACF. Supervision: Twice weekly visits by **Advanced Practice Nurse (APN).** Protocol compliance check weekly. If agreement < 80%, APN halted data collection and re-educated the treatment group nurses in using the STI. Data collection reintroduced when compliance ≥80%.  STI: Identifies behavioural symptoms through an explicit schedule and procedures. When a resident exhibits behaviour changes that are not effectively treated through usual care, the STI starts. It stops when behaviours decrease by ≥50%. Progress through steps is based on assessment results and decreases in symptoms by <50% in specified treatment timeframes. The process is repeated if symptoms continues after all steps. STI steps: 1) Perform physical needs assessment, focus on conditions associated with discomfort. If assessment is suggestive, implement targeted intervention or consult appropriate discipline. 2) Perform affective needs assessment: (a) environmental stress threshold, (b) balance between sensory-stimulating and sensory-calming activities, and (c) meaningful human interaction. If assessment is suggestive, implement targeted intervention or consult appropriate discipline. 3) Administer trial of nonpharmacological comfort treatment(s) tailored to the person and the situation. 4) Trial and monitor analgesics. 5) Consult with other disciplines/practitioners. Trial and monitor psychotropic medications. Control: Nurses spent 7 hours in education session, videotapes showed management of common BPSD. Supervision: Twice weekly visits by APN. **(3)** | Challenging Behaviour: BEHAVE-AD.  Pain: Discomfort-DAT.  QOC: QOC process variables: (1) Scope of physical assessment, (2) scope of affective assessment, (3) scope of non-pharma interventions, (4) scope of pharmacological interventions, and (5) persistence of nurse to intervene (staff collected daily logs).  Nurses in the intervention group produced superior effects in physical assessment and scope of affective assessment compared to control. In addition, they showed more persistence to intervene. Residents in the intervention group also suffered less pain discomfort, whilst the control group increased pain. No effect on challenging behaviour. |
| **Leone et al. (2013). Quality=+; Comment**. Simple education on AD and challenging behaviours, covering basic measures. | | | |
| Cluster RCT 16 facilities clustered into 2 conditions (intervention and Control)  Baseline (T1), 4 weeks post-training (T2) and week 17 (3 months after training, T3). | (Descriptives only given for participants available at T3)  Intervention Residents: n=119; 72.3% female; M Age=87.83 (SD=6.8); M MMSE=11.00 (SD=6.7); Antidepressants=46.9%; Anxiolytics=28.8%; Antipsychotic=22.5%.  Intervention Staff: n=76.  Control Residents: n=111; 87.4% female; M Age=88.82 (SD=5.8); M MMSE=13.90 (SD=5.4). Antidepressants=40.3%; Anxiolytics=36.1%; Antipsychotic=20.2%.  Control Staff: n=65.  Only state that baseline differences were controlled for in the analysis.  Attrition acknowledged with some details: Intervention lost 12 residents (10.1%), mostly due to death (n=10). Control lost 15 residents (13.5%), mostly due to death (n=10). | Intervention group: Firstly, 2-hour didactic training sessions on AD and BPSD. Information was summarised on two types of index cards. The first card provided guidelines and explained how to avoid or decrease behaviours. The second card provided recommendations for non-pharmacological interventions. Secondly, staff received a weekly 4-hour training session for a month, offering methods and practical advice around dealing with apathy and depression. Training program aimed to provide hands-on-advice, training sessions were offered on various days/shifts and attempts were made to integrate learnings within the context of the regular RACF functioning. **(2)** | Challenging Behaviour: NPI- NH: Affective, apathy, hyperactive, psychotic.  Mood/affect: Apathy Inventory (AI-C): Emotional blunting, lack of initiative, lack of interest. D) Observation group scale: Emotional blunting, lack of initiative, lack of interest. E) Individual observation: Emotional blunting, lack of initiative, lack of interest.  ADL Functioning: Katz ADL Scale (toileting, dressing, go to the toilet, transferring, continence, feeding).  QOC: Psychotropic use.  For apathy, the only significant improvement was in emotional blunting for the Intervention group (over time but not compared to the control). For the NPI, the Intervention group had higher (i.e. worse) results than controls on affective and psychotic subscales at T2 (Week 4 -post training), but this difference disappeared by T3. For ADLs, the Intervention group had lower (better) Dressing and Transferring scores at Time 2, and lower scores for Transferring andToileting at T3. Control group has lower Go to the toilet and Continence T2 and T3.  No sig differences for psychotropic medications. |
| **Magai et al. (2002). Quality=0; Comment.** Many aspects of the methodology were diligently done but there is a lack of training around helping staff to respond to the non-verbal cues they were trained to identify. Selective reporting in the results. | | | |
| Cluster RCT  3 clusters: 1) Treatment-learning to recognise facial distress, 2) Behavioural placebo, 3) Waitlist control, 1 facility each.  Baseline (T1), follow-up at 3 weeks (T2), 6 weeks (T3), 9 weeks (T4) and 12 weeks (T5) post-intervention. | (Descriptives are only given for participants available at follow-up)  Intervention Residents: n=41; 92.7% female; M Age=84.6 (SD=8.1); all mid to late stage dementia.  Intervention Staff: n=9; 100% female; M Age=42.3 (SD=5.6).  Control Residents: n=27; 96.3% female; M Age=86.4 (SD=9.3).  Control Staff: n=7; M 100% female; Age=42.6 (SD=7.9).  Placebo Residents: n=23; 91.3% female; M Age=87.7 (SD=4.2).  Placebo Staff: n=5; 100% female; M Age=38.0(SD=3.2).  \* Told that baseline imbalances are controlled for.  Attrition acknowledged with few details: 8 lost to follow up, but it is unclear at which time point. Attrition due to death (n=6) and relocation (n=2). | Intervention group: Received training in nonverbal sensitivity regarding issues of nonverbal communication and emotion expression (10 one-hour lecture/experiential sessions over 2 weeks). Content included areas such as selective perception of emotion and personal emotional triggers. Behavioural placebo group received the same number of training session but the focus was on cognitive and behavioural aspects of dementia, not resident affect. Also had a wait-list control group. **(2)** | Challenging Behaviour: BEHAVE-AD, CMAI .  Mood/affect: MAX: Symptomatology and Positive and Negative emotion; Cornell (no data reported).  Staff: BSI (depression, anxiety, somatic symptoms).  No effects on resident symptomology. Increase in positive emotion (derived from the MAX) for the intervention group. Decline in negative affect across time for all groups. Caregiver BSI scores declined over time in all groups, with no effect of treatment.  Some statements about the results are provided without data to substantiate. |
| **Matthews et al. (1996). Quality=+; Comment.** Good clinically and a novel method for looking at the way that staff approach care but it lacks good methodology. | | | |
| Uncontrolled before and after Baseline(T1), then after 8 weeks of task-oriented nursing (T2), then switch to 4 weeks of PCC (T3), then another 4 weeks of PCC continuing (T4). Thus T2 is also a baseline. | Residents: n=40; 63.63% female; M Age=84.2 (SD=7.8); M Brief Cognitive Rating Scale=6.1 (SD=0.8).  Attrition acknowledged with few details: 7 lost between baseline and follow-up. Unclear if it was week 2, 3, or 4. Attrition due to death (n=6) and relocation (n=1). | For the first 8 weeks, nurses used a task-oriented approach. For the rest of the project, nurses used a person centred care approach. Staff attended a one day workshop, looking at things like appropriate communication and managing agitation. Journal articles and books were also made available in the nursing station. In the weeks following the workshop, brief educational sessions were provided around aspects of dementia care. **(6)** | Challenging Behaviour: CMAI (aggressive behaviours, non-aggressive physical agitation, verbal agitation, other agitated behaviours).  Other: Daytime sleep and night-time sleep (DMAS sleep scale).  Decrease in verbal agitation on early morning shift 12 weeks after the PCC introduced. Significant increase in other agitated behaviours in the early shift between T3 and T4. No change to aggressive behaviour or non-aggressive physical agitation. No other effects of PCC: Increase in verbal agitation occurred after introduction of Task-Oriented care between T1 and T2. Daytime sleep increased after the change and then returned to baseline levels after 6 weeks. No change to night time sleep. |
| **McCallion et al. (1999). Quality=+; Comment.** Assessing the influence of staff education around communication skills with QOC and QOL outcomes. Wide range of relevant staff and resident variables. Attrition acknowledged but numbers not reported. Used a Random Effects Regression Model to control for drop-outs but without knowing how many. | | | |
| Cluster and partial crossover controlled trial This is a cluster trial because 2 units from two separate facilities form one group (Intervention); and 2 units from the same facilities from the other (Wait-list control). Wait list control received the treatment after 6 months.  Within 2 weeks of intervention (T1), 3 months (T2), 6 months (T3), then 9 months (T4) for the control group after they've had the intervention. | Intervention Residents: n=49; 85.71% female; M Age=84.5 (SD=9.0); M MMSE=6.3 (SD=6.6). GDS: 10.2% mild, 89.8% moderate to severe. Intervention Staff: n=39; 94.9% female; M Age=40.9 (SD=11.9); M Yrs Experience=7.8 (SD=5.8).  Control Residents: n=56; 89.28% female; M Age=83.3 (SD=9.0); M MMSE=4.9 (SD=6.0). GDS: all moderate to severe.  Control Staff: n=49; 93.9% female; M Age=37.9 (SD=10.1); M Yrs Experience=5.9 (SD=5.5).  \* Sig more married residents in intervention condition and they had lower GDS scores. Baseline imbalances for residents controlled for. No baseline staff imbalances.  Attrition acknowledged but few details:  They report no drop-outs/deaths in a one year study but they have used a Random Effects Regression Model (RERM) to control for drop-outs. | Nursing Assistant Communication Skills Program (NACSP): five 45-minute group sessions, plus four 30-minute individual sessions, with a final 1-hour supervision session. Covered areas like communication and ageing, and the progression of dementia. Use role-playing, practice and observation feedback. Introduced memory aids, practiced developing Memory Charts (MCs) and role playing their use and taught to use MCs consistently and frequently. Also outlined a three-step communications-based approach: (1) find and respond to the need (2) find the memory and (3) ensure safety. Demonstrated the approach with eight different types of behaviours. They also received visits from a trainer once a month for three months after the intervention finished. **(2)** | Challenging Behaviour: 3 factors of CMAI: aggressive behaviour, physically non-aggressive behaviour, verbally non-aggressive behaviour.  Mood/affect: Cornell factors: mood, behavioural disturbance, physical signs, cyclic disturbance, ideational disturbance.  QOC: (1). Restraint: A scale rating restraint: daily 2, less than daily 1, not at all 0. (2). Psychotropic Use: No. of days in prior week resident given psychotropics.  QOL: Multidimensional Observation Scale for elderly subjects (MOSES) factors are: disorientation, irritability, withdrawal.  Staff: Knowledge of dementia (KAT), mental health states (MHQ) and turnover rates.  There were significant improvements in intervention group resident depression and BPSD scores. After the Wait list control staff also got the intervention, they too produced much the same improvements for residents. Staff knowledge about caring for people with dementia did not change. No significant effects for psychotropic medications. Reduced staff turnover at 6 months. |
| **Pellfolk et al. (2010). Quality=++; Comment.** Well planned lecture program study. Baseline characteristic and attrition rates are unclear. | | | |
| Cluster RCT 2 Clusters (Intervention, Control), 20 units each.  Baseline (T1) and 6 months follow-up (T2). | Intervention Residents: n=191; 69.1% female; M Age=80.5 (SD=9.1); Gottfries Cognitive score (max=27); Intervention=11.7 (SD=7.5). Moderately Impaired  Intervention Staff: (Data only provided for those present at baseline and follow-up): n=184 M Age=43.2 (SD=11.7); 92.3% female; M Yrs in Geriatric Care=15.1 (SD=10).  Control Residents: n=162; 78.4% female  M Age=83.4 (SD=6.4); Gottfries Cognitive score (max=27); Intervention=10.2 (SD=7.3). Moderately Impaired.  Control Staff (Data only provided for those present at baseline and follow-up): n=156 M Age=43.5 (SD=12.8); 93.2% female; M Yrs in Geriatric Care=15.4 (SD=10.5).  \*Baseline imbalances were controlled for.  Attrition acknowledged but few details: 42 residents lost from intervention condition; 23 from the control. No details provided. 28 staff lost from intervention and 29 lost from the control. 36 newly admitted residents were added to the intervention group between T1 and T2, and 26 newly admitted residents added to the control. | Intervention education for nursing staff comprised six themes over 6 months: 1) Types of dementia, symptoms, diagnosis, and treatment. 2) Delirium in older people. 3) Falls and fall prevention. 4) Use of physical restraints. 5) Caring for people with dementia. 6) Complications in dementia. Emphasis on the finding the underlying causes of behaviours. Over 2 days, one staff member from each unit attended the whole education program. The rest of the staff undertook the education program through six 30-minute videotaped lectures, plus a clinical vignette. **(1)** | QOC: 1) Restraint: restrained at least once in last three weeks or not restrained; 2) Psychotropic Use: Benzodiazepines and Antipsychotics; 3)Falls: No. of fallers over one month pre and post intervention.  Staff: Knowledge and attitudes to restraint (PRUQ) and caring for people with dementia.  One month after this relatively low cost intervention (because they gave one staff from each facility the education, and they then took the package back to their own units) there was a significant difference between conditions in use of restraint, and a difference in staff attitude to use of restraint, with staff who receive the intervention less prone to consider using restraint. There was no difference between groups in their knowledge of legislation regulating the use of restraints post-intervention. Both groups increased in their estimated knowledge of dementia care. There was no difference between groups in benzodiazepine and antipsychotic prescription and no difference in falls. That is, reducing restraint didn't increase falls. |
| **Robison et al. (2007). Quality=++; Comment.** High quality study, looking at the impact of staff and family training on challenging behaviours. | | | |
| Cluster RCT 2 conditions (intervention and control), 10 facilities each  Baseline (T1), and 2 months (T2). Staff and family data was also collected at 6 months (T3). | Intervention Residents: No specific details regarding residents reported but it is one family member per residents so n is likely to be 277.  Intervention Staff: n=184; 94% female; M Age=42.2 (SD=12.1); CNAs=134; RNs=50  M Yrs Experience: 11.6 (SD=8.9).  Control Residents: No specific details regarding residents reported but it is one family member per residents so n is likely to be 214.  Control Staff: n=200; 92.5% female  M Age=42.4 (SD=12.4); CNAs=146; RNs=54; M Yrs Experience: 10.7 (SD=8.7).  \* Control staff higher score on interpersonal conflict scale. No other differences.  Attrition acknowledged but few details: Control staff lost to T2 is 17, and total lost between T2 and T3 is 21. Intervention staff lost to T2 is 11. 22 lost between T2 and T3. 87.86% of those remaining at T2 attended the workshops. 87.74% of those at T3 attend the workshops. | Partners in Caregiving in the Special Care Unit Environment: 2 components: 1) parallel training sessions of 4-5 hours provided to both family and staff, to enhance communication and empathy for the other group. Training included: didactic education, case discussions, brainstorming, and role plays; 2) after training, a 1.5- 2 hour meeting with families, staff, and administrators to share learnings, discuss concerns and set goals for the unit and facility. Also, a plan for groups to identify policy and procedural changes was developed with the aim of addressing them as a team. **(2)** | Challenging Behaviours: CMAI- SF.  Family: Interpersonal Conflict Scale, Staff Provision to Residents Scale (Pillemer et al, 1998), Staff Behaviors Scale, Staff Empathy Scale, Nursing Home Hassles Scale, Family Involvement Scale, Zarit Burden Interview, CES-D, Easy to talk to staff.  Staff: Interpersonal Conflict Scale, CES-D, Family Behaviors Scale, Family Empathy Scale, Maslach, Generic Job Satisfaction Scale, likelihood of leaving job, job stress.  Intervention resulted in reduced interpersonal conflict for nurses but reverted to baseline after 6 months, had no significant effect on staff depression, and did reduce burnout for nurses (though not CNAs) for those receiving the intervention while control staff nurses got worse. There were effects on challenging behaviour for intervention residents versus control on five of the fourteen behaviours (cursing or verbal aggression, other aggression, self-abuse or sexual advances, inappropriate dress or disrobing, constant requests for attention or help, wandering) but they have provided no sample size numbers either overall or by groups. |
| **Schrijnemaekers et al. (2002). Quality=++; Comment.** Genuine attempt to bring about emotion-oriented care.Biased has been minimised as much as possible. Good follow-up (12 months). | | | |
| Cluster RCT 2 clusters (intervention, control), 8 facilities each.  Baseline (T1) and after 3 (T2), 6 (T3) and 12 (T4) months of follow-up. | Intervention Residents: n=77; 90% female; M Age=84.3 (SD=5.5); M MMSE=10.8 (SD=5.1).  Control Residents: n=74; 89% female; M Age=85.9 (SD=5.6); M MMSE=11.3 (SD=5.1).  \* No significant baseline differences.  Attrition fully described: Intervention group: 8 lost at 3 months, 8 more at 6 months, 13 more at 12 months. Control group: 5 lost at 3 months, 10 more at 6 months, 14 more at 12 months. Attrition mostly due to death. No difference in attrition rates between groups. | Emotion-Oriented Care intervention consisted of successive elements spread over 8 months. Firstly, every intervention facility received two 1-hour sessions. All facility staff were invited and were told about the study and the rationale of emotion-oriented care. Secondly, 8 direct care staff from each intervention facility received 6 days of training in emotion-oriented care. The first four training days were provided every two weeks; the last two were four weeks apart. Covered areas like dementia, inequality in the caregiver-resident relationship, and understanding the points of view of the resident. Training utilised various didactic methods: teaching, homework, class assignments and exercises, role-playing and video-presentations. Finally, over a 4 month period, three ½ day sessions were offered to support the implementation. Sessions were tailored to the individual intervention facilities. Control received the training program after the end of the study. **(4)** | Challenging Behaviours: 1) GIP: Observation of behaviour frequency (nonsocial behaviour, apathetic behaviour, loss of decorum, rebellious behaviour, restless behaviour, dependent behaviour, anxious behaviour); 2) GIP-28; 3) Communication (GRGS); 4) CMAI-D: (verbal aggression, aggression, physical non-aggression).  QOL: Functional status (ADL) Global assessment functioning.  QOC: Change in psychotropic drug use.  Most results non-significant and exact values were not always reported. Compared to the controls:   * Intervention facilities with moderate to poor implementation showed less deterioration in non-social and anxious behaviours after 6 months. * Intervention facilities with good implementation had better scores on anxious behaviour at 12 months, but higher (=worse) scores on rebellious behaviours at 6 months. * Intervention group showed less deterioration in anxious behaviour at 6 months. * Intervention group deteriorated more on physical non-aggressive behaviour at 6 months. |
| **Sidani et al. (2009)[[2]](#footnote-2) Quality=+; Comment.** 2-hour didactic education session provided by a "trained graduate students". High refusal. | | | |
| Uncontrolled before and after 8 facilities  Within 1 month before attendance at the session (T1); within 1 month after session attendance (T2); 3-month follow-up (T3). | Staff: n=79; 91% female; M Age=43 (SD=9); Approx 33% RNs, 38% RPNs, 28% Health Care Assistants (HCA) or **Personal Support Worker (PSW)**; M Yrs Experience in Nursing: 17 (SD=10); M Yrs Experience in Current Position: 10 (SD=8).  84 % have formal training in the care of persons with dementia, 90% attended prior education on strategies to provide morning care.  Attrition acknowledged with few details: of the 221 eligible staff, 60% consented. Reasons for refusal of consent include too busy (n=23), not interested (n=12) and not comfortable (n=4). Of those (n=133), 54 (41%) staff withdrew because of scheduling differences (n=45), transfer (n=3) and change in employment status (n=5). | Covered the 6 components of abilities-focused approach to morning care: 1. Introduction to resident 2. Conversation with resident 3. Caregiver approach 4. Orientation to resident 5. Use of tools 6. Bathing/dressing/ grooming. Used didactic education, supplemented by audio-visual and written materials and group discussions, with case examples. Education conducted by graduate students. **(1)** | QOC: Checklist of 50 specific interventions that represented the 6 components of the abilities-focused approach to morning care. O if intervention not used, 1 if used. Total No. of interventions used (count) and type of interventions implemented.  Only about half of nursing staff members taking part in this study attended the educational session. Attendance at the educational session was effective in enhancing use of specific interventions in day-to-day practice; however, this use was not maintained over time. |
| **Sidani et al. (2012). Quality=+; Comment.** As above. In this paper they say that it was provided by "Trained APNs" but in the 2009 paper they say it was provided by a "trained graduate students". This is an obvious inconsistency. | | | |
| Uncontrolled before and after  8 Facilities  Within 1 month before attendance at the session (T1); within 1 month after session attendance (T2). | Data only provided for those present at baseline and follow-up):  Residents: N=102; 48.5% female; M Age=83 (SD=8); M MMSE=5.9 (SD=7.7); M No. of psychical/medical comorbidities=4 (SD=3.1). See Sidani et al (2009) for staff characteristics.  Attrition acknowledged with few details: 19 lost to follow-up: Death of natural causes (n=10), changes in residents’ health condition (n=6) and (n=3) scheduling issues that prevented observations . | As Above. **(1)** | Challenging Behaviour: Agitation (PAS): aberrant vocalisation; motor agitation; aggressiveness; resistance to care.  QOL: 1) Participation in morning care (RADL): toileting; washing; grooming; and dressing. 2) Residents’ physical and psychosocial functioning on MIBM (personal attending described in terms of interest and involvement; relaxation; flexibility; calmness) and LPRS (mental confusion; physical disability; socially irritating behaviour; disengagement).  QOC: Implementation of the AFMC components was assessed with a checklist developed by the investigators. See Sidani et al (2009) for the six components of abilities-focused approach to morning care and scoring.  No significant changes in levels of agitation, participation in care and physical and mental functioning after intervention. There was a significant decline in the relaxation and calmness subscale of the MIBM, with a low-moderate effect size. Significant increase in strategies related to abilities-focused morning care components: introduction to resident (though small effect size), caregiver approach, orientation to resident, use of tool and bathing, dressing, grooming. |
| **Sloane et al. (2004). Quality=+; Comment.** Well-designed study on experiential and didactic education around bathing. Addressed bias well. | | | |
| Cluster RCT with crossover 3 clusters (2 intervention groups based on the order in which treatments were administered, control), five facilities each.  Baseline (T1), Post-intervention (T2). | (All statistics reported for intervention groups together)  Intervention Residents: n=49; 73.9% female; M Age=86 (SD=8.6); MDS-Cog: very severe=37%; severe=60.9%; moderate=2.2%; Cumulative Illness Rating Scale for Geriatrics morbidity score=1.7 (SD=.4).  Control Residents: n=24; 95.7% female  M Age=86 (SD=6.1); MDS-Cog: very severe=13%; severe=78.3%; moderate=8.7%; Cumulative Illness Rating Scale for Geriatrics morbidity score=1.9 (SD=.4).  \* More dementia care units, more often visually impaired, slightly higher cognitive impairment and females in control. Differences were not controlled for.  Attrition acknowledged with few details: 4 residents were omitted because of missing data or the development of acute medical problems. | Bathing Without a Battle intervention, involving didactic sessions, audio-visual materials, hands on supervision during bathing. Trainer worked alongside the CNAs 2 days per week for 4 weeks, introduced the interventions. The focus of person-centred bathing was on areas like resident comfort and preferences, and behaviours as expressions of unmet need. Training in person-centered bathing was also included as a component of towel-bath method (An in-bed method; keeps the resident covered at all times; and cleanses the body using gentle massage). Control: Showering (without person-centered training); Staff received training in person-centered bathing after all data collected. **(2)** | Challenging Behaviour: Observation of agitation, aggressive and resistive behaviours (CAREBA).  QOL: Pain: Resident discomfort during bathing using a modification of Discomfort-DAT tool.  QOC: Total No. of body parts bathed. Mean duration of bath. Skin condition and cleanliness were evaluated using an adaptation of the Hardy Skin Condition Data Form.  Resident discomfort declined significantly in both intervention groups but not in the control group. Significantly less discomfort in the towel-bath group compared to the shower group. Agitation and aggression declined significantly in both intervention groups (with no differences between the two groups) and not the control.  Residents receiving the shower intervention spent significantly more time being bathed than those in the control group. There was a smaller difference in duration for residents receiving the towel bath experienced compared to the control and that difference was not statistically significant. Improvements do not come at the expense of skin condition. |
| **Smith et al. (2005a). Quality=+; Comment.** Influence of education on a measure of QOC. Converting continuous variables into categories could have masked non-significant results when analysing in conventional ways. Results are not consistently reported. The male/female split makes it difficult to determine things like overall levels of cognitive impairment. | | | |
| Uncontrolled before and after  1 facility (all residents and staff on the units participated) Baseline (T1) and post-intervention (T2). | Residents: n=39; 89% female; Age Range: Male=68–98; Female=80–99; Abbreviated Mental Test Scores Male M=8.33 Female M=7.79; Support Needs: 6 low dependency; 27 medium dependency; 6 high dependency.  Staff: n=15; 100% female; Age - 4 aged between 25-35; 11 between 36-55; All healthcare assistants; Level of Training: n=3 trained in health related work; n=3 formal healthcare assistant training.  Attrition acknowledged with few details: 3 died, 1 admitted to short term care, 1 hospitalised. | Educational program: Based on resident Activities of Daily Living (ADLs) and staff focus groups responses, particularly around wanting to know more about “the everyday challenges faced by residents” (p.3). Ten 1-hour sessions over 5 weeks covering aspects like grief, loss, and adaptation experienced when entering residential care and dignity and independence, as well as things like falls and injury prevention. Used case studies and experiential teaching, as well as visual tools and storytelling. **(2)** | QOC: Observation using Quality Assessment Project (QAP) Scores: QAP1=inadequate and inappropriate, QAP2=inappropriate and adequate, QAP3=appropriate and inadequate, QAP4=appropriate and adequate; Pre=before education program (intervention).  A significant increase in the proportion of care that was judged appropriate and adequate provided by healthcare assistants to residents. Similarly a decrease in inappropriate and inadequate care after the program. No significant difference in intermediate grades. Residents with low functional activity scores and moderate cognitive impairment received greatest improvement in QOC. There was a significant increase in inappropriate and inadequate care scores in the most cognitively able. |
| **Testad et al. (2010). Quality=0; Comment.** Education plus supervision provided over longer time period. The intervention and control groups differ too much for meaningful analysis. | | | |
| Cluster RCT 2 clusters (intervention, control) both with 1 large and one small facility.  Baseline (T1), immediately after completion of the intervention at 6 months (T2), and 12 months after baseline (T3). | Intervention Residents: n=75; 74.67% female; M Age=86 (SD=9); median CMAI=38 (SD=17); No. with antipsychotic use=21; No. restrained=49; Restraint types used: 45 structural, 34 interactional (n=75).  Intervention Staff: n=104; (demographics for intervention and control staff together at T1): 95.4% female; M Age=43.1 (SD=12.9); 33.5% RN, 54.8% licenced practical nurses, 11.7% certified nurse assistants; Mean Yrs Experience=11.1 (SD=9.1).  Control Residents: n=70; M Age=86 (SD=11.25); 72.86% female; median CMAI=33 (SD=14.5); No. with antipsychotic use=6; No. restrained=25; Restraint types used: 9 structural, 19 interactional (n=70).  Control Staff: n=93.  \* Significant baseline difference in Dementia Severity (p=.002), antipsychotic Use (p=.003) and restraint use (p=.000).  Attrition acknowledged with some detail: Intervention Residents: 113 assigned to receive intervention, 75 remain at T2 (27 died, 11 transferred), 44 at T3 (20 died, 11 transferred). Control Residents: 98 assigned to receive intervention, 70 remain at T2 (19 died, 9 transferred), 46 at T3 (18 died, 6 transferred). Control Staff: Staff turnover: 46.2% for intervention; 43% for the control. | Relation Related Care education and training program: A two-day seminar and monthly group guidance (6 months) providing a framework for staff to reduce agitation and restraint use. Content delivered in educational lectures; resources to implement new skills (i.e. treatment guideline) and peer support/ feedback (to reinforce education/ skills). **(3)** | Challenging Behaviour: CMAI (Norwegian).  QOC: 1) Restraint (Structural and interactional): Proportion of residents who experienced restraint in last seven days. 2) Psychotropic Use: Antipsychotic doses transformed to chlorpromazine equivalents.  Initial reduction in the use of restraint in the intervention group (T2) was not sustained at T3.  Significant reduction in CMAI in the intervention group, but not in the control at T2, which was maintained at T3. Antipsychotic use was unchanged for both groups. |
| **van de Ven et al. (2013). Quality=0; Comment.** DCM intervention, carefully conducted but there was low compliance leaving a large amount of missing data. | | | |
| Cluster RCT Two clusters (intervention, control). 34 units from 11 care homes/campuses, clustered into: Intervention=13 units; Control=21 units.  Baseline (T1), 4 months (T2) and 8 months (T3). | Intervention Residents: n=102; 75% female; M Age=84.6 (SD=6.1).  Intervention Staff: n=141; 98.6% Female; M Age 43.6 (SD=10.4); M Yrs in current psn: 10.3 (SD=8.3).  Control Residents: n=166; 73.9% female; M Age=83.5 (SD=6.6).  Control Staff: n=178; 98.3% Female; M Age 42.6 (SD=11.3); M Yrs in current psn 10.0 (SD=86)  \*more staff in Intervention condition in permanent positions. No other differences. Baseline imbalances controlled for in analysis.  Attrition acknowledged with some details: Intervention residents: 102 with consent, 73 remain at T1; 14 lost to attrition, replaced by 19 others between T1 & T2; 20 lost and replaced by 15 others between T2 & T3. Control residents: 166 with consent, 119 remain at T1; 30 lost to attrition and replaced by 23 others between T1 & T2; 29 lost and replaced by 24 new residents between T2 & T3.  Intervention staff: 178 consented, 141 remain at T1; 16 lost to attrition and replaced by 21 others between T1 and T2; 12 lost and replaced by 13 others at T3. Control staff: 198 consented and 178 remained at T1, 8 lost replaced by 9 others between T1 & T2, 21 lost and 10 newly included between T2 & T3. | Dementia Care Mapping intervention: Two nurses from each of the five nursing home/campuses (i.e. not one for each of the 13 units in the intervention group) are selected by their managers as competent and interested in becoming certified dementia-care mappers. Staff attended the basic and advanced DCM training. Then the trained mappers were to carry out at least two DCM cycles to their residents. Each DCM cycle consists of three components: systematic observation, feedback to the staff, and action plans (based on the observed actual needs of the resident). **(6)** | Challenging Behaviours: CMAI; NPI-NH.  QOL: QUALIDEM; EuroQol-5D.  Staff: 1) Stress (GHQ-12); 2) Job experience and satisfaction (QEAW, MJSS-HV).  DCM intervention had no significant effect on resident agitation. A sig. interaction effect of group and time was observed for NPI, with lower total score and lower ‘delusions’ score in the control group but not intervention group over time. Poorer quality of life was reported at T2 and T3 in both groups on both measures. No other sig. resident results.  Staff reported fewer stress related symptoms over time in both intervention and control groups. Sig. group by time effect for autonomy and work pleasure “but these differences were not straightforwardly in favour of the intervention group or the control group.” (p.6). Intervention staff reported fewer negative emotional reactions and more positive emotional reactions compared to control staff. |
| **van der Kooij et al. (2013). Quality=++;** Seeing if a PCC intervention actually changes what staff do during care. Observation by independent observers, in addition to staff questionnaires, but not blinded. They comment on differences but have not analysed them and note the low numbers. | | | |
| Cluster RCT  2 clusters (intervention, control), 8 wards each.  Staff skills: Baseline and 7 month follow-up. Observations: Baseline and 4 months after intervention conclusion (4 intervention and 4 control sites). Quality standards: and Time spending analysis: Baseline, 8 months later. | Intervention Staff: n=61; M Age=30.23 (SD=7.9); 90% female; primarily NAs; M yrs Experience in Psychoegeriatrics=6.3 (SD=5.0).  Control Staff: n=63; M Age=30.49 (SD=7.1); 83% female; primarily NAs; M yrs Experience in Psychoegeriatrics=6.9 (SD=4.1).  \*No baseline differences. No resident information.  Attrition acknowledged with few details: Intervention: 15 lost to attrition by T2. Control: 10 lost to attrition. No sig. differences between completers and non-completers. | Integrated Emotion-Oriented Care (IEOC). Both control and intervention wards get training in minimum standards of care for six months (e.g. standardised care plan). For the intervention facilities, this was followed by basic IEOC didactic and experiential training, with a large number of staff members and caregivers (from varying disciplines) involved. One in four of those who attend the basic training also received a follow-up advanced IEOC course. For every 15 residents, one nursing caregiver was also trained to act as a change agent. **(4)** | Staff skills in care: ESID (expertise, knowledge, working with a care plan).  Quality Standards: developed by researchers based on Dutch model care plan.  Staff Time: Self-report time registration (individual resident care, collective resident care, ward-related work, personal time).  Staff Interaction: Observation of carer/resident interaction reported. Reports analysed using grounded theory.  Intervention group superior to the controls in expertise, and knowledge of resident. No difference in working with or reporting care plan. Observation of what the carers are doing shows that intervention more emotion oriented: empathic, more sensitive to what residents saying and feeling, would ask more frequently what they wanted. Also more addressing residents on individual level, more non-verbal contact, more use of what they know about residents. Effects greatest amongst staff who had taken an advanced IOEC course. No significant difference between the groups on the Dutch Quality standards nor on the time registration. |
| **Verkaik et al. (2011). Quality=++; Comment.** Very well designed and thought-out study, looking at the effect of a multi-facetted intervention on mood. Covers for most sources of bias, clever balancing of units so they match on facility characteristics. | | | |
| Cluster RCT Two clusters (intervention, control) of 9 homes/units each.  In the two weeks before intervention (T1), in the two weeks post intervention (T2), and 10-12 weeks after intervention (T3). | Intervention Residents: n=65; 83.9% female; M Age=83.4 (SD=7.2); GDS: GDS 2=2; GDS 3=1; GDS 4=7; GDS 5=23; GDS 6=22; Missing=7; No. on antidepressants=28; No. on antipsychotics=27; No. on Benzodiazepines=25; No. on ACE-inhibitors/ betablockers=6.  Control Residents: n=35; 80% female; M Age=84.1 (SD=7.1); GDS: GDS 2=1; GDS 3=3; GDS 4=1; GDS 5=8; GDS 6=18; Missing=4; No. on antidepressants=9; No. on antipsychotics=22; No. on Benzodiazepines=13; No. on ACE-inhibitors/ betablockers=3. \* Controlled for gender, marital status, duration of residence in the nursing home, care dependency, cognitive impairment, and medication use.  Attrition fully described: To T2: 6 residents withdrew from intervention, 7 from control. To T3: 8 more residents lost from intervention, no more lost from the control. Attrition due to transfer (n=15) and death (n=8). No sig. differences between completers and non-completers. | Introduction of nursing guidelines: 3 hours of training in the first week, around topics such as individualising activities, and education on person centred care. The groups of 3-5 CNAs the developed a plan for pleasant activities for each resident with a diagnosis of comorbid depression in dementia. Used homework between weeks 2 and 3 (e.g. background information-life history) and in weeks 5 to 10. The plans contained information on things like symptoms, purpose and tailor-made pleasant activities. Activities took place during regular and additional care, and could be conducted by care staff, activities, or family. 6 further training hours: 3 in week 4, where plans were discussed and adjusted accordingly; 3 in week 11 where experiences were discussed and plans for further use of the guidelines were made. Also had a “promotion group” (nursing team manager, activity therapist and two CNAs), who could consult the trainer. **(6)** | Mood/affect: Depression (Cornell, MDS-DRS); Mood, using a facial observations scale called FACE.  There was reasonable compliance with 39 of the 65 residents having a pleasant events program devised by CNAs in their file. Intervention group, but not control, showed a decrease in severity of depression on one depression measure (DRS) but not the Cornell or a facial mood scale. The effect size was moderate. |
| **Visser et al. (2008). Quality=++; Comment.** Good multi-component clinical intervention targeting challenging behaviours. Problems with methodology and eliminating bias. Good clinically. | | | |
| Cluster RCT  Three clusters (education, education plus peer support, control) with 1 facility each. Baseline (T1), post intervention (which lasted 8 weeks, T2) at 3 months (T3) and 6 months (T4). | Education + Peer Support Residents: n=23; 82.60% female; M Age=87.64 (SD=7.67).  Education + Peer Support Staff: n=17; 100% female; M age=46.82 (SD=10.97).  Education Residents: n=21; 85.71% female; M age=87.15 (SD=4.37).  Education Staff: n=10; 80% Female; M age= 42.00 (SD=10.97).  Control Residents: n=32; 75% female; M Age=83.13 (SD=6.99).  Control Staff: n=25; 96% female; M age=44.52 (SD=9.94).  Attrition acknowledged with few details: Resident withdrawals not reported. 15% of Staff lost in the education plus peer support group; 40% of staff in the education only group (who were therefore excluded from FU); 14% from the control. | Education: consisted of 8 units run twice a week for 1–1½ hours. 3 units were didactic and provided information about dementia and behavioural symptoms; 5 were workshops based on the behavioural model, where staff developed individualised resident care plans. Antecedents and consequences of behaviours were monitored and modified accordingly and discussions and worksheets were used. Peer support program: 30 minute sessions ran after the workshop units and aimed to address staff concerns and covered areas like recognising and managing stress. **(3)** | Challenging Behaviour: CMAI (physically aggressive behaviour, physically non-aggressive behaviour, verbally aggressive behaviour, verbally non-aggressive behaviour).  QOL: ADRQL (social interaction, awareness of self, feeling and mood, enjoyment of activities and response to surroundings).  Staff: Staff Attitudes Questionnaire designed by researchers (education and personal responsibility, skill and knowledge, barriers to change), Maslach (emotional exhaustion, depersonalisation, personal accomplishment).  No effect on behaviour, resident QOL, and staff burnout, but there was improvement for the education plus peer support condition at T2 on one factor (skills and knowledge) of the attitude scale, created specifically for this project. This was maintained up to final follow-up. Also an effect for “Barriers to change” variable but this applied both to the education plus support and the control, who reported perceiving more barriers to change at T3 and T4. |
| **Wells et al. (2000). Quality=+; Comment.** Short, didactic education around morning care with small sample. | | | |
| Cluster RCT Two clusters (intervention, control) of 4 nursing home level cognitive support units in a geriatric care centre; 1 intervention, 3 control.  Baseline (T1), 3 months (T2), and 6 months (T3) post-intervention. | Intervention Residents: n=20; 85.2% female; M Age=88.90 (SD=6.26); M MMSE=6.00 (SD=6.26).  Intervention Staff: n=16; 100% female; M Age=45 (SD=12); 25.00% RN, 25.00% RPN, 43.8% HCA; 81.3% Fulltime; Mean Yrs long term care=11.34 (SD=7.89); Mean Yrs on the unit=5.73 (SD=4.89).  Control Residents: n=20; 82.8% female; M Age=88.35 (SD=5.66); M MMSE=2.90 (SD=4.78).  Control Staff: n=28; 92.3% female; M Age=44 (SD=10); 32.2% RN, 21.4% RPN, 46.4% HCA; 50% Fulltime; Mean Yrs long term care=13.31 (SD=9.13); Mean Yrs on the unit=8.45 (SD=9.73).  \*No sig. baseline differences for resident groups. More nurses in intervention group had completed a degree and more were employed fulltime rather than part-time.  Attrition acknowledged with few details: Resident attrition (28.5%) mainly from death related to flu outbreak. Same rate of attrition from intervention, control. | 5 educational sessions covering abilities-focused morning care (20-30 minutes each). Areas covered: “a. The effects of dementia on the social and self-care abilities of people with dementia; b. A standardised method of assessment of abilities remaining or lost; c. Various interventions that can maintain abilities or compensate for those that are diminished.” (p.444). Reinforcement sessions (20-30 minutes each) took place every second week for 3 months, then monthly. **(1)** | Challenging behaviour: Agitation (PAS and agitated/calm and resistant/cooperative variables on the MIBM).  QOL: Level of functioning (LPRS); resident interaction behaviours (MIBM).  QOC: Caregiver interaction behaviours (IBM).  Staff:Stress (NHUS) and perceived ease of caregiving (visual analogue scale).  Residents in the intervention group demonstrated more interaction behaviours with caregivers, with higher scores on personal attending, calm/functional and agitation on MIBM compared to control. Also a decline in level of agitation on the PAS for intervention residents compared to control. Total scores on the LPRD decreased for intervention residents, indicating improvement in their overall level of function compared with residents in control. Residents who received abilities focused care showed a consistent decline in level of socially inappropriate behaviour (social function subscale of LPRS). Program also increased caregivers’ interaction behaviours: verbal relevance, personal attending, relaxed and social/flexible behaviours. Results were maintained at 6 months. Lack of program effect on perceived ease of caregiving and caregivers’ level of stress. |
| **Wenborn et al. (2013). Quality=++; Comment.** High quality intervention, with a genuine attempt to embed the changes in the facilities and good methodology. | | | |
| Cluster RCT Two clusters (Intervention, Control), 8 units each.  Baseline (T1), 4 weeks after intervention (which takes 16 weeks, T2) and 12 weeks post-intervention (T3). | Intervention Residents: T1 n=104; T2 n=85; T3 n=79; 66% female; M Age=84.20 (SD=7.6); M MMSE=5.80 (SD=5.1); M CDR=3.1 (0.9).  Control Residents: T1 n=106; T2 n=81; T3 n=80; 75% female; M Age=84.2 (SD=7.6); M MMSE=5.5 (SD=4.60); M CDR=3.0 (0.8).  Staff data not reported, only that 52 received intervention.  \*No baseline differences.  Attrition acknowledged but some detail: Intervention residents: 19 residents lost by T2 and a further 11 lost by T3. Control residents: 25 lost before T2 and a further 6 by T3. Attrition largely due to death and hospitalisation. Rate of attrition same in intervention and control.  Mean attendance at training sessions was 73%; 81% for the coaching sessions. Some staff attended sessions but did not complete the learning tasks, with most citing a lack of time. | 16 week intervention consisted of: 1) Assessment of the care home physical environment. 2) Education program: Didactic, group discussions and practical exercises. Five 2-hour sessions covering areas like getting to know a resident’s interests and abilities. Staff completed learning tasks between sessions. Individual coaching sessions also provided. Care home manager joined the last session to agree on an Activity Action Plan. Progress reviewed at two follow-up sessions. A workbook containing the sessions’ content and tools was provided. A Trainers Manual outlined the program content. **(6)** | QOL: QOL-AD, Functional dependency (CAPE-BRS). Challenging Behaviours: CBS.  Mood/affect: Depression (CSDD); Anxiety (RAID).  QOL-AD gets worse for the homes which got the intervention and is maintained to final follow-up. No other effects for functional dependency, challenging behaviour, depression or anxiety. Results not affected when they adjust for level of attendance at training. |

**ADQ**=Approaches to Dementia Questionnaire (Zimmerman *et al.*, 2005a; 2005b); **ADL**=Activities of Daily Living scale (Schrijnemaekers and Haveman, 1993); **ADRQL**=The Alzheimer’s Disease-Related Quality of Life Scale (Rabins *et al.*, 1999); **AI-C**= Apathy Inventory (Leone *et al.*, 2008); **AwareCare=**observational measure of awareness in severe dementia (Clare *et al.*, 2012); **Barthel**=The Barthel Self-Care Rating Scale (Sherwood *et al.*, 1977); **BASOLL=**Behavioural Assessment Scale of Later Life (Brooker *et al.*, 1993); **BEHAVE-AD=**Behavioral Pathology in Alzheimer’s Disease Rating Scale (Reisberg, 1988); **BIP**=Behaviour Rating Scale for Inpatient Psychogeriatrics (Verstraten and van Eekelen, 1987); **Brief Pain Inventory** (modified verbal form: Gibson *et al.*, 2004); **BMSC**=Behavior Management Skills Checklist (Stevens *et al.*, 1998); **BOP/ASEP**=The Beoordelingsschaal voor Oudere Patienten (van der Kam *et al.*, 1971); **BSI=**Brief Symptom Inventory (Derogatis and Spencer, 1982); **CABOS=**Computer-Assisted Behavioral Observation System (Burgio *et al.*, 1994); **CBS**=Challenging Behaviour Scale (Moniz-Cook *et al.*, 2001); **CDR**=Clinical Dementia Rating scale (Hughes *et al.*, 1982); **CAPE-BRS=**Clifton Assessment Procedures for the Elderly-Behaviour Rating Scale (Pattie and Gilleard, 1979); **CAREBA=** Care Recipient Behavior Assessment (Sloane *et al.*, 2004); **Care Effectiveness Scale** (Archbold *et al.*, 1995); **CBBRS**=The Caregiver Bathing Behavior Rating Scale (Hoeffer *et al.*, 2006); **CES-D=**Center for Epidemiologic Studies=Depression (Ross and Mirowsky, 1989); **CMAI**=Cohen Mansfield Agitation Inventory (Cohen-Mansfield (Cohen-Mansfield, 1986; Cohen-Mansfield, 1991); **CMAI-D**=Cohen Mansfield Agitation Inventory (Dutch) (De Jonghe and Kat, 1996); **CMAI–SF**=Cohen Mansfield Agitation Inventory–Short Form (Cohen-Mansfield and Marx, 1989); **CMAI-OS=**Observation Scale to assess behavioural disturbances (Deudon *et al.*, 2009); **Cornell**=Cornell Scale for Depression in Dementia (Alexopoulos *et al.*, 1998); **DCM**=Dementia Care Mapping; **DCPA=**Dementia Care Practitioner’s Assessment (Lintern *et al.*, 2000); **DemQOL**: Quality of Life for people with dementia (Smith *et al.*, 2005b); **Discomfort-DAT tool** (Hurley *et al.*, 1992); **DMAS=**Dementia Mood Assessment Scale (Sunderland *et al.*, 1988); **Dutch Work Satisfaction Scale** (Boumans, 1990)**;** **EAT**= Environmental Assessment Tool (Fleming, 2001)**; EdFED=**Edinburgh Feeding Evaluation in Dementia (Watson, 1994); **ERIC=**Emotional Responses in Care Assessment (Fleming, 2005); **ESID**=Emotion-Oriented skills in the interaction with Elderly (van der Kooij, 2003); **EuroQol-5D=**The (The EuroQOL G., 1990); **FACE** (Volicer *et al.*, 1999); **Family Behaviors Scale** (Pillemer *et al.*, 1998); **Family Empathy Scale** (Pillemer *et al.*, 2003); **Family Involvement Scale** (Holmes *et al.*, 1994); **FAST=**Functional Assessment Staging (Reisberg, 1988); **GDS**=Global Deterioration Scale (Reisberg *et al.*, 1982); **Generic Job Satisfaction Scale** (MacDonald and MacIntyre, 1997); **GRGS**/**Geriatric Resident Goal Scale** (Lawton, 1975); **GHQ**=General Health Questionnaire (12 Item: Goldberg, 1992; 28 Item: Goldberg and Hillier, 1979); **GIP**=Dutch Behavioral Rating Scale for Psycho-geriatric Inpatients (GIP-28: De Jonghe *et al.*, 1997; Verstraten and van Eekelen, 1987); **Hardy Skin Condition Data Form** (Hardy, 1990)**; Hassles During Bathing Scale** (Kinney and Stephens, 1989); **IBM**= Interaction Behaviour Measure (McCrosky and Wright, 1971); **Interpersonal Conflict Scale** (Pillemer and Moore, 1989); **Jalowiec Coping Scale** (Jalowiec, 1987); **KAT**=Knowledge of Alzheimer’s Test (Maas and Buckwater, 1990); **Katz ADL Scale** (Katz, 1983); **LPRS=**London Psychogeriatric Rating Scale (Hersch *et al.*, 1978); **Maslach**=Maslach Burnout Inventory (Maslach *et al.*, 1996); **MAX=**Maximally discriminative facial movement coding system (Izard, 1979); **MDS**=Minimum Data Set (Hawes *et al.*, 1997); **MDS-ADL**=Minimum Data Set– Activities of Daily Living Scale (Morris *et al.*, 1999); **MDS-CPS** = Minimum Data Set - Cognitive Performance Scale (Morris *et al.*, 1994); **MDS-COG**=Minimum Data Set - Cognition Scale (Hartmaier *et al.*, 1994); **MDS**-**DRS**=Depression Rating Scale (Burrows *et al.*, 2000); **Medication Quantification Scale** (Masters Steedman *et al.*, 1992); **MHQ**=Penn State Mental Health Questionnaire (Spore *et al.*, 1991); **MIBM**=Modified Interaction Behavior Measure (Burgener *et al.*, 1992); **MJSS-HC** (Landerweerd *et al.*, 1996); **MMSE**=Mini Mental State Examination (Folstein *et al.*, 1975); **MNA-SF**=Mini Nutritional Assessment Screening Form (Rubenstein *et al.*, 2001); **MOSES=**Multidimensional Observation Scale for elderly subjects (Helmes *et al.*, 1987); **NHUS**= Nurses Hassles and Uplifts Scale (Craig, 1995, unpublished data); **NPI-NH**=Neuropsychiatric Inventory: Nursing Home Version (Cummings *et al.*, 1994); **NPI Hyperactivty Scale** (Aalten *et al.*, 2007); **Nursing Home Hassles Scale** (Stephens *et al.*, 1991); **Nursing Skills in Handling Dementing Elderly** (van der Kooij, 1998); **Nursing Stress Scale** (Gray-Toft and Anderson, 1981); **Organization and Stress Scale** (Bergers *et al.*, 1986); **PACSLAC=**Pain Assessment Checklist for Seniors with Limited Ability to Communicate (Fuchs-Lacelle and Hadjistavropoulos, 2004); **PAINAD** =Pain Assessment in Advanced Dementia Scale (Warden *et al.*, 2003); **PAS**= Pittsburgh Agitation Scale (Rosen *et al.*, 1994); **Philadelphia Geriatric Center Affect Rating Scale** (Lawton *et al.*, 1996); **Philadelphia Geriatric Center Morale Scale** (Lawton, 1975); **PRS**= Positive Response Schedule (Perrin, 1997); **PRUQ=**The Perceptions of Restraints Use Questionnaire (Strumph and Evans, 1988); **QAP**=Quality Assessment Project (Norman *et al.*, 1994); **QEAW**=Questionnaire about Experience and Assessment of Work (Van Veldhoven *et al.*, 2002); **QOL-AD** = Quality of Life-Alzheimer’s Disease (Logsdon *et al.*, 1999; Logsdon *et al.*, 2002); **QUALID =** Quality of life in Late-Stage Dementia (Weiner *et al.*, 2000); QUALIDEM=Quality of Life in Dementia Scale (Ettema, 2007); **QUIS**= Quality of Interactions Schedule (Dean *et al.*, 1993); **RADL**=Refined ADL Assessment (Tappen, 1994); **RAWS-Long term care version** (Nelson and Algase, 2007); **RAID**=Rating Anxiety in Dementia Scale (Shankar *et al.*, 1999); **Revised Memory and Behavioral Problem Checklist** (Teri *et al.*, 1992); **RCS=**Australian resident classification scale (Commonwealth of Australia, 1997); **Scale of Nursing Performance (adapted)=**10 item version of The Scale of Nursing Performance 24 item (Battersby and Hemmings, 1991);**SES**=Social Engagement Scale (Mor *et al.*, 1995); **Staff Behaviors Scale** (Pillemer *et al.*, 1998); **Staff Empathy Scale** (Pillemer *et al.*, 2008); **Staff Provision to Residents Scale** (Pillemer *et al.*, 1998); **TESS-NH**=Therapeutic Environmental Screening Scale /Therapeutic Environmental Screening Scale for Nursing Homes (Sloane *et al.*, 2002); **TUGT** =Timed Up and Go Test (Podsiadlo and Richardson, 1991); **The Scale of Nursing Performance** (Battersby and Hemmings, 1991); 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1. Chang et al. 2005 and Chang et al 2006 are from the same study. [↑](#footnote-ref-1)
2. Sidani et al 2009 and Sidani et al. 2012 are from the same study. [↑](#footnote-ref-2)