Acton, G. J. and J. Kang (2001). "Interventions to reduce the burden of care giving for an adult with dementia: A meta-analysis." Research in Nursing & Health 24(5): 349-360. **Level of evidence: III-2 (randomisation not indicated**	
Studies included in our review are asterisked.	
Study/	**Review quality**
Brennan, 1995 Chang, 1999* Coen, 1999 Farran, 1994 Gendron, 1996 Goodman, 1990 Graham, 1989 Herbert, 1994 Kahan, 1995 Kosloski, 1993 McCurry, 1998* Mittleman, 1994 Ostwald, 1999 Quayhagen, 1989 Roberts, 1999 Robinson, 1988 Rothman, 1993 Schmidt, 1988 Teri, 1997*	*A) Was a clinical question clearly defined?* Conducted to evaluate intervention strategies designed to help caregivers of adults with dementia cope with the burden of caregiving. Q1: What is the raw and weighted effect size of each individual study? Q2: What is the weighted, pooled effect size of all interventions? Q3: What is the weighted pooled effect size of each category by intervention type, design type, type of burden measure, and type of burden? *(B) Was an adequate search strategy used?* Keywords: caregiver, caregiving, dementia, Alzheimer's disease. Search of Medline (1966-99), CINAHL (1982-99), PsycINFO (1967-99), Eric (1966-99) Social Sciences Index (1989-00, Social Sciences Abstracts (1983-99). Also hand searches of referenced lists of retrieved studies. Communication with authors to check and retrieve material. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: 1. sample of adults providing care to family member with dementia, 2. intervention tested to lessen outcome of burden, 3. design had treatment and control group or one group pre-test/post test design. Forty-six studies from 1982-1999 that met these criteria were retrieved. Many did not have enough data to be included (despite contacting authors) so the final review was of treatments tested in 24 studies, 17 with a control group (only one of those testing respite care). Those listed here are the ones relevant to respite care. Three studies tested two interventions but one was withdrawn from each study to avoid biasing results of the meta-analysis. Excluded studies not listed. *(D) Was a quality assessment of included studies undertaken?* Quality indicators were "study design, sample selection, eligibility criteria, descriptions of interventions, descriptions of outcome measures, reports of outcome measurement, outcome measurement frequency" (p. 352). Possible scores for quality = 0-21. *(E) Were the characteristics and results of the individual studies appropriately summarised?*

Theis, 1994 Toseland, 1992 Wilkins, 1999 Zarit, 1987	Tables show: 1. intervention, burden measure, design, quality score, group numbers, raw effect size, weighted effect size, confidence interval for effect size. 2. weighted pooled effect sizes & tests for homogeneity in each category *(F) Were the methods for pooling the data appropriate?* Effect sizes were calculated for each treatment group Studies were then grouped by intervention group (support group, psycho-education, education, counselling, respite, multi-component).Raw effects were weighted for sample size & adjusted for differences in baseline measures between groups (formula provided). In the case of one group studies, pre test means were substituted for control group means. Studies reported total burden, subjective burden, objective burden. Pooled analysis grouped subjective and total scores. To standardise post test timepoints, multiple in some studies, the time point nearest to the end of the intervention was selected. This meant excluding control group data from one study as this was collected 8 months after the intervention. Process: Effect size calculated for each treatment group, studies grouped by intervention type & pooled effect size calculated for each type. Studies grouped by design of each & pooled effect size calculated for each design. Studies grouped by type of burden measure & pooled effect size calculated for each type of measure. Studies that measured objective burden separately grouped & pooled effect size calculated. Studies that measured subjective burden grouped separately. A positive effect size indicates decreased burden. Negative effect indicates increased burden or burden that decreased more in the control group. *(G) Were sources of heterogeneity explored?* Homogeneity analysis for all pooled analyses. If pooled sample not homogeneous, largest outliers deleted until homogeneity achieved. ***Findings.*** ***(0.2 = small effect, 0.5 = medium effect, 0.8 = large effect)*** ***Evidence for Education:*** Fifteen studies tested education, 6 were described as experimental (ie, they had a control group) Only two studies showed had a significant effect on burden (neither specifically testing education). Overall weighted effects from the studies showed an effect size of -1.27 to 0.75. The weighted pooled effects of 21 interventions (3 removed because not homogeneous) = -0.08 (CI= -0.19 – 0.02) Only one type of intervention (multicomponent) significantly reduced burden – 3 studies -effect size +0.46 (CI= 0.14—0.78)

	The weighted pooled effect of education (5 studies) was -0.52 (CI=-0.86-0.18) – no significant difference. The weighted pooled effect of psycho education (10 studies) was -0.06 (CI=-0.21-0.10) – no significant difference. ***Consistency:*** all studies testing education showed no effect ***Clinical impact of education:*** probably none ***Generalisabilty:*** Population generally consistent with this review although stage of dementia unknown. ***Applicability:*** US review and studies generally published in Western journals. Probably applicable. ***Evidence for respite:*** Four studies relevant to respite care, only one with a comparison group, not an RCT. Only two studies had a significant effect on burden (one testing respite care – positive effect). Overall weighted effects from the studies showed an effect size of -1.27 to 0.75. The weighted pooled effects of 21 interventions (3 removed because not homogeneous) = -0.08 (CI= -0.19 – 0.02) The weighted pooled effect of respite care (4 studies) was -0.02 (CI=-0.20-0.16) – no significant difference. Only one type of intervention (multi-component) significantly reduced burden when data were pooled ***Consistency:*** 3 from 4 studies on respite showed no effect ***Clinical impact of respite care:*** probably none ***Generalisabilty:*** Population generally consistent with this review although stage of dementia unknown. ***Applicability:*** US review and studies generally published in Western journals – probably applicable.

Acton, G. J. and M. A. Winter (2002). "Interventions for family members caring for an elder with dementia." Annu Rev Nurs Res 20: 149-79.SR **Level of evidence: III-2.**	
Studies meeting criteria for inclusion in our review are asterisked.	
Study/	**Review quality**
Respite: Zarit, 1998* Adler, 1993 Adler, 1995 Conlin, 1992 Deimling, 1991 Graham, 1989 Guttman, 1991 Homer, 1994 Johnson, 1989 Larkin, 1993 Rothman, 1993 Rothman, 1993 Skelly, 1993 Strang, 1990 Theis, 1994 Wimo, 1993	*A) Was a clinical question clearly defined?* Q1: What family caregiver interventions have been tested and what features should nurses consider? Q2: What do researchers need to consider? *(B) Was an adequate search strategy used?* Keywords: caregiver, caregiving, dementia, Alzheimer's, intervention study, evaluation study, quasi/quasi-experimental design. Additional keywords as needed. Search of Medline, CINAHL, PsycINFO, Eric, Social Sciences Index, Social Work Abstracts, American Association of Retired Persons' database. Years not indicated. CRISP index of grants searched to locate current research. Handsearching of journal indexes. Also hand searches of referenced lists of retrieved studies. Dissertation abstracts, Cochrane Centre, published abstracts from relevant societies. Communication with current researchers to check and retrieve material. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: 1. sample of adults providing care to family member with dementia (at least some care recipients having cognitive impairment. 2. education, support and education, respite, case management, or multicomponent intervention designed to lessen negative impacts of caring or promote positive impacts. 3. design had treatment and control group or one group pre-test/post test design. Excluded – no mention of dementia in care recipients. 73 studies included - excluded studies not listed and no indication of how criteria were applied. *(D) Was a quality assessment of included studies undertaken?* Grouped by intervention type & then examined for design, sample, intervention, significant findings. Quality review examined design, sample, intervention, outcomes. Only respite studies will be covered here. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show: design, sample, intervention, significant findings (shown as T>C or vice versa – only when significant)

Education: Bourgeois, 1997* Buckwalter, 1999* Chang. 1999* Ripich, 1998* Teri, 1997* Burgener, 1998 Barusch, 1991 Belmin, 1999 Brodaty, 1994 Butt, 1989 Chiverton, 1989 Coen, 1999 Corbeil,1999 Davis, 1998 Gendron, 1996 Heacock, unpub Magni, 1995 McCallion, 1999 McCurry, 1998 Quayhagen, 1989 Ripich, 1998b Robinson, 1988 Robinson, 1994 Zanetti, 1998 Acton, 1996 Brennan, 1995 Cummings, 1998 Demers, 1996 Farran, 1994 Gage, 1995 Gendron, 1996 Hebert, 1994 Hosaka, 1999 Ostwald, 1999 Schultz, 1994 Strawn, 1998 Toseland, 1992	*(F) Were the methods for pooling the data appropriate?* Not pooled *(G) Were sources of heterogeneity explored?* N/A ***Evidence for respite care:*** 16 studies relevant to respite care, sample range 7 – 264 – no RCTs. Eight examined day care, 5 in patient respite, 3 allowed choice, 1 tested in patient respite. Respite doses varied by frequency (eg days per week) and overall length. From the table: one study showed burden to be greater in the IG; two showed stress lower in the TG; one showed depression, role overload, strain, and anger lower in the IG. In single group studies, three studies showed decreases in negative outcomes. There were no significant findings reported for 8. ***Consistency:*** Most studies showed either no effect or a positive effect ***Clinical impact of respite care:*** Reviewer indicates that respite care is not found to have much impact ***Generalisabilty:*** Population generally consistent with this review although stage of dementia unknown, also age. ***Applicability:*** US review and studies generally published in Western journals – probably applicable. ***Evidence for Disease Specific Education:*** Education was disease specific, 23 studies tested education alone TG size 2-95, 7 studies described as experimental. Programs were delivered over varying periods. Knowledge evaluated in 9. In 3 pre-post studies burden decreased, in one it increased. Stress dropped in two, depression and emotion focus coping dropped in two more. Results are generally summarised by the reviewer as being inconsistent including an increase in negative effects. Some education was individualised and programs were delivered over varying periods in the home (10 studies) Burden was reduced in 3 of these studies and other negative outcomes in 4; there were positive outcomes in 3. There were 14 studies evaluating support and education, 4 described as experimental, TG sizes 13-268. Only 18/59 outcome variables measured changed in the “right” direction, even in individualised interventions (4) only 3/18 outcomes were changed as desired. From the table, there were negative impacts in 3/14 studies. ***Consistency:*** Generally inconsistent. ***Clinical impact of education:*** Variable ***Generalisabilty:*** Population generally consistent with this review although stage of dementia unknown, also age. ***Applicability:*** US review and studies generally published in Western journals – probably applicable.

Ali, W. and P. Rasmussen (2004). What is the evidence for the effectiveness of managing the hospital / community interface for older people? A critical appraisal of the literature. NZHTA Report, New Zealand Health Technology Assessment: 1-164. **Level of evidence: I /III-2**	
Studies included in our own review are asterisked.	
Study	**Review quality**
Hyde, 2000* Aminzadeh, 2002* Lim, 2003 Naylor, 1999 Parker, 2002 Riegel, 2002 Adler, 1978 Bernabei, 1998 Brazil, 1998 Cameron, 2000 Caplan, 1999 Challis, 1991a Challis, 1991b Coast, 1998 Crotty, 2002 Dalby, 2000 Davies,1994 Davies, 2000 Donald, 1995 Elkan, 2001 Elkan, 2000 Evans, 1995 Fitzgerald, 1994 Fry, 1996 Gagnon, 1999 Gill, 2002 Gillespie, 2003 Griffiths, 2001 Hebert, 2001 Indredavik, 1999 Landi, 2001 Leveille, 1998	*A) Was a clinical question clearly defined?* Objective: "to identify and appraise evidence for the effectiveness of managing the hospital/community interface for older people" (p. 4). Services defined as those managing the hospital/community interface, not covered by geriatric or psychgeriatric service reviews but avoiding, substituting, or providing planned discharge from hospital *(B) Was an adequate search strategy used?* 1. Medline, Embase, Cinafhl, PsychInfo, Current Contents, Web of Science, Cochrane Controlled Trial Register, Index NZ. Cochrane (SR database) HTA DARE ACP Journal Club TRIP Scottish Intercollegiate Guidelines Network US Guideline Clearinghouse UK HTA DoHA (Australia) Health Canada UK Dept Health Publications DoHA

Lightbody, 2002 Lambert, 2003 Mann, 1999 Martin, 1994 Master, 1980 Moss, 2002 Nikolaus, 2003 Parkes, 2003 Rich, 1995 Richardson, 2001 Robertson, 2002 Rodgers, 1997 Ruckley, 1978 Rudd, 1997 Shepperd, 1998a Shepperd, 1998b Shepperd, 2001 Stessman, 1997 Weinberger, 1996 Widen Holmqvist, 1998 Wilson, 1999	Search terms listed & comprehensive Hand-searching not indicated. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Appraisal of full studies after exclusion from abstract and titles Excluded studies listed but only general reasons for exclusion – 39 articles left for full review. ***Inclusion criteria were:*** Year range: 1980-2003 Study types (all in English) : • Systematic reviews or meta analyses • Controlled trials • Cohort and case controlled studies • Pre-test post-test • Descriptive Grey literature included for NZ studies when higher level evidence unavailable Population: Age 65 plus with complex co-morbidities or at risk of deteriorating from reversible conditions who would otherwise be admitted or who required intermediate (hospital-community) services. Services (design features, staff competencies): • Providing interventions to increase or maintain function (eg, falls prevention) • Supporting during acute episodes (advanced primary care, rapid response) also hospital in the home Diverting admission • Supporting planned transfer

	• Provide slow stream rehab • Provide case management Comparators: Usual services, no intervention, standard care, early D/C (no additional support), no D/C or transfer planning and/or standard post D/C support. Outcomes: function, health, hospitalisation, disability, primary care visits, ED visits, satisfaction, hospital days, costs, death. ***Exclusion criteria:*** Studies in stroke settings; <50 people (in outcomes); prospective/follow up period<3m; inadequate description of methodology or methodological problems; narrative reviews etc.: studies with disease specific patients unless including important interface info; studies of patients with dementia *(D) Was a quality assessment of included studies undertaken?* Using adapted schedule from Cochrane (EPOC) and NZHTA checklists (descriptive work). NHMRC levels of evidence applied. This was by one reviewer without cross validation. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show study design, location, interventions, outcomes, conclusions drawn from review. *(F) Were the methods for pooling the data appropriate?* Not pooled. *(G) Were sources of heterogeneity explored?* N/A ***Findings:*** ***Evidence:*** The 39 studies included 30 primary studies and 9 systematic reviews. Overall a general lack of good quality evidence and large variability in the intensity of interventions. Two areas relevant to this question. <u>*Case management*</u> – 7/12 studies considered were clearly relevant to our own review because the addressed transitioning (but only 3 were in our date range). (1) contributed little; (2) Australian RCT of a post acute care program showed no effect on mortality, improved QOL, no difference in unplanned readmissions, fewer hospital bed days in the next 6m; (3) found benefits for admissions, readmissions, length of stay; (4) (US Veterans) increased outpatient care but did not impact on hospitalisation; (5) (very frail VA patients) increased primary care & re-hospitalisation plus patient satisfaction; (6) (HF patients) reduced HF readmissions & QOL in a subgroup; (7) reduced hospitalisation, readmissions, ho spital bed days & increased satisfaction.

	Planned discharge & supported discharge: Three systematic reviews and one study included (plus one on hospital in the home review not relevant to our own question, also one study of accelerated D/C with home rehab compared with conventional rehab not considered by us): 1. Cochrane review of effectiveness of D/C planning (excluded from our review because not considered to meet age criteria). This review of 8 trials is said to find mixed results generally but some consistency showing a reduced hospital LOS and, sometimes, in readmissions. Heterogeneity of population acknowledged. 2. Review of clinical trials of interventions aimed at improving D/C of older adults from hospital inpatient care – 71 studies (54 RCTs). Overall results showed that mortality & index LOS was not affected but relative risk of readmission was reduced (35 studies) – effect a little greater when delivered by one person rather than a team. No consistent impact on function. Review indicated to be rigorous. 3. Review of nine trials – findings support reduced institutionalisation in IG, no change to hospitalisation but evidence said to be limited and review to provide inadequate detail. 4. RCT of hospital discharge team to help promote independence for 6 weeks post D/C – fewer readmissions and institutionalisations. . *Rapid response:* Four studies: 1. Service evaluation (demonstration project) – Results positive for hospitalisation. 2. D/C planning from ED (not in our date range and involved retrospective comparison). Results inconclusive. 3. Review examining ED use and interventions with older adults in ED. This is said to have found few studies incorporating home care – just four Canadian studies identified providing rapid service access & found they reduced the need for hospital admission on the index visit – patient outcomes not examined. 4. Description of ED based care coordination team – hospital admission from ED fell ***Consistency;*** Reviewer concludes some consistency re discharge planning improving readmission and case management benefiting patients. Also that ED based studies can provide benefits. ***Clinical impact:*** Reviewer does not comment on effect size but on significant findings. ***Generalisability:*** These results would seem to be in the same age group but patients would include those less unwell/disabled and did not include people with dementia. ***Applicability:*** Highly applicable.

Aminzadeh, F. and W. B. Dalziel (2002). "Older adults in the emergency department: A systematic review of patterns of use, adverse outcomes, and effectiveness of interventions." Annals of Emergency Medicine 39(3): 238-247. **Level of evidence: I/III-2 2.**	
No studies met criteria for inclusion in our own review	
Study	**Review quality**
Home care incorporated into emergency services: Dawson, 1992 Brazil, 1998 Rajacich, 1995 Freeman, 1996	*A) Was a clinical question clearly defined?* To provide a synthesis of literature on patterns of use of emergency services in older adults, risk factors associated with adverse outcomes, and the effectiveness of interventions targeting this population (p.239). *(B) Was an adequate search strategy used? keyword searches of electronic databases* **Keywords** Exploded search terms used eg exp aged; emergency services, hospital; emergency service; and emergency. **Databases:** CINAHL, MEDLINE, HealthSTAR, Current Contents, Cochrane Library 1985 to 2001. Bibliographies also hand searched. (*C) Were the inclusion criteria appropriate and applied in an unbiased way?* First author scanned abstract and titles and obtained possibly relevant articles. Also assigned articles for review. Reasons for exclusion not summarised. *(D) Was a quality assessment of included studies undertaken?* One person extracted data independently but checked by another & meetings held regularly to discuss findings and reach consensus. Methodological issues addressed by using them to interpret findings. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Some studies summarised in tables – not those for home care incorporated into emergency services (area relevant to this question). Text summary provided. *(F) Were the methods for pooling the data appropriate?* Data not pooled.

	(G) Were sources of heterogeneity explored? N/A ***Findings*** ***Evidence -*** Home care incorporated into emergency services: four Canadian studies mentioned providing a quick response for older adults to access emergency care in the home, leading to a reduced need for hospitalization US study used ED based staff to assess home needs- prevented index visit admission in 20% (?not RCT) UK RCT – Care attendant provided for 12 hrs pw for 2 weeks after D/C after ED admission– lower proportion of admissions (73% v 83%, p<0.05) & of multiple readmissions (7% v 14%). Those living alone also had shorter hospital stays (17 v 31, p=0.014) ***Consistency:*** too few studies to judge ***Clinical impact:*** inconclusive ***Generalisability:*** Population for this review generally appropriate except may be less incapacitated. ***Applicability:*** Applicable

Arksey, H., K. Jackson, et al. (2004). Review of Respite Services and Short-Term Breaks for Carers for People with Dementia. London, NHS SDO. **Level of evidence: I/III-2**.	
Studies that are asterisked are included in our own review.	
Study	**Review quality**
<u>Day care effects:</u> Colvez, 2002 Gaugler, 2003a* Walker, 2001 Zank, 2002* Zarit, 1998* Curran, 1996 Diesfeldt, 1992 Gibson, 1996 Gilleard, 1987 Levin, 1994 Lorensini, 1997 Pritchard, 1999 Melzer, 1990 Quayhagen, 2000 Wells, 1990 Wimo, 1993	*A) Was a clinical question clearly defined?* What is known from the existing literature about the effectiveness and cost-effectiveness of of respite services and short term breaks for people with dementia? *(B) Was an adequate search strategy used?* Generic review: 1. An 88 step search strategy was used to search databases including Medline, Embase, CINAHL, PsycINFO, Cochrane, CDSR, DARE, & CENTRAL., the Health Technology Assessment database and many more databases. 2. References were checked of retrieved articles. 3. References of key authors were checked. 4. Citations were searched for in the Social Sciences Citation Index 5. Relevant internet sites were searched 6. Consultation was undertaken with key researchers 7. Hand searching of three journals was undertaken NB consultation with organisations & carers was also a part of the process *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: 1. 1985 – March 2003 2. In English 3. Sample of informal carers of people with dementia as sample & or care recipients with dementia 4. Intervention relieved carers of caring duties

<u>In home care effects:</u> Grant, 2003* Jansson, 1998 Levin, 1994 Milne, 1993 Ryan, 2002 <u>Overnight respite effects:</u> Colvez, 2002 Adker, 1993 Burdz & Eaton, 1988 Hirsch, 2003 Larkin, 1993 Levin, 1994 Melzer, 1990 Pearson, 1988 Perry, 2001 Seltzer, 1988 Watkins, 1997 <u>Respite programs</u> Cox, 1998	5. any empirical evidence, published or unpublished 6. needed to meet predetermined quality criteria of sampling, data collection, data analysis, reflexivity (consideration given to limitations & findings substantiated by data), ethical standards. 7. needed to consider effectiveness and/or perceived benefits of respite services and short-term breaks. No list of excluded studies. Stage of dementia is not addressed. *(D) Was a quality assessment of included studies undertaken?* Studies were rated using a quality appraisal tool (Croucher et al., 2003) *(E) Were the characteristics and results of the individual studies appropriately summarised?* 52 articles included in the review were grouped as addressing: Day care services In home services Host family respite Institutional/overnight respite Respite programs offering many forms of respite care Multidimensional carer support where one option is respite care Video respite Categories for reporting evidence that are relevant to this review were: Carer health & well being (health status) Care recipients' health & well being (health status) Impact on use of other services (entry to long term care & use of other services)

Diemling, 1991 Kosloski, 1993 <u>multidimensional carer support</u> Chu, 2000 Droes, 2000 Drummond, 1991 Lawton, 1991 Mohide, 1990	Cost effectiveness was also evaluated but is not relevant to this review. Tables of included studies in the appendix – type, client group, aim, design. *(F) Were the methods for pooling the data appropriate?* Data were not pooled. *(G) Were sources of heterogeneity explored? N/A* ***Findings:*** ***<u>Effectiveness of day care services:</u>*** ***Evidence (day care effects):*** Two RCTs, 3 quasi experimental (non-randomised), 2 pre-post test, 7 post test/survey (above quality "threshold") On family carers –some studies showed benefits and some did not. No effect sizes or p values were reported. On people with dementia - some studies showed benefits and some did not. No effect sizes or p values were reported. On use of other services – reviewer indicates some evidence to suggest entry to long term care may be delayed but three studies are noted in the text, one reporting a possible delay, one that the likelihood of entry was equal whether in day care or not, and one that did not examine the impact but followed participants over 5 years. ***Consistency:*** Inconsistent ***Clinical impact of respite care:*** none demonstrated ***Generalisabilty: Populati***on seems consistent with this review except stage of disease not identified. ***Applicability:*** appears applicable ***<u>Effectiveness of in home services:</u>*** ***Evidence (home care effects):*** one study with a control group (not an RCT) otherwise post test only and/or qualitative (above quality "threshold") No statistically significant effects found in any area examined. No effect sizes or p values were reported

	Consistency: N/A ***Clinical impact of respite care:*** none demonstrated ***Generalisabilty:*** Population seems consistent with this review except stage of disease not identified***.*** ***Applicability:*** appears applicable ***<u>Effectiveness of host family respite:</u>*** Only a qualitative study was reviewed - the service was viewed positively ***<u>Effectiveness of institutional/overnight respite</u>*** ***Evidence (institutional/overnight respite):*** 5 pre-test post test studies and a post test evaluation (above quality "threshold") The reviewer indicates that people with dementia could sometimes return home in poorer health, although medical diagnoses were more accessible, and that carers did experience diminished burden in some studies and report improved sleep and coping. Some were said to have reported that the service helped avoid placement. No effect sizes or p values were reported. ***Consistency:*** moderate ***Clinical impact of respite care:*** difficult to evaluate given study designs ***Generalisabilty:*** Population seems consistent with this review except stage of disease not identified. ***Applicability:*** appears applicable ***<u>Effectiveness of respite programs offering many forms of respite care</u>*** ***Evidence (respite program effects):*** 1 quasi experimental (ie non randomised), 2 pre-test post-test (above quality "threshold") On family carers – the reviewer indicates some evidence for diminished burden, depression, health problems that might relate to the characteristics of the person with dementia On people with dementia – inconclusive. No effect sizes or p values were reported. On use of other services – no evidence presented.

	Consistency: Some consistency for caregiver impact ***Clinical impact of respite care:*** benefits for caregiver not quantified. None found for care recipient ***Generalisabilty:*** Population seems consistent with this review except stage of disease not identified***.*** ***Applicability:*** appears applicable ***<u>Effectiveness of multidimensional carer support where one option is respite</u>*** On family carers – no lasting benefits. No effect sizes or p values were reported. On people with dementia – gains regarding behavioural problems only. No effect sizes or p values were reported. Indication of delayed institutional care – difference of approx 3 to 7.5 weeks. ***Evidence (multidimensional carer support):*** Three RCTs, 1 quasi experimental (non-randomised) ***Consistency:*** Inconsistent other than for delay to placement ***Clinical impact of respite care:*** little demonstrated ***Generalisabilty:*** Population seems consistent with this review except stage of disease not identified***.*** ***Applicability:*** appears applicable ***<u>Effectiveness of video respite</u>*** No evidence of effectiveness on relevant outcomes presented.

STUDY DETAILS				
Baumgarten, M., P. Lebel, et al. (2002). "Adult day care for the frail elderly: Outcomes, satisfaction, and cost." Journal of Aging and Health 14(2): 237-259.				
Affiliation/source of funds [2] National Health and Research Development Program (Health and Welfare Canada Grant)				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] 30 metropolitan adult day care centres in Montreal, Quebec, Canada.		
Intervention [6] Immediate entry into adult day care centre, participation for approx. 6 hours a day for 1-2 days a week Sample size [7] n=108		Comparator [8] 3 months on wait list to enter adult day care centre Sample size [9] n=104		
Population characteristics [10] Care recipients: Over 60 years of age (average 77.8), could speak either English or French, cognitively able to answer questionnaires (MMSE>22), had an informal caregiver and had not been referred to the centre for specialised treatment (eg Parkinson's disease rehab), 73.6% female. Care givers: unpaid person most involved with client care.				
Length of follow-up [11] Interviewed after randomisation but before study commencement, and follow up at 3 months (end of study)		Outcome(s) measured [12]: Depression using CES-D (Centre for Epidemiologic Studies Depression Scale), Anxiety using State-Trait Anxiety Inventory (STAI), Functional status using Older Americans Research and Service (OARS), Caregiver Burden Inventory, MMSE, Experience of stressful life events using Older Person Events Scale, Social support using OARS Social Resources Scale and frequency of using health and social services, cost of services.		
INTERNAL VALIDITY				
Allocation [13] Random (method not specified) by blocks of 6 stratified by testing site – each of the day care centres represented 1 stratum	Comparison of study groups [14] Burden levels among caregivers of high centre attendees was sig. greater ($p<0.05$) than low attendees as baseline. No other significant difference between groups at Time 1	Blinding [15] None mentioned	Treatment/measurement bias [16] Participants in treatment group received different amounts of intervention (ie attendance at day centre) ranging from no visits (7.8% so same as control) to >13 (35%).	Follow-up [17] 2 could not be reached, 8 refused follow up, 7 had died, 4 institutionalised, 3 too sick for interview
Power Calculations presented for 80% power		Reliability and validity of instruments Cronbach's alpha used for consistency of instruments		
Overall quality assessment (descriptive) [18] Possible measurement bias of intervention group – large variation in amount of treatment received.				

RESULTS				
Outcome [19]	Intervention group [20] Mean (Standard Dev.)	Control group [21] Mean (SD)	Measure of effect size [22] 95% CI and/or p value[23]	
CES-D SCORE:				
Time 1	16.9 (11.9)	15.7 (11.6)		
Time 2	16.5 (10.9)	14.6 (11.9)		
Anxiety Score:				
Time 1	39.7 (13.7)	38.1 (13.8)		
Time 2	39.2 (14.4)	36.4 (14.6)		
ADL Score:				
Time 1	4.2 (1.2)	4.1 (1.2)		
Time 2	4.3 (1.2)	4.2 (1.3)		
Caregiver burden score:				
Time 1	23.2 (17.3)	23.5 (19.7)		
Time 2	21.0 (18.4)	19.8 (19.3)		
	Clinical importance (1-4) [26] NO CIs		Relevance (1-5) [27] 1.	
Any other adverse effects [28] No adverse effects mentioned				
EXTERNAL VALIDITY				
Generalisability [29] Good generalisability to population of interest (being older adults receiving respite care and their family carers)				
Applicability [30] Good				
Comments [31] No significant effect of adult day care on symptoms of anxiety, depression, or functional status among elderly clients across 3 month study period. No significant effect on care giver burden across study period. Over 2/3 of clients attending day care centre felt reduced loneliness, nearly 50% felt less anxious and depressed. Perceived burden decreased more among caregivers who had clients frequently attending day care centres. No significant effect on cost of health care.				

STUDY DETAILS					
Belle, S. H., L. Burgio, et al. (2006). "Enhancing the quality of life of dementia caregivers from different ethnic or racial groups: a randomized, controlled trial." Ann Intern Med 145(10): 727-38.					
Affiliation/source of funds [2] University of Pittsburgh, University of Alabama, University of Tennessee, Arizona State University, University of Miami, Stanford University, Thomas Jefferson University, National institute of nursing research and National institutes of Health – Bethesda Maryland, Scott & White Memorial Hospital Texas. Funding from National Institute on Aging and the National Institute of Nursing Research.					
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community based setting in Alabama, Tennessee, Florida, California and Pennsylvania USA.			
Intervention [6] Carer education - 9x 1.5 hr in-home sessions and 3x 0.5hr phone sessions over a 6 month period consisting of disease education, stress management techniques, problem solving and social support. In addition, there were 5 structured phone support group sessions (video conference calls) over the intervention period. Sample size [7] Carer/patient dyads – n=106 hispanic, 113 white, 104 black			Comparator [8] Control – supplied with education materials on Alzheimer's disease, caregiving and community resources and received 2x 15min "check-in" phone calls over at 2 months and 5 months into study period. Sample size [9] Carer/patient dyads – n=106 hispanic, 106 white, 107 black		
Population characteristics [10] **Carers** were of Hispanic/Latino, Caucasian, black/African-American ethnicity and could speak either English or Spanish, at least 21 years old, living with or sharing cooking facilities with their related care recipient, providing care for at least 4 hrs per day for the previous 6 months and had reported distress associated with caregiving (eg felt overwhelmed or stressed). Caregivers were not involved in any other intervention studies and did not have any illness that would prevent their participation in the study. Carers also owned their own phone and lived in the same area for the course of the study. **Care recipients** had diagnosis of Alzheimer's disease or related disorder, were not bedridden, MMSE score > 0. . Mean age of care recipient >77 yrs.					
Length of follow-up [11] Baseline & 6 m (completion of intervention).		Outcome(s) measured [12]: Caregiver depression, burden, self-care and social support. Care recipient problem behaviours and rate of institutionalisation also measured.			
INTERNAL VALIDITY					
Allocation [13] Random (stratified according to race – Hispanic, White or Black) using a computer algorithm	Comparison of study groups [14] No difference between caregivers at baseline Hispanic care recipients had a significantly higher level of education (p=0.024) which was controlled for. No other significant difference at baseline.	Blinding [15] Assessors were blinded to group assignment of participants	Treatment/measurement bias [16] No bias mentioned. Recruitment of participants through media outlets has potential to bias sample?	Follow-up [17] Fail to follow up at 6 months: Hispanic 20 CG (19%), 24 IG (23%) White 20 CG (19%), 17 IG (15%) Black 22 CG (21%), 21 IG (17%)	
Power Calculations 80% power for effect size of 0.50 - 170 participants p group		Reliability and validity of instruments Not mentioned although tools referenced in text			

Overall quality assessment (descriptive) [18] Well designed and coordinated study, very well explained.			
RESULTS			
Outcome [19]	Intervention group [20] Net improvement, n (percentage points)	Control group [21]Net improvement, n (percentage points)	Measure of effect size [22] **95% CI** and/or p value[23]
Caregiver depression	Hispanic/Latino 32 (39.0)	0 (0.0)	32 (12 to 49)
	White/Caucasian 27 (28.2)	20 (23.3)	7 (-13 to 26)
	Black/African 18 (21.6)	9 (10.5)	9 (-9 to 26)
Caregiver burden	Hispanic/Latino 13 (15.8)	10 (11.6)	3 (-15 to 21)
	White/Caucasian 9 (9.4)	12(14.0)	-3 (-21 to 16)
	Black/African 26 (31.3)	7 (8.2)	19 (0 to 38)
Caregiver self-care	Hispanic/Latino 14 (17.1)	4 (4.7)	10 (-8 to 29)
	White/Caucasian 13 (13.6)	0 (0.0)	13 (-9 to 36)
	Black/African 8 (9.7)	6 (7.1)	2 (-20 to 24)
Caregiver social support	Hispanic/Latino 19 (23.1)	10 (11.6)	9 (-11 to 28)
	White/Caucasian 22 (22.9)	-1 (-1.2)	23 (4 to 43)
	Black/African 23 (27.7)	12 (14.1)	11 (-7 to 29)
Any other adverse effects [28] None mentioned	Clinical importance (1-4) [26] 2	Relevance (1-5) [27] 1	
EXTERNAL VALIDITY			
Generalisability [29] Focus of study was on the effect of disease specific education on carer quality of life. Population of carers included Caucasian, African-American and Hispanic ethnicities with outcomes found for individual ethinic groups presented. Results from this study may be applicable to an Australian setting with caution that if ethnic group has an effect on outcome measure then may only be able to generalise Caucasian population results from this study.			
Applicability [30] Good			
Comments [31] Hispanic ($p<0.001$) and white caregivers ($p=0.037$) who underwent intervention had a significantly improved quality of life compared to those in the control group. African-American spousal caregivers also had improved quality of life in some domains following the intervention when compared to controls ($p=0.003$). Prevalence of clinical depression also lower in IG ($p=0.001$).			

Bhogal, S. K., R. W. Teasell, et al. (2003). "Community reintegration after stroke." Top Stroke Rehabil 10(2): 107-29.**Level of evidence: I**.	
Studies that met inclusion criteria for our review for this question are asterisked	
Study/	**Review quality**
Studies listed here are only those addressing interventions for family education as these were evaluated separately: Grant, 1999* Mant, 1998* Mant, 2000 Rodgers, 1999* Van den Heuvel, 2002* Evans, 1988 Friedland, 1992 Dennis, 1992 Frank, 2000 Grant, 2002	*A) Was a clinical question clearly defined?* From the objective relevant to this PICO question: to examine family carer education relevant to community reintegration after stroke. *(B) Was an adequate search strategy used?* Keywords: cerebrovascular disorders and family education (or support or leisure – not relevant here) and randomised controlled trial or controlled study or quantitative or methodological overview. Databases: MEDLINE 1970-2002 EMBASE 1995 -2002 MANTIS 1995 -2002 PASCAL 1995 -2002 Sci Search 1995 -2002 Hand searching of reference lists *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: Published RCT, patients had radiologically confirmed ischaemic or haemorrhagic CVA. No list of excluded studies except one excluded for quality reasons. No indication of checks re inclusion/exclusion. *(D) Was a quality assessment of included studies undertaken?* PEDro scoring system used – 10 criteria, one point each, randomisation, concealment, baseline comparison, blinding, follow up, intention to treat analysis, between groups analysis with point estimates, measures of variability. Study methodology was independently rated by two reviewers – 3rd resolved disputes. Studies with scores less than 4 excluded. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Table shows design, quality score, participants, N for treatment group, treatment, main outcome, results. No results shown for one study.

	(F) Were the methods for pooling the data appropriate? Data not pooled *(G) Were sources of heterogeneity explored?* N/A ***Findings*** ***Evidence:*** quality score for 10 RCTs= 4-8 Reviewer summarises as: Studies with positive findings = 5 – 4 used educational counselling support Studies showing no effect= 3 – two using information packs & workbooks. The other is said to report better mental health for IG (unclear why classified as negative). All of the above included some evaluation of carer health Two studies not mentioned in summary – one shown in table to have better SF36 social functioning scores in CG than IG, otherwise scores similar, the other showed a positive effect on confidence, self efficacy, and coping in the IG. IG group size varied widely 10-528 Conclusion drawn by reviewer – strong evidence for active educational counselling benefits and for information packages not altering outcomes. Evidence from review – generally of benefits rather than harms, but benefits not shown for information packages alone. These were RCTs but limited details are evaluated. ***Consistency:*** generally consistent but small number of studies ***Clinical impact of education:*** Some impact (not for info packages) & not quantifiable ***Generalisabilty:*** Canadian study***.*** Age and level of disability not always indicated ***Applicability:*** Directly applicable.

STUDY DETAILS				
Blue, L., E. Lang, et al. (2001). "Randomised controlled trial of specialist nurse intervention in heart failure." BMJ (Clinical Research Ed.) 323(7315): 715-718.				
Affiliation/source of funds [2] Scottish Office, Department of Health UK				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Acute medical admissions unit in Western Infirmary Hospital, Glasgow, UK		
Intervention [6] Nurse intervention - (patient managed by admitting physician in hospital and then GP combined with specialist nurse home visits and phone calls once discharged from hospital) Sample size [7] n=84			Comparator [8] Usual care - (managed by admitting physician in hospital then GP only upon discharge) Sample size [9] n=81	
Population characteristics [10] Patients (average age 75.0) admitted to acute medical admissions unit with heart failure due to left ventricular systolic dysfunction who lived in hospital catchment area. Not included if acute myocardial infarction, co-morbidities such as cancer (might lead to readmission/death in the near future)				
Length of follow-up [11] average 12 months		Outcome(s) measured [12]: Patient deaths, number of readmissions (resulting from all causes and heart failure specific), number of days in hospital for heart failure		
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] No sig. difference in age, sex, living status, social services required or other medical problems at baseline.	Blinding [15] None	Treatment/measurement bias [16] Groups treated the same apart from intervention	Follow-up [17] 6 participants from IG died before study completion. 2 participants from CG did not complete – 1 died before study completion, 1 had liver cancer diagnosis.
Power Calculations 80% power at a significance of 5%		Reliability and validity of instruments No instruments used, all data collected outcomes (eg dead/alive)		
Overall quality assessment (descriptive) [18] Well structured and presented study, confidence intervals and p-values reported for most data				

RESULTS			
Outcome [19]	Intervention group [20] No (%)	Control group [21] No (%)	Measure of effect size [22] 95% CI and/or p value[23]
No surviving at:			
0 months	84	81	
2	74	57	
4	60	50	
6	49	42	
8	44	35	
10	34	27	

12	28	22	
Number of deaths Before discharge Total	 1(1) 25 (30)	 6 (7) 25 (31)	 CI not reported, p=0.061 0.93 (0.54 to 1.63), p=0.81
Number of patients readmitted All causes Worsening heart failure	 47 (56) 12 (14)	 49 (60) 26 (32)	 0.80(0.53 to 1.19), p=0.27 0.38(0.19 to 0.76), p=0.0044
Number of deaths/ readmissions All causes Heart failure	 52 (62) 31 (37)	 61 (75) 43 (53)	 0.72(0.49 to 1.04), p=0.075 0.61(0.38 to 0.96), p=0.033
Number of readmissions No/patient/month All causes Worsening heart failure	 86 (0.124) 19 (0.027)	 114 (0.174) 45 (0.069)	 0.71(0.54 to 0.94), p=0.018 0.40(0.23 to 0.71), p=0.0004
Mean number of days in hospital All causes Worsening heart failure	 10.3 (19.0) 3.43 (12.2)	 16.7 (24.1) 7.46 (16.6)	 0.65(0.40 to 1.06), p=0.081 0.60(0.41 to 0.88), p=0.0051
	Clinical importance (1-4) [26] 2	Relevance (1-5) [27] 1	
Any other adverse effects [28] None mentioned			
EXTERNAL VALIDITY			
Generalisability [29] Results from this study are generalisable to the physical health of the client following a post-acute transitional care program, however many results reported are proxy indicators of physical health.			
Applicability [30] Good.			
Comments [31] Intervention by specialist nurses can significantly reduce the risk of readmission to hospital as a result of heart failure – regular contact with patient permits the detection of clinical deterioration and allows for adjustment and optimisation of treatment.			

STUDY DETAILS				
Reference [1] SR373 Bourgeois, M. S., L. D. Burgio, et al. (1997). "Modifying repetitive verbalizations of community-dwelling patients with AD." The Gerontologist 37(1): 30-39. Does education for family carers in disease specific areas (dementia care, heart failure, COPD, cancer care, Parkinson's disease) improve family carer confidence, competence, physical, psychological and spiritual health when compared with a lack of this education?				
Affiliation/source of funds [2] Florida State Uni, Uni of Pittsburgh, Uni of Alabama Funding from National Institute on Aging grant and Special Emphasis Career award.				
Study design [3] Concurrent control study	Level of evidence [4] III-2	Location/setting [5] Community care setting in Pittsburgh, USA.		
Intervention [6] Patient-focused behaviour management skills training consisting of 1x 3hr workshop (education) plus 11x 1hr weekly home visits to monitor/reinforce and assist with implementation of strategies learned in the initial workshop Sample size [7] n=7 patient/carer dyads	Comparator 1 [8] Caregiver-focused affective self management training (not described in any detail). Sample size [9] *n=7 in total from Control group 1 and Control group 2 combined	Comparator 2 [8] Home based support control (not described in any detail) Sample size [9] *n=7 in total from Control group 1 and Control group 2 combined		
Population characteristics [10] Patients met ADRDA-NINCDS criteria for probable Alzheimer's disease, had a score of less than 20 on MMSE, an average score of at least 1.0 on BEHAVE-AD behavioural disturbance scale. Caregivers were the patient's spouse, resided with the patient and provided the primary care for the patient, were literate in English, had no physical or psychometric impairments that would limit participation in study, and could identify someone who provided secondary care for the patient. . Mean age of care recipient >76 yrs.				
Length of follow-up [11] Baseline measures (multiple measures taken until stable consensus readings reached – anywhere from 2 to 8 weeks period) plus post-treatment measures (at 12 weeks post baseline) then follow-up measures taken at 24 weeks and 36 weeks post-baseline.	Outcome(s) measured [12]: daily frequency of repetitive verbalisations in dementia patients, caregiver self-efficacy assessment (measuring confidence in own caregiving abilities) and caregiver satisfaction survey (directly assessing satisfaction with intervention/education).			
INTERNAL VALIDITY				
Allocation [13] First 7 enrolled patients allocated to treatment group, subjects from other groups (comparator group 1 + 2) then selected to match on the treatment group on the basis of gender and MMSE score.	Comparison of study groups [14] High degree of variability observed between individuals at baseline, no statistical comparison of groups presented.	Blinding [15] None mentioned	Treatment/measurement bias [16] Control group formed from amalgamation of 2 patient groups receiving different treatments	Follow-up [17] No subjects dropped out of study
Power Calculations Mentioned as "low"	Reliability and validity of instruments Reliability (Cronbach's alpha) reported for instruments used in study			
Overall quality assessment[18] Low numbers in both groups, subjects from different treatment groups combined for analysis, no statistical analysis of groups at baseline – only comparison of individual subjects.				

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Caregiver perception of self-efficacy Baseline PostTreatment Follow-up	8.43 9.14 11.0	n/a	 P=0.72 P=0.012
Clinical importance (1-4) [26] No confidence intervals			Relevance (1-5) [27]
Any other adverse effects [28] None mentioned			
EXTERNAL VALIDITY			
Generalisability [29] Study focus on effect of education on carer wellbeing for carers of dementia patients in a USA community setting so results could be generalised to guideline population in an Australian setting with caution of the numerous shortcomings of this research.			
Applicability [30] Good			
Comments [31] Patients in treatment group exhibited less behavioural disturbances following intervention and the carers in this group felt more effective in managing their patient's behaviour.			

STUDY DETAILS				
Bourgeois, M. S., R. Schulz, et al. (2002). "Skills Training for Spouses of Patients with Alzheimer's Disease: Outcomes of an Intervention Study." Journal of Clinical Geropsychology 8(1): 53-73.				
Affiliation/source of funds [2] National Institute on Aging Grant University of Pittsburgh				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Pittsburgh area geriatric assessment centres, the Alzheimer's disease research Centre, local chapter of Alzheimer's Association		
Intervention 1[6] = Skills training- teaching c/givers to change pt behaviour One 3 hr w/shop at university followed by 1hr/week individualised skills training at home Sample size [7] 22		Intervention 2[6] Skills training- teaching c/givers to change own coping behaviour. One 3 hr w/shop at university followed by 1hr/week individualised skills training at home Sample size [7] 21		Comparator [8] Weekly visitation at home (general information and support) Sample size [9] 20
Population characteristics [10] Primary caregivers: mean age 72yrs, 53% female, majority white American, spouses, lived with patient (spent at least 8 hrs/day with pt), no debilitative health problems. Secondary c/givers: mean age 47 yrs, 635 female, majority white American, adult child (at least 4 hrs/week direct contact Patients: mean age 75 yrs, 53% male, majority white American, mean MMSE 10, met ADRDA-NINCDS criteria for AD, mild behaviour disturbance, stable medical condition				
Length of follow-up [11] baseline, (post intervention) week 13, 3 months, 6 months	Outcome(s) measured [12]: Primary Caregiver: mood, strain, negative affect (state and trait), self efficacy, perceived stress, depressive symptomatolgy, health, satisfaction Patients: MMSE, physical function, problem behaviour (agressivity /activity disturbance, psychosis/delusion)			
INTERNAL VALIDITY				
Allocation [13] Selected then statistician randomised in accordance with minimisation procedures	Comparison of study groups [14] Participant demographics provided for each group but no statistical comparison reported. Look similar	Blinding [15] Yes.	Treatment/measurement bias [16] Trained research assistants blinded to group assignment for data collection. Trained project staff delivered intervention using a procedures manual. Not stated whether same project staff delivered all interventions or separate staff for each	Follow-up [17] Pts: At 6 mths n=51 (80%)(12 pts in long term care or died) C/givers: 100% attended Workshop, 14 of possible 693 (2%) visits not completed
Power Calculations No		Reliability and validity of instruments Reported and referenced. Baseline pt physical function-OARS $\propto$=.86, Behaviour AD $\propto$=.79, C/giver strain $\propto$=.84, negative affect $\propto$=.92, self efficacy (self management $\propto$=.69, pt management $\propto$=.61), perceived stress $\propto$=.80, depressive sympt $\propto$=.86, health $\propto$=.50		
Overall quality assessment [18] Small group numbers, no power calculations reported, some instruments reported low Cronbach's alpha Patients: 20% attrition over 36 wks				
RESULTS				

Outcome [19] Effect Measures	Intervention group 1 [20] Patient change	Intervention group 2 [20] Self change	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]*** p < .05 ** p < .01** ANCOVA Compared patient change versus control, self change versus control
Carer Mood	N = 16	N = 19	N = 16	
Baseline	6.1 (1.3)	5.2 (2.4)	5.6 (1.1)	
Posttest	6.5* (1.4)	6.8* (1.3)	5.5 91.5)	
3 months	5.8 (1.5)	6.2** (1.4)	4.9 (1.9)	
6 moths	6.7** (1.5)	6.3** (1.4)	4.5 (1.9)	
Caregiver strain	N =18	N =18	N =15	
Baseline	62.9 (19.0)	68.6 (16.3)	71.9 (17.2)	
Posttest	67.4 (19.9)	61.1 (11.0)	68.4 (16.4)	
3 months	65.2** (19.3)	66.1* (15.7)	77.8 (19.1)	
6 months	68.3 (19.2)	63.2** (19.8)	78.0 919.8)	
State anger	NS	NS	NS	
Trait anger	NS	NS	NS	
Stait anxiety	NS	NS	NS	
Self efficacy (pt mgmnt)	N = 18	N =18	N = 15	
Baseline	9.3 92.4)	8.3 92.5)	8.8 (2.8)	
Posttest	9.6 92.4)	10.0 92.4)	8.9 92.8)	
3 months	9.4* (2.5)	9.2 (2.6)	7.5 (3.2)	
6 months	9.5* (2.3)	9.1 (2.6)	7.5 (3.2)	
Self efficacy (self)	NS	NS	NS	
Perceived stress	N =20	N = 19	N = 19	
Baseline	5.2 (2.4)	6.7 (3.8)	6.1 (2.9)	
Posttest	4.0** (2.3)	5.0 (2.9	5.8 (2.3)	
3 months	4.9 (2.8)	5.2 (4.3)	5.8 (3.4)	
6 months	5.3 (2.4)	6.7 (3.7)	6.6 (2.8)	

Depression					
Baseline	10.0 (5.5)	12.5 (8.6)	12.4 (7.6)		
Posttest	9.4* (5.9)	10.1* (5.7)	13.5 (6.5)		
3 months	11.3 (6.0)	12.3 (10.3)	14.5 (8.6)		
6 months	12.3 (6.6)	16.6 (11.2)	15.6 (7.3)		
Perceived health	NS	NS	NS		
	Clinical importance (1-4) [26] No confidence intervals reported.			Relevance (1-5) [27] 1	
Any other adverse effects [28] NO					
EXTERNAL VALIDITY					
Generalisability [29] (relates to population) Yes					
Applicability [30] Yes					
Comments [31] Compared the relative efficacy of a patient-focused skills training program and a caregiver focused skills training package with a control group receiving comparable attention and support but no training. Treatment implementation measures show that both treatment groups learned skills that helped reduce or improve targeted behaviours (patient problem behaviours and caregiver mood, respectively) and had some effect on related outcomes (temporary effects on depression and perceived stress and delayed effects on perceived strain).					

Bours, G., C. A. J. Ketelaars, et al. (1998). "The effects of aftercare on chronic patients and frail elderly patients when discharged from hospital: a systematic review." Journal of Advanced Nursing 27(5): 1076-1086. **Level of evidence: I/III-2**	
No studies met criteria for inclusion in our review.	
Study/	**Review quality**
Smith, 1998 Challis, 1991 Townsend, 1988 Weinberger, 1988 Oktay, 1990 Oktay, 1987 Gortner, 1988 Hansen, 1992 Pozen, 1977 Mor, 1983 Victor, 1988 Miller, 1988 Bakst, 1955 Stone, 1968 Nielsen, 1962 Bryant, 1974 Dranove, 1985	*A) Was a clinical question clearly defined?* Four questions were posed – one is relevant to our review What are the effects of nursing care after discharge from hospital on quality of life? *(B) Was an adequate search strategy used?* Keywords: follow up care, postdischarge, continuity of care, after care, randomised controlled trial, controlled study, patient outcomes, nursing. Search of Medline (1981-94. Also hand searches of referenced lists of retrieved studies including for unpublished studies and communication with personal contacts. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: 1. published in English, French, or Dutch or to have an abstract in this language 2. controlled trial 3. sample of people with chronic disease or frail elders returning home from hospital Excluded studies not listed. *(D) Was a quality assessment of included studies undertaken?* Each paper evaluated independently by two reviewers, blinded against reputation bias. Scoring list for quality evaluated 18 methodological criteria and ranked the studies accordingly. If disagreements not resolved by discussion, a 3rd reviewer was used. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show: rankings, outcome measures, overall findings (positive or negative, plus a little more detail, no stats), study population, intervention, intervention period. Relationship between negative versus positive outcomes and quality scores is graphed.

	(F) Were the methods for pooling the data appropriate? Not pooled *(G) Were sources of heterogeneity explored?* N/A ***Findings:*** ***Evidence:*** Studies all had a control group – 10 examined variables related to well being & found no significant positive intervention effect on QOL (& no ill effect was documented either) Graph indicates positive scores occurred most often in studies with poorer methodologies. Most methodologies scored less than 50 from 100 points (14/17). No p values or effect sizes provided in this review. ***Consistency:*** complete but interventions were highly variable as were the study populations ***Clinical impact of post discharge nursing care:*** none ***Generalisabilty:*** 5 of the 10 studies have doubtful relevance (post MI, discharge from rehab, not described). ***Applicability:*** Interventions appear relevant to Australia. Probably applicable.

Brodaty, H., A. Green, et al. (2003). "Meta-analysis of psychosocial interventions for caregivers of people with dementia." J Am Geriatr Soc 51(5): 657-64.**Level of evidence: I/III-2**.	
Studies that met inclusion criteria for our review for this question are asterisked	
Study/	**Review quality**
Chang, 1999* LoGiuodice, 1999 Marriot, 2000* Riordan, 1998* Ripich, 1998* Teri, 1997* Zanetti, 1998 Brennan, 1995 Bass, 1998 Brodaty, 1989 Brodaty, 1994 Chiverton, 1989 Chu, 2000 Dröes, 1999 Drummond, 1991 Eloniema-Sulkava, 1999 Gendron, 1996 Hebert, 1994	*A) Was a clinical question clearly defined?* From the objective: to review published reports of interventions for caregivers of people with dementia, excluding respite care, and provide recommendations to clinicians *(B) Was an adequate search strategy used?* Keywords: caregiver, carer, self help groups, support groups, education, training, skills training, counselling, psychotherapy, intervention, therapy combined with random allocation and/or control group and dementia or Alzheimer's disease. Databases: MEDLINE 1985-2000, EMBASE 1988 -2000, PsychINFO 1984-2000, CINAHL 1985-2000, Cochrane Library, 1998, Issue 3 Database, EBM Reviews – Best Evidence, 1991-2000 & EBM Reviews – Cochrane Database of Systematic Reviews – (4th qtr, 2000) *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: Randomised or quasi experimental trials in which informal caregivers of people diagnosed with Alzheimer's disease were allocated to an intervention or a control group. One person scrutinised abstracts & obtained relevant papers – any doubt led to consultation. Reference lists were used to find additional relevant papers – 52 met criteria but 7 were excluded because they were papers from studies already included and provided no new information – these are listed. Excluded from analyses were two studies with five or fewer in IG or CG, 11 studies with insufficient information to calculate effect size or nursing home delay, two interventions with extreme values. This meant that 45 studies were included and 30 were in the analysis (21 RCTs - 34 interventions overall) – 2,040 caregivers mainly spouses aged 55+. *(D) Was a quality assessment of included studies undertaken?* Study methodology was independently rated by two reviewers according to Cochrane based guidelines (possible score 0-11, good quality >7 poor quality <5. Interventions were rated by "dose". *(E) Were the characteristics and results of the individual studies appropriately summarised?* Table shows design, grouped outcome measures, tools, N (CG & IG, withdrawals), intervention type, quality, intervention, dose. Education or training included in 19 interventions, but combined with other elements on 18/19 occasions. No further details of interventions provided. Effect size tabled for psychological morbidity- measured as standardised mean difference with 95% CI *(F) Were the methods for pooling the data appropriate?* Cochrane meta- analysis software (MetaView) was used. Effect size for continuous data was standardised mean difference (*d)* with (%% CIs between EG & CG. 0.2 = weak, 0.5 = moderate. 0.8 = strong. Effects size for dichotomous data reported as Odds Ratios. Weighting was calculated by weighting the effect size by the inverse of its variance.

Hinchliffe, 1995 Kahan, 1985 McCallion, 1999 McCurry, 1998 Mittelman, 1996 Mittelman, 1995 Mohide, 1990 Moniz-Cook, 1998 Morris, 1992 Ostwald, 1999 Quayhagen. 2000 Roberts, 1999 Robinson, 1988 Robinson, 1994 Zarit, 1987	*(G) Were sources of heterogeneity explored?* All pooled calculations involved such a test. Results explored for fixed and random effects models. Random effects displayed because tests for homogeneity/heterogeneity (methods, intervention type, sample, outcomes) support random effects model for most pooled estimates. Interventions entered into analysis separately when more than one (or more than one combination) tested. ***Findings*** ***Evidence:*** Education or training included in 19 interventions, but combined with other elements on 18/19 occasions. Mean quality rating = 6.4 (SD = 1.5). Power to detect small to medium effect size = less than 0.05. Psychological morbidity measured in 26 studies, 15 RCTs. Positive effect size for 77% of studies -0.59 to -1.81 but only significant in 5 interventions. Weighted average =0.31 (0.13-0.50, n=26) Burden measured in 20 studies, 10 RCTs Effect size = -0.6 (95% CI -1.33-0.14) to 1.07 (95% CI = 0.12-2.03) weighted average 0.09 (-0.09-0.26, n=20) Mood – weighted average = 0.68(0.30-1.06, n=5). Any main outcome measure (composite of coping & social support) weighted average = 0.32 (0.15-0.48, n=30). P values not reported for weighted averages Conclusion - a low positive overall effect on most outcome measures (not burden) but substantial variability between studies. Post hoc analysis showed involvement of patient & caregiver in the intervention (such as teaching the caregiver skills applicable to the patient) to predict effect on any outcome measure (p=0.01). Seven studies looked at time until placement. Six reported positive findings, one reported a positive result for moderately affected people but not for those mildly affected. The author determines that key features of effective programs are a continuing relationship between “helper” and family carer, flexibility of the intervention, variety of interventions. ***Consistency:*** generally – burden not impacted upon though ***Clinical impact of education:*** Some support for the assertion that interventions including education improve outcomes for the family and a little evidence that this can delay placement. ***Generalisabilty:*** Australian study***.*** Age and stage of dementia generally not indicated ***Applicability:*** Directly applicable.

STUDY DETAILS				
Buckwalter, K. C., L. Gerdner, et al. (1999). "A nursing intervention to decrease depression in family caregivers of persons with dementia." Archives Of Psychiatric Nursing 13(2): 80-88.				
Affiliation/source of funds [2] University of Iowa, Mayo Clinic Arizona, Indianan University, University of Minnesota. USA				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community care in rural Iowa & Minnesota, plus community care in Arizona and Indianan, USA.		
Intervention [6] Progressively Lowered Stress Threshold training –3-4 hours of in-home education by researcher of care techniques and practise of examples plus 2xweekly follow-up phone calls for 6 months. Sample size [7] n=132			Comparator [8] Control group – received routine information on dementia, community based services and support group referral. Sample size [9] n=108	
Population characteristics [10] Caregivers who were non-paid (informal), caring for an individual living in the community with memory impairment, lived within a 2-hr drive of study sites (listed above), provided 4 or more hours of care/week, not previously been exposed to training used in intervention and had a global deterioration score of ≤2. . Mean age of care recipient >76 yrs.				
Length of follow-up [11] Baseline, 3 months, 6 months, 12 months		Outcome(s) measured [12]: Carer depression level and mood state.		
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] Average age of caregiver differed sig. (p=0.02) between groups with IG older. Caregivers in experimental group significantly more angry (p=0.01) and mood disturbance significantly higher (p=0.05) (controlled for in analysis)	Blinding [15] None mentioned	Treatment/measurement bias [16] None noted.	Follow-up [17] Fail to follow up 72 patients due to death and institutionalisation of patient & 5 subjects had missing data.
Power Calculations Power of 0.72 required a minimum of 80 people per group		Reliability and validity of instruments Internal consistency values reported for the instruments used in this study.		
Overall quality assessment (descriptive) [18] large number of failure to follow up but quite large study groups initially, data in tables presented in a confusing manner, actual values not reported for main outcomes measured, only statistical difference between groups (if any), some differences between groups at baseline				

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Caregiver Mood state (POMS)			Prediction of depression by group assignment
6 month measure	Lower depression scores	Higher	p=0.0007
12 month measure	Lower depression scores	Higher	p=0.15
Caregiver depression (GRDS)		Higher	p=0.003
6 month measure	Lower levels of depression	Higher	p=0.025
12 month measure	Lower levels of depression		
	Clinical importance (1-4) [26] No confidence intervals		Relevance (1-5) [27] 1
Any other adverse effects [28] None mentioned			
EXTERNAL VALIDITY			
Generalisability [29] Dyads in rural and metro settings from USA so results from the educational intervention in this study should have a good generalisability to guideline population, particularly with rural element.			
Applicability [30] Good			
Comments [31] The educational intervention reported here (PLST training) significantly reduced depression among caregivers. Subscale analyses also sh ow benefits.			

STUDY DETAILS				
Burgio, L., A. Stevens, et al. (2003). "Impact of two psychosocial interventions on white and African American family caregivers of individuals with dementia." Gerontologist 43(4): 568-79.				
Affiliation/source of funds [2] National Institute of Nursing Research, University of Alabama, University S Florida				
Study design [3] RCT	Level of evidence [4] II		Location/setting [5] Alabama	
Intervention [6] Skills training in W/shop then at home over 12 m – behaviour management plus other carer edn (not specific to dementia) Sample size [7] 70 dyads			Comparator [8] Minimal support including informational materials Sample size [9] 70 dyads	
Population characteristics [10] Patients with mod/severe dementia, mean age app 78.Included substantial proportion of African Americans				
Length of follow-up [11] This paper reports 6 m outcomes			Outcome(s) measured [12]: Relevant o/comes = CG appraisal, well being	
INTERNAL VALIDITY				
Allocation [13] Randomisation process unclear	Comparison of study groups [14] No differences in demographics	Blinding [15] Intervention & assessmnt never by same person	Treatment/measurement bias [16] Unclear if groups were treated the same apart from intervention	Follow-up [17] No difference in discontinuing between the groups. ITT analysis
Power Calculations Not found			Reliability and validity of instruments Reliability reported & satisfactory	
Overall quality assessment (descriptive) [18] Concern that control also contains informational materials Many analyses compare the two cultural groups – not relevant for us				
RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
C/g appraisal			States – ns for treatment effect p>0.10	
Well being (anxiety, depression)			States – ns for treatment effect p>0.10	
Any other adverse effects [28] None mentioned		Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 1	
EXTERNAL VALIDITY				
Generalisability [29] (relates to population) Culture may vary from our population of interest Otherwise yes				
Applicability [30] would be feasible				
Comments [31] Analysis= ANCOVA – no confidence intervals & effect sizes				

STUDY DETAILS				
Burns, R., L. O. Nichols, et al. (2003). "Primary care interventions for dementia caregivers: 2-year outcomes from the REACH study." The Gerontologist 43(4): 547-555.				
Affiliation/source of funds [2] Uni of Tennessee Health Science Centre, Memphis. Funding from National institute of Nursing Research & National institute on Ageing.				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community care setting in Memphis, USA		
Intervention 1 [6] Enhanced Care – 60 min sessions every 3 months education as per "Behaviour Care" with added stress reduction techniques on 12 information pamphlets to improve carer wellbeing, plus follow up phone calls (≤10 mins) to monitor and modify strategies twice a month for 6 months, then once a month for 18 months. Sample size [7] n=82 carer/patient dyads		Comparator [8] Behaviour Care – 30 min sessions every 3 months educating carers to identify problem behaviours in patients then dealing with them by teaching specific behaviour management strategies using info from 25 pamphlets, plus follow up phone calls (≤10 mins) to monitor and modify strategies twice a month for 6 months, then once a month for 18 months. Sample size [9] n=85 carer/patient dyads		
Population characteristics [10] Adult caregivers living with a person with a medical diagnosis of Alzheimer's disease or related disorder. Caregivers provided care for ≥4 hrs/day for the previous 6 months. Caregivers were not involved in other studies. Care recipients had an MMSE score <24 and at least one limitation in basic activities associated with daily living or at least two dependencies as measured by the independent activities of daily living scale. . Mean age of care recipient >78 yrs.				
Length of follow-up [11] Baseline, 6 months, 12 months, 18 months, 24 months.	Outcome(s) measured [12]: Carer: General wellbeing – mental health and general health, caregiver depression, degree to which caregivers were bothered by patient behaviours. Patient: MMSE, functional status (using ADL and IADL measures).			
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] No sig difference between groups at baseline in demographic or o/come measure	Blinding [15] Data collected by researchers who were "masked to intervention assignment" .	Treatment/measurement bias [16] None apparent	Follow-up [17] 91/167 (55%) failed to complete the study – 39/82 (48%) from IG & 37/85 (44%) from CG.
Power Calculations Not presented	Reliability and validity of instruments Not mentioned			
Overall quality assessment (descriptive) [18] Quite high drop-out rate in both groups, no control group for the effect of the behaviour management education.				
RESULTS				

Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Caregiver wellbeing (GWB score)			
Baseline	77.2 (15.3)	71.6 (16.3)	
6 months	75.5 (14.7)	71.5 (14.3)	
12 months	75.0 (13.7)	69.7 (15.9)	
18 months	71.5 (13.4)	65.5 (12.9)	

24 months	76.5 (13.4)	67.5 (12.9)	p=0.045
Caregiver depression (CES-D score)			
Baseline	11.5 (9.8)	14.7 (11.6)	
6 months	10.6 (8.0)	14.9 (10.2)	
12 months	10.9 (8.0)	15.6 (11.4)	
18 months	10.3 (8.8)	14.6 (10.3)	
24 months	11.6 (9.6)	16.1 (12.2)	p=0.311
Increased risk of depression in caregivers (those scoring ≥16 on CES-D)			
Baseline	0.32 (0.47)	0.35 (0.48)	
6 months	0.29 (0.46)	0.39 (0.49)	
12 months	0.24 (0.46)	0.41 (0.50)	
18 months	0.24 (0.43)	0.43 (0.50)	
24 months	0.29 (0.46)	0.43 (0.50)	p=0.096
Degree to which caregivers were bothered by patient behaviours (RMPBC score)			
Baseline	11.8 (12.7)	19.6 (11.6)	
6 months	12.0 (12.8)	19.6 (11.6)	
12 months	11.4 (12.4)	16.0 (11.5)	
18 months	10.7 (15.9)	15.0 (12.5)	
24 months	9.2 (12.8)	14.8 (10.2)	p=0.976

Any other adverse effects [28] None mentioned	Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 1

EXTERNAL VALIDITY

Generalisability [29] At least 1/3 of participants were African-American. The results of this study could be generalised with caution re cultural perspectives.

Applicability [30] Good

Comments [31] Carers who from the intervention group had significantly better scores (p=0.045) on the general wellbeing scale (evaluating both mental and general health). A non-significant trend towards lower risk of depression was also noted in the intervention group compared to the controls.

STUDY DETAILS					
Callahan, C. M., M. A. Boustani, et al. (2006). "Effectiveness of collaborative care for older adults with Alzheimer disease in primary care: a randomized controlled trial." JAMA: Journal of the American Medical Association 295(18): 2148-2157.					
Affiliation/source of funds [2] Indiana University Centre for Aging Research, Indianan Alzheimer Disease Centre, Indiana University School of Medicine, Regenstrief Institute. Funding from Pfizer, Forest, Lundbeck and Agency for Healthcare Research and Quality grant.					
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Caregiver/patient dyads living in the community and attending primary health care practices within 2 university health care systems, Indianapolis, USA			
Intervention [6] Collaborative Care Management – patients were treated with cholinesterase inhibitors or memantine unless contraindicated. Initial bi-monthly meeting, then 1 meeting/month for 12 months. Intervention: caregiver and patient education on communication skills, caregiver coping skills, legal and financial advice, patient exercise guidelines as well as Alzheimer's Association caregiver guide. Additionally, caregiver had weekly meetings with a support team who reviewed care and patient progress was tracked by a web-based tracking system. All intervention caregiver/patient dyads were also invited to participate in group sessions – caregiver stress coping mechanisms and patient exercise. Sample size [7] n=84				Comparator [8] Augmented Usual Care – any evaluation or treatment they deemed appropriate.Sample size [9] n=69	
Population characteristics [10] Patients had diagnosis or diagnostic cognitive testing consistent with dementia, did not reside in nursing homes, understood English, had access to a telephone and had a caregiver willing to participate in the study. Mean age of care recipient >77 yrs.					
Length of follow-up [11] Telephone interviews at baseline, 6, 12, 18 months.	Outcome(s) measured [12]: Neuropsychiatric Inventory (NPI), activities of daily living, health care resource use, caregiver reporting on depression of patient (using Cornell scale), Caregiver mood and satisfaction with patient care. Patient cognitive status, MMSE (phone version) and chronic disease score.				
INTERNAL VALIDITY					
Allocation [13] Random – referring physicians were randomised using random number table prior to commencement of RCT (stratified by teaching status and clinic site). All patients referred by one physician in same group.	Comparison of study groups [14] Control group patients were significantly more likely to be black and have a female caregiver. No other significant differences between groups at baseline.	Blinding [15] Referring physicians were not informed of their group allocation. Telephone interviews conducted by blinded interviewer.	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] Treatment (from 69 baseline) had 62 patients at 6 months and 12 months, then 49 by 18 months. (29% drop out) Control (from 84 baseline) had 72 patients at 6 months, 64 by 12 months, 65 (?increase) by 18 months. (33% drop out)	
Power Calculations Not mentioned	Reliability and validity of instruments Not mentioned				

Overall quality assessment (descriptive) [18] Approximately 30% fail to follow up for both groups by end of study.				
RESULTS				
Outcome [19]		Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Total Caregiver Neuropsychiatric Inventory	Baseline	4.2	6.5	p=0.08
	6 months	4.4	5.7	p=0.92
	12 months	3.5	7.7	p=0.03
	18 months	4.6	7.4	p=0.33 NB P value is for between group differences at each time.
	Clinical importance (1-4) [26] No confidence intervals			Relevance (1-5) [27] 1
Any other adverse effects [28] None mentioned				
EXTERNAL VALIDITY				
Generalisability [29] Patients in this study have diagnosis of dementia and live in USA community setting with carer so the results of this intervention have a good chance of being generalised to the guideline population in an Australian setting.				
Applicability [30] Good				
Comments [31] Intervention patients exhibited fewer behavioural and psychological problems as measured by NPI score. The emphasis of the paper is on patient changes.				

STUDY DETAILS				
Chang, B. L. (1999). "Cognitive-behavioral intervention for homebound caregivers of persons with dementia." Nursing Research 48(3): 173-182. Does education for family carers in disease specific areas (dementia, organ failure, COPD, cancer, Parkinson's disease, stroke) improve family carer confidence, competence, physical, psychological and spiritual health when compared with a lack of this education?				
Affiliation/source of funds [2] UCLA, California, USA; National Alzheimer's Disease and related disorders Association, USA.				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community dwelling patient/carer dyads in California, USA		
Intervention [6] Cognitive-Behavioural (CB) therapy – combination video training plus Nurseline telephone support to assist carer with coping strategies and reinforce video information. Sample size [7] n=31 (female)			Comparator [8] Attention-only (AO) phone calls Sample size [9] n=34 (female)	
Population characteristics [10] English speaking, access to video phone, caring for person with significant dressing and eating problems who had an MMSE score <21 Mean age of care recipient >78 yrs.				
Length of follow-up [11] baseline + 4 weeks, 8 weeks, 12 weeks	Outcome(s) measured [12]: Coping strategies, caregiver burden, satisfaction, emotional and physical health			
INTERNAL VALIDITY				
Allocation [13] Random - actual allocation not stated	Comparison of study groups [14] No significant difference between groups at baseline	Blinding [15] No	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] 22 dyads dropped out with the patients in this group scoring significantly lower on MMSE
Power Calculations Not mentioned			Reliability & validity of instruments: documented & satisfactory	
Overall quality assessment (descriptive) [18] Generally good				

RESULTS				
Outcome [19] CAREGIVERS		Intervention group [20] Mean (CB)	Control group [21] Mean (AO)	Measure of effect size [22] 95% CI and/or p value[23]
Depression	Baseline	0.73	0.74	P=0.02 between groups (interaction effect)
	4 weeks	0.65	0.74	
	8 weeks	0.69	0.86	
	12 weeks	0.60	0.95	
Anxiety	Baseline	0.68	0.91	NS between groups
	4 weeks	0.65	0.93	
	8 weeks	0.59	0.67	
	12 weeks	0.57	0.78	
Emotional Health	Baseline	22.22	21.23	NS between groups
	4 weeks	18.68	19.90	
	8 weeks	20.69	20.68	
	12 weeks	19.38	19.55	
	Clinical importance (1-4) [26] No confidence intervals		Relevance (1-5) [27] 1	
Any other adverse effects [28] Not mentioned				
EXTERNAL VALIDITY				
Generalisability [29] Carers of community dwelling residents with average mid-moderate dementia (older adults). So maybe not applicable to target population.				
Applicability [30] Good				
Comments [31] Decreased carer satisfaction and emotion focused coping over time, decreased anxiety over time. Decreased depression in intervention group; increase behavioural function and overall function of patients over time.				

STUDY DETAILS				
Clark, M. S., S. Rubenach, et al. (2003). "A randomized controlled trial of an education and counselling intervention for families after stroke." Clin Rehabil 17(7): 703-12.				
Affiliation/source of funds [2] Flinders University of South Australia and The Canberra Hospital. Funding from Australian Rotary Health Research Fund and Flinders Medical Centre Foundation.				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community setting in South Australia.		
Intervention [6] Education – information package on stroke (reducing further risk, coping suggestions, info on support services) and 3x1hr visits from social worker trained in family counselling. Sample size [7] n=32		Comparator [8] Control – no information or counselling (not described in any detail) Sample size [9] n=30		
Population characteristics [10] Patients involved in the study had confirmed diagnoses of stroke and had been discharged home to live with their spousal caregiver. Patients did not have any severe expressive or receptive language problems or poor command of English. Additionally, patients had an MMSE score that indicated they had no cognitive deficiency. Mean age 70+				
Length of follow-up [11] Baseline (pre-treatment), post-discharge from hospital, 6 months		Outcome(s) measured [12]: Functional status, depression, anxiety and mastery. Family functioning of patient and spouse also measured as well as health status.		
INTERNAL VALIDITY				
Allocation [13] Random computer generated sequence and group allocation distributed in sealed envelopes.	Comparison of study groups [14] No significant difference in any outcome or demographic measure at baseline.	Blinding [15] Not mentioned	Treatment/measurement bias [16] Difficult to say as control group not described.	Follow-up [17] 3/33 failed to complete study from control group 3/35 failed to complete study from intervention group.
Power Calculations 80% power and 5% significance required 30 families per group		Reliability and validity of instruments Scales used quoted as “have[ing] stability, construct validity and reliability” and reference included.		
Overall quality assessment (descriptive) [18] Control group not described to allow determination of measurement bias, no blinding				

RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
Family Assessments Carers Admission Discharge 6 months	 1.86 (0.21) 1.81 (0.24) 1.80 (0.25)	 1.86 (0.28) 1.90 (0.31) 1.89 (0.39)	 p<0.05	
SF-36 Carers Physical health Mental health	 48.2 (6.4) 46.4 (7.0)	 49.4 (13.7) 48.4 (6.2)	 Ns	
Mastery scale Admission Discharge 6 months	 27.8 (3.5) 27.3 (3.7) 22.1 (4.4)	 27.5 (2.6) 27.8 (2.1) 22.9 (3.4)	 Ns	
Clinical importance (1-4) [26] No confidence intervals			Relevance (1-5) [27] 1.	
Any other adverse effects [28] None mentioned				
EXTERNAL VALIDITY				
Generalisability [29] An Australian population of stroke patients. Study conducted in Australia so results should be easily generalisable to similar cohorts of patients within this setting.				
Applicability [30] Good.				
Comments [31] The intervention group had significantly better family functioning for carers (p<0.05). Barthel index revealed significantly better functional recovery in patients from the intervention group (p<0.05). No significant effect of treatment on depression, anxiety, mastery or health status.				

STUDY DETAILS				
Cline, C. M., B. Y. Israelsson, et al. (1998). "Cost effective management programme for heart failure reduces hospitalisation." Heart 80(5): 442-6.				
Affiliation/source of funds [2] Swedish Heart and Lung Foundation, Malmo University Hospital; council for Health care Research, Lund University, Sweden				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Malmo University Hospital, primary catchment area of 250,000 inhabitants		
Intervention [6] Education on heart failure and self management [Two 30 minute sessions (primary hospitalisation) then one hour information visit for pts and family 2 wks post discharge] with follow up at easy access, nurse directed outpatient clinics for 1 year post discharge: Sample size: 80			Control [8] routine clinical practice (follow up at outpatient clinic by treating physician) Sample size:110	
Population characteristics [10] Mean age 75.6 yrs, approx 53% male, 49% single, 72% achieved primary education, moderately severe heart failure (NYHA class III) 62%				
Length of follow-up [11] I year		Outcome(s) measured [12]: Mortality, hospitalisation, health care costs, health related quality of life		
INTERNAL VALIDITY				
Allocation [13] Selected the randomised by computer generated allocation	Comparison of study groups [14] Yes, t tests and X2, Mann Whitney U test. At baseline no sig difference between groups apart from ventricular ejection fraction (lower in intervention group)	Blinding [15] NO	Treatment/measurement bias [16] Intervention nurses had clinical experience of heart failure and clinical trial experience, received an overview lecture pre study. Not reported whether data collected by different staff. Same measures for each group	Follow-up [17] 31 (28%) control and 24 (30%) intervention died during 1 year study period
Power Calculations No		Reliability and validity of instruments [12] Health related QoL: Quality of life in heart failure, Nottingham Health profile, patient's global assessment. No reliability or validity reported		
Overall quality assessment (descriptive) [18] Reasonably sound design, randomisation, although not reported that data collectors were different from intervention nurse, no blinding and approx 29% attrition for both groups.				

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Hospitalisation	N =56	N = 79	P value *SES calculated*
Re-admitted n %	22 (39)	43 (54)	0.08
Mean (SD) days to readmission	141 (87)	106 (100)	<0.05 SES =0.369 (0.022-0.712)
Mean (SD) hospitalisations/patient	0.7 (1.1)	1.1 (1.8)	0.08

			SES= -0.258 (-0.60 to 0.087)
Mean (SD) days hospitalised	4.2 (7.8)	8.2 (14.3)	0.07 SES=-0.332 (-0.675 to 0.014)
Quality of Life in heart failure			Higher scores = less QoL NB, significance testing was on between group scores
Baseline	4.5 (1.0)	4.2 (1.1)	NS
12 months	3.5 (1.3)	3.5 (1.1)	NS
Nottingham Health profile			
Baseline	30.1 (21.6)	26.9 (21.2)	NS
12 months	25.3 (22.2)	23.4 (22.2)	NS
Pts global self assessment			
Baseline	4.3 (1.5)	3.7 (1.6)	NS
12 months	3.3 (1.4)	3.2 (1.6)	NS

	Clinical importance (1-4) [26] 3	Relevance (1-5) [27] 5

Any other adverse effects [28] None reported

EXTERNAL VALIDITY

Generalisability [29] Some limitations, see comments below

Applicability [30] May be tiring for frailer population.

Comments [31]This study evaluated the efficacy of a management program, using a randomised controlled trial design, for elderly people with heart failure. The only statistically significant result was a reduction in days to re-admission for the intervention group. Several limitations are noted: population specifically selected, relatively free from other serious diseases, and because the study was conducted in a single centre there is risk of “leakage” of intervention into the control group. Important to note that the study population was recruited from hospitalised patients and definite conclusions regarding the effect on an outpatient population cannot be drawn.

Cooke, D. D., L. McNally, et al. (2001). "Psychosocial interventions for caregivers of people with dementia: a systematic review." Aging & Mental Health 5(2): 120-135. **Level of evidence: I/III-2**.	
Studies that met inclusion criteria for our review for this question are asterisked	
Study/	**Review quality**
Marriott, 2000* Kahan, 1985 Haley, 1987 Toner, 1987 Zarit, 1987 Whitlatch,1991 Sutcliffe, 1988 Robinson, 1988 Brodaty, 1989 Brodaty, 1997 Burgener, 1998 Chiverton, 1989 Mohide,1990 Dziegielwski, 1991 Brodaty, 1994 Hebert, 1994 Robinson, 1994 Moniz-Cook, 1998 Wilkins, 1999 Brennan, 1995 Hinchliffe, 1995 Mittelman, 1995 Newcomer, 1999 Ostwald, 1999 Roberts, 1999 Lazarus, 1981 Winogrond, 1987 Russell, 1989 Goodman, 1990 Morris, 1992 Gallagher-Thompson, 1994 Bedard, 1997 Cummings, 1998 Strawn, 1998 Zanetti, 1989	*A) Was a clinical question clearly defined?* 1. What are the components of psychosocial/psycho educational interventions for dementia caregivers? 2. How successful are the different components or combination of components in producing positive outcomes for the caregivers? *(B) Was an adequate search strategy used?* Keywords: dement*, Alzheimer*, carer*, caregiv*, supporter*; and trial*, intervention*, or program. Databases: MEDLINE 1966-2000, EMBASE 1980 -2000, PsycLit 1970-2000, ISI science citation and social science citation indexes 1981-2000, Cochrane Library, 2000 (Issue 3). Also hand searching of reference lists *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: 1. Quantitative evaluation of effectiveness of psychosocial intervention (utilising cognitive behavioural or social mechanisms) for caregivers of people with dementia 2. Focus on directly improving caregivers psychological and/or social well being. Excluded if: 1. Intervention directed at care recipient 2. Intervention aimed exclusively at improving caregiving skills 3. Studies of respite care unless other aspect aimed at caregiver also 4. No dementia “diagnosis” 5. No standardised outcome measured 6. Only outcome measured = satisfaction 7. Case studies & non-English language studies If multiple papers for one study, the most appropriate was selected on basis of outcome measures & amount of information about intervention. Fifteen intervention components were defined, plus a miscellaneous category for broad

Belmin, 1999 Coen, 1999 Millan-Calenti, 2000 Quayhagen, 2000 Schmidt, 1989 Goodman, 1990 Gendron, 1996	components or ones that were unclear. Interventions coded to category by two separate reviews (kappa=0.92). Third party resolved any disagreement. Components that could be relevant to this questions were: • General education was defined as formal presentation of information on a topic related to caregiving- non-detailed education was categorised as general education as a default option • Social skills training included role play to deal with behavioural problems of dementia • Practical caregiving skills 35 /40 studies reviewed included at least one of these components *(D) Was a quality assessment of included studies undertaken?* Studies were grouped according to the methodology and this was commented on in the text. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Table shows sample characteristics, attrition rate, group allocation, duration of intervention, intervention components, findings – separate list for studies with control group, without a control group or not analysing between group difference, comparison of different interventions. No effect sizes calculated- categorised as improved, deteriorated, or unchanged. *(F) Were the methods for pooling the data appropriate?* Not done. *(G) Were sources of heterogeneity explored?* N/A ***Findings:*** ***Evidence:*** 21 studies had control groups and presented between groups analyses, 19/21 had an educational or training component. Three more compared interventions, 2/3 had an education component. Other studies had no comparison group or had one and failed to conduct between groups analysis. Reviewer reports that, overall, 41% of interventions were followed by improvements in psychological well being, 30% were followed by reduced burden, and 22% by improved social outcomes. One study was reported to show benefits in emotional support & knowledge from telephone lectures as opposed to telephone networks. Fifteen studies incorporated follow up, some evidence of delayed benefits in well being or burden (not all had comparison groups) & 5 (3/5 having a control group) showed evidence of sustained benefits. With regard to education, the reviewer reports that improved knowledge was only accompanied by improved well being or burden in 3/11 studies (only one with a control group). ***Consistency:*** very limited ***Clinical impact of education:*** minimal ***Generalisabilty:*** Age and stage of dementia generally not indicated, otherwise similar population. ***Applicability:*** UK study, generally Western studies, applicable.

STUDY DETAILS				
Cucinotta, D., G. Savorani, et al. (2004). "The chronically ill elderly patients discharged from the hospital: interim report from a controlled study of home care attendance." Archives Of Gerontology And Geriatrics. Supplement (9): 103-108.				
Affiliation/source of funds [2] Fondazione del Monte di Bologna e Ravenna				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Italy		
Intervention [6] Usual access to health care services plus Home care support 4-10 hrs/day Sample size: 66		Control [8] Usual access to health care services (not described) Sample size: 61		
Population characteristics [10] Chronically ill elderly home care patients: mean age 84 yrs, moderate to severe co-morbidity . MMSE<24 – ie only included people with cognitive impairment				
Length of follow-up [11] 24 months: Baseline, 6, 12, 24 months NB. Data only reported for baseline and 6 months, study is in progress		Outcome(s) measured [12]: Drop out rate, re-admission to hospital, institutionalisation, mortality		
INTERNAL VALIDITY				
Allocation [13] Selected then randomised	Comparison of study groups [14] Yes. No sig diff between groups with respect to age, MMSE scores ADL scores CIRS (cumulative illness)	Blinding [15] No	Treatment/measurement bias [16] Unclear who collected data- appears to be attending physician.	Follow-up [17] 6 mths attrition: Intervention 25 (38%), control 33 (54%). At 6 mths there were 43 in intervention group and 35 in the control
Power Calculations No		Reliability and validity of instruments [12] No		
Overall quality assessment (descriptive) [18] Medium to poor.				
RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
Drop out	N % 10 (15.2)	N % 10 (16.4)	*P* value	

Readmitted to hospital	4 (6.1)	8 (13.1)	0.05
Institutionalised	2 (3.0)	2 (3.3)	NS
Death	6 (12.0)	12 (19.7)	0.05

	Clinical importance (1-4) [26] 1	Relevance (1-5) [27] 2

Any other adverse effects [28]

NO

EXTERNAL VALIDITY

Generalisability [29] Yes

Applicability [30] Yes, if health care services available

Comments [31] This RCT study evaluated the effect of an in home respite service for chronically ill elderly patients over a period of 6 months. A lower degree of mortality and a reduced incidence of re-admission to hospital for the intervention group were reported to be statistically significant. Attrition over the study period was high for both groups.

Davies, E. and I. J. Higginson (2005). "Systematic review of specialist palliative day-care for adults with cancer." Supportive Care in Cancer 13(8): 607-627 **Level of evidence: III-2. Note: The paper deals with palliative day care. Respite is not described as a main aim of this service but as a subsidiary aim.**	
None of the studies reviewed in this paper were eligible for inclusion in our own review. Many studies included older adults but none met inclusion criteria for methodology also.	
Study	**Review quality**
Wilkes, 1978 Cockburn,1982 Sharma, 1993 Edwards, 1997 Thompson, 1990 Kennett, 2000 Copp, 1998 Higginson, 2000 Faulkner, 1993 Langley-Evans,1997 Lee, 2000 Douglas, 2000 Goodwin, 2002 Goodwin, 2003 Hopkinson, 2001	*A) Was a clinical question clearly defined?* Palliative day care defined as a service that enhances independence & QOL using rehabilitation, OT, physio, psychosocial support, and symptom management. The service is said to emphasise interaction, support, & friendship & to provide some care plus carer respite (from the National Council for Hospice & Palliative Care Services, 2000). Overall aim was to inform future practice, research, & policy in this area. Seventeen questions were defined, the ones relevant to our study were: Is symptom control improved by palliative day care? Is health related QOL improved by palliative day care? Questions that were somewhat related were: Does day care provided psychological and social support? Does day care affect length of inpatient stay or place of death? The remaining questions addressed how services were run, satisfaction with care, and cost of care. *(B) Was an adequate search strategy used?* MEDLINE 1966 -2004 EMBASE 1980-2003 British Nursing Index 1985-2004 PsychINFO 1872-2003 on CINAHL 1982 o-2003

	Cancer Lit 1975 2002 Search terms: palliative care, hospice care, terminal care, hospices, end of life, effective, evaluate, random, economic, study methods, data collection, methods, observational methods, statistics, practice guidelines, standards, trend studies, organisation, health resource utilisation, day care, hospice day care, palliative day care, health services research, health services, multidisciplinary team. More references retrieved via snowballing and additional searches for more papers from the lead authors. Additional publications accessed via experts. (*C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria: Studies including outcome measures of interest, In English Exclusion criteria: historical reviews, personal views, expert consensus views, case studies of single patients, studies reporting interventions that took no account of the setting or that reported day care for other populations. Total of 15 studies included. No systematic reviews or RCTs found. *(D) Was a quality assessment of included studies undertaken?* Data extraction of aims, patient population, service provided, design, outcome measures, results. Graded for rigour of design & analysis. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Details of all included studies (15) provided in tables of studies that: • described practice & patients in single day care units • surveyed practice across different day care units • observed practice & patients in day care units • compared patients in day care with those receiving other palliative care Table headings were aims, patient population (sample), design, outcome measures, results. Text summaries under headings related to review questions.

	(F) Were the methods for pooling the data appropriate? Data not pooled *(G) Were sources of heterogeneity explored?* N/A. ***Findings relevant to this review (no effect sizes due to study design):*** *Is symptom control improved?* In one study some bereaved relatives reported symptom relief, in another that compared symptom relief in palliative day care with that in usual palliative care - palliative day care scored better at one time point (p=0.03) (but baseline differences existed between the groups). NB the study cohort was too young for inclusion in our own study. *Is health related QOL improved?* One study with younger participants was reported to lead to no change in scores over time or between day care users and those using home care Questions that were somewhat related were: *Has day care provided psychological and social support?* All studies were said to report appreciation of social contact. Other studies reported acceptance, understanding, reduced isolation, greater motivation to undertake activities, self worth, hope, ability to talk with others about illness and death. Findings were primarily qualitative. In one study, family survey undertaken & participants reported being helped by respite. *Does day care affect length of inpatient stay or place of death?* Two studies reported no change in LOS from (a) before opening of unit (b) in home hospice care. No studies found that compared place of death between day care users & non users. ***Evidence:*** only one study with a comparison group – not an RCT and no findings relevant to our population. Authors conclude that there are not enough findings to indicate that symptoms or quality of life are improved by palliative day care although they do note that satisfaction was high and that the day care units were therefore successful. ***Consistency:*** too few studies providing comparative data to get a sense of consistency relevant to our outcomes of interest ***Clinical impact of palliative day care:*** Indications of satisfaction only, minimal indication of impact on health & not in older pop. ***Generalisabilty:*** Mainly US & UK studies. Population appropriate except age in some instances. ***Applicability:*** Findings of the one comparative study were not applicable (younger age group).

STUDY DETAILS				
Davis, L. L., L. D. Burgio, et al. (2004). "A Comparison of In-Home and Telephone-Based Skill Training Interventions With Caregivers of Persons With Dementia " Journal of mental helath and aging 10(1): 31-44.				
Affiliation/source of funds [2] University of Alabama, University of Iowa. No funding sources declared.				
Study design [3] RCT	Level of evidence [4] II		Location/setting [5] Community setting in USA	
Intervention 1 [6] Telephone training - 12x weekly phone calls consisting of skill training (problem solving, appraisal of problem behaviours + how to manage them, and coping strategies such as anger management and relaxation. Sample size [7] n= 23 patient/carer dyads	Comparator [8] Friendly call – initial home visit then 12x weekly socially supportive phone call to check on caregiver and discuss changes in general health and medication use. Staff had no knowledge of administering skill training and no knowledge of Alzheimer's disease. Sample size [9] n= 24 patient/carer dyads			
Intervention 2 [6] In-home training – 12x weekly home visits consisting of same skill training as detailed above Sample size [7] n= 24 patient/carer dyads				
Population characteristics [10] Patients over 50 with a diagnosis of dementia and their carers. Patients in this study had an MMSE≤24 and exhibited ≥4 behavioural problems. Caregivers involved in the study were the primary caregivers, lived with the care recipient and provided care for at least 4 hrs/day. Caregivers were literate in English, not participating in another study and had access to a phone. Mean age of care recipient >76 yrs.				
Length of follow-up [11] Baseline (T1), 3 months (end of training period – T2), 6 months (T3).	Outcome(s) measured [12]: Caregiver burden, distress, depression, social support and life satisfaction. Care recipient functional independence (IADL), physical independence and cognitive status.			
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] Burden in carers from home training was sig higher (p=0.024) than other groups. No other significant difference in outcome measures between groups at baseline.	Blinding [15] None mentioned	Treatment/measurement bias [16] Groups treated the same apart from intervention	Follow-up [17] 27/71 (30%) failed to complete study – 6/24 (25%) from home group, 13/23 (56%) from telephone group, 8/24 (33%) from control group.
Power Calculations Power listed for each group in text of results section		Reliability and validity of instruments Internal consistency for all instruments used.		
Overall quality assessment (descriptive) [18] Very high drop-out rate from telephone intervention group				

RESULTS										
Outcome [19]	Intervention group 1 [20] Phone training			Intervention group 2 [20] Home training			Control group [21]			Measure of effect size [22] 95% CI and/or p value[23]
	Baseline	T2	T3	Baseline	T2	T3	Baseline	T2	T3	
Caregiving burden (SCB –A)	39.8 (12.0)	30.0 (10.9)	31.7 (12.0)	26.9 (9.8)	29.9 (7.8)	27.4 (7.2)	37.0 (12.1)	35.0 (12.0)	37.0 (11.8)	P = 0.001 (among groups diff, only sig for home training – effect size 0.58)
Caregiving distress (SCB-B)	21.4 (13.5	15.2 (9.6)	12.8 (9.5)	14.2 (6.6)	12.8 (6.3)	11.2 (8.3)	18.2 (10.6)	15.6 (12.0)	20.5 (16.3)	P= 0.023 (among groups diff, only sig for home training – effect size 0.47)
Depression – no significant difference										
	Clinical importance (1-4) [26] No confidence intervals			Relevance (1-5) [27] 1						
Any other adverse effects [28] None mentioned										
EXTERNAL VALIDITY										
Generalisability [29] This study focused on education for community based carers of dementia patients in the USA. The focus population of this study seems to fit well with that outlined by our question so results from this study could be generalised to an equivalent population in an Australian setting.										
Applicability [30] Good										
Comments [31] In home training reduced caregiver burden and distress by T2 and maintained this reduction at T3.Telephone training took longer to reduce caregiver burden and distress and this group had the highest attrition. Friendly calls (control) were also appreciated by participants & this group had lower burden and distress @ T2.										

STUDY DETAILS					
DeBusk RF, Miller NH, et al. (2004). "Care management for low-risk patients with heart failure: a randomized, controlled trial. ." Ann Intern Med 141(8): 606-13.					
Affiliation/source of funds [2] Stanford University and Stanford University Hospital, USA. Funding from National Heart, Lung and Blood institute grant, Maryland.					
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] 5 hospitals in north California, USA.			
Intervention [6] Treatment – physician directed, nurse-managed, home based program for heart failure plus usual care instruction. Initial 1 hr education session with nurse (video plus phone counselling). Weekly phone calls to support and monitor patients occurred once every week for 6 weeks, then fortnightly for next 8 weeks, monthly for 3 months then once every second month to the end of the study. Sample size [7] n=228				Comparator [8] Usual care – instruction on diet, drug adherence, physical activity and response to changing symptoms Sample size [9] n=234	
Population characteristics [10] Patients were hospitalised at 1 of 5 hospitals in California with a diagnosis of heart failure and were not scheduled for coronary artery bypass surgery or had received said surgery within previous 8 weeks. Patients did not have a serum creatine level >13.26umol/L, were not receiving dialysis or waiting for kidney transplant, did not have history of pulmonary disease requiring oxygen, did not have any additional terminal illnesses, on mental/cognitive deficits, no psychiatric disorders and no history of substance abuse. Patients were expected to live in the same area for the duration of the study. Mean age = 72 yrs. Approx 50% NYHA I or II & 50% III or IV.					
Length of follow-up [11] Baseline plus 1 year.	Outcome(s) measured [12]: Time to first re-hospitalisation for any cause, time to death/rehospitalisation/ED for cardiac cause, proportion of patients receiving pharmacotherapy and rate of outpatient clinic/ED visits.				
INTERNAL VALIDITY					
Allocation [13] Random (using sealed envelopes containing group assignment – described as Efron procedure and referenced)	Comparison of study groups [14] No difference in any clinical or demographic measure was observed at baseline between the two groups	Blinding [15] Research staff who analysed data collected were blinded to patient allocation.	Treatment/measurement bias [16] Groups treated same apart from intervention	Follow-up [17] Fail to follow up 29 (12.7%) patients from intervention group (21 died, 8 w/drew) and 43 (18.4%) from control (28 died, 15 w/drew).	
Power Calculations Power discussed as number needed to reduce risk of rehospitalisation from 21% to 13% - number needed to treat 12.5		Reliability and validity of instruments Not applicable as all measures were quantitative eg number of deaths			
Overall quality assessment (descriptive) [18] Good					

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Time to first re-hospitalisation for heart failure Time to first re-hospitalisation for any cause			Proportional hazard 0.84 (0.56 to 1.25) (p>0.2) 0.98 (0.76 to 1.27) (p>0.2)
Time to death/rehospitalisation/emergency department admission for cardiac cause Time to death/rehospitalisation/emergency department admission for any cause			0.85 (0.64 to 1.14) (p>0.2) 0.87 (0.69 to 1.08) (p>0.2)
proportion of patients receiving pharmacotherapy *ACE inhibitors* Baseline 12 months *Beta blockers* Baseline 12 months	 90% 90% 38% 50%	 75% 88% 32% 46%	 Ns Ns Ns Ns
Rate of outpatient clinic/ED visits.	Equivalent (3 cardiology outpatient visits, 6 internal med visits, 4 non-internal med visits on av.)	Equivalent (3 cardiology outpatient visits, 6 internal med visits, 4 non-internal med visits on av.)	
	Clinical importance (1-4) [26] 3	Relevance (1-5) [27] 1	Any other adverse effects [28] None mentioned
EXTERNAL VALIDITY			
Generalisability [29] Study focus on transitional care for low-risk heart failure patients in California, USA. Results from this study focus on very specific population (low-risk heart failure patients) but results could be generalised to the guideline population in an Australian context with caution.			
Applicability [30] Good			
Comments [31] The rate of first rehospitalisation for heart failure was similar in both groups. The rate of all-cause rehospitalisation was also similar in both groups.			

STUDY DETAILS				
Done, D. J. and J. A. Thomas (2001). "Training in communication skills for informal carers of people suffering from dementia: a cluster randomized clinical trial comparing a therapist led workshop and a booklet." International Journal Of Geriatric Psychiatry 16(8): 816-821.				
Affiliation/source of funds [2] University of Hertfordshire and Dept of Speech and Language Pathology at the NHS Trust. Grant from N. Thames R&D Commissioned funding programme on Mental health.				
Study design [3] Cluster RCT	Level of evidence [4] II	Location/setting [5] Community care setting in Hatfield, UK.		
Intervention [6] Communication Training Workshop – 2x 1hr sessions over 2 weeks. Participants watched 10x 30s acted scenes on video showing interaction between carer and patient. Video paused after each example for group discussion with language therapist about communication breakdown exhibited. Then another video shown with solutions to each problem. Sample size [7] n=26		Comparator [8] Booklet training – 10 different communication problems and solutions discussed in written format with helpful cartoon illustrations. Sample size [9] n=15		
Population characteristics [10] Patient had primary diagnosis of dementia, was receiving informal care (ie in the home) by a carer who could be identified and was willing to participate in the study. Additionally, some form of verbal communication still existed between the patient and carer. NB: . Mean age of care recipient not indicated (highly likely to be 70+ given the prevalence rates of dementia according to age, therefore not excluded				
Length of follow-up [11] Pre-intervention and then 6-weeks post-intervention.		Outcome(s) measured [12]: Assessment of awareness about communication strategies, Carer stress, Communication inadequacy, evaluation of workshop.		
INTERNAL VALIDITY				
Allocation [13] Random (weighed block randomisation – by groups of 3 according to proximity to centre). First 2 of 3 groups which filled became intervention groups, third group was allocated to control. If imbalance of confounding factors had occurred then allocation was altered	Comparison of study groups [14] Not presented or discussed, apart from "altering allocation if imbalance of confounding factors had occurred"	Blinding [15] None	Treatment/measurement bias [16] Altering allocation of random group assignment could bias results	Follow-up [17] Not discussed (100% ??)
Power Calculations Not mentioned	Reliability and validity of instruments Not reported, - one tool (AACS) developed specifically for this study.			
Overall quality assessment [18] Much information is not stated (eg power analysis) – likely to be under powered considering cluster design. ? baseline equivalence				

RESULTS			
Outcome [19]	Intervention group [20] Workshop Group	Control group [21] Booklet	Measure of effect size [22] 95% CI and/or p value[23]
Carer Assessment of Awareness about communication Strategies (AACS)			Group by time interaction p=0.005
Pre-Intervention	1.7	1.8	95% CI: 0.7-2.7, 0.6-3.0
Follow-up	6.4	3.4	95% CI: 4.6-8.2, 1.8-5.0
Relative Carer Stress Scale Score			P=0.47
Pre-Intervention	30.0	31.9	95% CI: 26.0-33.9, 28.2-35.6
Follow-up	29.7	31.9	95% CI: 25.7—33.7, 28.0-35.8
Thomas assessment of communication inaccuracy (TACI)			
Problem communications (often/v often)	4.6	4.4	-
Problem communications (follow-up)	reduced p=0.003	reduced p=0.003	p=0.07 (group difference, 3 way interctn)
Problem behaviours	4.5	4.6	-
Problem behaviours (follow-up)	stable	stable	p=0.07 (group difference, 3 way intercti)
Self-reported improvement in carer knowledge of communication	95%	65%	-
Clinical importance (1-4) [26] 2	Relevance (1-5) [27] 2.		
Any other adverse effects [28] None mentioned			
EXTERNAL VALIDITY			
Generalisability [29] Study investigates effect of difference education techniques on carer knowledge and wellbeing. Carers in this study are providing care for patient in community UK setting so results should be generalisable to same population within an Australian context.			
Applicability [30]. Good			
Comments [31] Workshop intervention participants showed significantly greater improvement in their awareness of patient/carer communication strategies compared to booklet group. Levels of stress remained unchanged for both groups over time. Problems in communication were observed to cause significantly greater upset than problem behaviours among caregivers (but no difference between groups).			

Doody, R. S., J. C. Stevens, et al. (2001). "Practice parameter: management of dementia (an evidence-based review). Report of the Quality Standards Subcommittee of the American Academy of Neurology." Neurology 56(9): 1154-66. Level of evidence: I/III-2.	
Studies relevant to this question that met inclusion criteria for our own review are asterisked.	
Study/	**Review quality**
Education: Buckwalter, 1999* Kahan, 1985 Hebert, 1995 Brodaty, 1994 Chiverton, 1989 Brennan, 1995 Brodaty, 1989 Ostwald, 1999 Goodman, 1990 Mittelman, 1996 Respite: Zarit, 1998* Mintzer (n.d.). Mohide, 1990 Lawton, 1989 Flint, 1995	A) *Was a clinical question clearly defined?* Questions relevant to this review (part of a much larger review including questions on pharmacotherapy): Do educational interventions improve outcomes in patients and/or caregivers of patients with dementia compared with no such intervention? Do non-pharmacologic interventions other than education improve outcomes in patients and/or caregivers of patients with dementia compared with no such intervention? (psycho-education, training, and telephone lectures were included here). *(B) Was an adequate search strategy used?* Search terms: Alzheimer's disease, vascular or multi-infarct dementia, dementia with associated parkinsonian disorder (key words specified), senile dementia plus counselling, education and caregiver, education and patient, environment, behaviour* manag*, behavior* and modif*, advance directive, rehabilitation, terminal care. Databases: Medline, Embase, Current Contents, Psychology info, Cochrane, CINAHL. Searched until 2000 Hand searching of reference lists. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if RCTs all languages, other studies limited to English, human subjects. *(D) Was a quality assessment of included studies undertaken?* All articles reviewed by at least two people. Rating of evidence using data extraction forms and evidence tables. Review scrutinised by Quality Standards Subcommittee and Dementia Practice Parameter work group, America Academy of Neurology, experts, and selected organisations. *(E) Were the characteristics and results of the individual studies appropriately summarised?* No relevant tables provided. Link to supplementary materials did not result in these being displayed. Text does provide extensive details *(F) Were the methods for pooling the data appropriate?* Data not pooled. *(G) Were sources of heterogeneity explored?* N/A ***Evidence for education:*** Most evidence presented on this topic is categorised as structured interactions between a caregiver and an

Cefalu, 1996	expert in dementia care designed primarily to enhance caregiver's knowledge of AD and its management. Conclusions drawn are that the participants like the programs but their results for patients and carers are modest – with no effect on the disease severity or patients' outcome & some studies showing short term improvement in carer knowledge and coping. Education plus support is indicated to have been followed by delayed placement and enhanced carer health in one study and education plus counselling to have delayed placement in another. In another section, education plus support or dementia management techniques was found to lead to delayed placement plus improved carer well being (4 RCTs), whereas other support programs without education did not have this effect. Use of computer based information and telephone mini lectures was seen to have mixed results. No statistics shown. Guideline was developed and stated that comprehensive psycho-educational caregiver training may benefit carers and delay long-term placement, with practice options to enhance benefits being use of computer and/or phone. ***Consistency:*** It appears that education plus other support may be most effective rather than education alone but the study base is very limited and this is not reflected in the guideline developed. ***Clinical impact of education/training:*** Some support for assertion that interventions including education help family and delay placement. ***Generalisabilty:*** Population consistent with this review except age and disease stage unknown***.*** ***Applicability:*** US review and studies mainly published in Western journals so probably applicable. ***Evidence for respite:*** Respite was addressed in a fragmented way under "interventions other than education". Findings from one study looked at outcomes from stays in a special care unit, sometimes, coupled with outpatient programs – benefits were seen in behaviour of the patient. Later, use of respite services was seen to have been followed by delayed placement but two studies were said to provide conflicting results with regard to carer outcomes, with another showing carer well-being benefits. Respite services are indicated as a practice option that might bring benefits for the patient and family carer. ***Consistency:*** Inconsistent ***Clinical impact of respite care:*** Cannot be well evaluated from this review ***Generalisabilty:*** Population consistent with this review although age and stage of disease unknown ***Applicability:*** US review and studies published in Western journals – probably applicable.

STUDY DETAILS				
Doughty, R. N., S. P. Wright, et al. (2002). "Randomized, controlled trial of integrated heart failure management: The Auckland Heart Failure Management Study." Eur Heart J 23(2): 139-46.				
Affiliation/source of funds [2] National Heart Foundation of New Zealand and unrestricted project grant from Merck Sharp Dohme				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Auckland community		
Intervention [6] Group ed sessions(1.5-2hrs) 2 within 6 wks of hosp discharge, 1 after 6 mths. Ed sessions run by cardiologist and study nurse included: s&s of HF, managing HF (weight, medication exercise, diet), daily diary. Close liaison with GP, pt & fam and hosp HF clinic Sample size: 100				Control [8] usual are with GP and additional follow up measures as usually recommended by med team Sample size: 97
Population characteristics [10] approx. 60% male , mean age 73yrs, 30% lived alone, majority (79%) New Zealanders, with NYHA III or IV heart failure. Approximately 20% had 1 prior hospital admission for HF and 30% had more than 2 prior hosp admissions				
Length of follow-up [11] 12 months	Outcome(s) measured [12]: Death, hospital readmission, quality of life			
INTERNAL VALIDITY				
Allocation [13] Cluster randomisation using GP as unit of randomisation. GP's randomly allocated using computer generated random numbers	Comparison of study groups [14] No statistical comparison	Blinding [15] No. Study team separate from medical management team	Treatment/measurement bias [16] Same treatment (apart from intervention)and measures for both groups	Follow-up [17] Planned independent analysis at 6 mths to recalculate sample size showed higher than expected event rates and no diff between groups for end points-recruitment stopped at 197. One pt lost to follow up, 43 (22%) pts died and 123(62%) admitted to hospital. No sig differences between intervention and control groups at combined end points
Power Calculations Yes. Provisional sample of 180 pts /group estimated to provide at least 80% power at the 0.05 level of stat sig to detect a 30% reduction in the combined end-point of death or hosp readmission.			Reliability and validity of instruments [12] Mortality and hospital readmission data from medical records. QoL Minnesota Living with Heart Failure Scale – referenced but no psychometrics reported	
Overall quality assessment (descriptive) [18] Strong design although lacking in baseline comparison testing, instrument reliability report and blinding				

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Death or hospital readmissn @ 12m	68	61	X2 = 0.95, 2p = 0.33
Hospital readmissions for all causes	120	154	
Hospital admission rate/ pt/ year	1.37	1.84	Diff 0.47 (95% CI, 0.16,0.78)
Total Hospital bed days	1074	1170	
Hospital bed days/pt/year	12.3	13.9	1.6 bed days/pt/yr95% CI 0.51, 2.7
Mean days to readmission	102 (SD=104)	122 (SD=116)	NS
First readmission all cause	64	59	NS
Subsequent readmission all cause	56	95	P=0.02
First readmission, HF	21	23	
Subsequent readmission, HF	15	42	P=0.04
QoL Physical function Baseline to 12 months Emotional	 -11.1 -3.3	 -5.8 -3.3	 2p = 0.015 2p = 0.97
	Clinical importance (1-4)NO [26]		Relevance (1-5) [27]1
Any other adverse effects [28]			
EXTERNAL VALIDITY			
Generalisability [29] (relates to population) Same population			
Applicability [30] yes,			
Comments [31] This cluster randomised controlled trial evaluated the effect of an integrated heart failure management program for patients with chronic heart failure and family on hospital re-admissions and pt QoL. Results show a decrease in hospital readmission rate for the intervention group, markedly impaired QoL for whole group and a statistically significant improvement in physical functioning aspect of QoL for the intervention group. However, there are some methodological concerns and results need to be considered with caution			

STUDY DETAILS					
Ekman, I., B. Andersson, et al. (1998). "Feasibility of a nurse-monitored, outpatient-care programme for elderly patients with moderate-to-severe, chronic heart failure." Eur Heart J 19(8): 1254-60.					
Affiliation/source of funds [2] Umea and University College of Health and Caring Sciences; Orebro University; Sahlgrenska university, Sweden. Swedish Medical research council, Swedish foundation for health care sciences and allergy research, Merck, Sharp and Dohme.					
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Department of cardiology in (regional) Sahlegrenska University hospital.			
Intervention [6] Structured care group: Nurse-monitored outpatient clinic combined with regular phone calls to patient, attending doctor responsible for all medical decisions. Patients were able to contact nurse if symptoms worsened or they had questions about treatment. Sample size [7] n=79		Comparator [8] Usual care group: managed according to current clinical practice (treated and followed by a GP and visited emergency room if symptoms worsened. Sample size [9] n=79			
Population characteristics [10] Patients with chronic heart failure and/or chronic cardiomyopathy living in the catchment area of hospital. Inclusion required min age of 65 with no serious or life-threatening disease, no communication problems (including dysphagia and inability to attend outpatient clinic), Boston criteria <8, NY Heart Assoc. >III, not receiving nursing home or specialist care, and no diagnosis of acute myocardial infarction within the previous 8 weeks before commencement of study and serum creatinine levels not above 300umol/L.					
Length of follow-up [11] 6 months (mean 5.0 months in both groups) – 180 days from randomisation		Outcome(s) measured [12]: Change in NY Heart Assoc status, number of readmissions, number of days spent in hospital, number of deaths, survival without readmission to hospital			
INTERNAL VALIDITY					
Allocation [13] Random according to random number table, performed in blocks of 20.	Comparison of study groups [14] Heart ejection fraction significantly greater in IG than CG. No difference in any other measures between groups.	Blinding [15] Not mentioned	Treatment/measurement bias [16] Groups were treated the same apart from intervention	Follow-up [17] Not mentioned	
Power Calculations No		Reliability and validity of instruments No instruments used			
Overall quality assessment (descriptive) [18] No blinding, no discussion of failure to follow up, poor adherence to intervention					

RESULTS				
Outcome [19]	Intervention group [20]		Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
	Intention to treat	*>1 visit to nurse*		
Change in NYHA class	-0.2 ± 0.9 (p<0.001 change)	-0.4 ± 0.9 (p<0.05 change)	-0.3 ± 0.7 (p<0.001 change)	

No of times patient readmitted: 1 (any cause) 2 (any cause) 1 (heart failure) Mean Median (25th & 75th percentiles)	No (%) 48 (61) 21 (27) 36 (46) 1.1 ± 1.3 1 (0; 2)	 35 (63) 19 (34) 28 (50) 1.2 ± 1.5 1 (0; 2)	 45 (57) 26 (33) 38 (49) 1.2 ± 1.5 1 (0; 2)	
Number of days spent in hospital Mean Median (25th and 75th percentiles)	 26 ± 31 11.0 (3.3; 37.5)	 20 ± 29 15.0 (3.0; 28.5)	 18 ± 19 7.5 (3.3; 30.5)	
Number of deaths (%)	21 (27) 17 (22)	9 (16)	17 (22)	
Number of patients surviving without readmission	30 (28)	25 (32)	20 (36)	
		Clinical importance (1-4) [26] 3		Relevance (1-5) [27] 1
Any other adverse effects [28] None mentioned				
EXTERNAL VALIDITY				
Generalisability [29] The patient cohort used in this study (moderate-severe heart failure) fits the target population so results from this study are generalisable .				
Applicability [30] Good				
Comments [31] The outpatient, nurse monitored programme aimed at symptom management for elderly patients hospitalised with moderate to severe heart failure did not result in any significant differences in the number of hospitalisations or days spent in hospital compared to patients who had standard care.				

Forster, A., J. Smith, et al. (2001) "Information provision for stroke patients and their caregivers." Cochrane Database of Systematic Reviews Volume, DOI: 10.1002/14651858.CD001919 **Level of evidence: I/III-1**	
Studies included in our own review are asterisked. Some studies were out of our date range, addressed younger participants, addressed patients only, and/or evaluated outcomes irrelevant to our question.	
Study	**Review quality**
Rodgers, 1999* Banet, 1997 Downes, 1993 Evans, 1998 Johnson, 2000 Lomer, 1997 Lorenc, 1992 Mant, 1998	*A) Was a clinical question clearly defined?* The objective was "to examine the effectiveness of an information and/or education strategy to improve the outcome of stroke patients and/or their identified caregivers" (p.1). *(B) Was an adequate search strategy used?* Search of published literature and unpublished literature until December 2000. The search was of the Specialised Trials Register and the Cochrane Trials Register 2000, Issue 4; Medline (1966-Dec 2000); Embase (1980-Dec 2000); CINAHL (1982-Dec 2000); ISI citation index databases – Science and Social Sciences Citation Indexes/ Web of Science Services (1981-Dec 2000); Applied Social Science Index and Abstracts (1987-present; Aslib Index to UK these (1970-Nov 2000); Dissertation Abstracts 1961-Dec 2000); and Psychlit/PsycINFO (1974-Nov 2000). Additional searching was in the Journal of Advanced Nursing (1996-2000) and references of retrieved documents. Author contact was made and the work was publicised to encourage other input. An extensive keyword search strategy is documented. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Considered for inclusion if: 1.RCT or trial using matched pairs or less strict randomisation 2. Participants were patients with stroke and/or their family carers 3. The intervention was information or education provided to improve the outcome for patients and/or their family carers. 4. Outcomes examined were included knowledge and/or health. Excluded if: Education was part of a more extensive rehabilitation program. *(D) Was a quality assessment of included studies undertaken?* Two raters independently evaluated abstracts and papers. Full text was then checked against inclusion/exclusion criteria. Disagreements were resolved by discussion & trial quality was reviewed by two raters, with two independently completed data extraction forms. *(E) Were the characteristics and results of the individual studies appropriately summarised?*

	Table of included studies lists methods, participants, interventions, outcomes and grades allocation concealment. Additional table shows length of follow up, comparison, outcome measure, and results. Forrest plots document the impact of education or information on caregiver perceived health. Text summarises study descriptions, quality, and results. *(F) Were the methods for pooling the data appropriate?* Data not pooled. *(G) Were sources of heterogeneity explored?* N/A ***Findings:*** ***Evidence:*** Nine studies were included, three evaluating two interventions each. Some studies tested combined interventions. For one of these studies, the reviewers only included the data relevant to education. Six studies trialled information provision (eg, leaflets) and three trialled interactive education. Three trials failed to specify participants' age, three met age criteria for our own review. Allocation concealment occurred in two trials, blinding was absent in all studies, and small sample size was an issue in at least 6 trials. Attrition was an issue. Only findings relevant to carer outcomes are provided in our summary. A significant improvement in hope and depression scores occurred after an education intervention in one study but GHQ scores were unchanged in another. Information provision was not seen to impact upon emotional outcomes in any study. Perceived health and quality of life are also described as not showing any clear improvement in any study but one study found post education family functioning to be better than control group family functioning. Three trials evaluated impact upon services and found no differences to have occurred. ***Consistency:*** Interventions, outcomes measured, and findings were generally inconsistent except that three trials indicated no impact upon services. ***Clinical impact of education/information care:*** none demonstrated. ***Generalisabilty:*** Population US & UK – likely to be generally consistent with this review. ***Applicability:*** Would generally be applicable despite health system differences.

STUDY DETAILS				
Garand, L., K. C. Buckwalter, et al. (2002). "A pilot study of immune and mood outcomes of a community-based intervention for dementia caregivers: the PLST intervention." Arch Psychiatr Nurs 16(4): 156-67. Does education for family carers in disease specific areas (dementia, organ failure, COPD, cancer, Parkinson's disease, stroke) improve family carer confidence, competence, physical, psychological and spiritual health when compared with a lack of this education?				
Affiliation/source of funds [2] University of Pittsburgh, USA. Funding from research grants (non-specific affiliation).				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Not mentioned - Community care setting in Iowa, USA?		
Intervention [6] Progressively Lowered Stress Threshold training – consisting of 2x 3 hours of in-home visits: first session - education by researcher of care techniques, logging problem behaviours in patient and making care plan. Second session – care plan review and behavioural techniques taught. 2x weekly follow-up phone calls for 6 months to support the intervention. Sample size [7] n=not mentioned (39 participants in total from both groups)			Comparator [8] Control group – identical to intervention apart from the PLST education (did behavioural logs etc). Sample size [9] n=not mentioned (39 participants in total from both groups)	
Population characteristics [10] Caregivers who were non-paid (informal), caring for an individual living in the community with diagnosis of dementia. Caregivers had no history of immunosuppressive disease or taking medication which would alter immune function (eg chemo within past 5 years), drank less than 10 alcoholic drinks/week, lived within a 120 mile radius of university of Iowa (listed above), provided 4 or more hours of care/week, have not previously been exposed to training used in intervention and did not take anti-coagulant medication. . Mean age of care recipient >74 yrs.				
Length of follow-up [11] Baseline (T1), 1 week post-intervention (T2), 6 months (T3).	Outcome(s) measured [12]: Carer Health (acute illness, plasma albumin level, history of chronic illness, prescription medication usage, caffeine intake, alcohol consumption, tobacco use, av. hours of sleep), carer mood (using POMS), immune function, NK cell cytotoxicity, T-cell proliferation.			
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] Subjects in control group provided significantly greater number of hours of care per week (p=0.009), were significantly more distressed (p=0.044) – were more depressed (p=0.033) and more fatigued (p=0.043) than intervention group.	Blinding [15] Subject blinded to group assignment, assessors not blinded.	Treatment/measurement bias [16] Statistically significant differences in depression, fatigue and distress at baseline could affect T-cell levels (outcome measure of study).	Follow-up [17] 2 participants (5.1%) failed to follow up due to institutionalisation (1 CG, 1 IG).
Power Calculations Not mentioned, referred to briefly as "limited"		Reliability and validity of instruments Not mentioned		
Overall quality assessment (descriptive) [18] number of participants in each group not mentioned specified, small sample, no power calculations				

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Total mood disturbance (distress)			
T1	36.67 (35.59)	57.14 (25.07)	
T2	36.24 (31.39)	58.14 (30.82)	
T3	29.80 (38.58)	39.79 (36.77)	p=0.371
NK cell activity			
T1	2.25 (0.44)	2.27 (0.34)	
T2	2.37 (0.21)	2.29 (0.29)	
T3	2.32 (0.29)	2.38 (0.37)	p=0.360
PHA (T-cell activity)			
T1	1.175 (0.89)	1.09 (0.89)	
T2	14.474 (0.43)	1.14 (1.00)	
T3	11.130 (0.19)	2.07 (0.29)	p=0.002
ConA (T-cell activity)			
T1	0.832 (0.76)	1.34 (0.86)	
T2	15.809 (0.37)	1.15 (0.82)	
T3	9.845 (0.22)	1.81 (0.38)	p=0.004

Any other adverse effects [28] None mentioned	Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 2

EXTERNAL VALIDITY
Generalisability [29] Patients in this study were community dwelling carers/patient dyads in Iowa, USA so results from the educational intervention in this study should have a good generalisability to guideline population.
Applicability [30] Good
Comments [31] The educational intervention reported here (PLST training) significantly improved T-cell immune function among caregivers but had no appreciable affect on carer mood state or NK cell cytotoxicity.

STUDY DETAILS					
Gaugler, J. E., S. E. Jarrott, et al. (2003). "Adult day service use and reductions in caregiving hours: effects on stress and psychological well-being for dementia caregivers." International Journal Of Geriatric Psychiatry 18(1): 55-62.					
Affiliation/source of funds [2] University of Kentucky, Virginia State University, Pennsylvania State University, Kent state University, Case Western Reserve University, New Jersey Dept of Health and Senior Services – USA. Grants from national Science Foundation Graduate Research Fellowship and National Institute on Aging					
Study design [3] Cohort	Level of evidence [4] III-2	Location/setting [5] Adult day centres around the state of New Jersey, USA (intervention group) and North-eastern Ohio, USA (control group)			
Intervention [6] Use of adult daytime care centre Sample size [7] n= 248 (87 remained by T3)		Comparator [8] Non-use of adult daytime care centre Sample size [9] n= 289 (140 remained by T3)			
Population characteristics [10] caregivers looking after patient with diagnosis of dementia, caregivers had to be " primary" – providing the most assistance to the care recipient, had not previously used adult day services and was not utilising more than 8 hours formal (paid) services each week.					
Length of follow-up [11] Interviews at 3 intervals: baseline (T1), 3 months later (T2) and 1 year later (T3)		Outcome(s) measured [12]: negative appraisal of primary stress (perceptions of being trapped in care responsibilities), Psychological wellbeing of caregiver, amount of secondary caregiving hours (provided by other family members) and formal service hours utilised (hours of paid support).			
INTERNAL VALIDITY					
Allocation [13] Intervention group self selected for involvement in study from 45 adult day centres. Control group selected via letters & newspaper advertisements sent around four similar counties.	Comparison of study groups [14] No difference in gender, marital status, education, health, age at baseline. Significant greater percentage of carers in treatment group lived with their care recipient ($p<0.001$), felt overloaded in their caring role ($p<0.001$), felt worry/strain ($p<0.01$) and had higher family income than controls ($p<0.05$). Also, patients in treatment group received significantly more hours of care from carer' s spouse than control ($p<0.01$)	Blinding [15] None mentioned	Treatment/measurement bias [16] Intervention and control groups were sourced from different regions of the USA (Ohio had limited adult day centres available to patients and no subsidies available) – possible unobserved differences between samples from different areas of country.	Follow-up [17] Intervention Group 248 @ T1 169 @ T2 (32% loss) 87 @ T3 (65% loss) Control group 289 @ T1 231@ T2 (20% loss) 140 @ T3 (52% loss)
Power Calculations Not mentioned		Reliability and validity of instruments Cronbach' s alpha reported for each instrument used.			
Overall quality assessment (descriptive) [18] Extensive attrition of study participants from both intervention group (65% loss) and control group (52% loss). Intervention					

and control groups were sourced from different regions of the USA & there were marked differences at baseline between the groups..				
RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
Interaction effects in regression models indicate that users experience greater reduction in role overload when memory problems diminish ($p \leq 0.05$) but that non users experience greater reduction in worry when ADLs improve ($p \leq 0.05$) Regression analysis. No CIs.				
Clinical importance: no effect size or confidence intervals.			Relevance (1-5) [27] 1	
Any other adverse effects [28] None mentioned				
EXTERNAL VALIDITY				
Generalisability [29] Participants in study carers of people with dementia in US setting so good generalisability to Australian setting				
Applicability [30] good				
Comments [31]				

STUDY DETAILS					
Gaugler, J. E., S. E. Jarrott, et al. (2003). "Respite for dementia caregivers: the effects of adult day service use on caregiving hours and care demands." International Psychogeriatrics / IPA 15(1): 37-58.					
Affiliation/source of funds [2] University of Kentucky, Virginia State University, Pennsylvania State University, Kent state University, Case Western Reserve University, New Jersey Dept of Health and Senior Services – USA. Grants from national Science Foundation Graduate Research Fellowship and National Institute on Aging					
Study design [3] Cohort	Level of evidence [4] III-2	Location/setting [5] Adult day centres around the state of New Jersey, USA (intervention group) and North-eastern Ohio, USA (control group)			
Intervention [6] Use of adult daytime care centre Sample size [7] n= 248 (87 remained by T3)		Comparator [8] Non-use of adult daytime care centre Sample size [9] n= 289 (140 remained by T3)			
Population characteristics [10] caregivers looking after patient with diagnosis of dementia, caregivers had to be " primary" – providing the most assistance to the care recipient, had not previously used adult day services and was not utilising more than 8 hours formal (paid) services each week. Mean age of care recipients 77+ yrs.					
Length of follow-up [11] Interviews at 3 intervals: baseline (T1), 3 months later (T2) and 1 year later (T3) This paper reports 3m effects		Outcome(s) measured [12]: negative appraisal of primary stress (perceptions of being trapped in care responsibilities), Psychological wellbeing of caregiver, amount of secondary caregiving hours (provided by other family members) and formal service hours utilised (hours of paid support).			
INTERNAL VALIDITY					
Allocation [13] Intervention group self selected for involvement in study from 45 adult day centres. Control group selected via letters and newspaper advertisements sent around four statistically similar counties.	Comparison of study groups [14] No difference in gender, marital status, education, health, age at baseline. Significant greater percentage of carers in treatment group lived with their care receipient ($p<0.001$), felt overloaded in their caring role ($p<0.001$), felt worry/strain ($p<0.01$) and had higher family income than controls ($p<0.05$). Also, patients in treatment group received significantly more hours of care from carer' s spouse than control ($p<0.01$)	Blinding [15] None mentioned	Treatment/measurement bias [16] Intervention and control groups were sourced from different regions of the USA (Ohio had limited adult day centres available to patients and no subsidies available) – possible unobserved differences between samples from different areas of country.	Follow-up [17] Intervention Group 248 @ T1 169 @ T2 (32% loss) 87 @ T3 (65% loss) Control group 289 @ T1 231@ T2 (20% loss) 140 @ T3 (52% loss)
Power Calculations Not mentioned		Reliability and validity of instruments Cronbach' s alpha reported for each instrument used.			

Overall quality assessment (descriptive) [18] Extensive attrition of study participants from both intervention group (65% loss) and control group (52% loss). Intervention and control groups were sourced from different regions of the USA (Ohio had limited adult day centres available to patients and no subsidies available).			
RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Regression models indicate that users perceive problem behaviours & time spent on these to diminish more than non user p≤ 0.05 at 3 months			
	Clinical importance (1-4) [26] No confidence intervals		Relevance (1-5) [27] 2
Any other adverse effects [28] None mentioned			
EXTERNAL VALIDITY			
Generalisability [29] Participants in study carers of people with dementia in US setting so good generalisability to Australian setting			
Applicability [30] Good			
Comments [31] Regression analysis used because of baseline differences.			

STUDY DETAILS				
Gerdner, L. A., K. C. Buckwalter, et al. (2002). "Impact of a psychoeducational intervention on caregiver response to behavioural problems." Nursing Research 51(6): 363-374.				
Affiliation/source of funds [2] University of Minnesota and University of Iowa, USA. Financial assistance from an NINR grant.				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community care setting in rural Iowa and Minnesota (33% of sample), as well as community care setting at sites in Arizona and Indianan, USA.		
Intervention [6] Progressively Lowered Stress Threshold training – consisting of 4 hours of in-home education by researcher of care techniques and how to modify patient environment. Referrals to support, legal counselling and case management services also offered. Sample size [7] n=132		Comparator [8] Control group – 2x1hr visits 2 weeks apart consisting of routine information on dementia, community based services and support group referral. Sample size [9] n=105		
Population characteristics [10] Caregivers who were non-paid (informal), caring for an individual living in the community with memory impairment, lived within a 2-hr drive of study sites (listed above), provided 4 or more hours of care/week, have not previously been exposed to training used in intervention and had a global deterioration score of ≤2. Mean age of care recipient >76yrs.				
Length of follow-up [11] Baseline, 3 months, 6 months, 9 months, 12 months		Outcome(s) measured [12]: Memory and behaviour problems checklist for care recipients, as well as their functional status using ADLs.		
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] Significant difference in level of caregiver support group attendance and care recipient diagnosis (AD vs vascular/mixed type dementia). These were controlled for in analysis. No other differences between groups at baseline.	Blinding [15] Data collected by individuals blinded to treatment condition	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] 54% attrition rate from study – “attrition rates were similar in the treatment groups and across research site”
Power Calculations Sample size calculations briefly mentioned, but power not discussed			Reliability and validity of instruments Not mentioned	
Overall quality assessment (descriptive) [18] High level of drop out, blinding to treatment group good.				

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Caregiver response to behavioural problems (when recipient GDS >5) Change from baseline to 12 months	-0.39	No change (est. from fig)	Linear modelling did not indicate a clear, significant, intervention effect but a trend over time of improvements in the intervention group
Caregiver response to activities of daily living Trend over time nonspouse caregivers Trend over time spouse caregivers	0 (coefficient) 0 (coefficient)	0 (coefficient) 0.18 (coefficient)	Linear modelling indicated a significant positive response for spouses only
Clinical importance (1-4) [26] No confidence intervals		Relevance (1-5) [27] 1	
Any other adverse effects [28] None mentioned			
EXTERNAL VALIDITY			
Generalisability [29] Patients in this study were community dwelling carer/patient dyads in rural and metro settings from USA so results from the educational intervention in this study should have a good generalisability to guideline population in an Australian setting, particularly with rural element for rural Australia.			
Applicability [30] Good			
Comments [31]. Some indications of benefits for carers. Non-spouses also reported behavioural improvements in the care recipient.			

STUDY DETAILS				
Gitlin, L. N., M. Corcoran, et al. (2001). "A randomized, controlled trial of a home environmental intervention: effect on efficacy and upset in caregivers and on daily function of persons with dementia." The Gerontologist 41(1): 4-14.				
Affiliation/source of funds [2] Centre for Applied Research on Aging and Health, Thomas Jefferson University, Pennsylvania (USA). Funding from National Institute on Aging.				
Study design [3] RCT Effect of education on carer wellbeing @ 3 m post test		Level of evidence [4] II		Location/setting [5] Community care setting in Pennysylvania, USA.
Intervention [6] Experimental group - Home Environmental Skill building program involving carer education, problem solving and technical skills taught by OTs. Consists of 5x 90 min home visits +1 telephone session over 3 months. Sample size [7] n=100				Comparator [8] Usual care – not discussed Sample size [9] n= 102
Population characteristics [10] Caregivers living with person with Alzheimer's or related disorder, were the primary carer, report dependence in the patient in at least 2 IADL categories and have difficulty managing either IADL or ADL assistance/dementia-related behaviour. . Mean age of care recipient >78 yrs.				
Length of follow-up [11] Baseline, then 3 months post-baseline			Outcome(s) measured [12]: Outcomes related to carer wellbeing: Self efficacy, upset in managing dementia behaviours, IADL dependence, ADL dependence.	
INTERNAL VALIDITY				
Allocation [13] Random (method not specified) but assignment stratified by carer relationship & race	Comparison of study groups [14] No significant differences between IG and CG at baseline	Blinding [15] None mentioned	Treatment/measurement bias [16] Not discussed – usual care group not mentioned at all	Follow-up [17] n=31 fail to follow up (15%) - 7 from treatment and 24 from control group. No significant difference between groups.
Power Calculations Not mentioned			Reliability and validity of instruments Cronbach's alpha reported for questionnaires used	
Overall quality assessment (descriptive) [18] Usual care group treatment not described, no power analysis Randomisation not described.				

RESULTS						
Outcome [19]	Intervention group [20] Mean		Control group [21] Mean		Measure of effect size [22] 95% CI and/or p value[23]	
Caregivers (adjusted mean difference 0-3m)	Baseline	Follow-up	Baseline	Follow-up	P value	
ADL self-efficacy	.81	.93	.8	.9	.375	
IADL self-efficacy	.87	.96	.87	.95	.704	
Behaviour self-efficacy	.77	.84	.74	.8	.314	
ADL upset	.26	.25	.29	.34	.156	
IADL upset	.17	.17	.22	.22	.663	
Behaviour upset	.48	.43	.47	.45	.501	
Clinical importance (1-4) [26] No confidence intervals						Relevance (1-5) [27] 1
Any other adverse effects [28] None mentioned						
EXTERNAL VALIDITY						
Generalisability [29] Study examines effect of education on carers of dementia patients in the US community setting so results from this study could be generalised to the same population in Australia.						
Applicability [30] Good						
Comments [31] Caregivers in the experimental group reported less decline (p=0.03) in instrumental activities of daily living (IADL) dependence in the person with dementia than control caregivers. Spouse carers who in the intervention group reported significantly less upset (p=0.049) than controls. Intervention women reported increased self-efficacy in managing problem behaviours (p=0.038), and intervention group women (p=0.049) and minority groups (p=0.037) also reported improved self-efficacy in managing functional dependency.						

STUDY DETAILS		
Gitlin, L. N., S. H. Belle, et al. (2003). "Effect of multicomponent interventions on caregiver burden and depression: The REACH multisite initiative at 6-month follow-up." Psychology and Aging 18(3): 361-374.		
Affiliation/source of funds [2] Thomas Jefferson University, University of Pittsburgh, University of Alabama, University of Miami School of Medicine, Hebrew Rehabilitation Center for Aged, Stanford University School of Medicine, Veterans Affairs Palo Alto Health Care System, University of Tennessee, Thomas Jefferson University, National Institute on Aging & National Institute of Nursing		
Study design [3] meta-analysis of RCTs	Level of evidence [4] II	Location/setting [5] Multiple American settings 9 intervention & 6 controls

Intervention [6] Multiple caregiving interventions 15 interventions across 6 sites Three sites, Birmingham, Boston, and Philadelphia, tested a single active intervention (skills-training condition, telephone-linked computer [TLC], environmental skill building program [ESP], respectively). Three sites implemented two active interventions: Memphis (behavior and enhanced care), Miami (family-based multisystem in-home intervention [FSMII], and FSMII combined with computer telephone integration system [CTIS]), and Palo Alto (coping with caregiving class and enhanced support group). (p. 364) 6-24 months *All except the interventions in Miami & Boston have education components as defined in our study* Sample size [7] 780	Comparator [8] Sample size [9] 442 Two sites used modified usual care control groups (Boston and Philadelphia) in which caregivers received information packets only. One site (Memphis) provided information and referral and three other sites (Birmingham, Miami, and Palo Alto) utilized a minimal support control (MSC; information and empathetic listening). (p. 364)

Population characteristics [10] From other (cited) article, Wisiniewski, 2003 mean patient age = 79 & MMSE = 12.6 N= 1,222 Carers of people with dementia.	
Length of follow-up [11] 6 months (mean 5.0 months in both groups) – 180 days from randomisation This looks @ 6 month data	Outcome(s) measured [12]: Burden & depression

INTERNAL VALIDITY				
Allocation [13] Random – some variations eg stratification	Comparison of study groups [14] Unclear from this article	Blinding [15] Not mentioned here	Treatment/measurement bias [16] Unclear from this article	Follow-up [17] Irrelevant here

Power Calculations N/A			Reliability and validity of instruments Revised Memory & Behaviour Problem Checklist(burden) & the CES-D Depressive symptoms – reliability addressed		
Overall quality assessment (descriptive) [18] This paper lacks detail but impressive sample size and planning well detailed. ITT strategy used. Findings for individual sites reported here but covered in other papers we reviewed when relevant. Pooled treatment effects of intervention versus control overall are displayed here.					
RESULTS					
Outcome [19]	Intervention group [20]		Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
Burden				-1.40 (-2.59 to – 0.20) p=0.022 Q = 0.94	Slight reduction IG – only one site showed a significant effect – one not including education
Depression				-0.59 (-1.42 to 0.23) p=0.095 Q = p=0.52	No reduction in depression
	Clinical importance (1-4) [26] Burden 1 Depression 3		Relevance (1-5) [27] 1		
Any other adverse effects [28] None mentioned					
EXTERNAL VALIDITY					
Generalisability [29] Fits with this review except American and addresses US cultural groups					
Applicability [30] Likely to be applicable					
Comments [31] Analysis uses ITT. Meta- analysis examined, among other things,					

STUDY DETAILS				
Gitlin, L. N., W. W. Hauck, et al. (2005). "Maintenance of effects of the home environmental skill-building program for family caregivers and individuals with Alzheimer's disease and related disorders." The journals of gerontology. Series A, Biological sciences and medical sciences 60A(3): 368-74.				
Affiliation/source of funds [2] Centre for Applied Research on Aging & Health, Thomas Jefferson University, Pennsylvania (USA). Funding from National Institute on Aging.				
Study design [3] RCT Effect of education on carer wellbeing & 6 & 12 m post test (& other effects not relevant here)	Level of evidence [4] II	Location/setting [5] Community care setting in Pennysylvania, USA.		
Intervention [6] Experimental group - Home Environmental Skill building program involving carer education, problem solving and technical skills taught by OTs. Consists of 5x 90 min home visits +1 telephone session over 6 months. Maintenance program (1 home visit + 3 phone calls) then used over next 6 months. Sample size [7] n= 65?		Comparator [8] Usual care – not discussed Sample size [9] n= 65?		
Population characteristics [10] Caregivers >21, living with person with dementia (MMSE <24), provided care for ≥6 months, provided care for at least 4 hours per day . Mean age of care recipient >79 yrs.				
Length of follow-up [11] Baseline, 6 months, 12 months	Outcome(s) measured [12]: Memory related behaviours (using REACH checklist), Number of days receiving help with daily living (ADL) activities, caregiver distress from patient behaviour, skill enhancement from education and affect of education.			
INTERNAL VALIDITY				
Allocation [13] Random (method not specified) but assignment stratified by carer relationship (spouse vs non-spouse) and race (white or minority).	Comparison of study groups [14] No significant differences between IG and CG at baseline except for care recipient age (higher in CG).	Blinding [15] None mentioned	Treatment/measurement bias [16] Not discussed – usual care group not mentioned at all so difficult to identify areas of bias or differences in treatment apart from intervention.	Follow-up [17] n=63 (33%) people withdrew from study due to nursing home placement, bereavement and discontinuance. Sig more white + carers of high ADL patients withdrew.
Power Calculations Not mentioned	Reliability and validity of instruments Cronbach's alpha reported for questionnaires used			
Overall quality: no power calculations shown. Two types of analysis – one showing differences between adjusted group mean differences at 6 & 12 months & one showing these differences only for participants still in the study @ 12 m (n= 190 @ 6 m & ?127 @ 12 m). A little confusing as N= 130 in table and 127 in text @ 12m				
RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI, p value[23]	

Caregiver – Upset with memory-related behaviours 6 months 12 months	 4.76 4.61	 5.19 4.0	Difference of adjusted means for those in @ 12m: 6 months = -0.76, p=.307 12 months = 0.69 Group differences @ 6m -1.19 (p=0.027) Return to baseline @ 12m
Caregiver – perceived change in affect 6 months 12 months	 3.17 3.11	 3.05 2.89	Difference of adjusted means for those in @ 12m: 6 months = 0.13, p=.248 12 months 0.11 Group differences @ 6m 0.19 (p=0.034) @ 12m 0.24 (p=0.033) Sustained effect
Caregiver – task strategy use 6 months 12 months	 3.07 3.00	 2.85 2.84	Difference of adjusted means for those in @ 12m: 6 months = 0.18, p=0.028 12 months -0.06 Group differences @ 6m 0.12 (p=0.073) @ 12m not sustained

	Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 2 (surrogate outcome)

Any other adverse effects [28] None mentioned

EXTERNAL VALIDITY

Generalisability [29] Study examines effect of education on carers of dementia patients in the US & their carers so results could be generalised to same popn in Australia.

Applicability [30] Good

Comments [31] At 6 months following education, caregivers had improved skill levels (p=0.028), less need for additional help when assisting patient (p=0.043) compared to control. There were also fewer negative behavioural occurrences in patients (p=0.019). At 12 months, majority of measures had reduced to non-significant levels indicating that ongoing professional contact is probably necessary to maintain an ongoing level of clinically important skills when caring for patients in the community setting.

Gonseth, J. S., P. Guallar-CastillÃ³n, et al. (2004). "The effectiveness of disease management programmes in reducing hospital re-admission in older patients with heart failure: a systematic review and meta-analysis of published reports." European Heart Journal 25(18):1570-1595. **Level of evidence:I/III-2.**	
Studies included in our own review for transitional care are asterisked.	
Study	**Review quality**
Blue, 2001* Cline, 1998 * Ekman, 1998 * Harrison, 2002 * Jaarsma, 1999 * Krumholz, 2002 * Naylor, 1999 * Doughty, 2002 * Riegel 2000 Riegel, 2002 Roglieri, 1997 Stromberg, 2003 Hughes, 2000 Grancelli et al., 2003 Laramee, 2003 McDonald, 2002 Kasper, 2002 Stewart, 2002	*A) Was a clinical question clearly defined?* From aim: To review experimental evaluations of DMPs among elderly people with HF, determining their impact on: • Hospital readmission for HF or other cardiovascular causes • All cause readmission • Readmission or death To examine the influence of healthcare delivery & type of evaluation (randomized or non-randomized control) on results of evaluations. *(B) Was an adequate search strategy used?* 1. Search of Medline (1966-2003), Embase (1966-2003, & Cochrane Library. Textual terms & MeSH headings: cardiac failure or heart failure combined with re-admission or re-hospitalisation or hospitalisation or discharge. No language restrictions. 2. Scanned reference lists of review articles 3. Checked conference proceedings (*C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria: Controlled studies assessing DMPs targeting patients (among others) aged 65 years plus with main or secondary HF diagnosis Exclusion criteria: • Failure to provide information to quantify relationship between DMP & readmission • Fewer than 75% of hospitalisations were readmissions

Jerant, 2001 McDonald, 2001 Philbin, 2000 Rainville, 1999 Stewart, 1999a Stewart, 1999b Serxner, 1998 Stewart, 1998 Vavouranakis, 2003 Akosah, 2002 Azevedo, 2002 Peacock, 2002 Constantini, 2001 Lanzieri, 2001 Vaccaro, 2001 Whellan, 2001 Bull, 2000 Dahl, 2000 Luzier, 2000 Paul, 2000 Branch, 1999	• Fewer than 75% of participants had HF diagnosis • Fewer than 50% of patients were aged 60+ • Mean age of patients < 60 years • Data already partially reported in another included study ***DMP defined as an "intervention designed to manage HF and reduce hospital re-admissions using a systematic approach to care and potentially including multiple treatment modalities" (p. 1571, cited from Weingarten et al.).*** Systematic approach to care expected to include teaching & support of patients & set protocol, algorithm, care plan, care pathway, or similar. Excluded studies listed with reason for exclusion. Decisions by two independent reviewers with recourse to another - final consensus required. *(D) Was a quality assessment of included studies undertaken?* Randomised studies assessed using tool (Jadad et al.), non-randomised assessment evaluated degree of control for confounding factors. Data extraction & quality assessment again by two independent reviewers with recourse to another - final consensus required. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Twenty seven randomised & 27 non-randomised studies included. Table of RCTs and one of non RCTs show: study & participant characteristics, main components of the intervention, type of outcome (eg, HF readmission), duration of follow up, main findings (intervention versus usual care). Publication dates were from 1993-2003. Text for RCTs summarises key features including that the mean age of the patients was over 70 years in most studies, that patients presented with an ejection fraction lower than 40% in several studies, and that serious co-morbidity was common. Also the interventions were described – mainly informed about HF, alerted to signs of early decompensation, taught management strategies. Interventions almost all included nurse administration or coordination. Almost all included phone contact. Variation existed in place of commencement (community or hospital), home visits versus OPD visits, duration. Forest plots of RCTs & non randomised studies eligible for meta analysis for outcomes: • Hospital readmission for HF or other cardiovascular causes • All cause re-hospitalizations

Cardozo, 1999 Heidenreich, 1999 Rauh, 1999 Cacciatore, 1998 Shah, 1998 Tilney, 1998 Weinberger, 1996 Rich, 1995 Rich, 1993 Shipton, 1997 Smith LE, 1997 West, 1997 Kornoswski, 1995 Schneider, 1993 Cintron, 1983	• Re-hospitalization & death Funnel plots for RCTs only. Text for non-randomised studies indicated that no study adjusted for confounding factors (eg, comorbidity, type of drug treatment). One study adjusted for severity of HF. Matching sometimes addressed gender, age, function, comorbidity, medical claims. *(F) Were the methods for pooling the data appropriate?* RCT and non-randomised study data considered separately. Computer program used not indicated. Eligibility criteria for inclusion not explicitly stated. *(G) Were sources of heterogeneity explored?* For RCTs, findings of one study considered disparate probably because of intervention differences – analysis carried out with & without that study. ***Findings for RCTs:*** • Hospital readmission for HF or other cardiovascular causes (total of 11 studies) N= 3160, reduction = 30% (pooled RR 0.70, 95% CI= 0.62-0.79) p<0.0001. • All cause re-admissions total of 16 studies) - Random effects model (N = 4440) showed reduction by 12% (RR=0.88, 95% CI = 0.79-0.97) p=0.01. If the single study showing an increase was excluded because of its limited intervention modality, homogeneity rose (p=0.31) & pooled RR (N = 3936) =0.85, 95% CI 0.79-0.92. • Re-admission & death (total of 10 studies) -heterogeneity pronounced (p=0.01) N= 2985, reduction = 18% (pooled RR 0.82, 95% CI= 0.72-0.94). p=0.04 Long term mortality examined in one study (4.2 years), reduction of mortality in the intervention group 56% versus 65% (p=0.06). Findings state that cost effectiveness was generally good. Funnel plots suggested some publication bias but sensitivity analysis showed pooled RR for the three main outcomes did not significantly vary when studies of N<100 excluded. ***Findings for non randomised studies:*** • Hospital readmission for HF or other cardiovascular causes (total of 12 studies but only 5 eligible for meta analysis. Three studies showed benefits (p<0.05) & 2 showed positive trend. Heterogeneous (p<0.001). Based on 1875 patients, pooled RR = 0.2, 95% CI = 0.16-0.93. p<0.03 Further improvement after exclusion of two trials with dissimilar interventions.

	• All cause re-admissions (total of 16 studies, 8 included in meta analysis) - 3 studies reported significant drop ($p<0.05$). Pooled RR across all (N=1599) = 0.50, 95% CI = 0.34-0.74 $p<0.05$ • Re-admission & death (2 studies) - significant drop - pooled RR 0.37, 95% CI= 0.24-0.58. $p<0.0001$ Problems - poor description of intervention and of usual care, sample size small, long term follow up rare, lack of blinding. ***Evidence:*** 27 RCTs and 27 non-randomised controlled studies Eleven studies obtained a Jadad score of 3. *Overall, these findings strongly indicate that the implementation of DMPs in older adults with heart failure has benefits in terms of reduction in readmission for heart failure, all cause readmission, and readmission/death – which would indicate improvement in the health and probably the well being of the patient – as concluded by the author. However, the patient group considered was more diverse than the one in our study* ***Consistency;*** mainly consistent findings ***Clinical impact:*** Very large ***Generalisability***: The patient group considered was more diverse than the one in our study ***Applicability:*** Population a little broader than our own but highly applicable.

STUDY DETAILS				
Grant, I., C. L. McKibbin, et al. (2003). "In-home respite intervention reduces plasma epinephrine in stressed Alzheimer caregivers." Am J Geriatr Psychiatry 11(1): 62-72.				
Affiliation/source of funds [2] University of California San Diego, VA Healthcare system California. Funding from National institute on aging.				
Study design [3] RCT	Level of evidence [4] II		Location/setting [5] Community setting in California, USA.	
Intervention [6] Respite care – 10 days of in-home help for up to 6hrs/day. Caregivers were free to leave the house or do chores/hobbies/other activities during that time. Sample size [7] n=16 vulnerable carers + n=16 non-vulnerable carers			Comparator [8] No respite care Sample size [9] n=11 vulnerable carers and n=12 non-vulnerable carers	
Population characteristics [10] Participants were spousal caregivers of elderly patients with Alzheimer' s disease (diagnosed by the research centre or physician). All patients lived at home with their caregiver and received respite care for less than 8 hrs/week. All patients did not take medications that would alter their catecholamine levels. Vulnerability of carers determined by responses to interview at baseline – vulnerable provided care ≥12hrs/day every day and received in-home respite less than once a month for the preceeding 6 months.				
Length of follow-up [11] Baseline, between day7-9 of respite intervention and 1 month post-respite intervention		Outcome(s) measured [12]: Mental health of carers, catecholamine levels in blood, blood pressure, heart rate		
INTERNAL VALIDITY				
Allocation [13] Random using random number table. Allocation stratified by vulnerability (vulnerable or not).	Comparison of study groups [14] Significantly greater proportion of vulnerable caregivers took calcium channel blockers at baseline (p=0.05) and patients of vulnerable caregivers had significantly more severe dementia ratings (p<0.001). No other differences.	Blinding [15] No blinding	Treatment/measurement bias [16] Groups treated the same apart from intervention	Follow-up [17] Not discussed – seemingly all participants completed study?
Power Calculations Not mentioned		Reliability and validity of instruments Not discussed		
Overall quality assessment (descriptive) [18] No discussion of power/group size. Follow-up very soon after completion of intervention to get idea of any lasting effect of the treatment.				

RESULTS						
Outcome [19]	Intervention group [20] Vulnerable Non-vuln. Mean (SD) Mean (SD)		Control group [21] Vulnerable Non-vul. Mean (SD) Mean (SD)		Measure of effect size [22] 95% CI and/or p value[23]	
Mean epinephrin (pg/ml) Baseline 1month	55.50 (33.85) 46.68 (31.77)	58.42 (30.27) 56.13 (33.29)	58.00 (45.16) 86.09 (56.57)	46.68 (23.74) 36.57 (21.12)	p=0.02	
Mean norepinephrin (pg/ml) Baseline 1month	443.68 (163.63) 466.08 (205.59)	531.82 (158.86) 471.95 (158.26)	489.28 (185.67) 432.26 (208.25)	534.61 (185.10) 473.53 (114.94)	NS	
Mean Ham-D (depression rating) Baseline 1month	5.47 (4.98) 6.41 (5.09)	3.24 (5.54) 3.35 (3.60)	5.80 (3.49) 6.90 (5.63)	5.00 (4.49) 5.36 (5.68)	NS	
Mean Ham-A (anxiety rating) Baseline 1month	5.94 (6.17) 6.95 (5.62)	2.65 (5.95) 2.88 (3.84)	3.60 (3.63) 5.20 (4.61)	5.36 (4.90) 5.45 (5.73)	NS	

Brief symptom inventory – global severity index Baseline 1month	0.51 (0.33) 0.61 (0.52)	0.26 (0.27) 0.31 (0.34)	0.35 (0.30) 0.39 (0.40)	0.69 (0.59) 0.72 (0.51)	NS	
		Clinical importance (1-4) [26] No confidence intervals reported			Relevance (1-5) [27] 2.	
Any other adverse effects [28] None presented						
EXTERNAL VALIDITY						
Generalisability [29] Study focus is on respite care for family carers of people with dementia living in community USA setting. The results from this study could be generalised to an equivalent Australian setting with note that 10% of sample were non-causcasian (African American, Hispanic) which is rare in Australia.						
Applicability [30] Good						
Comments [31] Plasma epinephrin had declined significantly in the vulnerable caregivers who received respite and increased in the control group. No effect was found for norepinephrin levels, heart rate, BP or psychological symptoms.						

Gwadry-Sridhar FH, Flintoft V, et al. (2004). "A systematic review and meta-analysis of studies comparing readmission rates and mortality rates in patients with heart failure." Arch Intern Med 164: 2315-20. **Level of evidence: I**	
Studies included in our own review for transitional care are asterisked.	
Study	**Review quality**
Ekman, 1998* Cline, 1998* Jaarsma, 1999* Rich, 1993 Rich, 1995 Serxner, 1998 Stewart, 1998 (later paper subsuming this reference included) Gwadry-Sridhar, 2001	*A) Was a clinical question clearly defined?* Do patients with HF participating in a peri-discharge multidisciplinary patient treatment program have a reduced rate of readmission and mortality compared with patients who receive usual care? *(B) Was an adequate search strategy used?* 1. Search of Medline (1966-2000), Embase, HealthSTAR (1975-2000), PubMed, & Cochrane Review. Handsearching of relevant journals and of abstracts from relevant cardiology meetings. Search terms for Medline: "[*heart failure, congestive/] and [adult/] and [patient readmission/sn] or [exp disease management/] or [exp patient care team/cl, mt, og, ed, st, sn, td, ma, ut (classification, methods, organization&administration, education, standards, statistics & numerical data, trends, manpower, utilization)] or [exp follow-up studies/] or [*patient readmission/] or [exp patient discharge] or [exp patient education/] or [exp aftercare/] or [patient care planning/] or [exp home care services, hospital-based/]" (p. 2316). 2. Reference to own files and those of other experts 3. Contacting of authors of trials in progress to obtain data. Two team member reviewed citations and obtained potentially relevant articles. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria were: 1. RCTs aged 18+ (intervention & control group) 2. Target population: patients hospitalised for heart failure & enrolled in hospital or immediately post-discharge 3. Intervention: patient education to increase HF knowledge, multidisciplinary. 4. Control = usual care from family physician, intern, or cardiologist. 5. Primary outcome = unplanned readmission for HF for all causes in follow up period (min = 3m). Excluded studies not listed. Decisions by four independent reviewers - final consensus required.

	(D) Was a quality assessment of included studies undertaken? Tool used (Jadad et al.) modified for purpose (5-point scale). Studies needed to obtain 4 to be rated as high quality. Weighted Kappa calculated, Data extraction & quality assessment again by two independent reviewers with recourse to another - final consensus required. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show study and intervention characteristics, relative risk (with confidence intervals) for readmission, relative risk (with confidence intervals) for mortality. Relative risk of readmission is also plotted. *(F) Were the methods for pooling the data appropriate?* Relative risk of readmission and of mortality calculated for IG versus CG members in each of the 8 included studies (one still in progress). Random effects model used to calculate pooled risk ratios & 95% CIs. Two team members used RevMan to conduct independent analyses (which had total agreement). QOL data were not pooled because of the inconsistent use of tools. *(G) Were sources of heterogeneity explored?* Cochrane Q X^2 used to test for heterogeneity. ***Findings. Evidence:*** 8 RCTs. Kappa for inclusion = 0.73 (SE = 0.09). 6 studies randomised equally to each group, one used a 2:1 scheme, resulting in more control group members. Relative risk of readmission: 0.55 (95% CI= 0.33 to 0.97) to 1.07 (95% CI= 0.82 to1.38). Pooled RR = 0.79 (p<0.001). Heterogeneity = satisfactory RR of mortality: 0.49 (95% CI= 0.20 to1.20) to 1.56 (95% CI= 0.88 to 2.76). Pooled RR = 0.98 (p<0.90). Heterogeneity = satisfactory Funnel plot for readmission shows no risk of publication bias. HRQOL measured in four studies. Three studies used validated instruments. Two showed benefits favouring the intervention in the other, both groups showed gains. ***Consistency;*** Readmission 7/8 studies showed benefits. Mixed findings for mortality. Mixed for HRQOL. ***Clinical impact:*** considerable ***Generalisability:*** Mean age overall ranged from 71-83 (SD= 6.8) NYHA ranged from I-IV. Death rates over time not provided, Not completely the same as our population but similar. ***Applicability:*** Countries included Sweden, Netherlands, US, Canada, Australia.

Harding, R. and I. J. Higginson (2003). "What is the best way to help caregivers in cancer and palliative care? A systematic literature review of interventions and their effectiveness." Palliative Medicine 17(1): 63.**Level of evidence: I/III-2.**	
None of the studies reviewed in this paper were eligible for inclusion in our own review for this question.	
Study	**Review quality**
Carer education provision: Ferrell, 1995 Carlsson, 1996 Grahn, 1996 Reele, 1994	*A) Was a clinical question clearly defined* What is the best way to help caregivers in cancer and palliative care? *(B) Was an adequate search strategy used?* MEDLINE (1966 -2001), CINAHL (1982-2001), Cancer Lit (1975-2001), PsycInfo (1967-2001). Keywords were carer(s), caregiver(s), palliative, cancer. More references retrieved via snowballing and hand searching of relevant journals. (*C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria: Papers reporting interventions for adults providing informal care for cancer and palliative care patients – descriptions and evaluations. No process details shown. *(D) Was a quality assessment of included studies undertaken?* Individual studies were graded using documented criteria including design and sample size. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Details of all included intervention studies provided in tables of studies that: designated target population, design, intervention, findings Text summaries were provided also. *(F) Were the methods for pooling the data appropriate?* Data not pooled

	(G) Were sources of heterogeneity explored? N/A. ***Findings (carer education)*** ***Evidence:*** A single group evaluation of a cancer pain education program found that knowledge, attitudes to pain, pain management, and carer burden improved but the outcome was evaluated by the person delivering the intervention. Another (descriptional) study found that information and education appeared to promote understanding & coping, plus enhanced confidence. A study evaluating lectures, discussions, case materials, and written information failed to provide outcome data although participants were said to be better able to cope (recruitment difficulties also cited). In the final study, feasibility of running education sessions was explored and relevant topics identified. ***Consistency:*** too few studies to get a sense of consistency ***Clinical impact of education:*** very preliminary indications of likely benefits rather than harms ***Generalisabilty:*** UK review – studies western. Age of population unknown. Stage of disease probably advanced but not explicitly stated. ***Applicability:*** Findings relevant to Australia.

STUDY DETAILS				
Harrison, M. B., G. B. Browne, et al. (2002). "Quality of life of individuals with heart failure: a randomized trial of the effectiveness of two models of hospital-to-home transition." Medical Care 40(4): 271-282.				
Affiliation/source of funds [2] Queens University, Ontario; Ottawa Health Research Institute, Ontario; McMaster University, Ontario; University of Ottawa, Ontario; Canada. Supported by grant from Health Canada, National Health Research and Development Program				
Study design [3] RCT Analysing effect of hospital to home transitional care on patient quality of life	Level of evidence [4] II	Location/setting [5] Two general medical units of a large urban teaching hospital in Ottawa, Canada.		
Intervention [6] Transitional Care – standard discharge planning and care plus a comprehensive program of support (including nurse led education on disease and counselling) Sample size [7] n=92		Comparator [8] Usual Care (hospital and community primary nurses and home care coordinators) Sample size [9] n=100		
Population characteristics [10] Patients admitted to hospital with diagnosis of congestive heart failure, lived within a radius of 60km, expected to be discharged from hospital with nursing care, English or French speaking, admitted to nursing units for more than 24 hours and not cognitively impaired (<8 on SPMSE).				
Length of follow-up [11] Outcomes measured for 3 m following discharge from hospital.	Outcome(s) measured [12]: health-related QOL, symptom distress and function at 6- and 12-weeks post-discharge from hospital, generic quality of life, medical outcome study short form, and no of all-cause emergency room visits and hospital readmissions.			
INTERNAL VALIDITY				
Allocation [13] Random allocation of participants according to computer generated schedule	Comparison of study groups [14] No sig differences in baseline demographic of clinical characteristics between experimental and control groups.	Blinding [15] Researchers blinded to treatment assignment until after randomisation	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] 35 patients (from 192 – 18%) failed to complete study, no sig difference in demographic or clinical measures between them and study completers
Power Calculations 50 patients were required per group for power of 80%		Reliability and validity of instruments Not reported for MLHF questionnaire used, but all other outcome measures quantitative (eg number of hospital readmissions)		
Overall quality assessment (descriptive) [18] Blinding only of value during group assignment				

RESULTS				
Outcome [19]	Intervention group [20]		Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Health-related quality of life generic quality of life MLHFQ total	Baseline	44.82	44.56	n.s.
	2 weeks	32.39	38.95	n/a
	6 weeks	27.25	37.54	p=0.002
	12 weeks	25.76	38.39	p<0.001
MLHFQ Physical dimension	Baseline	25.46	25.45	n.s.

		2 weeks	18.85	22.53	n/a
		6 weeks	16.37	21.46	p=0.01
		12 weeks	14.89	23.21	p<0.001
MLHFQ Emotional dimension		Baseline	7.78	6.98	n.s
		2 weeks	6.18	6.83	n/a
		6 weeks	4.52	7.25	p=0.006
		12 weeks	4.97	6.92	p=0.068
SF-36: Physical component		T1	28.63	T1 28.35	n.s.
		T2	30.03	T2 28.67	n/a
		T3	30.86	T3 29.35	n.s
		T4	32.05	T4 28.31	p=0.07
SF-36 Mental component		T1	50.49	T1 49.81	n.s
		T2	52.26	T2 49.31	n/a
		T3	53.46	T3 49.53	p=0.052
		T4	53.94	T4 51.03	n.s
SF-36 General health subscales		T1	54.74	T1 55.42	n.s.
		T2	55.10	T2 52.62	n/a
		T3	56.34	T3 48.49	n.s
		T4	54.48	T4 49.31	n.s
Emergency room visits – First visits			29%	46%	P=0.03
- Multiple visits (>1)			32%	50%	Not given
Hospital admissions			23%	31%	P=0.26
	Clinical importance (1-4) [26] 2	Relevance (1-5) [27] 1 Any other adverse effects [28] None mentioned			
EXTERNAL VALIDITY					
Generalisability [29] Patients from this study suffering congestive heart failure in a Canadian setting so very similar to population being considered for guideline in Australia.					
Applicability [30]. Good.					
Comments [31] The intervention resulted in improved quality of life and fewer visits to the emergency room following discharge from hospital among patients with CCF					

STUDY DETAILS				
Hartke, R. J. and R. B. King (2003). "Telephone group intervention for older stroke caregivers." Top Stroke Rehabil 9(4): 65-81.				
Affiliation/source of funds [2] Northwest University, Rehabilitation Institute of Chicago, USA. Funding from Rehabilitation research and training centre grant, enhancing quality of life of stroke survivors, national institute on disability and rehabilitation research and US Department of education.				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community setting in Chicago, USA.		
Intervention [6] Stress and coping intervention (telephone support group) – 8x 1hr education/discussion conference call sessions using manual with specific topics for each session Sample size [7] n=43		Comparator [8] Usual support – given stress management publication which was included as part of the intervention training manual, as well as some written info on stress and stroke. Sample size [9] n=45		
Population characteristics [10] Caregivers were at least 60 years old, lived with stroke survivor, had been providing care for a minimum of 1 month, not in a caregiver support group and having a telephone in their home with sufficient hearing to use it.				
Length of follow-up [11] Baseline (T1), at conclusion of intervention (T2) and at 6 months (T3) – intervention group. Baseline (T1) and at 6 months (T3) – control group (2 measures only).		Outcome(s) measured [12]: depression, loneliness, competence, burden, stress, functional status of the stroke survivor		
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] Participants from treatment group were significantly more distressed at baseline than controls - more depression, burden, loneliness & lower sense of competence ($p<0.05$)	Blinding [15] Not mentioned	Treatment/measurement bias [16] Groups treated the same apart from intervention	Follow-up [17] 25 treatment group participants withdrew and 11 control group participants
Power Calculations Not mentioned		Reliability and validity of instruments Cronbach's alpha reported for questionnaires used in study		
Overall quality assessment (descriptive) [18] Lack of equivalence at baseline which might impact upon findings although comparisons were made between change scores of the intervention and control groups.				

RESULTS				
Outcome [19] Mean change T1-T3	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
Burden interview	-0.54	4.17	P<0.05	
CES-Depression	0.23	0.60	NS	
UCLA-Loneliness	-0.67	0.31	NS	
Stress	- 0.74	- 0.40	NS	
Caregiver competence	0.33	- 0.18	P<0.05	
	Clinical importance (1-4) [26] No confidence intervals			Relevance (1-5) [27] 1
Any other adverse effects [28] None mentioned				
EXTERNAL VALIDITY				
Generalisability [29] Focus of study on the effect of education for family carers of stroke patients in a community setting in the USA. Results from this study, although on a specific population, could be generalised to an equivalent population in the Australian context.				
Applicability [30] The intervention could work in the Australian healthcare system.				
Comments [31] Burden and carer competence were found to be impacted upon significantly by the intervention.				

Hastings, S. N. and M. T. Heflin (2005). "A systematic review of interventions to improve outcomes for elders discharged from the emergency department." Acad Emerg Med 12(10): 978-86. **Level of evidence: I /III-2**	
Any studies included in our own review are asterisked.	
Study	**Review quality**
Caplan, 2004 Mion, 2003 Guttman, 2004 McCusker, 2001 Gagnon, 1999 Weir, 1998 Runciman, 1996 Miller, 1996	*A) Was a clinical question clearly defined?* Objective: to evaluate the evidence for interventions designed to improve outcomes for elders discharged from ED. *(B) Was an adequate search strategy used?* Medline (1966-2005), CINAHL (-2005) Search terms: MEDLINE - geriatric or older adults, or seniors AND MESH geriatric or health services for the aged AND emergency or MESH emergencies; emergency service, hospital; emergency treatment. CINAHL same search with subject headings emergency service AND aged. Hand-searching of reference lists and contact with experts *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria: Describing an intervention to improve outcomes for older adults discharged from the ED. In English Excluded if: • Intervention addressing only patients with a single diagnosis • Delivered only to patients who would otherwise have been hospitalised. Excluded studies not listed Included in the review: 19 observational studies or program descriptions, two controlled trials, 6 RCTs. Our review only extracts data relevant to the 8 trials. *(D) Was a quality assessment of included studies undertaken?* Using a system based upon: random assignment, ITT analyses, blinding of outcome assessors, completeness of follow up. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show study population, setting, intervention, outcomes, results (no stats but in text description of significance)

	(F) Were the methods for pooling the data appropriate? Not pooled. *(G) Were sources of heterogeneity explored?* N/A ***Findings*** ***Evidence:*** One trial had a retrospective control & involved nurse coordinated D/C planning including education, phone follow up, referrals. Reported lower risk of representing in 14 days RR= 0.79 (0.62to1.02) or – adjusted for severity of illness & functional autonomy – RR= 0.74 (0.57 to 0.96) – compared with a pre-intervention cohort. Another trial used matched controls – intervention involved geriatric nurse assessment, recommendations, follow up. No significant difference in subsequent visits or in functional outcomes. 6 RCTs – three enrolled based on age (65+ or 75+), two used at risk screening (ISAR, ADL deficits) plus age. The other did not select by age but 63% aged 65+. One study was not transitional care as it used ED attendance to recruit later. One TC study examined a quick response program and found no change (function, burden - underpowered) Two TC studies included nurse geriatric assessment. One showed decrease NH admission @ 30 days (2 patients versus 9) OR 0.21 (0.05 to 0.99). No change on SF 36. One showed reduction in 4 month functional decline OR0.53 (0.31to0.91) but return visits to ED more likely OR 1.6 (1.0to2.6). No impact on depression or carer outcomes. An Australian TC study used in-home geriatric assessment & multi D outreach follow up (DEED). Control group declined in physical function @ 6m, not so IG, no difference @ 18m. IG admissions in 30 days lower 16.5% v 22.3% (p=0.049) & then at 18m 44.4% v 54.3% (p=0.007) Final one involved UK HV visits for assessment and referral then later OT assessment. IG patients less dependent in IADLs @ 4 weeks (60% v 74%, p=0.027) Reviewer summarises that function can be improved by such programs, especially if at risk candidates are targeted. Evidence re hospital use much less conclusive. ***Consistency;*** Some negative findings re hospital representation as well as positives. Moderate consistency for function. ***Clinical impact:*** impact on function notable ***Generalisability:*** Patients might include those less unwell/disabled than in our review ***Applicability:*** US review of studies from N America, UK, and Australia - applicable.

STUDY DETAILS				
Hébert, R., L. Lévesque, et al. (2003). "Efficacy of a psychoeducative group program for caregivers of demented persons living at home: a randomized controlled trial." The Journals Of Gerontology. Series B, Psychological Sciences And Social Sciences 58(1): S58-67.				
Affiliation/source of funds [2] Sherbrook Geriatric University Institute, Quebec; University of Montreal; Laval University; Montreal centre for Public health; Douglas Hospital Research Centre, Canada. Quebec Health Research Fund, Alzheimers society of Canada, FRSQ Network for Geronto-Geriatric research and Quebec council for social research funded this work.				
Study design [3] RCT	Level of evidence [4] II		Location/setting [5]	
Intervention [6] Psychoeducative program lasting for 15 weeks (2 hour weekly sessions) – involving cognitive appraisal (teaching carers to self identify stressors of dementia present in their specific situation) and coping strategies (learning different types of coping strategies such as problem solving, reframing and seeking social support and when to employ them). Sample [7] 72			Comparator [8] Control – referred to a regular support group program offered by the Alzheimer society or health care organisation in their region. Sample size [9] n=72	
Population characteristics [10] Primary caregivers of a person with dementia for at least the previous 6 months and presenting with moderate to severe burden (using Zarit burden scale), not participating in another support group during the study and caring for a person with dementia who presented with at least 1 behavioural problem each week. Age of care recipient NOT indicated –almost certain to be 70+ yrs, therefore included.				
Length of follow-up [11] Testing before and after intervention (16 week follow-up).	Outcome(s) measured [12]: Self-perceived health, care recipient's disease and caregiving issues were recorded. Outcomes = behavioural and memory problems and the reactions generated in the caregiver), desire to institutionalise care-recipient, level of perceived burden, level of anxiety, level of perceived informational/tangible/emotional and integrative support, as well as care giver psychological distress.			
INTERNAL VALIDITY				
Allocation [13] Random according to mininimisation technique (Pocock 93) and stratified on the caregiver's relationship to the person with dementia (spouse v other) as well as gender.	Comparison of study groups [14] IG had significantly higher scores on the personal efficacy scale and % significant desire to institutionalise (p=0.02 for both). No other differences between groups at baseline.	Blinding [15] Interviewers blinded to group allocation of all participants	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] Failure to follow up 12 participants form IG and 14 participants from CG due to death or institutionalisation of patient or subject no longer primary care giver.
Power Calculations 80% power was estimated to be 64 per group		Reliability & validity of instruments: Cronbach's alpha coefficient for all instruments used in this study		
Overall quality assessment (descriptive) [18] Nearly 20% drop-out in both groups				

RESULTS			
Outcome [19]	Intervention group [20] Mean (SD)	Control group [21] Mean (SD)	Measure of effect size [22] 95% CI and/or p value[23] Post test score comparisons with T1 scores as covariate.
Care giver Reaction			
Disruptive behaviours - caregiver reaction	2.16 (0.84)	2.53 (0.91)	p<0.01
Disruptive behaviours cross product	2.22 (1.88)	2.68 (2.38)	p=0.03
Care Giver Burden	40.07 (14.84)	41.25 (16.55)	p=0.39
Care Giver Anxiety	39.75 (13.24)	43.17 (14.02)	p=0.39
Psychiatric symptoms index	25.01 (6.92)	26.89 (8.16)	p=0.13
Inventory of socially supportive behaviour:			
Supportive	10.27 (3.19)	10.21 (2.75)	p=0.86
Tangible	12.20 (3.55)	11.94 (2.89)	p=0.30
Emotional	22.88 (6.17)	22.61 (5.72)	p=0.64
Integrative	23.91 (6.78)	23.43 (6.01)	p=0.28
Personal efficacy	74.58 (17.64)	71.02 (20.64)	p=0.74
Affective	10.98 (3.55)	10.50 (3.15)	p=0.49
% caregivers with desire to institutionalise patient	Pre – 56% Post – 61%	Pre – 39% Post – 59%	p=0.04
Revised Memory & Behavioural Problem checklist (9 + intervention sessions):			
Care giver Reaction	1.79 (0.72)	2.07 (0.72)	p=0.04
Cross-product	2.81 (1.74)	3.53 (2.13)	p=0.01
Disruptive behaviours - caregiver reaction	2.18 (0.79)	2.53 (0.91)	p<0.01
Disruptive behaviours cross product	2.12 (1.89)	2.68 (2.38)	p=0.02
Care Giver Burden (9+ intervention sessions)	40.29 (13.05)	41.25 (16.55)	p=0.31
Care Giver Anxiety (9+ intervention sessions)	39.67 (13.11)	43.17 (14.02)	p=0.30
Psychiatric symptoms index (9+ I.S.)	24.56 (6.76)	26.89 (8.16)	p=0.06

Inventory of socially supportive behaviour (9+ intervention sessions):			
Supportive	10.20 (3.06)	10.21 (2.75)	p=0.69
Tangible	12.02 (3.10)	11.94 (2.89)	p=0.73
Emotional	22.25 (6.14)	22.61 (5.72)	p=0.57
Integrative	23.79 (6.76)	23.43 (6.01)	p=0.28
Personal efficacy	73.70 (17.81)	71.02 (20.64)	p=0.90
Affective	10.67 (3.23)	10.50 (3.15)	p=0.66

	Clinical importance (1-4) [26] 2	Relevance (1-5) [27] 1

Any other adverse effects [28] None mentioned

EXTERNAL VALIDITY

Generalisability [29] Study evaluates education for care givers of people with dementia in Canadian metro setting so good generalisability to an Australian setting.

Applicability [30] Good

Comments [31] Education of caregivers resulted in a significant decrease in the amount to which disruptive patient behaviour disturbed or upset them, as well as a decrease in the frequency of disruptive behaviours among patients (possibly due to the improved coping strategies of the caregivers).

STUDY DETAILS				
Hepburn, K. W., J. Tornatore, et al. (2001). "Dementia family caregiver training: affecting beliefs about caregiving and caregiver outcomes." Journal Of The American Geriatrics Society 49(4): 450-457.				
Affiliation/source of funds [2] University of Minnesota, Centre on Aging – Uni of Texas, Houston School of Nursing, USA. Grant from national Institute of Nursing Research.				
Study design [3] RCT Examining effect of education on carer wellbeing	Level of evidence [4] II	Location/setting [5] Community based primary caregivers in Texas, USA.		
Intervention [6] "Minnesota Family Workshop" weekly 2-hr carer training for 7 weeks; including provision of information, developing care strategies, role clarification, belief clarification and mastery-focused coaching (carers reporting back to class on putting care strategies into practice). Sample size [7] n= 72 care giver/patient dyads	Comparator [8] Waitlist for training workshop for 5-6months (all measures taken before commencing education program) Sample size [9] n= 45 care giver/patient dyads			
Population characteristics [10] Caregivers were volunteers based in the community who had to have been previously by a doctor about the patient's diagnosis of dementia were relatives of the person with dementia. The care recipients lived in the community setting (not nursing homes) and dementia which had not become too severe (>stage 7b on Functional assessment staging).				
Length of follow-up [11] At project entry (prior to randomisation) and approximately 5 months later (3 months following completion of workshop for treatment group	Outcome(s) measured [12]: Care receiver MMSE, ADL and frequency of problem behaviours; Care giver beliefs (nurturing and monitoring), depression, burden and caregiver reaction to patient behaviour problems.			
INTERNAL VALIDITY				
Allocation [13] Random according to computer program	Comparison of study groups [14] No significant difference in demographic variables or key study measures at baseline between groups for both caregivers and patients	Blinding [15] Not mentioned	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] 23 failed to provide data at 5 month end point (from 117 start – 20%) 12 from treatment and 11 from control
Power Calculations Discussed with respect to differing group sizes	Reliability and validity of instruments Cronbach's alpha reported for all instruments used in study			
Overall quality assessment (descriptive) [18] 17% drop out rate in treatment group, 24% drop out rate in Control				
RESULTS				

Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Scores at 5 months after program entry adjusting for initial scores and care receiver initial MMSE and ADL scores (mean)	Nurturing 27.455	25.068	P=0.25
	Monitoring 61.385	58.283	P=.189
	Behaviour frequency 6.518	6.807	P=.192
	Response to behaviour 4.148	5.790	P=.019
	Depression 11.994	16.086	P=.040
	Burden 53.874	59.446	P=.051

	Clinical importance (1-4) [26] 2	Relevance (1-5) [27] 1

Any other adverse effects [28] None mentioned

EXTERNAL VALIDITY

Generalisability [29] Caregivers examined in this study from community setting in USA looking after patients with specific disease so good generalisability to Australian carers

Applicability [30] Good.

Comments [31] Caregivers who received education had more balanced beliefs about nurturing reported significantly less depression, less burden, and were less bothered by problem behaviours in the patient compared to control group

STUDY DETAILS				
Hepburn, K., M. Lewis, et al. (2007). "The Savvy Caregiver program: the demonstrated effectiveness of a transportable dementia caregiver psychoeducation program." Journal Of Gerontological Nursing 33(3): 30-36.				
Affiliation/source of funds [2] Emory University, Atlanta; Alzheimer's Association Seattle, Washington; University of Michigan, University of Minnesota, USA.				
Study design [3] RCT Effect of education on caregiver wellbeing		Level of evidence [4] II		Location/setting [5] Community based setting in Alaska, Colorado and Mississippi USA
Intervention [6] Savvy Caregiver education program – 6x 2hr education sessions run by leader and supported by manual and CD-ROM or video. Sample size [7] n=30				Comparator [8] Control – not discussed. Sample size [9] n=22
Population characteristics [10] Family caregivers of older adults with Alzheimer's disease & other dementias - not discussed in any detail, inclusion criteria not specified.				
Length of follow-up [11] Baseline collected prior to randomisation, T2 taken 5-6 months later (after intervention).		Outcome(s) measured [12]: Caregiving mastery and competence, caregiver self-assessment of their management of the situation, caregiver's perception of loss of self and loss of relationship with patient. Caregiver depression, burden, affect(?) and distress also measured. Patient activities of daily living measured (ADLs) as well as disruptive behaviours.		
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] No significant difference between groups at baseline.	Blinding [15] None mentioned	Treatment/measurement bias [16] Control group not specified, nor were population characteristics making it difficult to determine treatment or measurement bias.	Follow-up [17] 50 participants (49%) fail to follow-up (52 from 102 completed T2 questionnaires). Analysis revealed completers more highly educated.
Power Calculations Not mentioned		Reliability and validity of instruments Not stated		
Overall quality assessment (descriptive) [18] Very high failure to follow-up by T2. No inclusion criteria specified for study. Control group not discussed.				

RESULTS			
Outcome [19]	Intervention group [20] Mean (p-value for change over time within group)	Control group [21] Mean (p-value for change over time within group)	Measure of effect size [22] 95% CI and/or p value[23]
Relational deprivation Time 1 Time 2	 2.54 2.71	 2.43 2.59	 p=0.595

Carer feelings of role captivity Time 1 Time 2	2.34 2.07	2.17 2.17	p=0.106
Carer Competence Time 1 Time 2	3.05 3.42	3.13 3.28	p=0.208
Carer Mastery Time 1 Time 2	2.82 3.00	2.75 2.74	p=0.019
Loss of Self Time 1 Time 2	1.50 1.45	1.48 1.64	p=0.042
Carer Distress Time 1 Time 2	51.66 48.67	50.94 51.31	p=0.030
	Clinical importance (1-4) [26] 2	Relevance (1-5) [27] 1	
Any other adverse effects [28] None mentioned			
EXTERNAL VALIDITY			
Generalisability [29] Study focused on education program for caregivers of patients with dementia in USA community setting so results would be applicable to guideline population in Australian setting.			
Applicability [30] Several significant clinically important and patient relevant benefits observed in treatment group combined with no listed harms indicates that this intervention would be applicable in the guideline population.			
Comments [31] The Savvy education program resulted in a significantly reduced level of carer distress and loss of self, and a significantly greater feeling of mastery in their role when compared to the control group.			

STUDY DETAILS				
Huang, H.-L., Y.-I. L. Shyu, et al. (2003). "A pilot study on a home-based caregiver training program for improving caregiver self-efficacy and decreasing the behavioral problems of elders with dementia in Taiwan." International Journal Of Geriatric Psychiatry 18(4): 337-345.				
Affiliation/source of funds [2] Chang Gung Institute of Technology, Taiwan; Chang Gung University, Taiwan; Chang Gung Hospital, Taiwan; National Yang-Ming University; Taiwan.				
Study design [3] Pseudo-randomised control trial	Level of evidence [4] III-1	Location/setting [5] Community based setting in northern Taiwan.		
Intervention [6] Experimental Group – 2 sessions (1 per week) of in home caregiver training program (accompanied by information manual) to educate and formulate strategies for coping with dementia behaviour problems. 2 follow up phone calls (1 per week for 2 weeks) then check on progress and help problem solve if difficulties had arisen. Sample size [7] n=24		Comparator [8] Control group – written education only. General information pamphlets about dementia combined with 2 social contact phone calls (1 per week for 2 weeks) without discussion of dementia behavioural problems. Sample size [9] n=24		
Population characteristics [10] Family carers of people diagnosed with dementia by psychiatrist or neurologist. Also, had scores of 50 or above on Cohen-Mansfield Agitation Inventory (CMAI). Mean age of care recipients >75 yrs				
Length of follow-up [11] Baseline (T1) then 3 weeks post-education (T2) and 3 months post-education (T3).	Outcome(s) measured [12]: Behavioural problems of patients with dementia, Caregiver self efficacy for managing patient behaviours			
INTERNAL VALIDITY				
Allocation [13] Alternate allocation based on patient registration number – odd numbers joined IG, even numbers joined CG.	Comparison of study groups [14] No significant difference between groups for any variables.	Blinding [15] blinded to group allocation	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] IG- 6 fail to follow up CG- 5 fail to follow up
Power Calculations Not discussed		Reliability and validity of instruments Not discussed		
Overall quality assessment (descriptive) [18] Sample size of each group relatively small, allocation of patients to groups could have been done with better method, statistical comparison between groups not mentioned or discussed at all throughout entire article, yet presented in abstract.				

RESULTS							
Outcome [19]	Intervention group [20]			Control group [21]			Measure of effect size [22] 95% CI and/or p value[23]
	Pre Test (T1)	Post-Test (T2)	Post-Test 2 (T3)	Pre Test (T1)	Post-Test (T2)	Post-Test 2 (T3)	
Self-efficacy:							
Agitation inventory	138.83	153.33	164.75	134.50	133.46	135.50	
Physically non-aggressive	22.54	25.13	28.17	21.71	21.83	22.42	
behaviours	23.96	25.96	27.33	22.21	22.25	22.38	
Physically aggressive behaviours	23.21	26.08	27.58	24.54	24.17	24.21	All measures significantly higher in intervention
Verbally non-aggressive behaviours	13.21	14.67	16.13	14.33	13.00	13.17	group ($p<0.05$) by T3. Difference in change scores said to be
Verbally aggressive behaviours							significant.
Clinical importance (1-4) [26] No confidence intervals			Relevance (1-5) [27] 1				
Any other adverse effects [28] None mentioned							
EXTERNAL VALIDITY							
Generalisability [29] This study evaluates the effectiveness of an education program for care givers of people with dementia in a Taiwanese community setting so the potential for the results to be generalised to an Australian setting exists if caution of cultural considerations is taken into account.							
Applicability [30] Good							
Comments [31] All measures of patients behavioural problems (except physically aggressive sub-scale) decreased sig. over time in intervention group and were significantly lower ($p<0.05$) than observed in controls. There was a trend towards reduced physically aggressive behaviours in both groups. Self efficacy measures increased sig. in the intervention group compared to controls.							

STUDY DETAILS		
Hughes, S. L., F. M. Weaver, et al. (2000). "Effectiveness of team-managed home-based primary care: a randomized multicenter trial." JAMA: The Journal Of The American Medical Association 284(22): 2877-2885.		
Affiliation/source of funds [2] health Services research and Development Service and the Co-operative Studies Program of DVA, Washington DC.		
Study design [3] Multi site RCT	Level of evidence [4] II	Location/setting [5] 16 VA medical centres with Home Based Primary Care (HBPC)
Intervention [6] Team managed HBPC (TM/HBPC) : targeted care to high risk patients, designated pc manager within team, 24 hour contact for pt, prior approval of scheduled hospital re-admissions, transfer stable re-admitted pts to step down beds, involve HBPC team in readmission discharge planning Sample size [7] 981 Patients, Carers 937		Comparator [8] Any VA services that they were eligible for and non-VA post acute services such as Medicare home health, hospice care, and were encouraged to speak to their physicians about aftercare needs NO HBPC Sample size [9] Patients 985 Carers 946
Population characteristics [10] Lived within 25-35 mile catchment of hospital's HBPC program. Patients(N= 1966) 90% male, mean age 70 yrs, 30% African American, 30% income< US$10,000 per annum, severe disability (75%) or a prognosis of terminal illness (20%), severely disabled with CHF or COPD (5%). Across all diagnostic groups 55% had CHF or COPD. Pts had a mean of 3.2 ADL impairments – most common bathing, dressing, and transferring. 80% lived with a family carer. Majority of pts were at medium to high risk of re-hospitalisation and 88% had been hospitalised in last 6 months Caregivers: (N= 1883) Mainly female, mean age 62 yrs		
Length of follow-up [11] 12 months Repeat measures of patient and carer outcomes measured at baseline, 1, 6, and 12 months. Health care use and cost data were monitored continuously over 12 months		Outcome(s) measured [12]: Patient functional status – Barthel Index, Cognitive impairment -Short Portable Mental Status Questionnaire, risk of hospitalisation – Smith Comorbidity Index Pt and care HR Qol's – Medical Outcomes Study SF 36 (subscale items aggregated into Mental Component Scale (MCS) and Physical Component Scale (PCS). Pt and care satisfaction with pts care- Ware Satisfaction with Care Scales. Caregiver burden –Montgomery Scale (objective and subjective burden.

INTERNAL VALIDITY				
Allocation [13] Randomised post consent by phone call to statistical coordination centre	Comparison of study groups [14] Baseline characteristics of both groups using X2, t test and Wilcoxon rank-sum test where appropriate. NSD between groups for pts & carers	Blinding [15] Not reported	Treatment/measurement bias [16] Study personnel trained in implementation and protocol. Same measurements for both groups	Follow-up [17] Treatment group: 981 assigned, 849 at 1 month, 660 at 6 months, 331 completed Control group 985 assigned, 855 at 1 month, 649 at 6 months, 336 completed
Power Calculations No		Reliability and validity of instruments Referenced -no psychometric data provided		
Overall quality assessment (descriptive) [18] Strong design, adequate sample, NSD between study groups at baseline. Research personnel trained in study protocol and measurement and instruments referenced as valid and reliable.				

RESULTS				
Outcome [19]	TERMINAL GROUP (n=188) Tx effect coefficients HBPC Minus control (SE) P value for treatment	NON TERMINAL GROUP (N=906) Tx effect coefficients HBPC Minus control (SE) P value for treatment Please see article for full figures	Effect size [22] 95% CI and/or p value [23]	Outcomes are reported first in terms of treatment effect coefficients for the terminally ill and non terminally ill groups within the study. Positive co-efficients indicate a treatment effect favourable to the TM/HBPC group We have generally extracted more detailed figures for the terminally ill group only as the most relevant to our review
Patient functional status – Barthel	NS	NS	NS	

Patient HR- QoL (MOS SF-36)	Co-Eff (SE) p			
Physical function	-0.1 (3.5) 0.88	NS (neg)		
Role function-physical	2.4 (5.4) 0.55	NS (neg)		
Role functional - emotional	12.7 (6.3) <.001	NS (pos)		
Social function	0.6(4.6) 0.03	NS (pos)		
Bodily pain	2.4(3.9) 0.02	0.006 (neg)		
Mental health	3.0(2.7) 0.008	NS (pos)		
Vitality	1.8(3.0) 0.05	NS (pos)		
General health	0.9(2.8) 0.03	NS (neg)		
Physical components	-0.5 (8.7) 0.71	NS (neg)		
Mental components	1.4 (1.7) 0.41	NS (pos)		
Carer rated Barthel	Positive coefficient but NS	Negative coefficient p=0.001	NS	
Carer HR- QoL (MOS SF-36)				
Physical function	5.4(2.0) .001	-0.1(1.2) <.001		
Role function-physical	6.4(4.2) .04	NS		
Role functional - emotional	9.4(4.7) <.001	NS		
Social function	2.4(2.9) .005	3.8(1.4) <.001		
Bodily pain	5.4(2.7) .004	2.1(1.4) .004		
Mental health	4.3(2.1) .03	1.7(1.0) .001		
Vitality	NS	2.3(1.1) <.001		
General health	NS	3.1(0.9) <.001		
PCS	NS	1.1(04) .01		
MCS	2.1(1.1) .06	1.3(0.5) .01		

Caregiver burden Objective subjective	 NS NS	 -0.7(0.3) .008 NS		
				Effects on VA readmissions are compared between treatment and control groups over the whole sample and within subgroups (terminal, severely disabled but not terminal, CHF, COPD)
Effect of treatment on readmission over whole sample By disease group	Months 1-6 proportion readmitted in IG = 49.2 Months 1-12 proportion readmitted in IG = 61.2	Months 1-6 proportion readmitted in CG = 53.4 Months 1-12 proportion readmitted in CG = 63.3	P=0.07 P=0.35	Mean number of readmissions also not significantly different between IG & CG. Mean number of rehospitalisations also not significantly different between IG & CG. Only significant difference when disease groups examined – severely disabled IG members had significantly fewer readmissions @ 6m mean 0.7 (1.0) versus 0.9 (1.2) p=0.03.
	Clinical importance (1-4) [26] no confidence intervals		Relevance (1-5) [27] 1	
Any other adverse effects [28] No				
EXTERNAL VALIDITY				
Generalisability [29] Yes				
Applicability [30] Yes , depending on availability of services but crisis care was only one aspect of the intervention.				
Comments [31] Terminally ill patients demonstrated significant improvements in HR-QoL, including a 13 point gain in emotional role functioning (social, bodily pain, mental health, vitality, general health) compared with controls. All caregivers in the treatment group (terminal and non-terminal) demonstrated significant improvements in HR-QoL,. Very little impact on hospitalisation.				

Hyde, C. J., I. E. Robert, et al. (2000). "The effects of supporting discharge from hospital to home in older people." Age Ageing 29(3): 271-9. **Level of evidence: I /III-I**	
No studies were included in our own review.	
Study	**Review quality**
Donald, 1995 Dunn, 1994 Hansen, 1992 Hansen, 1995 Martin, 1994 Melin, 1992 Nielsen, 1972 Townsend, 1998 Williams, 1992	*A) Was a clinical question clearly defined?* In older adults (65+) with undifferentiated clinical problems, what are the effects of supported D/C after an acute admission? *(B) Was an adequate search strategy used? keyword searches of electronic databases* **Keywords** Author states "a wide range of MeSH and free-test key words" (p. 272) **Databases:** CINAHL, MEDLINE, PsycLit, Cochrane Library, Social Science Citation Index – all until end of 1997. Hand searching of relevant journals and reference lists, contact with authors of funded studies, enquiries to King's Fund Institute. ***Inclusion criteria were:*** Undifferentiated clinical problems – analysis not confined to a particular problem Supported D/C = additional support to patients or carers from any source within a week of D/C At least 70% aged 65+ RCTs or quasi RCTs when control = non-support or usual support, any outcomes Nine studies included with supplementary unpublished data for two. *(D) Was a quality assessment of included studies undertaken?* Yes – using framework suggested by Cochrane Collaboration – emphasis on examining: Selection bias – sample size Selection bias – allocation concealment Attrition bias Detection bias – outcome assessed without allocation knowledge Two people extracted data independently and assessed quality independently. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show target population, IG and CG details, outcomes examined, openness to bias in selection, attrition, detection.

	Also tables of results and Forest plots. *(F) Were the methods for pooling the data appropriate?* RevMan and EasyMA software – summary ORs using Peto method. To refine conclusions. *(G) Were sources of heterogeneity explored?* Conclusions from meta analysis only refined when NS heterogeneity. ***Findings*** ***Evidence:*** 9 studies, unclear how many were RCTs because details inadequate in many papers – 3 seem definite. D/C support variable in time over which provided, all had either small samples or poor/unclear allocation concealment (selection bias). Patient and carer satisfaction reported but details not extracted here. Mortality (9 trials – two showed possible mod-high attrition bias, 7 included in meta analysis, heterogeneity NS) Pooled data: OR= 1.00 (0.80 to 1.3) – no effect Functional status (6 trials – substantial attrition). No results regarded as helpful. Institutionalisation (7 trials – substantial variation in way this was measured precluded meta-analysis). Clear & consistent pattern of results showing positive effects from the intervention Hospitalisation (8 trials - variation in way this was measured precluded meta-analysis) – no clear pattern – two studies showed no difference, four showed positive outcomes, two showed negative outcome. Effects sizes small. At home (5 trials). Little heterogeneity. OR = 1.4 (1.1to 2.0) – positive effect. ***Consistency:*** General consistency except for hospitalisation (some negative impact). ***Clinical impact:*** relative certainty that there is an impact on remaining at home as opposed to being in aged care ***Generalisability:*** Population for this review probably generally appropriate ***Applicability:*** Studies from N. Europe & US

STUDY DETAILS				
Inglis, S. C., S. Pearson, et al. (2006). "Extending the horizon in chronic heart failure: effects of multidisciplinary, home-based intervention relative to usual care." Circulation 114(23): 2466-2473.				
Affiliation/source of funds [2] National Heart Foundation and National Health and Medical Research Council of Australia				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Adelaide community South Australia		
Intervention [6] Home based intervention (HBI):Usual care + structured home visit within 7-14 days of discharge by nurse and pharmacist or qual cardiac nurse: physical examination review of adherence and knowledge of condition and prescribed tx, assessment of social support, factors likely to increase immediate and long term probability of readmission or death identified, remedial action taken, comprehensive report to PCP. Follow up phone call over following 6 months. Sample size: 149			Control [8] usual care (UC) : usual levels of post discharge planning-follow up included an appointment with PCP and cardiology clinic 14 days post discharge Sample size: 148	
Population characteristics [10] Elderly patients (mean age75yrs) with heart failure (NYHA class II/III/IV), 56% male, approx 37% living alone. Approx 60% had a previous admission for HF and 30-55% had co-morbidities (past MI, chronic hypertension, COAD, non insulin dependent diabetes).				
Length of follow-up [11] 7.5 – 10 years	Outcome(s) measured [12]: all cause mortality, composite end point of event free survival (mortality or re=admission), frequency, length of stay and type of admission, and health care utilisation			
INTERNAL VALIDITY				
Allocation [13] Computer generated randomisation	Comparison of study groups [14] NO: Descriptive data for each group only	Blinding [15] YES	Treatment/measurement bias [16] Same measures for each group	Follow-up [17] 3 (2 int, 1 control) lost to follow - up
Power Calculations NO	Reliability and validity of instruments [12] Data obtained from medical records			
Overall quality assessment (descriptive) [18] Good quality, although baseline statistical group comparison not reported				
RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
All cause mortality Median survival (months)	114 (77%) 40	132 (89%) 22	p = .00006	
Event free survival (days)	1448±1187	1010±999	p = <.001	
Re-admissions /patient/yr	2.04±3.23	3.66±7.62	p = .039	
Days of recurrent hospital stay/pt/yr	14.8± 23.30 (4312)	28.4 ±53.4 (4671)	P = .045	
Av length of stay	8.2± 5.5	8.8± 6.5	NS	
Healthcare costs			Cost benefit of HBI est at AU $1729 per life-year gained	
	Clinical importance (1-4) [26]3		Relevance (1-5) [27] 3 1	

Any other adverse effects [28] NO
EXTERNAL VALIDITY
Generalisability [29] Yes
Applicability [30] yes
Comments [31] the effects of a nurse-led, multidisciplinary home based intervention in a typically elderly cohort of patients with chronic heart failure were studied for up to 10 yrs of follow-up. The authors report significant benefits for the HBI group namely prolonged survival and reduced frequency of recurrent hospitalisations. Some quality of life measures would have provided important information for this population

STUDY DETAILS			
Jaarsma, T., R. Halfens, et al. (1999). "Effects of education and support on self-care and resource utilization in patients with heart failure." European Heart Journal 20(9): 673-682.			
Affiliation/source of funds [2] University of Maastricht, University Hospital Maastricht, Netherlands; University of California, Los Angeles. Grant :Netherlands Heart Foundation.			
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] General heart failure population from Maastricht Hospital, Netherlands.	
Intervention [6] Nurse led education and support – lasting from hospital admission until 10 days after discharge from hospital. Program involved education about disease and support to patient and family, patients could call nurse in case of problems or questions once discharged (within 10 day period). Sample size [7] n=95			Comparator [8] Usual Care – patients received standard care (no formal education or follow up calls/nurse visits in the home). Sample size [9] n=84
Population characteristics [10] Patients admitted to the cardiology ward with symptoms of heart failure, NYHA functional class III or IV, diagnosis of heart failure within previous 3 months, over 50 years of age and literate in Dutch. Patients did not have any co-existing severe/chronic or debilitating diseases, no psychiatric diagnosis and did not live in a nursing home. Also, patients had not have valve replacement surgery within the previous 6 months nor did they intend to have such surgery within 3 months of inclusion in study. Mean age was 73.			
Length of follow-up [11] 9 months (phone call 1 month post discharge + patient visit by nurse for interview at 3 months and 9 months post-discharge from hpl).		Outcome(s) measured [12]: Ability for patient to self-care, self care behaviour and patient resource utilisation.	

INTERNAL VALIDITY				
Allocation [13] Random (by selection of sealed envelop with group allocation inside)	Comparison of study groups [14] No significant difference between control group and intervention group for any demographic or clinical variables measured.	Blinding [15] Not mentioned	Treatment/measurement bias [16] Groups treated/ measured same apart from intervention.	Follow-up [17] CG – 10 (12%) fail to follow up. IG – 37 (39%) people fail to follow up
Power Calculations Not mentioned		Reliability and validity of instruments Cronbach's alpha coefficients reported for instruments		
Overall quality assessment (descriptive) [18] High attrition rate mainly due to death – IG 26% died in 9m, CG 17% died in CG.				

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Ability for patient to self-care (ASA) 0 month 3 month 9 month	 89 92 91 (estimated from figure)	 92 94 96 (estimated from figure)	Not significantly different between the two groups at any time
Heart Failure self care behaviour 0 months	8.5	9.5	n.s.

1 months	14	12	p=0.001
3 months	12.2	10.6	p=0.05
9 months	11.2 (estimated from figure)	10.3 (estimated from figure)	p=0.106
Readmission - % of patients <u>All Causes</u>			
1 month	13	15	n.s.
3 months	26	31	n.s.
9 months	37	50	p=0.061
<u>Cardiac Causes</u>			
1 month	10	12	n.s.
3 months	21	24	n.s.
9 months	29	39	p=0.096
Readmission days - No. (mean ± SD)			
<u>All Causes</u>			
Within 1 month	170 (2.2 ± 7)	207 (2.3 ± 7)	n.s.
Within 3 months	430 (5.1 ± 11)	485 (5.1 ± 11)	n.s.
Within 9 months	768 (9 ± 18)	861 (9 ± 18)	n.s.
<u>Cardiac Causes</u>			
Within 1 month	102 (1.2 ± 4)	183 (1.9 ± 7)	n.s.
Within 3 months	252 (3 ± 7)	393 (4.1 ± 10)	n.s.
Within 9 months	427 (5.1 ± 11)	681 (7.1 ± 15)	n.s.

Clinical importance (1-4) [26] 2	Relevance (1-5) [27] 2	Any other adverse effects [28] Not mentioned

EXTERNAL VALIDITY

Generalisability [29] Should be generalisable this specific guideline population within an Australian setting

Applicability [30] Good.

Comments [31] The transition support program (education and support from nurse while in hospital and then at home) significantly increased the level of self-care behaviour among patients with heart failure and it was maintained to significantly high levels at 9 months post-discharge from hospital.

STUDY DETAILS			
Jaarsma, T., R. Halfens, et al. (2000). "Self-care and quality of life in patients with advanced heart failure: the effect of a supportive educational intervention." Heart Lung 29(5): 319-30.			
Affiliation/source of funds [2] University of Maastricht, University Hospital Maastricht, Netherlands; University of California, Los Angeles. Grant from Netherlands Heart Fdn.			
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] General heart failure population from Maastricht Hospital, Netherlands.	
Intervention [6] Nurse led education and support – lasting from hospital admission until 10 days after discharge from hospital. Program involved education about disease and support to patient and family, patients could call nurse in case of problems or questions once discharged (within 10 day period). Sample size [7] n=95			Comparator [8] Usual Care – patients received standard care (no formal education or follow up calls/nurse visits in the home). Sample size [9] n=84
Population characteristics [10] Patients admitted to the cardiology ward with symptoms of heart failure, NYHA functional class III or IV, diagnosis of heart failure within previous 3 months, over 50 years of age, literate in Dutch. Patients did not have any co-existing severe/chronic or debilitating diseases, no psychiatric diagnosis and did not live in a nursing home. In addition, patients had not have valve replacement surgery within the previous 6 months nor did they intend to have such surgery within 3 months of inclusion in study.			
Length of follow-up [11] 9 months (phone call 1 month post discharge + patient visit by nurse for interview at 3 months and 9 months post-discharge from hospital).			Outcome(s) measured [12]: Ability for patient to self-care, self care behaviour, quality of life, symptom severity and symptom distress.

INTERNAL VALIDITY				
Allocation [13] Random (selection of sealed envelope)	Comparison of study groups [14] Patients in control group had significantly more myocardial infarction in history.No other significant difference	Blinding [15] Not mentioned	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] IG – 22 (26%) people died during study CG – 16 (17%) people died during study 5% listed as failing to follow up from both groups.
Power Calculations Not mentioned	Reliability and validity of instruments Cronbach's alpha coefficients reported for instruments used			
Overall quality assessment (descriptive) [18] Blinding not discussed, a lot of missing data and high attrition.				

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Symptom severity Baseline 1month 3months 9months	 7.6 (2.2) - 5.4 (2.8) 5.3 (2.8)	 6.7 (2.4) - 5.8 (2.8) 5.9 (2.3)	

Symptom distress			
Baseline	7.5 (2.6)	6.7 (2.8)	
1month	-	-	
3months	5.2 (3.2)	5.5 (3.1)	
9months	5.3 (2.9)	5.9 (2.7)	
Psychosocial adjustment to illness			
Baseline	36.2 (16.0)	35.3 (19.4)	
1month	-	-	
3months	31.9 (20.7)	30.4 (20.3)	
9months	28.4 (20.7)	29.2 (21.3)	
Overall well-being			
Baseline	6.8 (2.2)	6.3 (2.2)	
1month	7.2 (1.5)	6.4 (2.1)	
3months	6.6 (2.0)	6.7 (1.9)	
9months	6.7 (1.9)	6.2 (2.1)	
Change in symptom severity and symptom distress			Note: differences became non-significant after
Symptom severity			corrections for missing data
Baseline to 3months	-2.1 (3.6)	-0.7 (3.5)	p=0.07
Baseline to 9 months	-2.6 (3.3)	-0.6 (3.8)	p=0.02
Symptom distress			
Baseline to 3months	-2.5 (4.0)	-1.3 (3.7)	p=0.14
Baseline to 9 months	-2.6 (3.3)	-0.8 (3.7)	p=0.04

Clinical importance (1-4) [26] 3	Relevance (1-5) [27] 1	Any other adverse effects [28] None mentioned

EXTERNAL VALIDITY
Generalisability [29] Results from this study should be generalisable this specific guideline population within an Australian setting
Applicability [30] Good
Comments [31] Self-care ability and self-care behaviour was observed to improve at 1 month ($p<0.001$) and 3 months ($p<0.005$) in the intervention group, but this returned to a level equivalent to the control by the end of the study period. QOL improved in both groups but there was no significant difference observed as a result of treatment.

STUDY DETAILS				
Kimmelstiel, C., D. Levine, et al. (2004). "Randomized, controlled evaluation of short- and long-term benefits of heart failure disease management within a diverse provider network: the SPAN-CHF trial." Circulation 110(11): 1450-1455.				
Affiliation/source of funds [2] Fannie E Rippel Foundation and Hewlett-Packard Corp				
Study design [3] Prospective RCT	Level of evidence [4] II	Location/setting [5] Massachusetts and Rhode Island 6 sites :hospital, community and cardiology practices		
Intervention [6] Home visit by nurse (45-90 mins) re diet, medical compliance, self monitoring and reporting, handbook provided for pt and family plus contact numbers. Cardiovascular examination and symptom assessment. Follow up with weekly or bi-weekly phone call. 24 hr phone support. Intervention continued for 90 days after randomisation. After 90 days pts received passive surveillance (nurse available for incoming calls) Sample size: 97		Control [8] Not described Sample size: 103		
Population characteristics [10] Patients hospitalised with primary diagnosis of HF, NYHA class II/III (55%/ 43%), mean age approx 72 yrs, 40% female,				
Length of follow-up [11] 3 mths and 12 mths Intervention 290 days (48-366) Control 277 (1-366)		Outcome(s) measured [12]: Hospitalisations during first 90 days, cardiac hospitalisations, all-cause hospitalisations, no of days hospitalised /pt/year of follow up for HF, cardiac and all cause hospitalisations and hospitalisations and hospital days over up to 1 yr of follow up		
INTERNAL VALIDITY				
Allocation [13] Computer generated randomisation	Comparison of study groups [14] Yes. Control group slightly older than intervention (p.05)	Blinding [15] Yes	Treatment/measurement bias [16] Same measures	Follow-up [17] During 90 day intervention: 4 intervention and 5 control pts died. At 12 months: 11(11.3%) intervention and 14(13.6%) control pts died
Power Calculations No		Reliability and validity of instruments [12] Hospital medical records		
Overall quality assessment (descriptive) [18] Good quality, however, usual care not reported.				

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
90 day outcomes Hospitalisations (Mean± SE per patient per year)			RR p
Heart failure	0.55± 0.15	1.14 0±22	0.48 .027
Cardiac	0.81± 0.19	1.43± 0.24	0.57 .043
All	1.49 ±0.25	1.68± 0.26	0.89 .61
Stay in hospital l(Mean± SE per patient per year)			
Heart failure	4.3± 0.4	7.8± 0.6	0.54 .001
Cardiac	6.6± 0.5	10.4± 0.7	0.64 .001
All	10.6± 0.7	11.5± 0.7	0.92 .34
Effect not sustained over long term (12 months)			
	Clinical importance (1-4) [26] 1	Relevance (1-5) [27] 2	
Any other adverse effects [28] NO			
EXTERNAL VALIDITY			
Generalisability [29] (relates to population) Yes			
Applicability [30] yes			
Comments [31] This study reported on effectiveness of HF disease management delivered for 90 days in a population (n-200) of elderly patients with HF including 24 hour support Results show that the intervention produced significant short term improvement in HF related outcomes (hospitalisations/stays in hospital) but no longer term benefits			

STUDY DETAILS					
Krumholz, H. M., J. Amatruda, et al. (2002). "Randomized trial of an education and support intervention to prevent readmission of patients with heart failure." J Am Coll Cardiol 39(1): 83-9.					
Affiliation/source of funds [2] Yale University School of Medicine, Yale-New Haven Hospital, Emory University School of Medicine.					
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Hospital and home setting of a major university teaching hospital in Connecticut,			
Intervention [6] Teaching modules – Initial face-to-face 1-hr session with cardiac nurse involving an evaluation to identify patient gaps in disease knowledge and then education, and then follow-up telephone sessions to review knowledge and provide support for patients to apply knowledge and practice seeking access to care. Telemonitoring occurred 1xweek for 4 weeks, then 1xfortnight for 8 weeks, then 1xmonth for the rest of the 1-year intervention. Sample size [7] n=44			Comparator [8] Not described Sample size [9] n=44		
Population characteristics [10] Patients older than 50 who met clinical criteria for heart failure on admission to hospital. Patients must have resided within the state of the study hospital and could not have been transferred from another hospital or from nursing homes and did not have terminal illness or other non-cardiac diseases. Mean age 74 years.					
Length of follow-up [11] Baseline then 1 year follow-up			Outcome(s) measured [12]: Patient readmission or death, number of all-cause and HF-related admissions, number of days in hospital, cost of readmissions.		
INTERNAL VALIDITY					
Allocation [13] Random (method not described)	Comparison of study groups [14] Intervention group were significantly older (p=0.050), had less prior coronary artery bypass graft surgery (p=0.029) and used less Calcium channel blockers. Differences adjusted for in analysis.	Blinding [15] Not mentioned	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] 9 patients died (20.4%) in intervention group and 13 patients (39.5%) died from control group, although this was taken as an outcome measure.	
Power Calculations Not mentioned		Reliability and validity of instruments Not applicable			
Overall quality assessment Days in hospital/pt yr [18] Well designed clinical study, no easily discernable flaws.					
RESULTS					
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]		
Patient Readmissions					
All cause readmission/death during f-up	56.8%	81.8%	p=0.01		
HF/other CVD readmission or death	50%	79.6%	p=0.04		
HF readmission or death	40.9%	68.2%	p=0.01		

≥ 1 readmission	27.3%	47.7%	p=0.05	
≥ 2 readmissions	13.6%	25.0%	p=0.18	
Deaths	20.4%	29.5%	p=0.33	
Number of readmissions				
Number all-cause readmissions in 12m	n=49	n=80	p=0.06	
HF / other CVD readmission	35	66	p=0.03	
HF readmission	22	42	p=0.07	
Hospital days				
All-cause readmission	10.2	15.2	p=0.09	
HF/ other CVD readmission	6.3	12.3	p=0.03	
HF readmission	4.1	7.6	p=0.1	
Proportional hazards				
Time to first all-cause readmission	.56 (RR)		p=0.03	
Time to first HF or CVD readmission	.51 (RR)		p=0.02	
Tie to first HF readmission	.51 (RR)		p=0.04	
Median time from discharge to all-cause readmission or death	193 days	126 days		

	Clinical importance (1-4) [26] 2	Relevance (1-5) [27] 1

Any other adverse effects [28] None mentioned

EXTERNAL VALIDITY

Generalisability [29] Well designed RCT focusing on transitional care program for patients with heart failure in US hospital/community transition setting. Results from this study should be highly generalisable to an Australian population.

Applicability [30] Good.

Comments [31] Significantly better survival was observed for patients enrolled in the transitional care program (p=0.007) compared to controls.
The transition care program was associated with a 39% decrease in total number of patient readmissions (p=0.06). The intervention group had a significantly lower risk of readmission compared to the control group (p=0.03) and total hospital readmission costs for this group were also significantly lower (p=0.02).

STUDY DETAILS				
Ledwidge, M., M. Barry, et al. (2003). "Is multidisciplinary care of heart failure cost-beneficial when combined with optimal medical care?" European Journal of Heart Failure 5(3): 381-389.				
Affiliation/source of funds [2] St Vincent's University Hospital, Ireland; St James' Hospital, Ireland. Funding from Irish Heart Foundation and Servier Laboratories, Ireland.				
Study design [3] RCT	Level of evidence [4] II		Location/setting [5] Hospital and community setting (transition) in Ireland.	
Intervention [6] Multi-disciplinary care – specialist heart failure (HF) management and drug administration plus 3 or more specialist nurse-led disease and diet education sessions. Phone checks (education reinforcement) on day 3 post-discharge then weekly until 3 month study endpoint. Sample size [7] n=51			Comparator [8] Routine Care - specialist HF management and drug administration only. Sample size [9] n=47	
Population characteristics [10] Patients were aged over 18 and selected from those admitted to St Vincent's University Hospital with a diagnosis of HF as primary health problem. Patients involved in the study had no illness which could compromise their survival for the length of the study. Mean age 78, NYHA IV				
Length of follow-up [11] Baseline plus 3 months.	Outcome(s) measured [12]: Cost-benefit of intervention, dosages of drugs taken for disease, amount of contact (time) with health care professionals, knowledge of disease and diet, readmissions, overall quality of life.			

INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] Seemingly no significant difference between groups at baseline (raw data presented but no point estimates)	Blinding [15] Not mentioned	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] 3 patients from each group were mentioned to have died (and thus failed to complete study), but this area of discussion not well covered/unclear in article.
Power Calculations Not mentioned.			Reliability and validity of instruments Most measurements were quantitative (eg cost of care), reliability not mentioned for quality of life questionnaire.	
Overall quality assessment [18] Outcomes to be assessed not mentioned until results section.				

RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
Knowledge and diet at discharge:				
Knowledge of HF	16.3	13.1	P<0.01	
Knowledge of diet	8.3	6.6	P<0.01	

Readmissions, death and hospitalizations at 3 months: HF readmission Days of hospitalisation Hospital deaths Out of hospital deaths	 n=2 17 1 2	 n=12 195 1 2	 P<0.01 Not reported	
Quality of life score	29	40	P=0.10	
	Clinical importance (1-4) [26] 2		Relevance (1-5) [27] 1	
Any other adverse effects [28] Extra specialist trained hospital staff required for intervention to proceed, but overall more cost effective than using their time for this intervention				
EXTERNAL VALIDITY				
Generalisability [29] Focus of this study is a post-acute transitional care program of people with heart failure living in the community in Ireland, UK. Results from this study should therefore be generalisable to a similar population within an Australian setting.				
Applicability [30] Good.				
Comments [31] The intervention cost €5860, with an average cost per patient of €113, resulting in a net cost saving of €37216 over the study period (€729 per patient). Intervention group participants had significantly better knowledge about their disease and diet.				

Lee, H. and M. Cameron (2004). "Respite care for people with dementia and their carers." Cochrane Database Of Systematic Reviews (Online)(2): CD004396. **Level of evidence: I.**	
Studies included in our own review are asterisked. Others listed failed to meet our selection criteria.	
Study	**Review quality**
Wishart, 2000 Lawton, 1989 Grant, 2003*	*A) Was a clinical question clearly defined?* From objectives: To examine benefits and adverse effects of respite care for people with dementia and their caregivers. *(B) Was an adequate search strategy used?* Search of Specialized Register of Cochrane Dementia and Cognitive Improvement Group – search terms, respite and day care. Searched 2003, updated 2005 but no new trials found. Register in 2005 had records from: CENTRAL: Jan 2005 MEDLINE 1966-2005 EMBASE 1980 -2005 PsychINFO 1887-2005 CINAHL 1982-2005 SIGLE 1980-2004 ISTP to May 2000 INSIDE to June 2000 Aslib Index to theses (UK & Ireland) 1970-2003 Dissertation abstracts (USA 1861 – 3003

	ADEAR to 2005 National Research Register 2005 Current Controlled Trials to 2005 NIH ClinicalTrials.gov to 2005 LILACS to 2003 States that search strategy for some databases can be found in group's module. (*C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria: All unconfounded RCTs in which respite care was an intervention for people with dementia and their carers Studies including people of any age or sex with dementia of any type according to DSM-IV, ICD-!), or NINCDS-ADRDA criteria. Other standardised approaches to diagnosis considered acceptable. Studies trialling any intervention that provided respite care – any service or group of services designed to provide temporary relief/rest for carers in the community or in an institution for less than 50% of total care time. Control groups received otherwise similar care without respite. Primary outcome of interest = rate of institutionalisation. Secondary outcomes were multiple aspects of health for the patient and the carer. One reviewer did initial examination of titles & abstracts, obtaining studies that might be relevant. Two reviewers independently assessed the retrieved studies for inclusion/exclusion with additional information sought from authors if needed. Consensus reached through discussion. Excluded studies listed with reasons. Included studies listed with methods, participants, interventions, outcomes, allocation concealment. *(D) Was a quality assessment of included studies undertaken?* Data extraction by one reviewer – summary statistics for each trial & outcome for continuous data were mean change from baseline plus standard error, & no of group members at each assessment. When changes from baseline not reported – n, mean

	& SD at each point extracted and change scores calculated, assuming a zero correlation between measures at baseline. Binary data – group numbers and numbers experiencing outcome of interest. Outcome data sought on an intention to treat basis when available, otherwise data for those who completed labelled as such. One study used two different types of randomisation and was said to provide inadequate details. Blinding was not evident in any study & information about study dropouts was said to be limited in two studies. Interventions and outcomes were dissimilar. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Complete details of all three included studies provided in the text. Only two studies provided usable data (Lawton, 1989, was not useful). Forest plots provided. *(F) Were the methods for pooling the data appropriate?* Data not pooled *(G) Were sources of heterogeneity explored?* N/A. ***Findings:*** ***Evidence:*** For the six outcomes that could be examined (all caregiver outcomes), none showed a treatment effect – social support-confidant support, social support-affective support, caregiver burden, depression, anxiety, symptom severity. Review of two RCTs (one with unusable data) provides no evidence of benefits for respite care in caregivers of people with dementia. 01 Caregiver Burden 1 21 Weighted Mean Difference (Fixed) 95% CI -5.51 [-12.38, 1.36] 02 Hamilton-Depression 1 55 Weighted Mean Difference (Fixed) 95% CI -0.18 [-3.82, 3.46] 03 Hamilton-Anxiety 1 55 Weighted Mean Difference (Fixed) 95% CI 0.05 [-3.76, 3.86] 04 Brief Symptom Inventory 1 55 Weighted Mean Difference (Fixed) 95% CI 0.04 [-0.29, 0.37] 05 Affective Support 1 19 Weighted Mean Difference (Fixed) 95% CI -0.44 [-2.85, 1.97] 06 Confidant Support 1 19 Weighted Mean Difference (Fixed) 95% CI 1.30 [-1.04, 3.64] ***Consistency;*** consistent but small number of studies ***Clinical impact:*** none ***Applicability:*** studies were not selected for their applicability to moderate & severe dementia. Otherwise applicable.

Lee, J., K. Soeken, et al. (2007). "A meta-analysis of interventions for informal stroke caregivers." Western Journal Of Nursing Research 29(3): 344. **Level of evidence: I**	
Studies included in our own review are asterisked.	
Study	**Review quality**
Grant, 2002 Van den Heuvel, 2002 Mant, 2000* Rodgers, 1999*	*A) Was a clinical question clearly defined?* What are the effects of interventions on the mental health of informal caregivers? (B) Was an adequate search strategy used? keyword searches of electronic databases **Keywords** Caregiving Stroke caregiver Stroke caregiving Control group Interventions **Databases:** CINAHL (1982-2005) MEDLINE (1966-2005) Science Citation Index Social Sciences Citation Index Cochrane Library ***Inclusion criteria were:*** RCT, English language, Any intervention for informal stroke caregivers to improve their health, Outcome measure – SF 36 Abstracts of 31 studies reviewed by one person, 11 articles retrieved, 7 studies rejected – reasons for exclusions provided. *(D) Was a quality assessment of included studies undertaken?* Data extraction by two reviewers, independently. Disputes revealed by discussion. Items from Soeken's (2002) quality rating tool used to address aim, randomisation, blinding, attrition, statistical testing, discussion. Independent rating by 2 people, agreement = 90%. Scores 0-9 = low quality, scores 10-16 high.

	(E) Were the characteristics and results of the individual studies appropriately summarised? Tables show age of participants, intervention, timing of intervention and data collection; graph of effect size & confidence intervals (overall and subgroups), table of effect sizes. *(F) Were the methods for pooling the data appropriate?* Effect size (d) calculated for each study also effect sizes weighted for sample size. Overall mean weighted effect size calculated. 95% CIs calculated for each effect size. Mean weighted effect sizes computed by quality rating & by subgroups (education versus support, theoretical background or not, Europe /US. Publication bias assessed using "fail-safe N" (p.347. *(G) Were sources of heterogeneity explored?* Q calculated & significant (p=0.05) – no variability between education & support but variability between two education studies. ***Findings*** ***Evidence:*** 4 RCTs from Europe & US (but one not addressing TC) Two were education programs & two support (one providing information about stroke). Data collection periods varied. Overall mean weighted effect =0.277 (0.118 to 0.435) (p<0.001) For education MWE = 0.354 (0.087 to 0.621) (p<0.01) For support MWE = 0.234 (0.037 to 0.432) (p=0.02) One study used no blinding – in sensitivity analysis no effect from this study. Other studies regarded as high quality. Evidence of publication bias. ***Consistency:*** some indications that education assists carer well being & no evidence of harm ***Clinical impact:*** Effects sizes small to moderate ***Generalisability:*** Population for this review age appropriate but likely to include less incapacitated participants than those targeted in our own review. ***Applicability:*** Studies from Europe & US – would seem applicable.

STUDY DETAILS					
Mant, J., J. Carter, et al. (2000). "Family support for stroke: a randomised controlled trial." Lancet 356(9232): 808-13.					
Affiliation/source of funds [2] University of Birmingham, Rivermead Rehabilitation centre, Department of Clinical Gerontology. UK.					
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Hospital and community setting in Oxfordshire, UK.			
Intervention [6] Family support group – stroke association information leaflets and referral to family support organiser (who determined nature and frequency of support Sample size [7] n=258 dyads		Comparator [8] Usual care. Control group - Sample size [9] n=262 patient/carer dyads			
Population characteristics [10] Patients were older Oxfordshire residents admitted to hospital with acute stroke (first or recurrent). All patients had a close family carer and resided in the community. Patients in this study were not participating in any other investigation and only had main medical disorders that were associated with stroke.					
Length of follow-up [11] Baseline & 6 months		Outcome(s) measured for carers [12]: Knowledge of stroke/ service use, social activities, emotional health, QOL.			
INTERNAL VALIDITY					
Allocation [13] Random in blocks of 10. Sequentially numbered envelopes to patients - allocation as determined by computer generated random number table.	Comparison of study groups [14] No sig diff @ baseline.	Blinding [15] Assessment of patients was performed by researcher blinded to their group allocation.	Treatment/measurement bias [16] Family support organiser not explained fully – treatment different for each patient	Follow-up [17] 102 (39.5%) fail to follow up from intervention group (56 died, 28 withdrew, 18 lost to follow up), 95 (36.2%) fail to follow up from control group (59 died, 22 withdrew, 14 lost to follow up).	
Power Calculations 300 participants required for 80% power and significance of 0.05.			Reliability and validity of instruments Not discussed		
Overall quality assessment (descriptive) [18] Quite high drop-out rate (nearly 40% from intervention group). Possible treatment bias?					
RESULTS					
Outcome [19]	Intervention group [20] Median scores	Control group [21] Median scores	Measure of effect size [22] 95% CI and/or p value[23]		
CARERS					
Frenchay activity index	33	31.5	p=0.03		
GHQ-28	17	17	p=0.55		
Caregiver strain index	5	4	p=0.91		

Change	50	50	p=0.16	
Energy and vitality	55	45	p=0.02	
Mental health	76	72	p=0.004	
Pain	88.9	77	p=0.3	
Physical role function	90	80	p=0.025	
Role limitation (emotional)	100	100	p=0.67	
Role limitation (physical)	100	100	p=0.17	
Social function	100	100	p=0.63	
General health perception	77	72	p=0.02	
Quality of life	2	2	p=0.01	
Satisfaction with hospital service	14	14	p=0.95	
Satisfaction with community service	10	9	p=0.22	

	Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 1

Any other adverse effects [28] None mentioned

EXTERNAL VALIDITY

Generalisability [29] Study focuses on the effect of program for stroke population & carers in specific area of UK. Results could be generalised to equivalent popn.

Applicability [30] Good.

Comments [31] Carers in the intervention group had better social activity indices (p=0.03), more energy (p=0.02), better mental health (p=0.004), less pain (p=0.03), better physical function (p=0.025) and higher general health perception (p=0.02), better quality of life (p=0.01) and satisfaction with their understanding of stroke (p=0.04).

STUDY DETAILS				
Marriott, A., C. Donaldson, et al. (2000). "Effectiveness of cognitive-behavioural family intervention in reducing the burden of care in carers of patients with Alzheimer's disease." Br J Psychiatry 176: 557-62.				
Affiliation/source of funds [2] Manchester Royal Infirmary, Manchester University, Withington Hospital – UK. Funding from Alzheimer's Disease Society.				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community care setting in Manchester, UK.		
Intervention [6] Family Intervention – carer education (3 sessions), stress management (6 sessions) and coping skills training (5 sessions) plus a Camberwell Family Interview (CFI) – a semi-structured cathartic interview which allows carer to discuss problems and express feelings about situation. Sample size [7] n=14 patient/carer dyads		Comparator [8] Control Group 1 – Outcome measurements recorded plus Camberwell Family Interview (CFI) Sample size [9] n=14	Comparator [8] Control 2 – Outcome measurements only (no CFI).Sample size [9] n=14	
Population characteristics [10] Carers scored 5 or higher on General Health Questionnaire (GHQ scale) indicating significant psychological morbidity. Patients had primary degenerative dementia as determined using DSM-III-R (?) criteria and lived in the community with carer providing main support. . Mean age of care recipient >76 yrs.				
Length of follow-up [11] 3 measurements taken: "Pre-treatment" (baseline), "Post-treatment" (9 months after baseline) and "Follow-up" (12 months after baseline)		Outcome(s) measured [12]: Carer general health and level of depression; patient MMSE, depression in dementia, psychiatric symptoms/behavioural disturbances and clinical dementia rating.		
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] No significant differences between groups at baseline	Blinding [15] "Blind assessment" mentioned but not described	Treatment/measurement bias [16] Groups treated and measured the same apart from intervention.	Follow-up [17] 2 patient/carer dyads fail to follow-up (one from each control group)
Power Calculations 90% power at 5% level equated to 14 subjects in each of the 3 group			Reliability and validity of instruments Not reported	
Overall quality assessment (descriptive) [18] Well designed study, some areas required further explanation (although there is a companion paper).				

RESULTS				
Outcome [19]	Family Intervtn group [20]	Interview control group A [21]	No Interview control group B	Measure of effect size [22] 95% CI and/or p [23]
Carer measures		P=diff from intervention	P=diff from intervention	
GHQ				
Pre	9.5 (4.8)	10.8 (5.9) ns	9.6 (3.8) ns	
Post	5.1 (5.5)	11.0 (6.2) p= 0.04	12.4 (6.4) p = 0.001	
Follow-up	3.2 (4.2)	9.9 (7.8) p=0.007	10.7 (5.5) p=0.001	
Caseness				

Pre	100%	100%	100%	n.s.
Post	46%	93%	85%	p=0.014 no. needed to treat = 2
Follow-up	23%	85%	77%	p=0.001 no. needed to treat = 2
BDI				
Pre	9.9 (5.5)	12.0 (7.4) ns	9.9 (5.5) ns	
Post	10.9 (5.6)	11.5 (6.8) p<0.01	10.9 (5.6) p=0.002	
Follow-up	11.1 (6.4)	11.4 (7.1) p=0.001	11.1 (6.4) p=0.004	

	Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 1

Any other adverse effects [28] None mentioned

EXTERNAL VALIDITY

Generalisability [29] Study focuses on education for carers in a disease specific area so the results should be generalisable to this same population within Australian context.

Applicability [30] Good

Comments [31] Significantly reduced levels of stress and depression were observed in the intervention group compared to controls following treatment.

STUDY DETAILS				
Martin-Cook, K., B. Remakel-Davis, et al. (2003). "Caregiver attribution and resentment in dementia care." Am J Alzheimers Dis Other Demen 18(6): 366-74.				
Affiliation/source of funds [2] Timberlawn Foundation and NIA Grant AG12300				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] community of Dallas, Texas, USA		
Intervention [6] Two hr group psycho-educational settings held over a 4 week period: overview of AD, behaviour management and communication strategies, environmental and safety, feelings and coping skills. Sample size: 19		Control [8] usual care – not described Sample size: 18		
Population characteristics [10] spouses and adult children who are primary caregivers of people diagnosed with a dementing illness and behavioural disturbance. Mean age of care recipient = 75 years.				
Length of follow-up [11] Baseline, 6 w, 14 w	Outcome(s) measured [12]: Caregiver resentment, depression. Care recipient controlling/ behavioural disturbance			
INTERNAL VALIDITY				
Allocation [13] Random – method not described	Comparison of study groups [14] Baseline means and SD's of group variables compared-no significant differences between groups	Blinding [15] Not reported	Treatment/measurement bias [16] Same measures for both groups	Follow-up [17] At wk 14: control n=15, intervention n=18
Power Calculations -NO	Reliability and validity of instruments [12] Yes, reported for all measures and good.			
Overall quality assessment (descriptive) [18] Medium: RCT design, small numbers, caregiver characteristics minimally described, study team not blinded to groups				
RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
Resentment & depression			All effects for the ANOVA's were nonsignificant. Scores over time not reported	
Any other adverse effects [28] NO	Clinical importance (1-4) [26] No CI's reported	Relevance (1-5) [27] 5		
EXTERNAL VALIDITY				
Generalisability [29] Yes. However a more detailed description of the study population is required				
Applicability [30] yes				
Comments [31] Caregivers of people with a dementing illness and behaviour problems were randomised to a four weekly psycho-educational group intervention and a control group. Findings indicate that, while care recipient behavioural disturbance was correlated with caregiver resentment and depression, at baseline, the primary relationship was between behaviours perceived by the care giver as manipulative or wilful, and caregiver resentment and depression. All effects were nonsignificant.				

SR14 Mason, A., H. Weatherly, et al. (2007). "A systematic review of the effectiveness and cost-effectiveness of different models of community-based respite care for frail older people and their carers." Health Technol Assess 11(15): 1-176. **Level of evidence: I/III-2**. Does a model of care that includes respite care improve physical and/or psychological health in clients and/or family carers as compared with a model of care that does not include this respite care?	
Studies examining outcomes of respite care that met inclusion criteria for our review are asterisked.	
Study	**Review quality**
Acton, 2001* Acton, 2002* Arksey, 2004* Gaugler, 2003* Grant, 2003* Ingleton, 2003* Lee, 2004* McNally 1999* Roberts, 2000* Sörensen, 2002* Stoltz, 2004* Yin, 2002* Zarit, 1998* Zank, 2002* Bedini, 1999 Bhogal, 2003* Catty, 2001 Chesson, 2004 Droes, 2004 Flint, 1995Kosloski, 1993 Gitlin, 2003 Hanson, 1999 Harding, 2003 Knight, 1993 Orbell, 1996 Mohide, 1990 Wishart, 2000 Neale, 1992 Pasacreta, 2000 Salisbury, 1999 Oktay, 1990 Clark, 2000 Johnson, 1988 MacDonald, 1997 Visser-Meily, 2005 Addington-Hall, 1995 Herd, 1990 Burch, 2001 Holm, 2003 Robertson, 2002 Lund, 1995 Hedrick, 1993 Conlin, 1992 Artaso, 2002 Niebuhr, 1989	*A) Was a clinical question clearly defined?* From the objectives: To identify, appraise, and synthesise the grey and published evidence for the effectiveness and cost effectiveness of models of community based respite care for frail older people and their carers. To identify subgroups of carers and care recipients for whom respite care is particularly effective or cost effective. To explore practical, policy, and research implications. *(B) Was an adequate search strategy used?* Search of 37 databases including Medline, Cinahl, Cochrane, and many others – details plus all search terms in appendix – years generally back to 1980 or when database became accessible. Search terms also very comprehensive. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Criteria for economic evaluations not included here. Included if: 1. Focussed on family cares of older adults (65+) with frailty (defined, p. 8), cancer, or dementia, 2. effectiveness studies controlled – if such studies unavailable, uncontrolled studies were used. 3. Intervention was respite care – intermittently provided care to provide temporary respite to the principal carer including in day care, in the home, in a host family, institutional, video, programs, multidimensional and including respite 4. Outcomes for carer and/or care recipient were QOL, physical health, mental/psychological health, satisfaction, health or social service utilisation, informal or voluntary service utilisation AND/OR carer burden, time to institutionalisation, time spent on care, ADLs. Excluded if: care recipients had no informal support, respite was in an acute medical or surgical ward. Initial screening of titles and abstracts by two people. Data extraction also checked for accuracy. *(D) Was a quality assessment of included studies undertaken?* Quality assessment checked by second reviewer disagreements reviewed by consensus plus another reviewer if required. Components evaluated that are known to be associated with biased estimates of effect (p.9).

Bea van Beveren, 1995 Gaugler, 2001. Weissart, 1989 Quayhagen, 2000 Donaldson, 1989 Burch, 1999 Hedrick, 1993 Chapko, 1990 Chapko, 1993 Rothman, 1993 Rothman, 1993 Connis, 1993 Hedrick, 1991 Schacke, 1999 Gaugler, 2003 Lawton, 1989 Montgomery, 1989 Ehreth, 1993 Montgomery, 1984 Montgomery, 1988 Montgomery, 1995 Lawton, 1991 Montgomery, 1985 Wells, 1988 Anderson, 1998 Caserta, 2002 Finnema, 2000 Malonebeach, 1999 George, 1986. Pound, 2005 Brodaty, 1989 Eloniemi-Sulkava, 2001 Hinchliffe, 1995 Mohide, 1993 Drummond, 1991 Newcomer, 1993 Fox, 2000 Miller, 1999 Yordi, 1997 O'Connor, 1991 Pattie, 1991 Schulz, 2003 Schulz, 2003 Belle, 2003 Chang, 1992 Strain, 1987 Weissert, 1980 Wan, 1980 Wimo, 1993 Artaso, 2002 Chapko, 1993	*(E) Were the characteristics and results of the individual studies appropriately summarised?* • Results of data extraction and quality checks presented in tables. • Twenty systematic reviews were included, only two addressed services for patients with cancer so three non-systematic reviews were also included. • Twenty two effectiveness studies (in 43 papers) were included. • Summary details for individual studies were tabled. • A narrative description is found in the text. • Forest plots presented for findings of meta-analyses – separating RCTs from quasi studies. • Summary tables show data included in meta-analyses. • Flow charts are shown for decisions to include in meta-analysis *(F) Were the methods for pooling the data appropriate?* Only controlled trials included (16), data types examined and pooled accordingly *(G) Were sources of heterogeneity explored?* Heterogeneity is indicated alongside findings. ***Findings Evidence:*** *From the review of reviews*, four meta-analyses were identified – two found that positive effects on carer outcomes were only found when non-randomised studies were included. Another review found no effect on burden. The other found a moderate effect on carer distress but Mason's review would not have included two of the interventions as respite care as they were multidimensional interventions. *From the review of studies*, 10/22 were RCTs, 13/22 were dementia specific. Disease areas included AIDS, HP, MS, renal disease but none focussed on any one of these areas. No studies of RC for carers of people with cancer met criteria so two uncontrolled studies were reported, the same approach was taken for studies of host family respite or video respite. QOL - One of 4 studies (the Australian one) found poorer QOL for carers receiving periodic respite than for those with an institutionalised family member. – no other significant findings. Physical health – 14 studies – 7 only in care recipients. No adverse effects identified. Only one study showed benefits – this being for chemical stress levels (n=22). Mental health – 14 studies, 7 reporting no significant effect and 2 contributing no useful findings. Positive findings were for stress (I x quasi, day care), morale (1 quasi, package), depression (1 quasi, day care versus community care), hostility (1 RCT, day care),

Ehreth, 1993 Chapko, 1999 Allen, 1991 Murman, 2002 Axelsson, 1998 Schulz, 1991 Chiu, 1999 Elliott, 2001 Reifler, 1999 Shantz, 1995 Stalker, 1996 Bonato, 2001 Kobelt, 2000 Abt-Zegelin, 2004 Cox, 1994 Mehnert, 1989 Sansom, 1993 Gramain, 2004 Hayes, 1999 Kirwin, 1993 Shulman, 1993 Jonsson, 2004 Wimo, 1994 Coughlin, 1994 Hay, 1987 Hu, 1986 Birch, 2003 Kosloski, 1995 Woods, 2005 Burdz, 1988 Colvez, 2002 Droes, 2000 Droes, 2004 Droes, 2004 Feinberg, 1998 MacDonald Leitsch, 2001; Lorensini, 1997 Marks, 1987 Reever, 2004 Seltzer, 1988 Skelly, 1993 Treloar, 2001 Warren, 2003 Collins, 1990 Wells, 1990	depression & anger (1 quasi, day care). Burden – 13 studies – 8 showed no difference. Two provided no useful findings. Three reported benefits but all are considered unreliable, possibly reporting confounded results, or unreliable. Proportion institutionalised- no useful findings <u>*Meta analysis shows*</u>: • no effect on mortality (4 studies, N=1582, one package and 3 X day care), IG = 158, CG = 162, RR=1.03 (0.84 to 1.26), p=0.79 • no effect on proportion institutionalised rate (5 studies, N=1826, 2 x packages, 3 x day care) but testing demonstrated substantial heterogeneity so figures not presented • no effects on care recipient's cognition (2 studies, 453 participants, both day care), SMD= -0.11 (-0.30-0.07) p=0.23. • no effect on carer burden for pooled data from 4 RCTs but testing when 8 studies were pooled demonstrated substantial heterogeneity. • A significant drop in carer depression was found (3 studies, 295 carers, 2 X in home respite, 1 X day care) – effect size -0.32, 95% CI = -0.62 to – 0.02. p=0.04. However, effect said to be due to impact of one flawed study (Zarit, 1998). Overall the reviewer indicates that there is evidence for a small effect on carer burden and carer mental or physical health & some indications that some carers may benefit more than others. They indicate no evidence of an effect on care recipients including on time to placement. ***Consistency:*** no ill effects. Limited consistency re mental health – especially burden. ***Clinical impact of respite care:*** small ***Generalisabilty:*** The criteria for this review were more inclusive than those for our own. ***Applicability:*** UK review and most studies published in N America or the UK – probably applicable.

McAlister, F. A., F. M. Lawson, et al. (2001). "A systematic review of randomized trials of disease management programs in heart failure." Am J Med 110(5): 378-84. **Level of evidence: I**	
Studies included in our own review are asterisked.	
Study	**Review quality**
Cline, 1998* Ekman, 1998* Jaarsma, 1999* Naylor, 1999* Rich, 1993 Rich, 1995 Stewart, 1998 Serxner, 1999 Stewart, 1999 Naylor, 1994 Weinburger, 1996	*A) Was a clinical question clearly defined?* To determine whether disease management programs improve outcomes for patients with HF. *(B) Was an adequate search strategy used? keyword searches of electronic databases* **Keywords** Case management (exp), comprehensive health care (exp), disease management (exp), health services research(exp), home care services(exp), clinical protocols (exp), patient care planning (exp), quality of health care (exp), nurse led clinics (exp), special clinics (exp), and heart failure, congestive (exp), **Databases:** CINAHL (1982-1999), MEDLINE (1966-1999), Embase 1980-1998, CCTR Cochrane Effective Practice and Organisation of Care Study Registry. Hand searching of reference lists and contact with experts. ***Inclusion criteria were:*** • Human RCTs • Outpatient based HF management programs • Outcome = mortality or hospitalisation rate ***Exclusion criteria were:*** Samples of HF pts and other pts if results for HF not separate Two people independently applied inclusion criteria (kappa = 0.88) Disagreements resolved by consensus. Reason for exclusion summarised. *(D) Was a quality assessment of included studies undertaken?* Two people extracted data independently. Disagreements resolved by consensus. Outcomes assigned according to ITT. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show sample size, age of participants, location of sample, intervention, duration of intervention. Also tables of Risk Ratios (RRs) & CIs for each study – all cause mortality & hospitalisation. *(F) Were the methods for pooling the data appropriate?* Meta-Analyst 0.998 software. RRs & 95% CIs calculated. Random effects model & fixed effects model used to combine data – same result so only fixed model findings reported.

	(G) Were sources of heterogeneity explored? Q calculated. ***Findings*** ***Evidence:*** Eleven RCTs, control groups all received poorly defined usual care. All cause mortality (6 trials, 1,106 patients) Only one significant difference reported in a trial – at 18m. Pooled data: RR= 0.94 (0.75 to 1.19) NS. No heterogeneity (p=0.15) Hospitalisation rate (11 trials, N=2,012) Eight trials reported no difference, 2 reported a benefit, 1 reported a negative impact. Pooled data RR = 0.87 (0.79 to 0.96) but significant heterogeneity (p=0.003). Mainly this was due to one study, which tested telephone contact & enhanced communication with the primary health team - as did one other study. Other studies tested multi-d teams Multi-d teams RR = 0.77 (0.68 to 0.86), heterogeneity p>0.50 Telephone contact RR = 1.15 (0.96 to 1.37) heterogeneity not reported P values for RR not shown. Total hospitalisations (8 studies) – 7 reported positive effect Pooled data RR= 0.81 (0.77-0.85) heterogeneity not reported LOS (9 studies) 7 led to positive effect, one nc, 1 negative effect – stats not reported Multiple readmissions (? Studies) 3 reported positive impact – stats not reported QOL (5 trials) only one reported positive impact. – stats not reported Summary of reviewer – some DMPs (pt edn. Multi-d teams, specialised follow up) reduce risk of hospitalisation – not so telephone follow up. Mortality & QOL data inconclusive. ***Consistency:*** General consistency - occasional negative impact esp phone contact on hospitalisation ***Clinical impact:*** QOL & mortality – no impact – good advantage suggested for multi d + edn & managing @ home ***Generalisability:*** Population for this review generally appropriate ***Applicability:*** Studies from Australia, N. Europe & US

McAlister, F. A., Stewart S, et al. (2004). "Multidisciplinary strategies for the management of heart failure patients at high risk for admission: a systematic review of randomized trials." Journal of the American College of Cardiology 44(4): 810-9. **Level of evidence: I** NB Update of previous review (inc).	
Studies included in our own review are asterisked.	
Study	**Review quality**
Blue, 2001* Cline, 1998* Doughty, 2002* Ekman, 1998* Jaarsma, 1999* Krumholz, 2002* Ledwidge, 2003* Naylor, 1999* Pugh, 2001* Stromberg, 2003* Capomolla, 2002 De Lusignan, 2001 Gattis, 1999 Hanchett, 1967 Harrison, 2002 Jerant, 2001 Kasper, 2002 Laramee, 2002 Naylor, 1994 Rich, 1993 Rich, 1995 Riegel, 2002 Stewart, 1998 Serxner, 1999 Stewart, 1999 Trochu, 2004 Tsuyuki, 2004 Weinburger, 1996	*A) Was a clinical question clearly defined?* To determine whether multidisciplinary strategies improve outcomes for HF patients. *(B) Was an adequate search strategy used? keyword searches of electronic databases* **Keywords:** Case management (exp), comprehensive health care (exp), disease management (exp), health services research(exp), home care services(exp), clinical protocols (exp), patient care planning (exp), quality of health care (exp), nurse led clinics (exp), special clinics (exp), and heart failure, congestive (exp), **Databases:** CINAHL (1982-2003), MEDLINE (1966-2003), Embase (1980-2003), Sigle (1980-2003), AMED (1980-2003), CCTR Cochrane Effective Practice and Organisation of Care Study Registry. Hand searching of reference lists and contact with experts. ***Inclusion criteria were:*** Human RCTs. Outpatient based multi d management strategies for HF pts. Outcome = mortality or hospitalisation rate. ***Exclusion criteria were:*** Abstract only, not reporting mortality or hospitalisation, inpatient intervention only, not a multi d approach, samples of HF pts and other pts if results for HF not separate, duplicate reports. Two people independently applied inclusion criteria (kappa 0.77) & assigned to groups (kappa 0.86): 1. a multi d HF clinic 1b. multi d follow up not in hospital or practice based clinic 2. phone follow up or monitoring & enhanced communication with primary physician 3. patient education Disagreements resolved by consensus. Reasons for exclusion summarised. 29 RCTs included *(D) Was a quality assessment of included studies undertaken?* Two people extracted data independently. Disagreements resolved by consensus. Jadad quality rating. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show sample size, age of participants, location of sample, intervention, duration of intervention. Also tables of Risk Ratios (RRs) & CIs for each study – all cause mortality, HF hospitalisation & all cause hospitalisation. *(F) Were the methods for pooling the data appropriate?* Meta-Analyst 0.998 software. RRs & 95% CIs calculated. ITT analyses. Random effects model used to combine data.

	(G) Were sources of heterogeneity explored? Q calculated. When q <0.20 – no pooling. Adjusted indirect comparison used to compare types of interventions. ***Findings. Evidence:*** 29 RCTs, control groups all received poorly defined usual care. All cause mortality (22 trials, 3,781 patients) Two trials found a difference by the end of the study period, another found @ 18m. Pooled data: RR= 0.83 (0.70 to 0.99) No heterogeneity (p=0.15) a multi d HF clinic RR= 0.66 (0.42 to 1.05) multi d follow up not in hospital or practice based clinic RR= 0.81 (0.65 to 1.01) phone follow up or monitoring & enhanced communication with primary physician RR= 0.91 (0.65 to 1.29) patient education for self care RR= 1.14 (0.67 to 1.94) Adjusted indirect comparisons confirm that mortality reductions gtr when multi d team provides when compared with self care alone adj RR= 0.66 (0.46 to 0.94) or phone follow up & contact with GP alone. RR= 0.82 (0.54 to 1.25) All Cause Hospitalisation rate(23 trials, N=4,313) Three trials reported significant reduction for IG, 18 reported nd & 1 a negative effect. Pooled data RR = 0.84 (0.75 to 0.93) but significant heterogeneity (p=0.01). a multi d HF clinic RR= 0.76 (0.58 to 1.01) multi d follow up not in hospital or practice based clinic RR= 0.81 (0.72 to 0.91) phone follow up or monitoring & enhanced communication with primary physician RR= 0.98 (0.80 to 1.20) patient education for self care RR= 0.73 (0.57 to 0.93) Adjusted indirect comparisons confirm that effect better when multi d team provides care adj RR= 0.81 (0.63 to 1.04) or when self care alone is used adj RR= 0.75 (0.63 to 0.98) when compared with phone follow up & contact with GP alone. HF Hospitalisation rate (19 trials) Six trials reported significant reduction for IG. Pooled data RR = 0.73 (0.66 to 0.82) no heterogeneity (p=0.36). Similar across all subgroups so no adjusted indirect comparisons.

	Total hospitalisations (21 trials) –17 reported positive effect Pooled data RR= 0.70 (0.62-0.80) heterogeneity not reported. Similar across subgroups Total HF hospitalisations (20 trials) –Pooled data RR= 0.57 (0.49-0.67) heterogeneity not reported. Similar across subgroups. Reflect big drop in multiple readmissions. QOL (18 trials) 9 reported positive impact no negative impact. – stats not reported Summary of reviewer – no effect fro quality of trials, year, duration, sample size, length of follow up. HF hospitalisation down 27% overall and 43% in HF hospitalisation. Multi d interventions dropped mortality by app 25% & all cause hospitalisation by app 20% ***Consistency:*** General consistency – rare negative impact ***Clinical impact:*** huge on HF, selectively large for overall physical health, also good for QOL ***Generalisability:*** Population for this review generally appropriate ***Applicability:*** Studies from Australia, N. Europe & US

STUDY DETAILS					
McCann, J. J., L. E. Hebert, et al. (2005). "The effect of adult day care services on time to nursing home placement in older adults with Alzheimer's disease." Gerontologist 45(6): 754-763.					
Affiliation/source of funds [2] National Institute on Aging, National Institutes of Health; Rush University, Chicago; University of Iowa					
Study design [3] Cohort	Level of evidence [4] III-2	Location/setting [5] Chicago			
Intervention [6] Using adult day care at Rush Centre for at least 3 months prior to baseline and for at least 2 days pw in previous month. 16 programs involved, all offered same services to client (except in handling high dependency, incontinence, problem behaviours), some variation for carer services (in offering support groups, counselling, case management) Sample size [7] 218		Comparator [8] Not using adult day care at that Centre. Sample size [9] 298			
Population characteristics [10] (1) People living in the community aged 65+ with AD* (standard diagnostic criteria, board certified neurologist) & the family member having the most contact & providing most care. Intervention group: as above. Comparator group: as above.					
Length of follow-up [11] Followed at 3 monthly intervals for up to 48 months		Outcome(s) [12] nursing home placement			
INTERNAL VALIDITY					
Allocation [13] comparison group matched with day care users by age, gender, race, level of cognitive impairment	Comparison of study groups [14] Matching was on basis of pilot data. Sensitivity analysis showed variation in age & MMSE scores despite matching (adjusted for in analyses). Other differences: Day care users had lower education and income, less likely to be married, less likely to live alone, greater functional limitation and disability, used fewer services at baseline. Carers of day care users were younger, less likely to be male or married, less likely to be spouses, had been caring for longer, reported more burden at baseline.	Blinding [15] none	Treatment/measurement bias [16] None evident	Follow-up [17]:77-100% of survivors participated in each follow up. At the study end 21% had died in the community, 35% had gone into a nursing home, 44% were in the community	
Overall quality assessment (descriptive) [18] Inter-rater reliability tested every 6 m and training provided to maintain level at 90% or better. Baseline internal consistency reliability reports for all scales satisfactory except caregiving-work interference (0.57).					

RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	Comments
Risk of nursing home placement			From baseline, risk of NH entry increased in day care group Hazard Ratio (HR) = 1.3 (p=0.001) No CI reports	Risk significantly higher according to day care " dose" for men but not for women HR (1 extra day pw) = 1.09 (p= 0.06) CI=1-1.18 Risk also significantly higher if more disabled HR= 1.32 (p=0.002)CI =1.11-1.56 & if hospitalised HR=1.54 (p=0.05) CI= 1.00-2.37 & if carer older HR=1.01(p=0.02) CI= 1.00-1.03 & if carer burden higher HR=1.05 (p<0.0001) CI=1.03-1.08 Risk significantly lower if non-white HR= 0.69 (p=0.05) CI = 0.48-1.00
	Clinical importance (1-4) [24] 4		Relevance (1-5) [25] (1)	
Any other adverse effects [26] None noted				
EXTERNAL VALIDITY				
Generalisability [27] Appropriate age and stage of dementia. Applicability [28] Likely to be applicable in Australian setting.				
Comments [29] Cox proportional hazards models calculated to examine risk of nursing home placement.				

STUDY DETAILS				
McCurry, S. M., R. G. Logsdon, et al. (1998). "Successful behavioral treatment for reported sleep problems in elderly caregivers of dementia patients: A controlled study." The Journals of Gerontology 53B(2): P122.				
Affiliation/source of funds [2] University of Washington. Funding from NIA grants and Alzheimer's association/Albert and Lois Schwartz Memorial Pilot research grant				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community setting in Washington, USA.		
Intervention [6] Phase 1 Active treatment – 6x weekly group intervention sessions consisting of education about sleep hygiene, stimulus control, sleep compression, relaxation techniques, and behavioural impact of dementing illnesses and related caregiver issues. Sample size [7] n=7			Comparator [8] Phase 1 Wait list control – not described Sample size [9] n=5	
Intervention [6] Phase 2 Active treatment – 4xweekly individual education sessions- education as above but no education about relaxation techniques, only brief discussion of their benefits. Sample size [7] n=14			Comparator [8] Phase 2 Wait list control – not described Sample size [9] n= 10	
Population characteristics [10] Caregivers had one or more sleep problems on an average of ≥3 nights a week during the previous month which was severe enough to interfere with their role as a caregiver. Caregivers in the study were at least 50 years old, provided care for at least 4hrs/day for a family member with senile dementia. Caregivers were not taking any medication for sleep (or had stabilised on medication for at least 6 weeks). . Mean age of care recipient >78 yrs.				
Length of follow-up [11] Baseline, 6 weeks (post-treatment measure) and 3 months		Outcome(s) measured [12]: Caregiver sleep (PQSI), Caregiver mood (CES-D), caregivers reported on patient behaviours and their reaction to behaviours (SCB)		
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] No significant differences between intervention group and control group in any demographic or outcome measure at baseline.	Blinding [15] Interviewer who collected data was blinded to participant group allocation	Treatment/measurement bias [16] Intervention groups combined for analysis stage – different phases received slightly different intervention which could affect outcome measures.	Follow-up [17] 1 participant from Phase 2 treatment group and 1 participant from Phase 2 control group failed to complete the study.
Power Calculations Not discussed		Reliability and validity of instruments Not presented		
Overall quality assessment (descriptive) [18] Very small sample sizes in each group, treatment groups combined for analysis				

RESULTS			
Outcome [19]	Intervention group [20] Mean (SD)	Control group [21] Mean (SD)	Measure of effect size [22] 95% CI and/or p value[23]
Caregiver sleep (PQSI) Baseline (pre-treatment) 6 weeks (post-treatment) 3 months	 10.8 (3.4) 7.8 (3.3) 6.2 (3.6)	 11.9 (4.5) 10.6 (4.4) 10.2 (4.2)	 p<0.05 p<0.05
Caregiver mood (CES-D), Baseline (pre-treatment) 6 weeks (post-treatment) 3 months	 16.4 (9.7) 11.2 (8.4) 12.4 (10.5)	 15.1 (9.9) 12.7 (8.7) 13.2 (6.7)	
Caregivers reported on patient behaviours and their reaction to behaviours (SCB) Baseline (pre-treatment) 6 weeks (post-treatment) 3 months	 32.3 (18.3) 29.0 (19.3) 27.6 (17.7)	 29.9 (13.2) 26.2 (15.3) 19.3 (16.1)	
Any other adverse effects [28] None mentioned	Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 2	
EXTERNAL VALIDITY			
Generalisability [29] Focus of this study was the effect of education on family carers sleep in a community setting, Washington USA. The results observed in this population should have a good degree of generalisability to an equivalent population within Australia.			
Applicability [30] Good			
Comments [31] Caregivers in the intervention group showed significant improvements in sleep at post-treatment and 3 month follow-up measures. No significant difference was observed between groups for caregiver mood, burden or patient behaviour problems.			

STUDY DETAILS				
McMillan, S. C., B. J. Small, et al. (2006). "Impact of coping skills intervention with family caregivers of hospice patients with cancer: a randomized clinical trial." Cancer 106(1): 214-22.				
Affiliation/source of funds [2] National Cancer Institute and National Institute for Nursing Research grant ROI CA77307				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] large nonprofit community based hospice in south eastern USA		
Intervention [6] Hospice standard care plus COPE intervention(assessing and managing pt symptoms) (3 visits). C= creativity, O=optimism,, P= Planning, E=Expert Information Sample size [7] 111		Comparator [8] Hospice standard care plus 3 supportive visits Sample size [9] 109	Comparator [8] Standard hospice care Sample size [9] 109	
Population characteristics [10] Caregiver/patient dyads Caregivers: Mean age 61 yrs, 81% female, 12.5 years of education. Patients: Mean age approx 70yrs, majority were male, slightly lower educational attainment, diagnosis of advanced cancer.				
Length of follow-up [11] (T1)baseline, (T2)1 wk post intervention (16 days), (T3)2 wk post intervention (30 days)		Outcome(s) measured [12]: Primary: Caregiver QoL, symptom burden, caregiver task burden, coping, and mastery		
INTERNAL VALIDITY				
Allocation [13] Selected then dyads randomly assigned (computer randomisation by telephone)	Comparison of study groups [14] YES. ANOVA andX2 tests. NSD across groups at baseline for caregiver or patient characteristics	Blinding [15] Yes. Data collectors separate from intervention nurses and blinded to treatment conditions, minimal contact with intervention nurses	Treatment/measurement bias [16] Training for intervention nurses Same measurements for 3 groups at same time points	Follow-up [17] Attrition rates were high and similar for all groups At T3: Stand Care n=40(36.7%) Stand care +visits, n=32(29.4%) Stand Care +COPE, n=31 (27.9%) Common reasons were pt decline (29%), death (21%), c/giver overwhelmed (23%)
Power Calculations No		Reliability and validity of instruments Yes, referenced and reported		
Overall quality assessment [18] Strong design, adequate sample size at baseline reliable and valid instruments, minimal treatment bias. However no power calculations reported and attrition was high for all groups at Time 3.				

RESULTS				
Outcome [19]	Intervention [20] Hospice standard care plus COPE	Control 1 Hospice standard care plus 3 supportive visits	Control 2 [21] Hospice standard care	Measure of effect size [22] 95% CI and/or p value[23]
Caregiver QoL		**Usual group compared to support only group** Model term Estimate SE P Group X Time 0.06 0.09 0.512		Results for random effects models for 7 primary outcome measures Model term Estimate SE P Intercept 57.48 3.10 <0.001 Time 0.12 0.10 0.212 Group -2.03 1.45 0.161 Group X Time -0.09 0.05 0.054
Symptom burden		Group X Time 0.13 0.08 0.118		Intercept 26.22 2.02 <0.001 Time 0.14 0.09 0.121 Group -1.27 0.95 0.180 Group X Time -0.14 0.04 0.001
Caregiver task burden		Group X Time 0.01 0.01 0.542		Intercept 2.33 0.12 <0.001 Time 0.01 0.01 0.014 Group -0.10 0.05 0.060 Group X Time -0.01 0.01 0.021
General mastery				Intercept 26.22 0.41 <0.001 Time 0.01 0.02 0.847 Group 0.33 0.20 0.060 Group X Time 0.01 0.01 0.232
Caregiver task mastery				Intercept 4.28 0.10 <0.001 Time -0.01 0.01 0.223 Group 0.03 0.05 0.514 Group X Time 0.01 0.01 0.466

Problem focused coping			Intercept	11.43	0.64	<0.001		
			Time	-0.05	0.03	0.088		
			Group	0.05	0.30	0.867		
			Group X Time	0.02	0.01	0.256		
Emotion focused coping			Intercept	16.94	0.76	<0.001		
			Time	-0.03	0.03	0.448		
			Group	0.14	0.36	0.694		
			Group X Time	-0.01	0.02	0.813		
		Usual care compared to COPE intervention group						
Caregiver QoL		Model term Estimate SE P Group X Time 0.096 0.049 0.042				Caregiver QoL and Symptom burden only COPE intervention group showed statistically significant improvements over time (estimate = 0.16, SE = 0.07, P = 0.033) and (estimate = -0.28, SE = 0.07, p = 0.001)		
						EFFECT SIZES		
Symptom burden		Group X Time -0.14 0.04 <0.001				QOL Burden of patient symptoms Caregiving task burden	Improved Improved Improved	-0.16 0.28 -0.01
Caregiving task burden		Group X Time -0.01 0.01 0.04				Mastery Coping	No effect No effect	None None
Clinical importance (1-4) [26] No CIs						Relevance (1-5) [27] 1		
Any other adverse effects [28] No								
EXTERNAL VALIDITY								
Generalisability [29] yes, specifically advanced cancer patients								
Applicability [30] Yes								
Comments [31] The COPE intervention was effective in improving caregiver Qol, reducing burden related to patients' symptoms and caregiving tasks compared with usual care and usual care plus supportive visits								

SR568 McNally, S. (1999). "The effects of respite care on informal carers' well-being: a systematic review." Disability & Rehabilitation 21(1): 1 - 14. **Level of evidence: I/III-2.** Does a model of care that includes respite care improve physical and/or psychological health in clients and/or family carers as compared with a model of care that does not include this respite care?	
No studies met criteria for inclusion in our review.	
Study/	**Review quality**
Subramanian, 1985 Lundervold, 1987 Burdz, 1888 Johnson, 1989 Rimmerman, 1989 Rimmerman, 1989 Lawton, 1989 Montgomery, 1989 Hughes, 1990 Nash, 1990 Mohide, 1990 Oktay, 1990 Berry, 1991 Botuck, 1991 Deimling, 1991 Conlin, 1992 Jawed, 1992 Adler, 1993 Kosloski, 1993 Larkin, 1993 Skelly, 1993 Chi I, 1994 Homer, 1994 Theis, 1994 Caradoc-Davies, 1995 Hinchcliffe, 1995 Kosloski, 1995 Mausner 1995 Sherman, 1995 Stephenson, 1995	*A) Was a clinical question clearly defined?* Q1: Who has been the subject of respite care research? Q2: Does respite care lead to improved carer well being? Q3: Does it delay institutionalisation? Q4: What influences the effectiveness of respite? Q4: What methodological issues influence results of evaluations? *B) Was an adequate search strategy used?* Keywords: respite, carer* or caregiver*, break or holiday or short-stay. Search of Medline (1966-97), Psyclit (1974-97), Eric (1966-99) Social Sciences Citation Index (1996-97). Also hand searches of referenced lists of retrieved studies. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if assessed effects of respite on informal carers. Excluded studies not listed, 29 included. *(D) Was a quality assessment of included studies undertaken?* Narrative section discusses quality and studies were listed as without a control group, quasi-experimental, or randomised. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show intervention & duration, participant characteristics, care recipients, allocation to groups if applicable, variables measured, findings. *(F) Were the methods for pooling the data appropriate?* Data not pooled because of variability across interventions and measures *(G) Were sources of heterogeneity explored?* N/A ***Evidence:*** Only 12/29 studies had a comparison group, only 5 had random allocation, 6 used non-random allocation, one used a case

	study as a comparison Sample size was variable, but 16/29 had a sample of<45. Measures used sometimes insensitive. Intervention variable (content – mixed or single - & dose), control sometimes received respite also & informal respite often not monitored. Approximately 20 studies addressed our population of interest, although some samples did not indicate age, with half having no comparison group. Those providing care (overall) mainly female, 11/14 studies showing age reported it to be 50+), mixed relationship (spouse, child, parent). Overall 10/17 studies examining well being reported improvement, 6 no effect, one – improvement when non-declining patients. Similar proportion indicated in our popn of interest (table) Overall, 13/29 examined stress/burden, 8/13 reported improvement, 4 no effect, one – improvement when non-declining patients. Similar proportion indicated in our popn of interest (table) Overall, 3 studies examined self reports of symptoms, 2/3 reported no effect, one – improvement when non-declining patients. All those shown to be relevant to our popn of interest showed no change (table) Return to baseline generally occurred within a week. Five studies looked a decision for permanent placement (all included older care recipients), two findings indicated a delay, one no change, one mixed (children as carers versus spouses), one possibly encouraged placement (no control). ***Consistency:*** very little ***Clinical impact of respite care:*** Marginal indication of short term benefits, harmful effects unlikely ***Generalisabilty:*** Population somewhat consistent with this review (20/29 studies). ***Applicability:*** UK review and studies generally published in Western journals – probably applicable.

STUDY DETAILS					
Naylor, MD., Brooten, DA., Campbell, RL., Maislin, G., McCauley KM., Schwartz, JS. (2004). Transitional Care of older adults hospitalised with heart failure: a randomised controlled trial. J Am Geriatric Soc, 52: 675-684					
Affiliation/source of funds [2] NINR, NIH USA					
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] six Philadephia academic and community hospitals, USA			
Intervention [6] 3 month comprehensive transitional care (discharge planning and home follow up) directed by study trained advanced practice nurses Sample size [7] 118		Comparator [8] routine care Sample size [9] 121			
Population characteristics [10] Mean age 76 yrs, 43% male, 36% African American, 46% control group 40% intervention had diastolic failure. All admitted to hospital with diagnosis of heart failure. All required to be alert, speak English, reachable by telephone after discharge, live within 60 mile radius service area of admitting hospital.					
Length of follow-up [11] Baseline to 2, 6,12, 26 and 52 weeks or death Telephone interviews		Outcome(s) measured [12]: Time to first rehospitalisation or death, number of hospitalisations, quality of life, functional status, costs, satisfaction with care			
INTERNAL VALIDITY					
Allocation [13] Random-computer generated	Comparison of study groups [14] No sig dif between groups apart from higher incidence of hypertension in control group	Blinding [15] Yes. RA's blinded to study aims and groups	Treatment/measurement bias [16] No	Follow-up [17] At 52 weeks, 10% had died, overall 31% attrition. Most attrition at 52 wks. Causes of attrition- pt moved, did not answer telephone, did not want to be bothered	
Power Calculations Yes. 102 pts/group required to achieve 80% or greater power to detect a control-to-intervention hazard ratio of 1.61. Enrolment ended with 118 (intervention) and 121 (control)		Reliability and validity of instruments Minnesota Living with Heart Failure Questionnaire and Enforced Social Dependency Scale referenced but no psychometrics provided. Patient satisfaction (investigator developed) prior testing for control pts who did not receive home follow up proved not reliable.			
Overall quality assessment [18] Good quality study although lacking in instrument reliability and validity data					
RESULTS					
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]		
Rehospitalisations and Hospital days 1 Year after Index Hospitalisation discharge					
Patients rehospitalised, n%	(n = 118)	(n = 121)	*p*- value	Relative risk (95% CI)	
>1 I time	53 (44.9)	67 (55.4)	<.121	1.24 (0.95-1.60)	
> 2 times	34 (28.8)	44 (36.4)	<.218	1.20 (0.89-1.60)	
Rehospitalised, n					
Index-related	40	72	<.184		

Comorbidity related	23	50	<.013	
New Health problem	41	40	<.881	
Total	104	162	<.047	
Rehospitalisations per patient/year	1.18	1.79	<.001	
Total hospital days	588	970		
Per patient, mean _SD	5.0+7.3	8.0+ 12.3	<.071	
Per hospitalised patient, mean + SD	11.1 + 7.2	14.5+13.4		

QoL Total Score Category

Intervention **Control**

Time (Weeks)	N	Intervention	Control	N	Mean + SD	*p*-value	
-Baseline	117	2.4 +0.7		118	2.3 +0.7		
2	114	3.0 + 1.2*		112	2.7 + 1.2	* <.07	
6	99	3.1 +1.3		109	2.9 +1.4		
12	89	3.2 + 1.5**		100	2.7 + 1.5	** <.05	
26	86	2.9 + 1.6		92	2.6 + 1.5		
52	75	2.8 + 1.8		74	2.6 + 1.7		

QoL- physical dimension **QoL- motional dimension**

	Intervention	**Control**	**Intervention**	**Control** Mean + SD	
Weeks					
O	2.8 +0.9	2.8 +0.9	3.3 +1.3	3.3 +1.2	*p*-value
2	3.5 + 1.2***	3.0 + 1.2	3.6 + 1.3	3.3 + 1.4	***<.01
6	3.6 +1.4	3.3 +1.5	3.5 +1.5	3.3 +1.6	**<.05
12	3.6 + 1.4**	3.1 + 1.6	3.6 + 1.6	3.2 + 1.7	
26	3.3 + 1.6	3.0 + 1.7	3.2 + 1.7	3.1 + 1.8	
52	3.1 + 1.7	2.9 + 1.9	3.1 + 1.9	3.0 + 1.9	

Patient satisfaction		Mean ± SD		
Time (wks)	Intervention	Control	*p*-value	
2	99 (83.0 ± 10.3)****	99 (83.0 ± 10.3)	****<.001	
6	92 (83.1 ± 9.6)****	99 (83.0 ± 10.3)	****<.001	

Note: Patient satisfaction Score is investigator developed and tested. 25 item self rated on a 0-4-point scale, range 44-100. Higher scores =greater satisfaction

Functional status		**Intervention**		**Control**		
Time (Weeks)	N		N		*p*-value	
Baseline	117	3.3 ±1.1	120	3.3 ±1.1	NS	
2	111	3.4 ± 1.2	112	3.3 ± 1.2	NS	
6	99	3.4 ± 1.3	109	3.1 ± 1.4	NS	
12	97	3.5 ± 1.3	104	3.1 ± 1.4	NS	
26	92	3.3 + 1.3	97	3.0 + 1.5	NS	
52	76	3.1 ± 1.5	71	2.9 ± 1.6	NS	

Personal dependency			**Social dependency**				
	N	**Intervention**	N	**Control**	**Intervention**	**Control**	*p*-value
O	117	3.3 ±1.1	120	3.4 ±1.1	3.5 ±1.1	3.3 ±1.1	NS
2	111	3.4 ± 1.2	112	3.3 ± 1.2	3.6 ± 1.2	3.4 ± 1.2	NS
6	99	3.4 ± 1.3	109	3.1 ± 1.4	3.5 ± 1.4	3.2 ± 1.4	NS
12	97	3.5 ± 1.4	104	3.2 ± 1.6	3.6 ± 1.4	3.3 ± 1.5	NS
26	92	3.3 + 1.6	97	3.0 + 1.7	3.6 + 1.6	3.2 + 1.7	NS
52	76	3.0 ± 1.7	71	2.9 ± 1.9	3.3 ± 1.8	3.0 ± 1.9	NS

Clinical importance (1-4) [26] 1	Relevance (1-5) [27] 1

Any other adverse effects [28] NO

EXTERNAL VALIDITY

Generalisability [29] yes Applicability [30] yes, if health care services are similar in Australia

Comments [31] This study, using a RCT design, examined the effectiveness of a transitional care intervention delivered by advance practice nurses to American elders hospitalized with heart failure. Results demonstrate short term improvements (intervention group) in overall QoL at 12 weeks, physical dimension QoL at 2 wks and 12 wks

STUDY DETAILS				
Nazareth, I., A. Burton, et al. (2001). "A pharmacy discharge plan for hospitalized elderly patients--a randomized controlled trial." Age Ageing 30(1): 33-40.				
Affiliation/source of funds [2] National Health Service research and social development programme				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] hospital to community, central London, UK		
Intervention [6] Hospital and community pharmacists provided an integrated discharge plan: medication assessment, rationalisation of drugs, assessment of pt's ability to manage meds, information on meds, liaison with carers and community professionals. Sample size: 165				Control [8] Standard hospital procedures (discharge letter to GP only) Sample size: 156
Population characteristics [10] Approx 64% female, mean age 84 yrs, 97% white, occupation at retirement – 60% social class III, mean of 3 chronic medical conditions, mean of 6 drugs (all oral) on discharge.				
Length of follow-up [11] Baseline, 3 mths, 6 mths	Outcome(s) measured [12]: Primary: hospital re-admissions. Secondary: deaths, outpatient attendance, GP attendance, days in hospital, general well-being, client satisfaction, adherence to meds., knowledge about meds., hoarding of meds..			
INTERNAL VALIDITY				
Allocation [13] Central randomisation, computer generated. Blocked randomisation, stratified by trial centre.	Comparison of study groups [14] No significant baseline differences reported for groups (apart from knowledge about medicines).	Blinding [15] Data collector blinded	Treatment/measurement bias [16] Same measures for each group	Follow-up [17] 3 mths: Intervention -152 (12 died). Control-151 (94 died, 1 re-admit) 6 mths: Intervention -132 (20 died). Control-135 (16 died, 2 moved away)
Power Calculations Yes: to detect a clinically sig change (25%) in re-admission rates, a power of 90% and 5% level of sig, required 195 pts/group				Reliability and validity of instruments [12] Not reported

Overall quality assessment (descriptive) [18] Medium quality: underpowered, attrition similar for groups, no psychometric data for instruments provided					
RESULTS					
Outcome [19]	Intervention group [20]	Control group [21]			Measure of effect size [22] 95% CI and/or p value[23]
Table 2. Service use over previous 3 months for patients in intervention and control groups at baseline, 3 months and 6 months					
	Intervention		**Control**		
Primary Hospital readmn.	Total [a]	With event	Total [b]	With event	Difference in proportions between groups (95% CI)
3 months	164 (96%)	64 (39%)	176 (100%)	69 (39.2%)	0.18 (-10.6 to 10.2%)
6 months	136 (91%)	38 (27.9%)	151 (96%)	43 (28.4%)	0.54 (-1 to 9.9%)
Secondary Deaths					
3 months	164 (96%)	10 (6.1%)	176 (100%)	5 (2.8%)	3.26 (-1.5 to 7.7%)
6 months	137 (92%)	22 (16.1%)	151 (96%)	19 (12.6%)	3.5 (-4.7 to 11.6%)
Outpt attendance					
Baseline	179 (99%)	52 (29%0	181 (100%)	60 (33.1%)	4.1 (-13.6 to 5.4%)
3 months	164 (96%)	75 (45.7%)	176 (100%)	84 (47.4%)	2 9-12.6 to 8.6%)
6 months	137 (92%)	39 (28.5%)	151 (96%)	40 (26.5)	2 (-8.3 to 12.3%)
GP attendance					
Baseline	147 (81%)	124 (83.3%)	156 (86%)	134 (85.9%)	1.5 (-9.6 to 6.5%)
3 months	130 (76%)	101 (77.7%)	144 (82%)	108 (75%)	2.7 (-7.4 to 12.7%)
6 months	107 (72%)	76 (71%)	116 (74%)	82 (70.7%)	0.3 (-11.6 to 12.3%)
[a] No of patients for whom data collected (and % of eligible patients at that point of data collection – 181, 171 and 149 at baseline, 3 months and 6 months respectively					
[b] No of patients for whom data collected (and % of eligible patients at that point of data collection – 181, 176 and 157 at baseline, 3 months and 6 months respectively					

Table 3. Median number of days in hospital as % of days of follow-up over previous 3 months

	Intervention			Control			
	n [a]	median	IQR	n [a]	median	IQR	Mann-Whitney *U* test, *p*
Secondary							
Baseline	181	11.25	(5.5, 21.7)	181	11.7	(6.7, 22.9)	Z = 30692, *p* = 0.1
3 months	171	0	(0,14.4)	176	0	(0,11)	Z = 29456, *p* = 0.8
6 months	149	0	(0.3.1)	157	0	(0.4.4)	Z = 19969, *p* = 0.9

Table 4. Patient interviews	Intervention		Control		
	N %	Mean value (SD)	N %	Mean value (SD)	Mean difference (95% CI)
General well-being					
Baseline	112 (68)	2.6 (0.8)	120 (77)	2.6 (0.7)	0
3 months	76 (50)	2.4 (0.7)	73 (48)	2.4 (0.6)	0
6 months	62 (47)	2.5 (0.6)	61 (45)	2.4 (0.7)	0.1 (-0.135 to 0.335)
Client satisfaction					
Baseline	113 (68)	3.3 (0.6)	118 (76)	3.3 (0.6)	0
3 months	76 (50)	3.3 (0.6)	73 (48)	3.3 (0.6)	0
6 months	60 (45)	3.4 (0.6)	61 (45)	3.2 (0.6)	0.2 (-0.56 to 0.96)
Adherence to meds					
Baseline	123 (75)	0.8 (0.31)	122 (78)	0.77 (0.3)	0.03 (-0.46 to 0.106)
3 months	79 (52)	0.75 (0.3)	72 (48)	0.75 (0.28)	0
6 months	60 (45)	0.78 (0.3)	58 (43)	0.78 (0.3)	0
Knowledge about meds					
Baseline	131 (79)	0.68 (0.34)	139 (89)	0.60 (0.31)	0.08 (0.0051 to 0.154)
3 months	86 (57)	0.69 (0.33)	83 (55)	0.62 (0.34)	0.07 (-0.032 to 0.173)
6 months	65 (49)	0.69 (0.35)	68 (50)	0.68 (0.32)	0.01 (-0.106 to 0.126)
Hoarding of meds					
Baseline	129 (78)	0.0006 (0.04)	132 (85)	0.017 (0.6)	0.008 (-0.016 to 0.028)
3 months	87 (57)	0.02 (0.13)	82 (54)	0.005 (0.3)	0.001 (-0.01 to 0.012)
6 months	70 (53)		69 (51)	0.013 (0.06)	0.007 (-0.013 to 0.27)

	Clinical importance (1-4) [26] N/A	Relevance (1-5) [27] 1
Any other adverse effects [28] NO		
EXTERNAL VALIDITY		
Generalisability [29] (relates to population) yes		
Applicability [30] yes, if pharmacy services accessible in Australia		
Comments [31] This study reports on the effectiveness of a pharmacy discharge plan for hospitalised elderly patients. No significant differences were shown between groups in any of the outcome variables.		

National Collaborating Centre for Mental Health (NCCMH), Dementia: a NICE-SCIE guideline on supporting people with dementia and their carers in health and social care, Commissioned by the Social Care Instuitute for Excellence and the National Institute for Health and Clinical Excellence, National Collaborating Centre for Mental Health, London; 2006. National Clinical Practice Guideline Number 42. Available from http://www.nice.org.uk/guidance/cg42. **Level of evidence: I/III-2**.

Studies included in our own review are asterisked.

Study	**Review quality**
Brodaty (2003)* Sorenson (2002)* Akkerman2004 Beauchamp2005 Coon2003 Davis2004* Done2001* Ducharme2005 Gerdner2002* Gitlin2003* Hebert2003* Huang2003* Martincook2003* Martincook2005 Nobili2004* Stolley2002* Teri2005* Wright2001	*A) Was a clinical question clearly defined?* From objectives: "it aims to: • . evaluate the role of specific pharmacological agents, psychological and psychosocial interventions in the treatment and management of dementia • . evaluate the role of specific services and systems for providing those services in the treatment and management of dementia • integrate the above to provide best practice advice on the care of individuals with a diagnosis of dementia through the different phases of illness, including the initiation of treatment, the treatment of acute episodes and the promotion of well-being. • .consider economic aspects of various interventions for dementia. • examine benefits and adverse effects of respite care for people with dementia and their caregivers." (p. 43). *(B) Was an adequate search strategy used?* "Electronic databases AMED, BNI, CINAHL, COCHRANE, EMBASE, MEDLINE, PsycINFO, AgeInfo, AgeLine, ASSIA, CareData, HMIC, PAIS International, SIGLE, Social Services Abstracts, Social Work Abstracts, SSCI Date searched Database inception to March 2006; table of contents September 2004 to 5 May 2006 Study design RCT, other quantitative and qualitative research Patient population Carers of people with dementia; people with AD/VaD/DLB/PDD/FTD/other dementias (subcortical, mixed dementias) Interventions - Psychoeducation - Supportive interventions - Psychotherapy - Training of care recipient - Multicomponent interventions Outcomes For the person with dementia: - Psychological well-being - Quality of life - Maintenance of independent living activities

	- Delayed admission - Neuropsychiatric symptoms For the carer: - Psychological well-being - Carer burden - Social outcomes - Physiological measures - Carer knowledge - Carer equal opportunities (employment, education, leisure) **Table 40: Databases searched and inclusion/exclusion criteria" (p. 282).** *(D) Was a quality assessment of included studies undertaken?* Quality evaluation was undertaken and the eligibility of each study was confirmed by at least one member of the appropriate topic group. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Findings from reviews were shown in the text. Details of individual studies were said to be in Appendix 15, which could not be found on the web site. Needed to be accessed via CD – same requested, Included studies were listed in a table format on p. 283 *(F) Were the methods for pooling the data appropriate?* Data not pooled in this review but pooled effect sizes used from Brodaty (2003) and Sorenson (2002) *(G) Were sources of heterogeneity explored?* N/A. ***Findings:*** ***Evidence:*** *The most recent meta-analysis (Brodaty et al., 2003d) included 30 controlled trials and concluded that the quality of studies had improved over the period searched (1985–2001). Although outcomes were variable, overall there appeared to be at least a small intervention effect. Interventions involving training or stress management or involving the person with dementia alongside the carer appeared to have the largest effect on the carer's psychological health and well-being.* (p. 291). From Sorenson – carers of people with dementia of specifically targeted – psycho education had best outcomes with respect to depression (small effect sizes), multi component interventions had a medium effect on burden and well being. However, effect size was lower when only carers of people with dementia were included.

	From individual studies – *…the results from these studies are mixed, with around a quarter not identifying a significant effect of the intervention being evaluated on relevant outcome variables; others had effects on some measures but not others. Several of the recently reported studies form part of the REACH (Resources for Enhancing Alzheimer's Caregiver Health) initiative in the USA, where six centres collaborated to use common measures and procedures, whilst evaluating interventions developed and implemented independently at each site. At a 6-month evaluation, active interventions, whatever the type, were superior to control conditions in relation to carer burden (Gitlin et al., 2003). Differences in treatment response were identified in relation to gender, ethnicity, education and relationship with the person with dementia. Gitlin and colleagues conclude that interventions should be 'multi-component and tailored'.* p. 291 ***Consistency:*** Individual studies consistently either positive or no effect except for anxiety if implemented soon after diagnosis (qualitative). Meta analyses indicate positive effect. ***Clinical impact:*** probably small effect size. ***Applicability:*** Sorensen not only carers of people with dementia. Studies were not selected for their applicability to moderate & severe dementia or to only older adults. NB: Guideline states: "Care plans for carers of people with dementia should involve a range of tailored interventions. These may consist of multiple components including: ● individual or group psychoeducation ● peer-support groups with other carers, tailored to the needs of individuals depending on the stage of dementia of the person being cared for and other characteristics ● support and information by telephone and through the internet ● training courses about dementia, services and benefits, and communication and problem solving in the care of people with dementia ● involvement of other family members as well as the primary carer in family meetings. " p. 294

Neville, C. C. and G. J. A. Byrne (2007). "The impact of residential respite care on the behaviour of older people with dementia: literature review." International Journal of Older People Nursing 2(1): 2-8. **Level of evidence: III-2**	
No studies in this review met criteria for our own review. The one in our date range was Australian but had no comparison group.	
Study	**Review quality**
Burdz et al., 1988 Adler et al., 1993 Homer & Gilleard, 1994 Hirsch et al., 1993 Seltzer et al., 1988 Neville & Byrne, 2006	*A) Was a clinical question clearly defined?* From aim: To examine the impact of residential respite on the behavior of older people with dementia. *(B) Was an adequate search strategy used?* MEDLINE 1966 on PsychINFO 1972 on CINAHL 1982 on AGELINE 1978 on Search terms: respite, respite care, residential respite care, short stay, short term, overnight stay/admissions, aged, older, seniors, veteran, behave* More references retrieved using reference lists from retrieved publications (*C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria: Primary research studies with quantitative outcome measures of behaviour in older adults with dementia plus qualitative studies. Exclusion criteria: Not written in English, Dissertation abstracts, Secondary research

	(D) Was a quality assessment of included studies undertaken? Data extraction of methodology, outcome measures, results. No other details provided but summary of studies does involve quality assessment and an effect size was calculated when this was possible. Studies were described as having small sample sizes. Only two studies were said to have used multiple sites, these enhancing the likelihood of more generalisable findings. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Details of all included studies (6) provided in the text. Table included sample size, type and duration of respite care, outcome measures, description of participants, impact on behaviour (if any) and effect size if this could be calculated. *(F) Were the methods for pooling the data appropriate?* Data not pooled *(G) Were sources of heterogeneity explored?* N/A. ***Findings:*** ***Evidence:*** For three of the six studies an effect size could not be calculated. Two of these reported an improvement in behaviour during inpatient respite and one a decline in people with mild dementia and an improvement in severe dementia. There was only one controlled trial, not an RCT & in home respite was provided to the control group. The nursing home respite group improved ($p<0.01$). The authors conclude that the two studies with the greatest rigour show some evidence of a reduction in behavioural symptoms. ***Consistency;*** some inconsistency ***Clinical impact:*** limited from this evidence ***Applicability:*** Australian review of applicable studies (one Australian)

STUDY DETAILS					
Nobili, A., E. Riva, et al. (2004). "The effect of a structured intervention on caregivers of patients with dementia and problem behaviors: a randomized controlled pilot study." Alzheimer Dis Assoc Disord 18(2): 75-82.					
Affiliation/source of funds [2] Istituto di Ricerche Farmacologiche “Mario Negri, Federazione Alzheimer Italia, Istituto geriatrico “Pio Albergo Trivulzio” Milan, Italy.					
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community setting in Milan, Italy.			
Intervention [6] Structured intervention – 1x visit by psychologist (60 mins) to discuss things like caregiver stress and how problem behaviours were managed. 1x visit by OT (90 mins) to discuss modification of home, limiting problem behaviours, maintaining patient function. Also information manual. Sample size [7] n=34			Comparator [8] Control – contact number of helpline, contact details for community services and info about things such as family/patient rights and completing social security forms. Sample size [9] n=35		
Population characteristics [10] Participants in the study had a clinical diagnosis of dementia, a score of ≥2 in one “problem behaviour” area (using SBI-C scale) and lived in Milan or within 10 miles from the city with a caregiver. . Mean age of care recipient >74 yrs.					
Length of follow-up [11] Baseline, 6 months, 12 months		Outcome(s) measured [12]: Level of caregiver stress, level of cognitive and functional deficits, number of problem behaviours (SBI-C scale), MMSE.			
INTERNAL VALIDITY					
Allocation [13] Random (method not specified)	Comparison of study groups [14] Time spent by caregivers providing care was significantly lower in control group at baseline (p=0.004). No other differences between groups at baseline.		Blinding [15] Not mentioned	Treatment/measurement bias [16] Not mentioned if baseline difference in care was controlled for – amount of time spent giving care was an outcome measure at later time points. This difference at baseline could have affected results.	Follow-up [17] 13 from control (37%) and 17 from intervention (50%) failed to complete the study
Power Calculations Not mentioned		Reliability and validity of instruments Not mentioned			
Overall quality assessment (descriptive) [18] Quite high drop-out rate from control group leaving only small sample size on which to base findings.					
RESULTS					
Outcome [19]		Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
Time spent caregiving Caregiver RSS score		Graphical presentation of data Graphical presentation of data	Graphical presentation of data Graphical presentation of data	NS NS	
Hours spent giving care		Decreased by 0.3hrs (±4.1)	Increased by 0.5hrs (±2.7)	NS	

Help provided by others	"Lower" (0.6 ± 1.2)	"Higher" (2.3 ± 6.5)	NS
Total daily time caring for patient	Increased by av 0.3 hrs	Increased by av 2.8 hrs	NS

Any other adverse effects [28] None mentioned	Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 1

EXTERNAL VALIDITY

Generalisability [29] Focus of this study is the effect of education on family carers of people with dementia so results from this study could be generalised to an equivalent population within an Australian setting with the caution of taking cultural differences into account when transposing findings.

Applicability [30] Good

Comments [31] The average number of problem behaviours was significantly lower in patients from the intervention group ($p<0.03$). Level of caregiver stress was significantly associated with the rate of patient institutionalisation ($p=0.03$). The amount of time spent giving care increased in the control group and decreased in the intervention group, although this was not significant.

Phillips, C. O., S. M. Wright, et al. (2004). "Comprehensive discharge planning with postdischarge support for older patients with congestive heart failure - A meta-analysis." Jama-Journal of the American Medical Association 291(11): 1358-1367. **Level of evidence: I**	
Studies included in our own review are asterisked.	
Study	**Review quality**
Blue, 2001* Ekman, 1998* Cline, 1998* Jaarsma, 1999* Harrison, 2002* Krumholz, 2002* McDonald, 2002* Naylor, 1999* Riegel, 2002* Capomolla, 2003 Laramee, 2003	*A) Was a clinical question clearly defined?* To determine the efficacy of interventions described as comprehensive D/C planning + post D/C support for older inpatients with CHF and to quantify the effect on readmission rate, all cause mortality, index visit LOS, QOL, & medical cost. *(B) Was an adequate search strategy used?* Search of Medline (OVID, 1966-2003), Current Contents (all years), Bioethics (1985-2003), PsychLit (1974-2003), CINAHL (1982-2003), Social Sciences Citation Index (1992-2003), CCTR (all years). Hand searching of article bibliographies. Search terms were MeSH & text terms & included congestive heart failure, comprehensive discharge planning, discharge planning, hospital discharge,, patient discharge, patient care planning, aftercare, multidisciplinary care, social support, disease management programs, patient education, social work, case management, patient readmission. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria were: 1. English language 2. RCTs 3. Target population: older inpatients (55+) 4. Intervention: modifying D/C , addressing HF, components for inpatient plus post D/C support. 5. Control = usual care. 6. Primary outcome = readmission rates. Excluded studies not listed. Eligibility decisions by two independent reviewers – final – 18 RCTs included. *(D) Was a quality assessment of included studies undertaken?* Detailed examination of randomisation, allocation concealment, double blinding, loss to follow up, *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show country of origin, sample size, age, LVEF, intervention, follow up. Findings tables show CIs and heterogeneity.

Naylor, 1994 Oddone, 1999 Rainville, 1999 Rich, 1993 Rich, 1995 Serxner, 1999 Stewart, 1998 Stewart, 1999 (later paper subsuming these 2 references included)	*(F) Were the methods for pooling the data appropriate?* STATA used to pool data for primary outcome stratiefied by post D/C support, all cause mortality, CVD specific readmissions, and combined end point of death and readmission. Fixed and random effects models used with relative risk as principle measure. Analyses on ITT basis. Consistency of intervention effects also assessed by demographic effects and country of origin. LOS assessed using meta analysis of continuous data. QOL analysis involved: standardising change in QOL scores, averaging % improvement or decline in QOL in both groups, performing weighted and unweighted analyses to compare changes in scores *(G) Were sources of heterogeneity explored?* Cochrane Q X^2 used to test for heterogeneity. ***Findings. Evidence:*** 18 RCTs – evidence of publication bias – small studies with negative findings missing (upper quadrant, Begg's plot). Relative risk of readmission (all cause): follow up 8-12 m, M = 8 m. RR = 0.75 (95% CI= 0.64 to 0.88) Heterogeneity p <0.001. After omission of one study RR = 0.74 (95% CI= 0.67 to 0.81) Heterogeneity p <0.04. Residual heterogeneity related to variations in sample size. Consistent effects in <100, 100-199, 200+. Omission of small studies failed to change findings significantly. CHF/CVD readmissions also – 18 studies Stratified by type of support- all types of post D/C support led to improvements except increased clinic visits and frequent phone contact RR = 0.64 (95% CI= 0.32 to 1.28) Heterogeneity p<0.001 – 4 studies Stratified by demographics, quality, country of origin – similar results. Relative risk of readmission (CVD/HF): RR = 0.65 (95% CI= 0.54 to 0.79) Heterogeneity p<0.06 – 6 studies Relative risk of readmission of death or readmission: RR = 0.73 (95% CI= 0.62 to 0.87) Heterogeneity p<0.02 – 8 studies Relative risk of mortality RR = 0.87 (95% CI= 0.73 to 1.03) – trend only - Heterogeneity p<0.06 – 14 studies. Again clinic visits and frequent phone contact not helpful but no significant findings – studies underpowered LOS Difference -0.37 (-0.15 to 0.60) – trend only - Heterogeneity p<0.60 – 10 studies QOL Range of tools used. Improvement = 25.7% (11.0 to 40.0) versus 13.5% (5.1 to 22) p=0.01 ***Consistency;*** consistently positive impacts – NS for mortality & LOS. ***Clinical impact:*** considerable ***Generalisability:*** Mean age overall ranged from 56-79 NYHA ranged from I-IV but not documented for all studies. Not completely the same as our population but similar. ***Applicability:*** Countries included N. Europe, N. America, Australia.

Pinquart, M. and S. Sorensen (2006). "Helping caregivers of persons with dementia: which interventions work and how large are their effects?" Int Psychogeriatr 18(4): 577-95. **Level of evidence: I/III-2**	
Studies included in our own review on respite are asterisked.	
Study	**Review quality**
Zarit, 1998* Bourgeois, 2002* Buckwalter, 1999* Burgener, 1998 Burgio, 2003* Chang, 1999* Davis, 2004 Done, 2001* Fung, 2002 Gallagher-Thompson, 2001 Gerdner, 2002* Gitlin, 2003* Gitlin, 2001* Gitlin, 2003 Gitlin, 2005* Gormley, 2001 Hebert, 2003* Hepburn, 2001 LoGiudice, 1999 Marriott, 2000* McCurry, 2003* Riordan, 1998* Ripich, 1999* Steffen, 2000 Stolley, 2002 Teri, 1997* Teri, 2003 Wright, 2001 Zanetti, 1998 Akkerman, 2001 Askham, 1990 Bass, 1989 Bass, 2003 Beauschamp, 2005 Berger, 2004 Bougard, 2003 Brennan, 1995 Brodaty, 1989 Brodaty, 1994 Brodaty, 1997 Buchanan, 2004 Burns, 2005 Challis, 1997	*A) Was a clinical question clearly defined?* To determine intervention effectiveness in family carers of people with dementia. 1. Which averaged effects of interventions are found on burden, depression, positive subjective well-being, ability/knowledge, care recipient symptoms, risk of institutionalisation)? 2. How do these effects compare? 3. How do study characteristics impact on intervention effects? Effects types of intervention (including psycho-education for carer, respite care, & multi-component. *(B) Was an adequate search strategy used?* Search of Psycinfo, Medline, Ageline, Psyindex (dates not specified). Keywords: caregiver or carer or caregiving, and intervention or trial or support or training, and dementia or Alzheimer's disease – also cross referencing. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: 1. Care recipients had dementia. 2. Untreated control. 3. At least one of the following was an outcome: carer burden, depression, well being (positive), carer knowledge and/or coping, recipient's symptoms, institutionalisation. 4. Effect sizes could be calculated 5. Studies in German, English, or a language for which translation could be obtained. 6 Duplicates excluded. Coding undertaken by two doctoral level raters with a relevant specialist background (Kappa = 0.91 based on 20%), inconsistencies resolved by discussion. Final review: 127 studies (6 German, 1 Dutch, 1 Spanish), reasons for exclusion documented in general terms only. *(D) Was a quality assessment of included studies undertaken?* Moderating impact on effects of intervention characteristics & study reported

Chiverton, 1989 Chu, 2000 Conlin, 1992 Coon, 2003 Cucciare, 2005 Dooley, 2004 Dröes, 2000 Dröes, 2004a Dröes, 2004b Dube, 2001 Ducharme, 2005a Ducharme, 2005b Dziegielewski, 1991 Eisdorfer, 2003 Eloniemi-Sulkava, 2001 Farran, 1994 Fink-Heinz, 2005 Finkel, 2005 Gendron, 1986 Gendron, 1996 Gonyea, 1991 Guttman, 1991 Haight, 2003 Haley, 1987 Hartiens, 1995 Hebert, 1994 Hinchliffe, 1995 Hoffman, 1995 Kahan, 1985 King, 2002 King, 1997 Kosloski, 1993 Kotler, 1993 Lawton, 1989 Levin, 1994 Lewis, 2002 Logsdon, 2005 Lorensini, 1997 Losada-Baltar, 2004 Losada, 2005 Mahoney, 2003 Martin-Cook, 2005 McCallion, 1999 McCurry, 1998 McCurry, 2005 Meier, 1996 Meister, 2003	*(E) Were the characteristics and results of the individual studies appropriately summarised?* Only a very broad overall description was provided in the text – no tables of individual studies. Reference list shown as appendix indicated only which intervention was addressed *(F) Were the methods for pooling the data appropriate?* Ransom effects model used as recommended for variability in effect size when sources of heterogeneity cannot be identified. 1. Effect sizes computed for each study – *d* - difference in post treatment measures between CG & IG divided by pooled SD. 2. Effect size estimates adjusted for bias due to differences in pre-tests between CG & IG & for bias due to overestimation of population effects size in small sample studies. 3. Weighted mean effect sizes computed. 4. Significance of mean effect size tested by dividing mean effect size by estimation of SD. 95% CIs computed for each effects size. 5. Weighted regression analyses conducted to identify predictors of outcome. 6. Binomial Effects Size Display (Rosenthal, cited on p. 583) to interpret practical significance. 7. Log Odds Ratio calculated to compare risk of institutionalisation. Ors calculated for each study, logs of OR computed & 95% confidence intervals for each, reconversion followed by testing significance & homogeneity of ORs *(G) Were sources of heterogeneity explored?* Homogeneity analysis performed. ***Overall:*** 1. 29 included patients with AD, one patients with presenile dementia, 97 any dementia 2. All except 2 were community based 3. there was huge variability in number of sessions (1-180, median =9) 4. follow up in 32/127 studies (mean of 11m) 5. 56% group treatments, 33% individual, 11% mixed

Metitieri, 2001 Miller, 1999 Mittelman, 1994 Mittelman, 1996 Mittelman, 1997 Mittelman, 2004 Mohide, 1990 Moniz-Cook, 1998 Newcomer, 1999 Nobili, 2004 O'Connor, 1991 Ostwald, 1999 Perkins, 1999 Quayhagen, 1989 Quayhagen, 2000 Quayhagen, 2001 Roberts, 1999 Robinson, 1988 Robinson, 1994 Schacke, 2002 Schulz, 2005 Senanarong, 2004 Stanley, 1989 Steffen, 2005 Sutcliffe, 1988 Tibaldi, 2004 Toner, 1987 vanHout, 2005 Vedhara, 2003 Vernooij-Dassen, 1993 Wetterstein, 2005 Wilz, 1998 Wimo, 1993 Woods, 2003 Zarit, 1982 Zarit, 1987 Zarit, 2004	6. Participants in IG 4-3,944 (Median =22). 7. Mean age of caregivers = 63.4 (SD=4.0). 8. Mean % female = 66% 9. 80% co-residents 10. 39% adult children, 60% spouses 11. Care provided for mean of 3.6 years and 83 hours per week ***<u>Findings relevant to respite care</u>*** ***Evidence:*** Overall pooled mean effect sizes d (all interventions) pre-post showed benefits in burden, depression, well being, ability/knowledge, care recipient symptoms), follow up showed benefits in burden, depression, ability/knowledge. Heterogeneity only significant in pre-post tests (depression, ability knowledge, institutionalisation. Longer interventions more likely to improve depression and lengthen time to institutionalisation. Changes in depression, ability/knowledge, & institutionalisation more marked in mainly female samples – well being less affected. Spouses more likely to respond with delay to institutionalise. Higher quality studies associated with less improvement in burden. Overall RCTs, studies with small samples, and studies with higher drop out rates reported smaller effect sizes. Respite/day care interventions (average of pre/post and follow up) – led to improved burden (d= -0.26, 95% CI=-0.39 to -0.12), depression (d= -0.12, 95% CI=-0.24 to -0.00), and well being (d= 0.27, 95% CI=0.03 to 0.51). No impact on carer knowledge/ability, recipients' symptoms, or institutionalisation - but heterogeneity of effect sizes for this last analysis. Multi-component interventions were only significantly related to institutionalisation. ***Consistency:*** positive impact on burden, well being, and depression from respite alone – no negative impacts ***Clinical impact of respite care:*** appears modestly beneficial ***Generalisabilty:*** Population consistent with this review ***Applicability:*** US review and studies published mainly in Western journals- applicable. ***<u>Findings relevant to education</u>*** Educational interventions (average of pre/post and follow up) – led to improved burden (d= -0.15, 95% CI=-0.25 to -0.04), depression (d= -0.27, 95% CI=-0.41 to -0.13), well being (d= 0.24, 95% CI=0.04 to 0.44), carer knowledge/ability (d= 0.46, 95% CI=0.28 to 0.64), recipients' symptoms d= -0.17, 95% CI=-0.29 to -0.04. No significant effect on institutionalisation - but heterogeneity of effect sizes for ability/knowledge analysis.

	When education was split into active participation versus information provision only , pure information provision ONLY impacted on knowledge/skills ***Consistency:*** positive impact on burden, well being, depression, knowledge ability – no negative impacts. Active involvement seems to be key link between knowledge and its translation into health outcomes. ***Clinical impact of respite care:*** appears modestly beneficial ***Generalisabilty:*** Population consistent with this review ***Applicability:*** US review and studies mainly in Western journals- applicable.

STUDY DETAILS				
Pugh, L. C., D. S. Havens, et al. (2001). "Case management for elderly persons with heart failure: the quality of life and cost outcomes." MEDSURG Nursing 10(2): 71-78.				
Affiliation/source of funds [2] Affiliations: John Hopkins University, Baltimore. Center for Patient Services Research, Allentown, Pennsylvania. Pennsylvania State University. Lippincott, Williams and Wilkens. Funding source not shown.				
Study design [3] Trial with control gp	Level of evidence [4] III-I			Location/setting [5] Two hospitals in Pennsylvania.
Intervention 1 [6] Patients provided with enhanced D/C planning, taught how to manage their HF, given information book, assessed by a nurse and followed up by a nurse case manager for 6m by phone and visits [7] sample size IG 27				Comparator [8] Usual care – followed by physician & assigned to the care of a nurse each day. Sample size CG [9] 31
Population characteristics [10] Those aged 65 + , diagnosis=coronary HF NYHA II to IV, candidates for D/C home or to retirement community. Excluded if admitted to skilled care facility, had co-morbid condition affecting 1 yr survival, HF with correctable cause, unable to return for f/up, unable to ambulate. *Intervention group1*: as above. *Comparator group*: as above. Those recruited had mean age of 77 & 20%+ died within 6m. All white – app 40% male				
Length of follow-up [11] Intervention period = 6 m Follow up to 18 m. Data collected baseline & 6 m	Outcome(s) measured [12]: QOL (SF36) , function (6 min walk), cost, Also measured – NYHA, mean readmissions, satisfaction			
INTERNAL VALIDITY				
Allocation [13] random assignment method not specified.	Comparison of groups [14] Tested for equivalence adj for hospital effect - for SF36, & 6 m walk NS p=0.3 to 0.9.	Blinding [15] None mentioned.	Treatment/measurement bias [16] No helpful documentation	Follow-up [17] ITT analysis not documented – 3 withdrawals per group, 6 died in IG & 5 in CG
Power calculation: not powered – pilot study		Reliability and validity of instruments: SF 36- good R & V data, no stats for R & V of 6m walk but said to be good.		
Overall quality assessment [18]. Needed better allocation details & evidence of blinding for outcome evaluation. Not powered as pilot. – also restricted to two hospitals.				

RESULTS								
Outcome [19] SF-36	Intervention group SET[20]		Control [21]		Effect size [22] 95% CI and/or p [25]			
	M	SD	M	SD	SES M	95% CI		p
Physical function	33.60	19.60	36.60	25.00	-0.132	-0.647	0.386	>0.05
Physical role	14.00	30.70	18.30	32.80	-0.135	-0.650	0.383	>0.05
Bodily pain	54.70	30.60	62.20	46.10	-0.189	-0.704	0.331	>0.05
General health	64.50	27.00	70.00	31.20	-0.188	-0.702	0.332	>0.05
Vitality	61.60	27.90	65.00	30.90	-0.115	-0.630	0.403	>0.05
Social function	44.90	21.90	50.00	19.30	-0.248	-0.763	0.273	>0.05
Emotional role	34.00	24.40	31.00	21.90	0.130	-0.388	0.645	>0.05
Mental health	70.60	25.90	74.60	20.30	-0.173	-0.688	0.346	>0.05
All SF 36 scores calculated from graph by statistician- p values shown in article All walk effect sizes calculated by statistician								
6 min walk T1	133.6	115.5	138.0	107.1				
6 min walk T2	166.5	132.8	133.2	86.9	0.297	-0.265	0.849	P=0.61
NYHA scores – NSP=0.34,Median change in IG -1, CG= NC Hospital readmissions, ns p>0.05 CG 47%, IG 50%.								
Clinical importance (1-4) [26] 3 No firm conclusions can be drawn from this underpowered study.					Relevance (1-5) [27] (1)			
Any other adverse effects [28] None noted								
EXTERNAL VALIDITY								
Generalisability [29] Good generalisabilty – very relevant population								
Applicability [30] Could be implemented in Australia								
Comments [31] Analyses adjusted for hospitals – Cochran Mantel Haenszel test for baseline equivalence Linear regression to examine QOL. Aligned rank test for walk, NYHA, readmissions, - adjusted for hospital effect.								

STUDY DETAILS				
Riordan, J. M. and A. V. Bennett (1998). "An evaluation of an augmented domiciliary service to older people with dementia and their carers." Aging & Mental Health 2(2): 137 - 143. 1.				
Affiliation/source of funds [2] Thorpe Comb Hospital, London, UK. Funding from MIND.				
Study design [3] Concurrent control study	Level of evidence [4] III-2	Location/setting [5] Community setting in North-east London, UK		
Intervention [6] Dementia Support Service – 1 year of specifically tailored practical and emotional help for the caregiver from care team. The support was available in flexible hours, complementary and reviewed at regular intervals to best suit individuals. Major component was education. Each care team member had only a small number of participants to monitor (max of 5). Sample size [7] n=19 client/carer dyads			Comparator [8] Control group – regular domiciliary services (not described) Sample size [9] n=19 client/carer dyads	
Population characteristics [10] Participants were older adults living in the community with dementia and their family caregiver from a specific area of north-east London. All participants in the intervention group were referred through GPs, RNs, support groups. Control group participants were matched to intervention group by selecting patient with dementia (and carer) who resided in same social services area. Matching consisted of social and demographic characteristics such as age (within 5 year range), sex and cognitive function. Carer also matched for age, sex, relationship to client and residency. . Mean age of care recipient >78 yrs.				
Length of follow-up [11] Baseline, then 6 months, 12 months and 18 months	Outcome(s) measured [12]: Carers – general health, scaled version, carer problem checklist and strain scale. Client – MMSE and Crichton royal behavioural rating scale.			
INTERNAL VALIDITY				
Allocation [13] Intervention group selected by meeting inclusion criteria, control group then selected to match each IG participant dyad on characteristics discussed in [10].	Comparison of study groups [14] No significant difference found in outcome measures between the groups at baseline	Blinding [15] Assessors not blinded to group allocation of participants	Treatment/measurement bias [16] Matching of intervention group to control group participants was not complete (ie some characteristics could not be matched) due to small sample sizes which could affect results.	Follow-up [17] 5 participants mentioned as withdrawing from study prior to follow-up readings
Power Calculations Not described	Reliability and validity of instruments Tools used described as having “an established reliability and validity”			
Overall quality assessment (descriptive) [18] Study design could have been better as matching of control/intervention group participants proved difficult, however, no significant differences in measures taken at baseline				

RESULTS			
Outcome [19]	Intervention group [20] Mean	Control group [21] Mean	Measure of effect size [22] 95% CI and/or p value[23]
Carers - Stress			
Baseline	9.7	14.3	Ns
6 months	7.9	14.5	Ns
Carer problem checklist			
Baseline	13.9	34.9	Ns
6 months	13.9	34.7	Ns
Strain scale.			
Baseline	32.6	34.9	Ns
6 months	34.4	34.7	ns

Any other adverse effects [28] None mentioned	Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 2

EXTERNAL VALIDITY
Generalisability [29] From a specific area of London, UK, but family carers of dementia patients who received education so results from this study could be generalisable to AUS
Applicability [30] Good.
Comments [31] Significantly more patients from the intervention group remained living at home at 6 months ($p<0.01$) and at 12 months ($p<0.05$) when compared to controls, however, this number decreased to a non-significant difference by 18 months. There was no evidence that the service had any significant effect on the psychological profiles of the carers but the sample was small.

STUDY DETAILS				
Ripich, D. N., E. Ziol, et al. (1998). "Longitudinal effects of communication training on caregivers of persons with Alzheimer's disease." Clinical Gerontologist 19(2): 37-55.				
Affiliation/source of funds [2] National Institute on Aging/NIH				
Study design [3] Non-randomised experimental trial	Level of evidence [4] III-2		Location/setting [5] community, Cleveland USA	
Intervention [6] eight hours of training across 4 weekly sessions in groups of 8-10. training adapted from the *Alzheimer's Disease Communication Guide: the FOCUSED Program for Caregivers* Sample size: 19			Control [8] usual care not described Sample size:18	
Population characteristics [10] Caregivers: Approx 61 years, 13 years formal education,59% were married, socioeconomic status (education and income) approx 40 (not sure what this means) Care recipients: mid stage AD, mean age 77 years, MMSE score approx 17, 9 care recipients did not live with caregivers				
Length of follow-up [11] baseline, post training (intervention group only), 6 months, 12 months	Outcome(s) measured [12]: 1) subjective well-being (Positive and Negative Affect Scale) 2)Depression (CES-D) 3) Health status 4) Stress and Burden (Caregiver General Hassles Scale 5)Communication Hassles (sub scale of General Hassles) 6) Knowledge of AD			
INTERNAL VALIDITY				
Allocation [13] Intervention: caregivers who elected to attend training session. Control: caregivers unable to attend because of time constraints, distance, other commitments	Comparison of study groups [14] Yes, chi square, no sig differences	Blinding [15] No	Treatment/measurement bias [16] Same measures for both groups. Intervention measured at one extra time point	Follow-up [17] Attrition not reported, would appear from tables that it was minimal
Power Calculations No	Reliability and validity of instruments [12] Yes, except for health status. Knowledge of AD reported low Cronbach's alpha (.56)			
Overall quality assessment (descriptive) [18] Poor. Patient self selected, control group would appear to be time poor. No randomisation, no blinding, unclear whether data collector was also the trainer. Attrition not reported.				
RESULTS				

Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]

Table 2 Means and SD's of Caregiver Self-Report Measures over time

Measure	Entry	Post training	6 months	12 months	n	
Positive Affect						
Intervention	17.05 (4.17)	17.84 (3.58)	17.68 (4.22)	17.21 (4.14)	19	
Control	16.71 (4.33)		15.06 (5.70)	14.88 (5.35)	17	
Negative Affect						
Intervention	10.63 (3.48)	9.95 (2.66)	10.05 (3.39)	10.21 92.86)	19	
Control	13.89 (4.90)		12.22 (5.31)	12.00 (4.67)	18	
Depression						
Intervention	23.11 (7.43)	23.93 (7.57)	23.63 (7.11)	23.05 (6.06)	19	
Control	26.17 (9.95)		28.06 (9.84)	26.72 910.90)	18	
Health status						
Intervention	11.79 (2.80)	12.00 (2.43)	11.42 (2.06)	11.00 (2.49)	19	
Control	10.89 (1.88)		10.72 (1.49)	10.67 (2.17)	18	
Caregiver Hassles (stress /burden)						
Intervention	34.02 (15.97)	34.47 (16.27)	28.59 (15.83)	30.98 (13.05)	17	
Control	24.37 (12.36)		25.86 (13.87)	28.10 (18.69)	17	
Communication Hassles						
Intervention	7.47 (4.60)	6.55 (4.28)	4.94 (3.53)	6.22 (3.52)	17	
Control	4.85 (2.94)		5.21 (3.51)	6.74 (5.05)	17	
Knowledge assessment						

Intervention	7.53 (2.16)	10.94 (.80)	10.22 (1.90)	10.78 (1.00)	18	
Control	6.73 (1.88)		6.89 (1.94)	7.67 (1.37)	18	

	Treatment			Control			STANDARDISED EFFECT SIZE				
								SE of ES	CI for		Effect Size
								Estimate	Effect Size		based on
Outcome measure	Mean	n	SD	Mean	n	SD	Effect size		lower	upper	control gp (SD)
Positive Affect 6 months	17.68	19	4.22	15.06	17	5.70	0.527	0.339	-0.151	1.179	0.460
Positive Affect 12 months	17.21	19	4.14	14.88	17	5.35	0.491	0.339	-0.185	1.142	0.436
Negative Affect 6 months	10.05	19	3.39	12.22	18	5.31	-0.490	0.334	-1.132	0.176	-0.409
Negative Affect 12 months	10.21	19	2.86	12.00	18	4.67	-0.465	0.333	-1.107	0.199	-0.383
Depression scale 6 months	23.63	19	7.11	28.06	18	9.84	-0.518	0.334	-1.161	0.149	-0.450
Depression scale 12 months	23.05	19	6.06	26.72	18	10.90	-0.419	0.332	-1.060	0.242	-0.337
Health Status 6 months	11.42	19	2.06	10.72	18	1.49	0.388	0.332	-0.272	1.029	0.470
Health Status 12 months	11.00	19	2.49	10.67	18	2.17	0.141	0.329	-0.508	0.783	0.152
Caregiver hassles 6 months	28.59	17	15.83	25.86	17	13.87	0.183	0.344	-0.495	0.853	0.197
Caregiver hassles 12 months	30.98	17	13.05	28.10	17	18.69	0.179	0.344	-0.499	0.848	0.154
Communication hassles 6 months	4.94	17	3.54	5.21	17	3.51	-0.077	0.343	-0.747	0.598	-0.077
Communication hassles 12 months	6.22	17	3.52	6.74	17	5.05	-0.119	0.343	-0.789	0.556	-0.103
Knowledge assessment 6 months	10.22	18	1.90	6.89	18	1.94	1.734	0.388	0.931	2.453	1.716
Knowledge assessment 12 months	10.78	18	1.00	7.67	18	1.37	2.593	0.447	1.653	3.406	2.270

Any other adverse effects [28] No	Clinical importance (1-4) [26] 1	Relevance (1-5) [27] 5

EXTERNAL VALIDITY

Generalisability [29] (relates to population) Yes

Applicability [30] Yes – may need to qualify socioeconomic status

Comments [31] this study evaluated the long term effects of communication training for caregivers of people with Alzheimer's Disease. Participants self selected into the control or treatment group based on availability to attend the training sessions. The training group indicated decreased communication hassles and increased knowledge of AD but no significant differences found in the control group (based upon reported group X time analyses.

Roberts, J., G. Browne, et al. (2000) "Specialized continuing care models for persons with dementia: a systematic review of the research literature." Canadian Journal on Aging Volume, 106-126 DOI: **Level of evidence: III-2**.	
No studies examining outcomes of respite care met inclusion criteria for our review.	
Study	**Review quality**
Respite only: Lawton, 1989 Montgomery, 1988 Conlin, 1992 Burdz, 1988 Mohide, 1990 Drummond, 1991	*A) Was a clinical question clearly defined?* To determine the effects and efficiency of models of community or specialised institutional care for people who have dementia. *(B) Was an adequate search strategy used?* 1. Search of MEDLINE 1986-96, Health 1986-96, CINAHL 1986-96. Key words: long term care, dementia, Alzheimer's disease, Caregivers, care providers, group living, group homes, assisted living, congregate living, special care units, respite, day home care programs, or day care, home care, counselling, support, cost effectiveness, cost benefit analysis, cost, cost analysis, hospice, case managed community care, case management, outreach, community mental health services, psycho geriatrics, social supports. 2. Hand searching of reference lists. 3. Internet search 4. Regional Canadian reports known to the authors. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria: 1. Identifying care services or programs for persons with dementia 2. determining effectiveness of in home service or program 3. described QOL outcomes for clients or carers or their health care expenditure 4. design was RCT or prospective cohort 5. sample of people aged 65+ No details of how criteria were applied – 20 studies reviewed overall. *(D) Was a quality assessment of included studies undertaken?* Two authors reviewed against criteria for scientific merit, clinical and statistical significance of results being provided, clinical applicability, system applicability (details provided). Consensus required. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show setting, design, sample, outcomes, intervention, follow up, and effect (positive, ns, or negative) – no stats.

	(F) Were the methods for pooling the data appropriate? Data not pooled *(G) Were sources of heterogeneity explored?* N/A ***Findings:*** ***Evidence re respite care:*** (5 studies – 6 papers) US & Canada – one RCT, 4 cohort studies (3 RCTs, one controlled trial, one cohort). Reviewers conclude that little reduction in burden results from respite but that "child" carers maintain their relative (with & without dementia) in the community for longer with respite. Table not entirely consistent with the text. ***Consistency:*** text indicates that one study found spouses institutionalised their relative sooner after respite care. ***Clinical impact of respite care:*** delay to institutionalisation indicated to be 22 days – no other effect sizes provided. No reduction in burden shown in the table but could be indicated as relief. Cannot be well evaluated from this review although delay to institutionalisation was quantified as 22 days in report of one study (no other effect sizes shown) ***Generalisabilty:*** Population probably consistent with this review with regard to age – uncertain re stage of disease. ***Applicability:*** UK review – Canadian review – US and Canadian studies.

STUDY DETAILS				
Rodgers, H., C. Atkinson, et al. (1999). "Randomized controlled trial of a comprehensive stroke education program for patients and caregivers." Stroke 30(12): 2585-91.				
Affiliation/source of funds [2] University of Newcastle on Tyne, North Tyneside Hospital, Northumbria Health care NHS Trust, UK. Funding from Northern and Yorkshire regional health authority national health service research and development directorate.				
Study design [3] RCT	Level of evidence [4] II		Location/setting [5] Hospital and community setting in Tyne (?), England.	
Intervention [6] Stroke Education program – 1hr small group education session for patient and carer in the hospital, then 6x 1hr education sessions after discharge from hospital. Education aimed to increase knowledge of stroke, prevention + treatment, services available. Sample size [7] n= 121 pts / n=107 carers			Comparator [8] Control – information leaflets on stroke available from hospital (also available to intervention group) which included reference to a stroke "hotline" for questions. Sample size [9] n= 83 patients / n=69 carers	
Population characteristics [10] Recruitment 5-9 days post stroke of pts & families. Participants all lived in community and able to complete interviews. Older stroke pts				
Length of follow-up [11] Baseline plus 6 months.	Outcome(s) measured for carers [12]: Perceived health, knowledge, satisfaction with services, emotional health			
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] Equivalent	Blinding [15] Assessor who collected data was blinded to subject group allocation	Treatment/measurement bias [16] Level of activity before stroke could potentially be subjective as study period began after stroke.	Follow-up [17] 57/108 patients (53%) and 73/93 carers (78%) failed to follow up from intervention group
Power Calculations – 216 carers required	Reliability and validity of instruments "reliability and validity of instruments has not been formally tested" for several questionnaires used to assess outcomes, Cronbach's alpha for questionnaires used in previous studies			
Overall quality assessment (descriptive) [18] Very high drop out rate. Underpowered. Attendance poor at intervention sessions.				

RESULTS				
Carer Outcome [19] SF-36 scores at 6 months after stroke	Intervention group [20] Median	Control group [21] Median	Measure of effect size [22] 95% CI and/or p value[23] Note: tests here appear to be on differences between Time 2 scores	
Physical functioning Role physical Bodily pain	85 50 72	80 75 84	p=0.49 p=0.42 p=0.11	

General health	67	65	p=0.89	
Vitality	50	50	p=0.65	
Social functioning	62.5	100	p=0.04	
Role emotional	66.7	100	p=0.13	
Mental health	68	78	p=0.24	
Carer knowledge - stroke	18/26	15/26	p=0.01	

	Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 2

Any other adverse effects [28] Intervention group carers scored significantly lower than control group carers (p=0.04) on social functioning measures at tttmnt completion

EXTERNAL VALIDITY

Generalisability [29] This study investigates the effect of education / transitional support on carers of stroke patients living in the community within a UK setting so results could be generalised to this same population of carers within and Australian setting

Applicability [30] The intervention from this study resulted in no clear benefits to carers and poor attendance suggests that its feasibility is in doubt.

Comments [31] Carers in the intervention group had poorer social functioning at T2.

Schulz, R., L. M. Martire, et al. (2005). "Evidence-based caregiver interventions in geriatric psychiatry." Psychiatr Clin North Am 28(4): 1007-38**. Level of evidence: I**.	
Studies that met inclusion criteria for our review for this question are asterisked	
Study/	**Review quality**
Bourgeois, 2002* Buckwalter, 1999* Burgio, 2003* Burns, 2003* Chang, 1999* Davis, 2004* Gitlin, 2003* Hébert, 2003* Hepburn, 2001* Logiudice, 1999 Mant, 2000* Martin-Cook, 2003* Marriott, 2000* McCurry, 2003* Nobili, 2004* Rodgers, 1999* Akkerman, 2004 Bass, 2003 Castro, 2002 Chu, 2000 Clark, 2003* Corbeil, 1999 Done, 2001 Ducharme, 2005 Eisdorfer, 2003 Eloniemi-Sulkava, 2001 Fung, 2002 Gitlin, 2003 Grant, 2002 Grant, 2003 Hartke, 2003 Kalra, 2004 Patel, 2004 Lincoln, 2003 Mahoney, 2003 Newcomer, 1999 Miller, 1999 Ostwald, 1999	*A) Was a clinical question clearly defined?* From the objective: to identify recently published psychosocial family caregiver interventions that involve either the family or the patient and family. *(B) Was an adequate search strategy used?* Keywords: family caregiver, caregiver, spouse, spousal; intervention; dementia, psychiatric, depression, anxiety, bipolar, schizophrenia, stroke, cerebral vascular accident, substance abuse; and randomized, randomized controlled trial, or controlled. Databases: MEDLINE 1966-2055 PsychINFO 1967-2005 CINAHL 1982-2005 Cochrane CT Register, Database of SRs, DARE Ancestry searches. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: Published RCT in peer reviewed English language journal Jan 1999 – April 2005 Evaluated psychosocial family caregiver intervention (care recipient 60+ with dementia caused by AD, related disorder, stroke, or psychiatric illness) Outcomes reported for carer or carer + patient. Final quantity – 41 for dementia, 10 for stroke. No details of method of application – eg one or more people NB these were generally multicomponent interventions, most included education for the carer, none included respite *(D) Was a quality assessment of included studies undertaken?* Methodology extensively appraised in narrative but in terms of groups of studies rather than individual studies. Sample size and design shown in tables. *(E) Were the characteristics and results of the individual studies appropriately summarised?*

Pillemer, 2002 Pillemer, 2003 Quayhagen, 2000 Roberts, 1999 Shelton, 2001 Smith, 2004 Steffen, 2000 Teri, 2003 Van den Heuvel, 2000 Wishart, 2000	Table shows sample at baseline, type of RCT & CG, intervention, carer (+ patient) between group significant differences (alpha ≤ 0.05) in terms of which group improved most. *(F) Were the methods for pooling the data appropriate?* Data not pooled. *(G) Were sources of heterogeneity explored?* N/A ***Findings*** ***Evidence*** All studies were RCTs Dementia – mainly educational materials/counselling / skills training - 51% of studies not even powered to detect medium effects. Depressive symptoms, burden, anxiety summarised as being positively impacted upon. REACH program described as rigorous & linking carer skill training in regulating their behaviour to reduced depression. Table shows almost exclusively positive outcomes Stroke- Most looked at skills, coping, knowledge of stroke - spouses commonly targeted during rehab – most studies adequately powered. One particularly rigorous study found that education and skills training (hands on) resulted in improvements in burden, anxiety, depression, QOL. Table shows almost exclusively positive outcomes. Mood disorder – no recent RCTs- one study evaluated workshops for recurrent major depression in patients and families and found benefits – another tested education & support in older bipolar patients and their family carers and also found benefits. Dementia status of these patients is unclear in the review. Reviewer indicates that research studies tended to have flaws (differential attrition + no intention to treat analyses, interventions not fully implemented, no separation of intervention implementation & outcome assessment). These are multicomponent interventions. ***Consistency:*** Most consistency in dementia & stroke specific interventions improving depression & (to a small degree) reducing, anxiety, hostility, anger, burden, stress. Also some indication of delayed institutionalisation (p. 1029) ***Clinical impact of education:*** Difficult to assess as implemented with other interventions. ***Generalisabilty:*** Perhaps a slightly younger cohort. Stage of dementia not defined so likely more variable. Our review does not aim to include dementia caused by psychiatric illness. Dementia status of the stroke and psychiatric samples included here is unclear. ***Applicability:*** US study of mainly Western literature, generally applicable.

Selwood, A., K. Johnston, et al. (2007). "Systematic review of the effect of psychological interventions on family caregivers of people with dementia." Journal Of Affective Disorders 101(1-3): 75-89. **Level of evidence: I/III-2**	
Studies included in our own review are asterisked.	
Study	**Review quality**
Acton, 2001* Brodaty, 2003* Buckwalter, 1999* Burns, 2003* Chang, 1999* Cooke, 2001* Done, 2001* Hebert, 2003* Hepburn, 2001* Logiudice, 1999 Marriott, 2000* McCurry, 1998* Sorensen, 2002*. Stolley, 202* Teri, 1997* Wright, 2001* Zanetti, 1998* Belmin, 1999. Bourgeois, 1996 Brennan, 1995 Brodaty, 1989 Brodaty, 1993 Brodaty, 1994 Burgener, 1998 Casacalenda, 2002 Castro, 2002 Coen, 1999 Coon, 2003 Cummings, 1998 Dellasega, 1990 Drummond, 1991 Gallagher-Thompson, 2001 Gallagher-Thompson, 2003. Garand, 2002 Gendron, 1986 Gendron, 1996 Gloaguen, 1998 Goldberg, 1988 Goodman, 1990 Haight, 2003	*A) Was a clinical question clearly defined?* To review the efficacy of psychological interventions for the psychological health of carers of people with dementia. *(B) Was an adequate search strategy used?* Search of electronic databases (not specified) &Cochrane Library. Search terms "encompassing caregivers/carers, individual dementias and interventions" p.76 *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if quant outcomes were for carers' psychological health & care recipients had dementia. Excluded: 1. Only patient outcomes 2. studies including carers of people without dementia 3. Interventions that involved medication or were not based on a psychological model No details of how criteria applied Final review: 62 studies, reasons for exclusion documented in general terms only. *(D) Was a quality assessment of included studies undertaken?* Level of evidence assigned according to criteria defined by Oxford Centre for EBM. Two raters independently evaluated with discussion resolving disputes. Interventions categorised as education, dementia specific therapy, coping strategies, individual behavioural management strategies, group behavioural management strategies, and supportive therapy. Interventions for each category given graded recommendations according to level of evidence. Data extraction focuses on the education and behavioural management strategies categories – the latter teaching behaviour management *(E) Were the characteristics and results of the individual studies appropriately summarised?* Tables show IG & CG nos, intervention, time to follow up, outcome, level of evidence. Text summaries also. *(F) Were the methods for pooling the data appropriate?* Data not pooled. *(G) Were sources of heterogeneity explored?* N/A

Haley, 1987 Hebert, 1994 Kahan, 1985 Kuhn, 2001 Lazarus, 1981 Livingston, 1996 Livingston, 2005 Magni, 1995 McCurry, 1996 Mittelman, 1995 Mittelman, 1995 Moher, 1995 Mohide, 1990 Moniz-Cook, 1998 Morris, 1992 Paton, 2004 Pilling, 2002 Pinquart, 2003 Pusey, 2001 Quayhagen, 1989 Quayhagen, 2000 Roberts, 1999 Robinson, 1994 Romero, 2001 Russell, 1989 Schmidt, 1988 Schulz, 2002. Spector, 2001 Steffen, 2000 Strawn, 1998 Sutcliffe, 1988. Thorgrimsen, 2002. Toner, 1987 Whitlatch, 1991 Wilkins, 1999 Winogrond, 1987 Woods, 2003 Zarit, 1987	***Findings relevant to education/training Evidence:*** 16 papers described interventions only providing information about dementia (6 RCTs). The 6 RCTs found no impact on the varied psychological health outcomes measured (including psychological health, burden, stress). One led to an increase in burden. From other studies, the reviewer indicates "negative results" (p.77) – from the table, this means no change - from all except three studies. The reviewer concludes that there is no evidence of benefits from education in terms of depression, distress, or burden. 11 papers addressed group interventions teaching behaviour management (7 RCTs). One study was an RCT rated as providing the highest level of evidence – this intervention involved a hospital stay for the carer and patient and was said to report lower GHQ scores after the program that were "only significantly lower than controls after 12 months" (p. 79). This finding is also unclear in the table. All other studies were said to have no impact. The reviewer concludes that there is no evidence of benefits from this intervention for depression, burden or distress for up to 8 months. 7 studies addressed individual interventions teaching behaviour management (fewer than 6 sessions) (5 RCTs). Only one positive effect is noted for this intervention – improved burden at 12 months. The reviewer concludes no impact for depression, distress, or burden over 6 m – inconclusive over 12 m. 11 studies addressed individual interventions teaching behaviour management (6 or more sessions) (9 RCTs). Three RCTs evaluated as of high quality found that depression was improved in the IG including in the long term. The other studies addressed in the summary were reported to find no impact for IGs although benefits were found for subgroups in one study. The author concludes that these interventions are effective for depression up to 32 m but not for burden. ***Consistency:*** Inconsistencies could be explained eg information without support could be devastating. ***Clinical impact of education care:*** skills training over a long period appears beneficial re depression – not quantifiable ***Generalisabilty:*** Population consistent with this review although patients may be less severely affected ***Applicability:*** UK review and studies mainly in Western journals- applicable.

STUDY DETAILS				
Smith, J., A. Forster, et al. (2004). "A randomized trial to evaluate an education programme for patients and carers after stroke." Clin Rehabil 18(7): 726-36.				
Affiliation/source of funds [2] St Luke's Hospital, Bradford, UK. Funding from Northern and Yorkshire region research and development.				
Study design [3] RCT	Level of evidence [4] II			Location/setting [5] Community setting in metro area of Northern England.
Intervention [6] Education programme – Stroke recovery programme manual plus meetings every 2 weeks with support team (nurse, Dr, physio, OT). Meetings lasted approx. 20 mins. Meetings were discuss patient progress and answer specific questions. Sample size [7] n=84 patients and n=49 carers (dyads)				Comparator [8] Control – usual care including stroke association leaflets Sample size [9] n=86 patients and n=48 carers (dyads)
Population characteristics [10] Patients in this study were older adults admitted to stroke unit of major metro UK hospital with acute stroke then discharged to live in community. They did not have receptive aphasia, cognitive impairment and understood English.				
Length of follow-up [11] Baseline, 3 months post-stroke, 6 months post-stroke		Outcome(s) measured [12]: knowledge of stroke for carer and patient, physical and social function of patient (Barthel index and FAI), handicap (LHS), patient mood (GHQ-28) and patient/carer satisfaction.		
INTERNAL VALIDITY				
Allocation [13] Random using random length restricted permuted blocks (of length 2, 4 or 6). Patients assignment stratified by Barthel index score, aphasia and presence of carer.	Comparison of study groups [14] No significant difference in outcomes measures or demographic characteristics at baseline	Blinding [15] Collection of data by research nurse who was blinded to participant group allocation	Treatment/measurement bias [16] Groups treated the same apart from intervention	Follow-up [17] 69/84 (82%) patients and 40/49 (82%) carers from intervention group completed study 64/86 (74%) patients and 36/48 (75%) carers from control group completed study
Power Calculations Power of 90% and significance of 0.01 required 65 patients per group		Reliability and validity of instruments Not discussed		
Overall quality assessment (descriptive) [18] Well designed study, no major flaws but unclear difference in education (information) between groups				

RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
CARER GHQ Baseline 3 months 6 months	 7.5 (0-24) 7 (0-24) 8 (0-27)	 4.5 (0-21) 8 (0-25) 9 (0-24)	 NS	
	Clinical importance (1-4) [26] No confidence intervals		Relevance (1-5) [27] 1	
Any other adverse effects [28] None mentioned				
EXTERNAL VALIDITY				
Generalisability [29] Focus of study is the effect of education on stroke patient and carer knowledge and wellbeing in metro UK community setting - results of this study could be generalised to an equivalent Australian population.				
Applicability [30] Could be introduced but probable significant resource issues.				
Comments [31]				

Sorensen, S., M. Pinquart, et al. (2002). "How effective are interventions with caregivers? An updated meta-analysis." Gerontologist 42(3): 356-72. **Level of evidence: I/III-2**.	
Studies included in our own review are asterisked.	
Study	**Review quality**
Archbold, 1995 Baldwin, 1989 Bourgeois, 2002* Brennan, 1995 Brodaty, 1989 Brodaty, 1994 Brodaty, 1997 Buckwalter, 1999* Burdz, 1988 Burgener, 1998 Chang, 1999* Chiverton, 1989 Chu, 2000 Dellasega, 1990 Demers, 1996 Drummond, 1991 Dziegielwski, 1991 Gallagher-Thompson, 1994 Gallagher-Thompson, 2000 Gendron, 1986 Gitlin, 2001* Godberg, 1985 Gonyea, 1991 Greene, 1989 Haley, 1987 Hebert, 1994 Hepburn, 2001* Hinchliffe, 1995	*A) Was a clinical question clearly defined?* From purpose – to determine intervention effectiveness in family carers of older adults. 1. Averaged effects of all interventions on six outcome measures (burden, depression, well being, uplifts, ability/knowledge, care recipient symptoms) 2. Effects types of intervention (including psycho-education for carer, respite care, & multicomponent). 3. Moderating impact on effects of intervention characteristics, caregiving situation, & study. *(B) Was an adequate search strategy used?* Search of Psycinfo, Medline, Psyindex (dates not specified). Keywords: caregiver or carer or caregiving, intervention or support or training, and elderly or old age. Ancestry search also carried out. Suggestions from reviewers included. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: 1. Care recipients had a mean or median age of $\geq$ 60 years. 2. Untreated control. 3. At least one of the following was an outcome: carer burden, depression, well being (positive), caregiver uplifts, carer knowledge and/or coping, recipient's symptoms. 4. Effect sizes could be calculated 5. Studies in German, English, French, or Russian. 6. Published in peer reviewed journals. Coding undertaken by two doctoral level raters with a relevant specialist background (Kappa = 0.91), inconsistencies resolved by discussion. Final review: 78 studies, 76 in English. Reasons for exclusion documented in general terms only, not for individual studies. *(D) Was a quality assessment of included studies undertaken?* Moderating impact on effects of intervention characteristics & study reported

Hughes, 1990 Kaasalainen, 2000 Kahan, 1985 Koloski, 1993 Lawton, 1989 LoGuidice, 1999* Lorensini, 1997 Lovett, 1988 Marks, 1987 Marriott, 2000* McCurry, 1998 Milne, 1993 Mittelman, 1995 Mohide,1990 Moniz-Cook, 1998* Montgomery, 1989 Newcomer, 1999 Oktay, 1990 Ostwald, 1999 Quayhagen, 1989 Quayhagen, 2000 Riordan, 1998* Ripich, 1998* Roberts, 1999 Robinson, 1988 Robinson, 1994 Russell, 1989 Schacke, in press Scharlach, 1987 Schultz, 1990 Schultz, 1992 Schmidt, 1994 Schultz, 1993 Schultz, 1994 Schwiebert, 1994	*(E) Were the characteristics and results of the individual studies appropriately summarised?* Only a very broad overall description was provided in the text – no tables of individual studies. *(F) Were the methods for pooling the data appropriate?* 1. Effect sizes computed for each study – difference in post treatment measures between CG & IG divided by pooled SD. Effect sizes also from t values, F values, exact p values, & alpha levels & 95% CIs computed for each effect size. 2. Effect size estimates adjusted for bias due to differences in pre-tests between CG & IG & for bias due to overestimation of population effects size in small sample studies. (p. 360). 3. Weighted mean effect sizes computed. 4. Significance of mean effect size tested by dividing mean effect size by estimation of SD. Differences viewed as significant when no overlap in 95% CI. 5. Weighted MLR used to test effects of moderator variables – significance test corrected (p. 360). Inclusion of moderator variable in multivariate analysis, rather than univariate, only when data available for 80% of studies. *(G) Were sources of heterogeneity explored?* Q statistic homogeneity analysis performed. ***Overall:*** 1. there was huge variability in number of sessions (1-180, median = 8) 2. follow up in 22% of studies 3. 59% group treatments, 22% individual, 18% mixed, 1% no information 4. Mean dropout rate across all studies = 19.6%, 5. Participants in IG 4-2,268 (M=24). 6. Mean age of caregivers = 62.3 (SD=3.7). 7. Mean % female = 69%, range 40% - 100%.

Silliman, 1990 Smeenk, 1998 Steffen, 2000* Sutcliffe, 1988 Teri, 1997* Toseland, 1992 Toseland, 2002 Toseland, 1989 Toseland, 1990 Van den Heuvel, 2000 Weuve, 2000 Wilz, 1998 Zanetti, 1998* Zarit, 1987 Zarit, 1998* Zarit, 1982	8. 77% co-residents 9. 40% adult children, 50% spouses, 79% married, 39% employed, 14% non-white, 78% more than 12 yrs edn 10. Care provided for mean of 4 years and 30 hours per week, 61% dementia specific sample. 11. Studies from N. America, Europe, Australia (7) ***Findings relevant to education*** ***Evidence:*** Overall pooled mean effect size *g* (all interventions) all indicated a positive effect of 0.0.14 to 0.41 SD units. Immediate pre-post was for all (burden, depression, well being, uplifts, ability/knowledge, care recipient symptoms), follow up did not include recipient symptoms (NS) and uplifts (one study only). Longer interventions (z standardised to avoid confounding with intervention type), overall, led to greater improvements except in knowledge/ability (p.363) Overall, interventions were less effective when all care recipients had dementia, also more adult children in the sample led to better effects on burden, depression, well being, ability/knowledge but less impact on care recipient symptoms. Changes in burden, ability/knowledge, & care receiver symptoms more marked in mainly female samples. Changes in burden, depression, well being less when more hours of support provided, knowledge & ability greater. Other differences reported for years of caregiveing and greater burden at baseline – again over all interventions (p. 364). Psychoeducation interventions (pre-post) – (uplifts not examined here) led to improved burden (g= -0.12, 95% CI=-0.21 to -0.03) p<0.01, depression (g= -0.43, 95% CI=-0.53 to -0.32) p<0.001, well being (g= 0.50, 95% CI=0.31 to 0.68) p<0.001, carer's ability/knowledge (g= 0.53, 95% CI=0.42 to 0.63) p<0.001, and care recipient's symptoms (g= -0.24, 95% CI=-0.35 to -0.13) p<0.001. Heterogeneity of effect sizes is shown for all these analyses except those looking at care recipients' symptoms. Variations in effect sizes using different measures were a concern. Most outcome variables showed less effect if there was randomisation to group. Many studies of education fell into this category (N=3-21) A significantly beneficial effect was still seen from education on burden, depression, and ability/knowledge when RCTs were examined alone. ***Consistency:*** evidence of positive impacts at least on burden, depression, & ability/knowledge (?not relevant to our question). ***Clinical impact of education:*** consistently positive ***Generalisabilty:*** Population consistent with this review ***Applicability:*** US review and studies published in Western journals including Australia - applicable.

	Findings relevant to respite care ***Evidence:*** 35.9% drop out rate. Overall pooled mean effect size *g* (all interventions) all indicated a positive effect of 0.0.14 to 0.41 SD units. Immediate pre-post was for all (burden, depression, well being, uplifts, ability/knowledge, care recipient symptoms), follow up did not include recipient symptoms (NS) and uplifts (one study only). Longer interventions (z standardised to avoid confounding with intervention type), overall, led to greater improvements except in knowledge/ability (p.363) Again, overall, interventions were less effective when all care recipients had dementia, also more adult children in the sample led to better effects on burden, depression, well being, ability/knowledge but less impact on care recipient symptoms. Changes in burden, ability/knowledge, & care receiver symptoms more marked in mainly female samples. Changes in burden, depression, well being less when more hours of support provided, knowledge & ability greater. Other differences reported for years of caregiveing and greater burden at baseline – again over all interventions (p. 364). Respite/day care interventions (pre-post) – (uplifts not examined here) led to improved burden (g= -0.30, 95% CI=-0.40 to -0.20) p<0.001, depression (g= -0.23, 95% CI=-0.36 to -.10) p<0.001, and well being (g= 0.20, 95% CI=0.06 to 0.34) p<0.01. No impact on carer knowledge/ability or recipients' symptoms but heterogeneity of effect sizes shown for these analyses (not for others). Multicomponent interventions had larger effects than those of respite care on burden and well being. Group versus individual intervention effects reported but seem irrelevant to respite care. Variations in effect sizes using different measures were a concern. Most outcome variables showed less effect if there was randomisation to group. Few studies of respite care fell into this category (N=1-4) and no effect was seen of respite care when RCTs were examined alone except for a negative effect on knowledge/ability (N=1) ***Consistency:*** positive impact on burden, well being, and depression from respite alone but no effect in RCTs. & only one negative impact. ***Clinical impact of respite care:*** appears modestly beneficial or absent ***Generalisabilty:*** Population consistent with this review ***Applicability:*** US review and studies published in Western journals including Australia - applicable.

STUDY DETAILS					
Stolley, J. M., D. Reed, et al. (2002). "Caregiving appraisal and interventions based on the progressively lowered stress threshold model." American Journal Of Alzheimer's Disease And Other Dementias 17(2): 110-120.					
Affiliation/source of funds [2] Not stated					
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] community, Iowa, Minnesota, Arizona, Indiana (USA)			
Intervention [6] Psycho educational intervention based on progressively lowered stress threshold (PLST) model: Individualised care plan, 2 weekly sessions at home, 4 hours in total, written materials, referral to support groups, legal counselling and case management services included as needed.Sample size: 133			Control [8] Two 2 hour home visits (total 4 hrs), general information about ADRD and legal care, safety issues and community based services.Sample size: 108		
Population characteristics [10] Caregiver for individual living in community with a diagnosis of AD, multi-infarct dementia or mixed type dementia (severity of disease not reported). Mean caregiver age 64 years, 74% fmale, provided 121 hours of care/week, 64% spouses, education level-45% had received 0-12 years, 40% had 13-16 years. Predominantly white Americans (93%) Care recipient: diagnoses as follows: AD (66%), MID (5%), Mixed (6%), other (10%), unknown (13%). Mean age >76.					
Length of follow-up [11] baseline, 3,6, 9,12 months		Outcome(s) measured [12]: 1) Global deterioration Scale (GDS) 2) Behaviours-behavioural assessment for Low Stimulus care Plan (BALSCP) 3) Caregiver distress (Zarit Memory and Behaviour Problems checklist (MBPC) 4) Subjective caregiver appraisal-philadelphia Geriatric centre Caregiving apparaisal Scales (PGCCAS)			
INTERNAL VALIDITY					
Allocation [13] No description of randomisation method	Comparison of study groups [14] Yes. Sig difference in diagnoses- intervention had more diagnoses of AD (p =.03). No other significant differences reported	Blinding [15] Yes -data collectors	Treatment/measurement bias [16] Same measures for both groups	Follow-up [17] Institutionalised (58), death (14) = 29% of total sample	
Power Calculations Yes. 160 cases (80) per group to achieve a power of .72 to detect an effect for the period after the intervention- assumed an attrition of 30% in first 6 months, actual attrition was 28%.		Reliability and validity of instruments [12] Yes			
Overall quality assessment (descriptive) [18] Medium quality: adequately powered at baseline although 72 (29%) of total sample were lost to attrition. It is not reported when this occurred and how many were lost per group.					
RESULTS					

Outcome [19] **Hierarchical linear modelling (HLM) for analysis**	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Impact Time	 P = .029		Les negative impact from caring in the IG than in the CG throughout No effects on time for any other variables
Burden Time	 P = .026		Burden increased in IG as compared with CG in middle of follow up and then became lower than CG.
Mastery			NS overall. Better educated caregivers in both groups were more responsive to the educational intervention (p = .004)
Clinical importance (1-4) [26] No confidence intervals			Relevance (1-5) [27] 1
Any other adverse effects [28]			
EXTERNAL VALIDITY			
Generalisability [29] Not entirely (23% diagnoses unknown or other)			
Applicability [30] yes			
Comments [31] This study described the impact of a psychosocial intervention on community based caregivers of people with AD and related disorders. Two hundred and forty one participants were recruited and after 12 months at study end point, 169 remained. Analysis of trends over time showed that the intervention positively affected impact, burden and satisfaction but had no effect against mastery when measured against the control group.			

Stoltz, P., G. Uden, et al. (2004). "Support for family carers who care for an elderly person at home - a systematic literature review." Scand J Caring Sci 18(2): 111-9. **Level of evidence: I/III-2**	
No studies relevant to this question met inclusion criteria for our own review	
Study/	**Review quality**
Education: Cummings, 1998 Archbold, 1995 Mohide, 1990 Stewart, 1998 Respite only: Larkin, 1993	*A) Was a clinical question clearly defined?* What support, or need for support, is expressed by and/or tested for in elderly family care research? *(B) Was an adequate search strategy used?* Search of Medline, CINAHL, Cochrane Database of Systematic reviews. Also searched – internet, three Swedish databases, publications from the Swedish Board of Health & Welfare Keywords: family, intergenerational relations, spouses, home nursing, informal caregiver, family carer, family caregiver, family caring, aged 80 and over, frail elderly. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: 1. Focussed exclusively on family cares of older adults (65+) and sharing the same home 2. Studies using quantitative or qualitative analysis 3. Pertaining to efficacy of or need for support 4. In English or a Scandinavian language Excluded: Studies measuring carers' health status, burden, burnout, strain. Two independent reviewers applied criteria *(D) Was a quality assessment of included studies undertaken?* Studies screened using a quality assessment tool rating RCTs, other controlled trials, non randomised prospective studies, qualitative

	as of high, medium, or low quality (documented p. 113). Conclusions drawn from findings were rated as to degree of evidence. Final review: 26 articles, four addressing carer education efficacy. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Quality rating shown in table, more details in text. No effect sizes or p values reported but significance of findings documented (ie, significant or not). *(F) Were the methods for pooling the data appropriate?* Not pooled *(G) Were sources of heterogeneity explored?* N/A ***Findings*** ***Evidence for respite care:*** Single study without randomisation (& it seems without comparison) investigated in-hospital respite for 23 people (2 weeks) – findings were a significant decrease in psychological stress & improved sleep & sense of freedom were reported however 8 patients had ADL deterioration also carer stress had returned to baseline after 2 weeks. ***Consistency:*** N/A ***Clinical impact of respite care:*** Cannot be well evaluated from this review ***Generalisabilty:*** Population consistent with this review although stage of disease unclear ***Applicability:*** Swedish review & Western journal – probably applicable. ***Evidence for education:*** all studies combined education and other support mainly in dementia caregiving- interventions were with 11-60 carers in an RCT, two other studies with control groups, one study with no control. One study was viewed as unable to contribute useful data (IG=11). No change in depression, anxiety, or QOL is carers was seen in the RCT. Positive results were found in the other two studies (preparedness for caregiving, caregiving competence, coping responses [IG=13], "situation easier" [N=20]. ***Consistency:*** No negative effects reported but positive impact inconsistent,

	Clinical impact of education: Cannot be well evaluated from this review ***Generalisabilty:*** Population consistent with this review although stage of disease unclear ***Applicability:*** Swedish review & Western journal – probably applicable.

STUDY DETAILS				
Stromberg, A., J. Martensson, et al. (2003). "Nurse-led heart failure clinics improve survival and self-care behaviour in patients with heart failure: results from a prospective, randomised trial." Eur Heart J 24(11): 1014-23. Does the implementation of a post-acute transitional care program lead to improved physical and/or psychological health of the client and/or the family carer?				
Affiliation/source of funds [2] Linköping University Hospital, Linköping University, Halmstad University, County Hospital Ryhov, Lund University, Unit of research and development in primary health care, Sweden. Funding from Heath research council of south-east Sweden, The Swedish foundation for Healthcare Science and Allergy research, The Swedish Heart and Lung foundation and The research foundation of the University Hospital of Linköping.				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Hospital clinic and community setting in Sweden		
Intervention [6] Heart failure clinic –1 hr sessions with nurses at a hospital based clinic consisting of evaluation of patient heart failure status (a check-up) and evaluation of treatment (medication use/ success check) 2-3 weeks post-discharge from hospital. The patient was given written and verbal education about heart failure (eg diet changes) and social support offered to family. Sample size [7] n=52		Comparator [8] Usual care – managed according to current clinical practice. Sample size [9] n=54		
Population characteristics [10] Patients had been diagnosed with heart failure, did not have COPD, dementia or other psychiatric illnesses, an anticipated survival time that would extend at least the length of the study, and did not live in residential aged care. Mean age 77+. NYHA II/III/IV				
Length of follow-up [11] Baseline, 3 months, 12 months	Outcome(s) measured [12]: Number of readmissions, days spent in hospital, time to readmission, patient self-care behaviour, all-cause mortality.			
INTERNAL VALIDITY				
Allocation [13] Random allocation by use of computer generated random numbers and allocation blinded by placing in sealed envelopes before distribution.	Comparison of study groups [14] Significantly more patients with diabetes in control group ($p<0.05$), significantly more with hypertension in the intervention group ($p<0.05$). No other differences between groups at baseline.	Blinding [15] Nurse performing assessments at each time point was blinded to group allocation.	Treatment/measurement bias [16] Groups treated the same apart from intervention	Follow-up [17] No patients mentioned as withdrawing from study. 12 patients (23%) died from Intervention group and 20 (37%) died from control group.
Power Calculations Approximately 69 patients required per group for sufficient power to be achieved	Reliability and validity of instruments Cronbach's alpha for self-care scale was 0.69 at baseline			
Overall quality assessment (descriptive) [18] Well designed clinical (quantitative) study, well written and explained. If data were missing for any item in self-care questionnaire then the data was estimated using average score.				

RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
No of deaths				
After 3 months	3	13	0.009	
After 12 months	7	20	0.005	
No of all-cause admissions				
After 3 months	33	56	0.047	
After 12 months	82	92	0.31	
Hospital admission/patient/months				
After 12 months	0.18	0.40	0.06	
No of patients with events (death or readmission)				
After 3 months	19	30	0.06	
After 12 months	29	40	0.03	
Days in hospital				
After 3 months	350	592	0.045	
After 12 months	688	976	0.13	
Days in hospital/patient/months				
After 12 months	1.4	3.9	0.02	
	Clinical importance (1-4) [26] 2		Relevance (1-5) [27] 1 Any other adverse effects [28] None mentioned	
EXTERNAL VALIDITY				
Generalisability [29] Study is of transition care for heart failure in Sweden. Could be generalised to an equivalent population in Australia if cultural differences recognsd				
Applicability [30] good				
Comments [31] Significantly fewer patient events (deaths or readmitted to hospital) over the 12 month intervention period (p=0.03). Fewer deaths (p=0.005) and significantly higher self-care scores at 3 months (p=0.02) and 12 months (p=0.01) in the intervention group compared to the control group.				

Taylor, S., J. Bestall, et al. (2005) "Clinical service organisation for heart failure." Cochrane Database of Systematic Reviews Volume, DOI: 10.1002/14651858.CD002752.pub2. **Level of evidence: I**	
Studies included in our own review are asterisked.	
Study	**Review quality**
Blue, 2001* Cline, 1998 * Doughty, 2002 * Ekman, 1998 * Harrison, 2002 * Jaarsma, 1999 * Krumholz, 2002 * Capomolla, 2002 Stewart, 1999 Laramee, 2003 Kasper, 2002 Rainville, 1999 Rich, 1993 Rich 1995 Riegel, 2002	*A) Was a clinical question clearly defined?* From objectives: 1. To assess effects of different clinical service interventions, not primarily focused on education, in preventing death or readmission in patients previously admitted to secondary care with heart failure. 2. To assess effects of different clinical service interventions in terms of other clinical outcomes (eg, hospital bed days, HRQoL, cost). *(B) Was an adequate search strategy used?* Search terms attached as Appendix Cochrane CENTRAL, Cochrane Library Issue 3, 2003 DARE to July 2003 MEDLINE 1966-2003 EMBASE 1980 -2003 CINAHL 1982-2003 AMED 1986-2003 SIGLE 1980-2003 Science Citation Index Expanded 1981-2001 National Research Register to 2003 NHS Economic Evaluation Database to 2001 CVD Trials Registry (McMaster Uni) until Feb 2001 Chartered Society of Physiotherapy to 2001 – also hand searching of reference lists and communication with authors & experts.

	(*C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria: RCT Sample of older adults with at least one admission to secondary care with HF Intervention – inpatient, OP or community based intervention applied to patients with HF &/or their family/carers. Outcomes – death, readmission, hospital bed days, length of time from Index admission D/C to readmission, event free survival, HRQoL, cost. Exclusion criteria: Studies dealing mainly with patients with disease other than HF or with HF from congenital or valvular disease Interventions that are pharmacological Interventions that are primarily educational Excluded studies listed with reason for exclusion. Decisions by two independent reviewers with recourse to another - final consensus required from 3 people if initial disagreement. 15 RCTs included. *(D) Was a quality assessment of included studies undertaken?* Assessed attrition bias & external validity : Allocation concealment Treatment allocation Randomisation Baseline equivalence Eligibility criteria Blinding of outcome assessor Point estimates and measures for primary outcomes & Intention to treat analysis (present v absent)

	(E) Were the characteristics and results of the individual studies appropriately summarised? Table of included studies lists methods, participants, interventions, outcomes. Additional tables show extensive results with comments on analysis & quality evaluation. Text summarises these issues. Categorisation of interventions (multidisciplinary models, case management models, clinic models) – definition of case management fits with transitional care. Tables present odds ratios for CM versus usual care (mortality versus readmission with HF) and clinic versus usual care (mortality). Forrest plots for CM versus UC (mortality, readmission with HF) and clinic V. UC mortality. *(F) Were the methods for pooling the data appropriate?* No details provided *(G) Were sources of heterogeneity explored?* No details provided other than notations of heterogeneity in interventions and populations. ***Findings*** *Case management* reported ("intense monitoring of the patients following discharge from hospital", p 4) Findings related to days in hospital during readmissions not reported here as unclear how this relates to health (eg, could be related to bed shortages, hospital policy) <u>Meta Analyses</u> *Mortality:* - no significant association with reduced all cause *mortality* OR= 0.86, p=0.23, (0.67 to 1.10) (studies) =10 (all case management) unless only moderate quality or better studies included OR=0.69, p=0.04, n (studies) =4. *HF readmissions* (7 studies of case management) – reduction in heart failure readmissions during follow up; OR 0.52 (95% CI 0.39 to 0.70) <u>Other Findings</u> *unplanned all cause readmissions* – one study • 6 m mean re-admissions per month 0.14 (95%confidence interval 0.10 to 0.18) vs. 0.34 (95%CI0.19-0.49, P = 0.03) • 18 m mean re-admissions per month 0.15 (95%CI 0.11 to 0.19) vs. 0.37 (95%CI 0.19 to 0.55, P = 0.053). *All cause readmissions (overall – 11 studies):* one study reported lower mean admissions per m in IG, hazard ratio 0.71 (95% CI0.54 to 0.94, P = 0.02). No other significant findings. *Event free survival (death or hospitalization)* reported in 7 studies, 5/7 studies provided results that indicated a significant positive effect but the statistics reported are varied and not directly comparable to assess clinical significance.

	Time to unplanned readmission – 2 CM studies reported – both reported positive impact (stats not in text) *HRQoL* - 6 CM studies Three reported positive effects and 3 no difference (one of these studies had severe attrition) ***Evidence:*** All studies (11 examining effects of case management) were RCTs. Pooled analyses (? how conducted and how heterogeneity was addressed) show a positive effect on HF readmissions but (overall) no impact on mortality. Individual studies have varied results but 5/7 indicated a positive effect on event free survival ***Consistency;*** no harm reported. Consistency only in HF readmission & event free survival. HRQOL inconsistent. ***Clinical impact:*** substantial impact on HF readmission, event free survival difficult to assess due to variability in stats reported ***Generalisability***: The patient group considered was more diverse than the one in our study ***Applicability:*** Reviewers do not make recommendations based upon these findings other than for further research. .

STUDY DETAILS				
Teri, L., R. G. Logsdon, et al. (1997). "Behavioral treatment of depression in dementia patients: A controlled clinical trial.The Journals of Gerontology 52B(4): P159.				
Affiliation/source of funds [2] national Institute of Mental Health and National Institute on Aging				
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] community, retirement home or adult group home, Washington USA		
Intervention 1[6] Behavioural Therapy-Pleasant Events(BT-PE) Teach caregivers behavioural strategies for improving patient depression. Same amount of time for all groups except WLC Sample size:23	Intervention 2[6] Behavioural Therapy- Problem solving (BT-PS) Systematic approach to problem solving Sample size:19	Typical care Control [8] 1 (TCC) Information, advice, and support with their efforts to mange pt problems Sample size:10	Wait List Control 2[8] (WLC) No contact with therapist, advised that they would recive no intervention during the 9 week period Sample size:20	
Population characteristics [10] Caregivers: Age (67 yrs); approx 14 years of education; 69% female; 79% spouses, 14% adult child, 7% close friend; depression diagnosis major (14%), minor (62%); Patient: Age (76 yrs); approx 14 years of education; 53% male; dementia diagnosis for 35 months, depression diagnosis major (75%), minor (25%), 86% living in private home				
Length of follow-up [11] Pre-test, 9 week post-test. Six month follow-up for BT-PE and BT-PS groups		Outcome(s) measured [12]: Patient: Depression, cognition Caregiver: Depression (HDRS), Burden (positive, negative)		
INTERNAL VALIDITY				
Allocation [13] Selected then randomly assigned-method not reported	Comparison of study groups [14] Yes, no sig demographic diff among groups with exception of gender [patients: X2 (3, N=72) =9,79, p<.05; caregivers: X2 (3, N=72) =10.80, p<.01). More female patients in BT-PE and TCC than BT-PS and WLC. More male caregivers were in BT-PE than in any other group. Pts in 4 groups did not significantly differ on any pre-treatment depression scores, cognition, behaviour probs, or functional status. Caregivers did not significantly differ on HDRS or depression	Blinding [15] Not reported	Treatment/measurement bias [16] Same measures for each group Therapists receive same level of training and had similar level of experience	Follow-up [17] At 6 month follow up: 10 participants not available for follow-up; 6 moved away and 4 institutionalised
Power Calculations No		Reliability and validity of instruments [12] Addressed		
Overall quality assessment (descriptive) [18] .				

RESULTS					
Outcome [19]	Intervention 1[20]] **Behavioural Therapy-Pleasant Events (BT-PE)**	Intervention 2 **Behavioural Therapy- Problem solving (BT-PS)**	[21] **Typical care Control [8] (TCC)**	**Wait List Control**	Measure of effect size [22] 95% CI and/or p value[23]
Table 2. Changes in Outcomes Measures from Pre to Post treatment					
	N = 23	N = 19	N =10	N = 20	
Caregiver Depression measures HDRS					
Burden measures	-1.7 ± 4.5	-3.2± 3.3	0.6 ± 3.5	0.6 ± 2.5	P=0.01 for overall
Positive burden	-1.3 ± 5.2	0.4± 6.7	1.6 ± 6.3	-0.6 ± 3.7	treatment effect on
Negative burden	-0.2 ± 8.3	-6.8± 14.4	-2.0 ± 8.0	-0.4 ± 7.8	depression
DRS Dementia Rating Scale; HDRS Hamilton Depression Rating Scale					

Table 4. pre, post and 6 month follow up Scores for both Active Treatment Conditions Combined (BT-PE) and (BT-PS) n=32					
		Pre	Post	6 Month	
Caregiver	HDRS	8.06 ± 4.2	5.88 ± 2.8	6.19 ± 2.9	(p=<.05) for treatment effect @ 6m
Any other adverse effects [28] NO		Clinical importance (1-4) [26] 2		Relevance (1-5) [27] 1	

EXTERNAL VALIDITY
Generalisability [29] (relates to population) Yes
Applicability [30] yes
Comments [31] This study evaluated the effectiveness of behavioural treatment for depression in patients with AD and depression in their caregivers. Patients in both behavioural treatment conditions showed significant improvement in depressive symptoms as compared to two other control conditions. These gains were maintained at 6 month follow up. Caregivers in each behavioural treatment condition also showed significant improvement in their own depressive symptoms, while caregivers in the two control conditions did not. Results suggest that behavioural interventions are effective strategies for treating demented patients and their caregivers.

STUDY DETAILS				
Teri, L., S. M. McCurry, et al. (2005). "Training community consultants to help family members improve dementia care: a randomized controlled trial." Gerontologist 45(6): 802-11.				
Affiliation/source of funds [2] University of Washington. Funding from Alzheimer's association pioneer grant				
Study design [3] RCT	Level of evidence [4] II		Location/setting [5] Community setting in Washington, USA.	
Intervention [6] STAR-caregivers – 8x weekly education sessions consisting of management strategies for problem behaviours as well as strategies for improving caregiver mood and support. Education was followed by 4x monthly phone calls.Sample size [7] n=47			Comparator [8] Routine medical care – non-specific advice and support routinely provided by nurses and primary physicians or community support services. Sample size [9] n=48	
Population characteristics [10] Caregivers were a spouse or adult relative caring for a person with dementia at home. Care recipients had a diagnosis of possible Alzheimer's disease. All care recipients had 3 or more agitation or depression behaviour problems as reported by their caregivers at least 3 or more times in the week prior to study commencement. Mean age of care recipients >78 yrs.				
Length of follow-up [11] Baseline, 2 months (completion of treatment) and 6 months.	Outcome(s) measured [12]: Caregiver outcomes – depression (2 scales), sleep quality, stress, burden and feeling of care-giving competence. Care recipient: behavioural disturbance, frequency of behaviour problems, quality of life			
INTERNAL VALIDITY				
Allocation [13] Random (method not specified)	Comparison of study groups [14] Significantly fewer Caucasian participants in treatment group but this was controlled for when analysing outcome data. No other differences between groups at baseline.	Blinding [15] Data collected by interviewers blinded to participant group assignment.	Treatment/measurement bias [16] Groups treated the same apart from intervention	Follow-up [17] 15/47 (32%) failed to complete study from intervention group 14/48 (29%) failed to complete study from control group
Power Calculations Not mentioned	Reliability and validity of instruments Not discussed			
Overall quality assessment (descriptive) [18] Power and validity of instruments used not discussed				

RESULTS			
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]
Carer depression (CES-D tool)			
Baseline	14.8 (9.1)	13.2 (8.5)	
2 months	12.4 (7.6)	13.6 (9.3)	
6 months	12.5 (7.7)	15.8 (10.5)	p=0.023

Carer depression (Hamilton tool) Baseline 2 months 6 months	 6.9 (4.1) 6.3 (4.5) 6.7 (3.9)	 7.6 (5.0) 7.8 (5.3) 8.5 (5.7)	 p=0.041 Mean effect -2.3 (-0.6 to 0.0)
Carer burden Baseline 2 months 6 months	 24.7 (12.4) 20.1 (10.6) 21.4 (12.5)	 23.4 (12.2) 23.1 (14.1) 25.8 (13.7)	 p=0.029 Mean effect -4.2 (-7.6 to 0.0)
Carer reaction to problem behaviours Baseline 2 months 6 months	 28.1 (15.9) 22.3 (15.8) 21.9 (15.6)	 25.0 (14.7) 23.3 (16.0) 23.4 (14.5)	 p=0.037 Mean effect -3.2 (-6.1 to 0.0)
Caregiver quality of sleep Baseline 2 months 6 months	 11.3 (3.9) 9.9 (3.6) 9.2 (4.6)	 10.5 (3.9) 10.1 (4.2) 9.1 (5.2)	 p=0.33 Mean effect -1.1 (-2.2 to -0.01)
Any other adverse effects [28] No adverse reactions reported to treatment	Clinical importance (1-4) [26] 2	Relevance (1-5) [27] 1	
EXTERNAL VALIDITY			
Generalisability [29] Focus of study the effect of education on patient and carer wellbeing in the community setting in Washington, USA. Results from this study could be generalised to an equivalent population in an Australian setting if different ethnic constituents of each population taken into account.			
Applicability [30] Good			
Comments [31] Caregivers from the treatment group showed significant improvements in depression, burden and their reactivity to behaviour problems present in the patient. There were also significantly reduced number and severity of behaviour problems in patients from the treatment group.			

Visser-Meily, A., C. van Heugten, et al. (2005). "Intervention studies for caregivers of stroke survivors: a critical review." Patient Education and Counseling 56(3): 257-267..**Level of evidence: III-2.**	
Papers eligible for inclusion in our own review for this question are asterisked.	
Study	**Review quality**
Transitional care: Rodgers, 1999* Grant, 1999 Heuvil, 2002 Pain, 1990 Rudd, 1997 Kotila, 1998 Lincoln, 2003 Carer education provision: Heuvel, 2002 Mant, 2000*	*A) Was a clinical question clearly defined* 1. To study the evidence of the effectiveness of interventions for carers of stroke patients 2. To relate possible differences in results between interventions to timing and content. *(B) Was an adequate search strategy used?* MEDLINE (1966 -2003), CINAHL (1982-2003), AMED (1984-2003). Keywords were stroke and carer(s), stroke and caregiver(s). (*C) Were the inclusion criteria appropriate and applied in an unbiased way?* Inclusion criteria: • Intervention study for caregivers of stroke patients (plus for patients also if c/giver intervention described) • RCT, clinical trial, non-controlled trial with pre pest post test measures. • Outcome measures for carers (burden, psychosocial measures, [stroke knowledge, satisfaction with care], QOL, emotional state) • In English, German, or Dutch Selected via abstracts and titles – no further details given. 22 studies included. *(D) Was a quality assessment of included studies undertaken?* Individual studies were examined for quality of design, content of intervention, outcome domains, effects on carers by two people.

Rodgers, 1999* Braithwaite, 1993 Evans, 1988 Forster, 1996 Lincoln, 2003 Mant, 1998	*E) Were the characteristics and results of the individual studies appropriately summarised?* Effects summarised as positive, negative, or no effect from intervention at the 0.05 level, unclear if this involved control group comparisons. Attempt also made to link effect with time since stroke, caregiver only or joint intervention, content of intervention (eg education or counselling). Table shows nos of carers and patients per group plus age, design, time post stroke, outcomes measured for carers, follow up time, effect, author's conclusion. *(F) Were the methods for pooling the data appropriate?* Data not pooled *(G) Were sources of heterogeneity explored?* N/A. ***Findings (transitional care):*** ***Evidence:*** 18/22 – RCTs. IGs ranged from 20-170. From the table, 9 interventions (8 RCTs) involved transitional care (not <u>early</u> D/C programs) 3 more looked at such programs in early D/C. Most involved a stroke nurse or organiser providing info about services or therapies in the community and providing advice & support. Some crossover with education. Four of the 12 studies reported beneficial results for carers – in non-early D/C programs there were benefits in coping & confidence in one study and in depression in another. SF 36 social function score decreased in one and improved in another. From the reviewer's text (about all 12 studies), positive results were found in HRQOL, social activities. Burden improved in the uncontrolled study. ***Consistency:*** Mostly no change or positive ffects. ***Clinical impact of transitional care:*** No effect size reported. ***Generalisabilty:*** Dutch review. Most studies from Europe, 6 from N. America, 2 from Australia/NZ. Patients at least aged 60 – most had mean age of 70. Level of disability not provided. ***Applicability:*** Findings relevant to Australia. ***Findings (carer education):*** ***Evidence:*** 18/22 – RCTs. IGs ranged from 20-170.

	Five interventions focussed on education. Overall 10 studies reported beneficial results. From the table, only 3 studies trialling education reported positive effects that were not in knowledge alone. One of the two other studies only measured knowledge. One RCTs reported a negative effect on SF36 social function scores. ***Consistency:*** Limited study findings ***Clinical impact of education:*** very preliminary indications of likely benefits rather than harms ***Generalisabilty:*** Dutch review. Most studies from Europe, 6 from N. America, 2 from Australia/NZ. Patients at least aged 60 – most had mean age of 70. Level of disability not provided. ***Applicability:*** Findings relevant to Australia.

STUDY DETAILS					
Wright, L. K., M. Litaker, et al. (2001). "Continuum of care for Alzheimer's disease: a nurse education and counselling program." Issues in Mental Health Nursing 22(3): 231 - 252.					
Affiliation/source of funds [2] Medical college of Georgia, Oregon Health Sciences University, Medial University of South Carolina, USA. Funding from a Duke Endowment.					
Study design [3] RCT	Level of evidence [4] II	Location/setting [5] Community setting in USA.			
Intervention [6] Education/Counselling program – 5 sessions of care education and counselling provided by a clinical nurse specialist through both home visits and phone calls over a 1 year period (timing as per "length of follow-up), including strategies to handle troublesome behaviours and counselling to address caregiver emotional and physical health. Sample size [7] n=68			Comparator [8] Control – phone calls at the same time schedule as those in intervention group but for the purpose of data collection only, no education counselling or medication monitoring took place. Sample size [9] n=25		
Population characteristics [10] Family caregivers who lived with and provided primary care for an elderly person with dementia - lived within an 80 mile radius of the hospital. . Mean age of care recipient >76 yrs.					
Length of follow-up [11] Baseline (Time 0) taken while patient in hospital, then measures taken post-discharge from hospital at 2 weeks (T1), 6 weeks (T2), 12 weeks (T3) 6 months (T4) and 12 months (T5).			Outcome(s) measured [12]: Caregiver stress, depression and physical health, care recipient agitation, level of cognitive / functional impairment and rate of care recipient institutionalisation. Patient medications also monitored.		
INTERNAL VALIDITY					
Allocation [13] Random by "block sampling" – from groups of 4 potential participants, one was randomly assigned to control group (specific method not discussed) with remaining 3 assigned to intervention.	Comparison of study groups [14] Severity of dementia was sig. higher for control group ($p<0.03$) at baseline. No other sig. difference between groups at baseline.	Blinding [15] None mentioned	Treatment/measurement bias [16] Groups treated the same apart from intervention	Follow-up [17] 24 treatment group (39%) and 10 control group (44%) failed to follow-up at time 5 due to death or institutionalisation. No sig. difference between groups.	
Power Calculations Not mentioned		Reliability and validity of instruments Internal reliability scores reported for each instrument used in study.			
Overall quality assessment (descriptive) [18] Very thoroughly explained study, lots of detail. Quite high drop-out rate of patients from both groups.					
RESULTS					
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]		
Caregiver Stress Caregiver Depression Caregiver physical health	Individual time point measures not published	Individual time point measures not published	p=0.428 p=0.944 p=0.952		

Any other adverse effects [28] None mentioned	Clinical importance (1-4) [26] No confidence intervals	Relevance (1-5) [27] 1
EXTERNAL VALIDITY		
Generalisability [29] Study focuses on the education of family carers of older adults with dementia living in community USA. Results from this study should be generalisable to an equivalent population within an Australian setting with caution of minority groups involved (eg results from African-American caregivers.		
Applicability [30] Good		
Comments [31] No significant effects of intervention on any outcome measure – care recipient agitation, caregiver stress, depression or physical health. No significant difference between rates of institutionalisation when comparing between groups. Trends for changes in these measures did begin to appear by later time points so longer evaluation period may have revealed some significant effect of intervention.		

Yin, T., Q. Zhou, et al. (2002). "Burden on family members: Caring for frail elderly: A meta-analysis of interventions." Nursing Research 51(3): 199-208. **Level of evidence: I/III-2**.	
No studies met inclusion criteria for our review.	
Study	**Review quality**
Group intervention: Barusch, 1991 Brodaty, 1994 Burdz, 1994 Gallagher-Thompson, 2000 Greene, 1989 Hebert, 1994 Kahan, 1985 Martindale, 1993 Mittelman, 1993 Montgomery, 1989 Ostwald, 1999 Robinson, 1988 Robinson, 1994 Schwiebert, 1994 Stanley, 1989 Toseland, 1989 Toseland, 1990	*A) Was a clinical question clearly defined?* What individual or group interventions impact upon the perceived burden of family carers of older adults? *(B) Was an adequate search strategy used?* Search of published literature (including theses) from 1980-2000. Keywords: caregiver burden or strain, support or group intervention/ treatment, individual and/or family intervention/treatment, dementia, frail or impaired elderly, and Alzheimer's disease. Review articles and ancestry search also carried out. *(C) Were the inclusion criteria appropriate and applied in an unbiased way?* Included if: 1. Focussed on family cares of older adults, 2. had carer burden as outcome variable, 3. examined group or individual intervention, 4. included control group (not another intervention group instead of control). Quasi experimental studies were included, not just RCTs Final review: 18 group interventions and 8 individual interventions. *(D) Was a quality assessment of included studies undertaken?* Studies not rated but design, attrition rate, instruments evaluating burden, and instrument reliability recorded when available. *(E) Were the characteristics and results of the individual studies appropriately summarised?* Table of sample/group size, caregiver characteristic, assignment, intervention, effect size. Total sample size was 1,970, mean age of carers = 60 years, 78.8% female, 80.3% co-residing with care recipient (mean age = 78.7 years, 54% with dementia). Only two studies included respite care – both were group interventions. *(F) Were the methods for pooling the data appropriate?* Data were pooled separately for group and individual studies but outcomes from a variety of interventions were included on each occasion. Meta- analysis software was used to calculate effect sizes when F test results or p values were reported and the test was regarded as appropriate. For studies that used inappropriate tests or no inferential stats, the post test mean and SD for each group were used to calculate effect size. When multiple measures were used for burden or there were measures at multiple timepoints, the effect size was calculated for each and this was averaged. All effect sizes converted to d statistics. Weighted effects model was used to account for the fact that little reliability data was reported. *(G) Were sources of heterogeneity explored?*

Zarit, 1987 Individual intervention: Archbold, 1995 Chang, 1999 Montgomery, 1989 Quayhagen, 1989 Scharlach, 1987 Toseland, 1990 Wishart, 2000 Zarit, 1987	Q statistic homogeneity analysis performed for whole sample and some subgroups (study characteristics). Cluster analysis carried out to search for explanation of heterogeneity & regression analyses to find significant moderators of treatment effect. Multiple tests were used with Bonferroni correction. Non-white race and female sex were associated with increased effect size. Fail-safe N was computed to address possible sampling bias – 19 studies with no effect would be needed to reduce the effect size "d" from 0.41 to 0.20 for the group studies (<0.20=trivial). ***Findings:*** ***Evidence:*** 11/18 studies of group interventions were RCTs. Pooled findings provide little evidence that helps to answer our question. Burden was the outcome examined. For group studies, including those that incorporated respite care along with other aspects, range of effect sizes was -0.51-+1.32 (+ = improvement from intervention). Weighted mean effect size (group interventions as a whole) was 0.41 (95% CI = 0.32-0.51), but Q statistic showed variations in study effect sizes. Mean effect sizes (d) for the two group interventions that included respite care were reported as 0.842 and 0.067. Only one study addressing individual interventions could be regarded as addressing respite care (in home – Wishart, 2000) – *d* = 1.152. Pooled findings provide little evidence that helps to answer our question. ***Consistency:*** All three studies including respite care contributed positive findings but were not of respite care alone. ***Clinical impact of respite care:*** Cannot be well evaluated from this review ***Generalisabilty:*** Population consistent with this review ***Applicability:*** US review and studies published in Western journals – probably applicable.

STUDY DETAILS				
Zanetti, O., T. Metitieri, et al. (1998). "Effectiveness of an educational program for demented person's relatives." Archives of Gerontology and Geriatrics 26(Suppl 1): 531-538.				
Affiliation/source of funds [2] Cuore Fatebenefratelli Institute, Geriatric Research Group, Italy.				
Study design [3] Concurrent Control Effect of education on carers wellbeing		Level of evidence [4] III-2		Location/setting [5] Community setting in Brescia, Italy
Intervention [6] Education Group - 6 weekly 1 hour education sessions to increase knowledge about dementia and skills to prevent behavioural disturbances Sample size [7] n=12				Comparator [8] Control Group – no education sessions Sample size [9] n=11
Population characteristics [10] Carers looking after dementia patients who had scores higher than 14 on neuropsychiatric inventory (NPI – Cummings et al 1994), care was given in the community setting and carers were all the primary care providers for the patient. . Mean age of care recipient >78 yrs.				
Length of follow-up [11] Questionnaire completed prior to first education session (T1 - baseline) then at completion of final education session (T2 - 6 weeks) then 3 months post completion of education program (T3).			Outcome(s) measured [12]: Carer depression, carer stress due to patient functional and behavioural disturbances and frequency of these disturbances, Caregiver quality of life, knowledge of disease	
INTERNAL VALIDITY				
Allocation [13] Not discussed	Comparison of study groups [14] No significant differences between groups at baseline.	Blinding [15] Not mentioned	Treatment/measurement bias [16] Allocation of carers to groups non-random and could bias results.	Follow-up [17] 2 caregivers from control group
Power Calculations Not mentioned		Reliability and validity of instruments Discussed by referencing to previous work		
Overall quality assessment (descriptive) [18] Non-random allocation of subjects, very small numbers in each group, p values not reported for intergroup differences in change scores.				

RESULTS			
Outcome [19]	Intervention group [20] M	Control group M [21]	Measure of effect size [22] 95% CI and/or p value[23]
Burden associated with behavioural disturbances			Inter group differences not tested
- Baseline	31.83	22.55	
- end of program	29.25	-	
- Follow Up (3 months)	24.67	29.44	

BSI depression subscale - Baseline	7.92	5.67	Inter group differences not tested
- end of program	7.25	-	
- follow up (3 months)	7.33	7.44	
Quality of life (LEIPAD) scales			Inter group differences not tested
Physical functioning - Baseline	7.33	8.11	
- end of program	8.00	-	
- Follow Up (3 months)	7.83	7.33	
Self-care - Baseline	10.75	12.00	
- end of program	11.17	-	
- Follow Up (3 months)	11.92	11.89	
Depression and Anxiety – Baseline	7.08	8.33	
- end of program	8.00	-	
- Follow Up (3 months)	7.33	8.44	
Cognitive functioning – Baseline	10.50	13.00	
- end of program	10.50	-	
- Follow Up (3 months)	11.33	11.33	
Social Functioning – Baseline	4.75	6.22	
- end of program	5.25	-	
- Follow Up (3 months)	5.58	6.11	
Life satisfaction – Baseline	5.83	8.67	
- end of program	7.25	-	
- Follow Up (3 months)	7.75	8.33	

	Clinical importance No confidence intervals	Relevance (1-5) [27] 1

Any other adverse effects [28] None mentioned

EXTERNAL VALIDITY

Generalisability [29] Caregivers in study carers of elderly people with dementia so results may be applicable to guideline population with caution for cultural differences.

Applicability [30] Good

Comments [31] The education resulted in an increase in knowledge ($p<0.01$), a decline ($p<0.04$) in level of perceived stress, & improvement ($p<0.04$) in QOL .

STUDY DETAILS				
Zank, S. and C. Schacke (2002). "Evaluation of geriatric day care units: effects on patients and caregivers." The Journals Of Gerontology. Series B, Psychological Sciences And Social Sciences 57(4): P348-57.				
Affiliation/source of funds [2] Freie Universitaet, Germany; Evangelisches Geriatriezentrum, Berlin; German Ministry for Family, Seniors, Women & Youth Grant.				
Study design [3] Quasi-experimental	Level of evidence [4] III-2	Location/setting [5] Geriatric daycare centres in metro area, Berlin, Germany		
Intervention [6] Patients who visited day care centre at least twice a week and intended to continue visits for more than 3 months, in addition to receiving community service help at home. Sample size [7] n=83		Comparator [8] Age, gender, socioeconomic status, physical and mental health matched to IG who received community services help at home in the morning and evening (eg dressing) only. Sample size [9] n=65		
Population characteristics [10] All people (av age 79) who attended daycare centre and fit criteria were asked to participate. Where cognitive impairment was high, guardian was asked for permission.				
Length of follow-up [11] Three time points: T1= first 10 days of day care use (baseline), T2=6months post-baseline, T3=9 months post-baseline		Outcome(s) measured [12]: Life satisfaction, perceived social support, depression, Self-esteem, cognitive impairment, non-cognitiive dementia symptoms, amount of assistance required with daily living (ADLs)		
INTERNAL VALIDITY				
Allocation [13] Self selected participation from attendees at daycare centre. Matched controls then selected from clients of six community care service units.	Comparison of study groups [14] Significant difference ($p<0.05$) no. of offspring – CG had more. No other sig differences in between characteristics age, gender, marital status, income or morbidities.	Blinding [15] None	Treatment/measurement bias [16] Groups treated the same apart from intervention	Follow-up [17] 32 drop-out in IG by T2, 8 drop-out by T3. – 44% total 25 drop-out in CG by T2, 4 drop-out by T3. – 39% total
Power Calculations Not mentioned		Reliability and validity of instruments Reliability calculated for each of the instruments used in the study		

Overall quality assessment (descriptive) [18] Very high drop-out rates in both study groups (due to death, institutionalisation and stop usage of facility), estimated missing values for later time points as a result (up to 15% of data estimated).				
RESULTS				
Outcome [19]	Intervention group [20]	Control group [21]	Measure of effect size [22] 95% CI and/or p value[23]	
WELL BEING (recipient) Subjective well being Life satisfaction Perceived social support Depression Self-esteem	Specific results not reported for each item	Specific results not reported for each item	Effect size 0.24 p≤0.01 p≤0.01 p≤0.05 p≤0.01 p≤0.01 NS	
DEMENTIA SYMPTOMS Cognitive functioning MMSE Recognition of words Reproduction of words Reproduction of numbers Noncognitive dementia symptoms Agitation Memory and behaviour problems	Specific results not reported for each item	Specific results not reported for each item	Effect size 0.18 p≤0.01 p≤0.05 NS p≤0.01 NS NS p≤0.05 p≤0.05 NS	
HEALTH + EVERYDAY COMPETENCE INDICATORS (recipient) Health total Diseases Subjective health	Specific results not reported for each item	Specific results not reported for each item	Effect size 0.08 NS NS NS	

Medication Home-based care Everyday competence Leisure activities ADLs			NS NS Effect size 0.00 NS NS NS	
Family carers: Well being Burden		Effect size 0.03 NS Effect size 0.16 NS		
	Clinical importance (1-4) [26] 2		Relevance (1-5) [27] 1	
Any other adverse effects [28] None mentioned				
EXTERNAL VALIDITY				
Generalisability [29] Good cross section of older adults using daycare centres so could be generalisable to guideline considering respite care				
Applicability [30] Good				
Comments [31] Use of day care centre improved or stabilised subjective wellbeing and dementia symptoms, as well as better life satisfaction, more perceived social support and reduced depression. No significant difference in health indicators or every day competence between the two groups (despite this being one of the key aims of day care centres).				

STUDY DETAILS				
Zarit, S. H., M. A. P. Stephens, et al. (1998). "Stress reduction for family caregivers: Effects of adult day care use." The Journals of Gerontology 53B(5): S267.				
Affiliation/source of funds [2] National Institute on Aging				
Study design [3] cohort	Level of evidence [4] III-2	Location/setting [5] community, New Jersey, USA		
Intervention [6] Day care at least 2 days per week Short term sample size (T1-T2): 121 Long term sample size(T1-T3): 73		Control [8] Short term sample size(T1-T2): 203 Long term sample size(T1-T3):120		
Population characteristics [10] Primarily women (80.6%), white, average age 60 years, 48% spouses, 42% adult children, 13% other relatives, Mean education level for all caregivers 13.3 years, average age of care recipient was 77yrs (range 45-96). Majority of care recipients were women (60.5%), primarily with AD (60.8%), the remainder had other forms of dementia.				
Length of follow-up [11] Baseline (T1), 3 months (T2) and 12 months (T3)		Outcome(s) measured [12]: 1) role captivity 2) overload 3) worry and strain 4) depression 5) anger 6) positive affect		
INTERNAL VALIDITY				
Allocation [13] selected selected	Comparison of study groups [14] Yes. No sig differences in short term groups. In long term groups, sig diff in caregiver age, relationship to spouse, and family income	Blinding [15] Participant groups blinded from each other	Treatment/measurement bias [16] Same measures	Follow-up [17] At T2 Treatment group – 54% attrition, control group – 23% attrition) At T3 treatment group 72% attrition , control group – 51% attrition both from T1

Power Calculations No	Reliability and validity of instruments [12] Part reported- Eight items taken from existing scale and 15 items created for this study. Means, SD' s and alpha co-efficients reported and support reliability of the instrument		
Overall quality assessment (descriptive) [18] medium quality: non randomised sample; no evidence of data collectors being blinded, some sig differences in long term caregiver groups, no power calculations and group sizes not matched			
RESULTS			
	Short – Term Panel (3m T2 adj. For T1`)		Measure of effect size [22]
	Intervention group	Control group	95% CI and/or p value[23]
Outcome [19]	(n=121)	(n=203)	*p*
Captivity	6.4	6.8	NS
Overload	20.2	21.3	<.01
Worry and strain	18.0	18.8	≤.05
Depression	14.5	16.7	≤.05
Anger	7.3	8.0	≤.05
Positive affect	32.2	31.3	NS
	Long – Term Panel (T3) (12m T2 adj. For T1`)		
	Intervention group	Control group	
	(n=73)	(n=120)	
Captivity	6.1	6.3	NS
Overload	19.8	21.2	<.01
Worry and strain	17.5	18.3	NS
Depression	12.8	16.1	≤.05
Anger	33.0	7.6	NS
Positive affect		33.7	NS
	Clinical importance (1-4) [26] 1		Relevance (1-5) [27] 1
Any other adverse effects [28] No			

EXTERNAL VALIDITY
Generalisability [29] Yes
Applicability [30] Yes
Comments [31] this study reports the findings of an evaluation of the psychological benefits of use of an adult day care by family caregivers assisting a relative with dementia. Results show that after 3 months of day care, the treatment group had significantly lower scores than the control group on two of the three measures of primary appraisal (overload and strain) and two of the three measures of well being (depression and anger). At one year, the treatment group had significantly lower scores on overload and depression.