

Supplementary Table 1. Papers included in meta-review of dementia caregiving, interventions, coping and stress 1988-2014.

AMSTAR	Authors and date	Systematic Review Focus	Search Methods	Meta-analysis	N included	N excluded	Conclusions
7	35 Acton & Kang (2001)	To evaluate intervention strategies to help caregivers cope with CG burden.	Searched MEDLINE (1966-1990, CINAHL (1982-1999), PsycINFO (1966-1999), ERIC (1966-1999), SSI (1989-1999), SSA (1983-1999) for keywords <i>caregiver, caregiving, dementia</i> and <i>Alzheimer's disease</i>	Yes	24	22	Multicomponent intervention affected CG, support groups, education, psychoeducation counselling and respite care did not. Suggested that "Burden" too global an outcome to be useful.
9	9 Bates, Boote & Beverley (2003)	Psychosocial interventions for people with milder dementing illness.(ie MMSE > 15 and < 23)	Search of 15 electronic databases + 10 grey literature sources + general internet search (Google). Lead researchers contacted. Search terms included dement*, Alzheimer*, psychosocial, cognitive therap*, behavio(ur)* therap*, reality orientation, exercise* , etc. No date restriction.		3	3694	Small Numbers of cases in primary sources reviewed (19-28.) No effects found for counselling or procedural memory stimulation (practise on ADL, such as brushing teeth.)Reality orientation showed some positive effects on cognition as indicated by MMSE and these

							seemed to be maintained.
4	22 Black & Almeida (2004)	To assess associations between Behavioral and Psychological Symptoms of Dementia (BPSD) and CG burden, CG depression and institutionalization.	Searched MEDLINE, PsycINFO, CINAHL, 1990-2001, for <i>dementia AND behavior OR Mental disorders; Caregivers AND depression.</i>		32	656	Pooled correlations indicated moderate associations between BPSD and CG burden, CG distress and CG depression. Limited data suggested CG variables more important than BPSD in predicting institutionalization.
7	10 Brodaty & Arasaratnam (2012)	To assess effectiveness of community based non-pharmacological (psychosocial) interventions for	Searched MEDLINE, Embase, PubMed, PsycINFO, Scopus, 1985-2010, for combinations of condition terms: <i>dementia, Alzheimer*</i> , Care provider terms: <i>caregiver*, carer*</i> , Intervention terms: <i>treatment*, therap*, counsel*, intervention*, support, support</i>	Yes	23	1642	Psychosocial interventions effective in reducing behavioural and psychological symptoms in patients (moderate effect sizes) and reducing CG distress (small effect size but significant).

		dementia patient symptoms and CG Distress.	<i>group*</i> , <i>psychosocial</i> , <i>nonpharmacologic*</i> and symptom terms: <i>Behavioural and psychological symptoms of dementia, BPSD, abberant motor behaviour, aggression, anxiety, etc.</i>				
7	2 Brodaty, Green & Koschera (2003)	Meta-analysis of psychosocial interventions for caregivers of people with dementia	Search MEDLINE (1985-2000), PsycInfo (1984-2000), Ageline (1985-2000), CINAHL (1985-2000), Cochrane Library (1991-2000), Embase (1998-2000). For <i>caregiver, carer, self-help groups, support groups, education, training, skills training, counselling, psychotherapy, intervention, and therapy</i> combined with <i>random allocation, control group, dementia, Alzheimers disease.</i>	Yes	30	24	Caregiver (CG) interventions had modest but significant benefits for CG knowledge, psychological morbidity and coping skills. The only intervention feature related to outcome was involvement of the patient as well as the CG.
3	33 Cooke, McNally, Mulligan,	Psychosocial interventions for carers of people	Search PsycLit (1970-2000); MEDLINE (1966-2000); ISI (1981-2000); Embase (1980-2000); Cochrane Library (2000-Issue		40	2211	67% of studies showed no effects on any outcomes. Social support alone or in combination with problem focused

	Harrison & Newman, (2001).	with dementia	3), for (<i>dement* OR Alzheimer*</i>); <i>carer*</i> , <i>caregiv* OR supporter*</i> ; AND (<i>trial*</i> , <i>intervention* OR program*</i>). Also hand searching of reference lists.				approaches showed some benefits for psychological well-being. Interventions to increase knowledge generally did so but without impact on well-being or burden. Typically small sample sizes limited chances of uncovering effects.
7	36 Chien, Chu, Guo...Cho u (2011)	Assess effectiveness of support groups for CGs	Searched OVID, NCBI, Cochrane Library, MEDLINE, PubMed, PsycArticles, PsycINFO, ERIC, Ageline, CINAHL (1998-2009), for <i>dementi*</i> or <i>Alzheimer's disease</i> , <i>Support*</i> or <i>psychoeducation*</i> or <i>education*</i> or <i>training*</i> , <i>group*</i> or <i>program*</i> , <i>caregiv*</i> or <i>carer*</i> .	Yes	30	146	Support groups showed significant positive effect on caregiver's psychological well being, depression and burden.
8	17 Cooper, Balamurali & Livingston	To assess prevalence and correlates of anxiety in CGs of people with	Searched Allied & Complementary Medicine (1985-), British Nursing Index (1994-), CINAHL (R) (1982-), Embase (1974-), MEDLINE (1951-), PsycINFO (1887-),		33	497	C. 25% of CGs affected by significant levels of anxiety. Confrontative and escape avoidance coping, CG burden, poor CG health associated with higher anxiety levels.

	(2007).	dementia.	up to June 2005, for <i>Carer OR caregiver, AND dementia OR Alzheimer's disease AND anxiety.</i>				
6	36 Cooper, Balamurali, Selwood & Livingston (2007)	Synthesise information re interventions to reduce CG anxiety.	Search MEDLINE, Embase, PsycINFO, CINAHL(R), British Nursing Index, Allied and Complementary Medicine.		24	506	Few interventions showed efficacy re anxiety. The only RCT to be effective involved CBT and a relaxation based intervention specifically devised for anxiety. Some evidence (not from RCTs) for benefits of yoga and relaxation; nut not for behavioural management, exercise or respite.
9	37 Cooper, Mukadam, Katona, Lyketsos <i>et al</i> (2012)	To assess effectiveness of non-pharmacological interventions in improving QOL of people with	Search PubMed, Web of Science, Cochrane systematic reviews databases to January 2011, for <i>Dementia OR Alzheimer; Quality of life OR well-being; AND treatment OR intervention.</i>	Yes	20	1049	Coping-strategy based family carer therapy, with or without patient involvement, improved QoL of dementia patients living at home

		dementia.					
4	18 Cuijpers (2005).	To assess prevalence of depressive disorders in CGs of PWD	Searched Medline and Psychinfo up to May 2004 for <i>caregiv*</i> AND <i>depression</i>		10	Not given	Overall prevalence of depressive disorder 22%. Relative risks ranged from 2.8 to 38.68 (all significant). Being a CG for PWD a risk factor for depressive disorder.
5	32 Del-Pino-Casado, Frias-Osuna, Palomino-Moral & Pancorbo-Hidalgo,(2011).	Caregivers coping and subjective burden	Search MEDLINE, Pubmed, CINAHL, EBSCO, EMBASE, Elsevier, PsycInfo, Ovid, Scopus, ISI Proceedings up to 2010 for (<i>caregiv* or supporter* or carer*</i>) and (<i>burden or strain</i>) and (<i>coping or cope</i>). Also hand searching of journals, reference lists.		10	687	Avoidance coping associated with greater subjective burden. No consistent pattern between problem focused, approach and emotion based strategies and burden emerged.
6	38 Elvish, Lever,	Psychological interventions for	Quantitative and qualitative lit search of MEDLINE, PsycInfo, ERIC and PubMed		20	1093	Psychoeducational skill building to increase knowledge of AD and emotional

	Johnstone, Cawley & Keady, (2013)	carers of people with dementia. Updates previous reviews by Pinguart & Sorensen,(2006) and Gallagher-Thompson & Coon (2007).	2005-2011, for (<i>caregiver or caregiving or care or caring</i>) AND (<i>dementia or Alzheimer's or cognitively impaired or cognitive impairment or mild cognitive impairment or MCI</i>) AND (<i>intervention study or evaluation study or experimental design or quasi-experimental design or memory clinic or counselling or psychoeducation or technology or support group or psychotherapy or case management or care management or multicomponent or environmental or cognitive behavioural therapy or CBT or family or systemic</i>).				coping was generally beneficial in maintaining well being. Multicomponent interventions (eg support groups, individual counselling, telephone support) and technology based approaches were useful.
3	39 Etters, Goodall & Harrison (2008).	To identify factors influencing caregiver burden (CB) and describe	Searched CINAHL, MEDLINE, and PsychInfo (1966-2006) with keywords <i>CB</i> and <i>dementia</i>		58	N/A	Individually developed multicomponent interventions decrease CG burden, improve QoL and delay institutionalisation.

		evidence-based interventions to reduce CB					
4	27 Gottlieb & Wolfe,(2002).	Caregivers stress & coping	Search Current Contents, PsycInfo, Sociological Abstracts, Social Science Abstracts, (1984-2000), for <i>coping, eldercare, caregiving, carer, dementia, Alzheimer's disease, older adults, caregiver stress.</i>		17	NA	Wishfulness & fantasy coping had negative impact; problem solving, acceptance and social support based coping were beneficial.
7	40 Hall & Skelton (2011).	To identify evidence re current role of OTs in supporting caregivers of people with dementia (UK only).	Searched CINAHL, MEDLINE, Amed, PsychArticles, PsycInfo, ASSIA, Social Services Abstracts, Cochrane Library for <i>caregiver, dementia, occupational therapy, intervention and treatment</i> , (1999-2010). Hand searching also done.		17	6	Cognitive behavioural and reminiscence therapy can be effective re outcomes for CGs on eg., CG burden, stress, strain, health and mood.
7	11 Hogan, Bailey,	Management of mild to moderate AD: (ie	Searched PubMed and Embase, for <i>dementia OR Alzheimer's disease AND mild OR</i>		305	1310	Insufficient evidence that cognitive training/rehabilitation is effective.

	Carswell <i>et al.</i> (2007)	MMSE >10 and < 26). 28 evidence based recommendations. Focus on non-pharmacological recommendations.	<i>moderate AND therapy OR treatment.</i> , 1996-2006.				Individualised exercise programmes helpful. Behavioural problems aided by support groups, psychoeducational intervention. Involvement of CG and CR in intervention helps.
4	28 Kneebone & Martin, (2003).	Caregivers stress & coping	Search MEDLINE, Psych-Info to 1999 for <i>Alzheimer's disease, dementia, caregivers burden, adaptation, psychological, coping, stress</i>		16	N/A	Applying Lazarus & Folkman's 1984 model, found benefits re health and depression from problem solving and acceptance styles of coping.
4	1 Knight, Lutzky & Macofsky-	Assess effectiveness of interventions for CG distress.	Searched relevant journals and Ageline, MEDLINE, PsycINFO and SSI, 1980-1990. Keywords not given.	Yes		na	Individual psychosocial interventions and respite programs moderately effective; Group psychosocial interventions less so.

	Urban (1993)						
5	21 Lee, Bakker, Duivenvoo rden & Droes (2014)	To assess determinants of subjective CG burden in dementia	Searched PubMed, PsycInfo and Embase up to December 2013 for <i>burden, distress, stress, strain, overload, well-being AND caregiver, family, spouse, informal, relative, home AND psychogeriatrics, geriatric psychiatry, dementia, behaviour, neuropsychiatric symptoms OR theoretical, concept, predictors, prognostics, model, scale, limited by (old) age and human.</i>		56	711	Patient behavioural problems, caregiver coping and personality traits and competence were most consistent determinants of CG burden, depression and mental health. Behavioural problems were more significant than cognitive disorders or lack of self-care. Of CG personality traits, neuroticism had strongest impact on burden. CG feeling competent or higher self-efficacy were beneficial re burden and mental health.
8	30 Li, Cooper, Austin & Livingston	Do changes in coping style explain effectiveness of interventions for	Searched Embase, MEDLINE, PsycINFO, Web of Science, Cochrane Library, CINAHL and AMED, up to July 2011, for <i>carer OR caregiver OR caring OR relative OR</i>	Yes	8	425	Surprisingly, dysfunctional coping increased when depressive symptoms declined. Some evidence that emotional support and acceptance based coping

	(2013)	dementia carers?	<i>supporter OR family; dementia OR Alzheimer OR cognitive impairment; cope OR coping; AND randomised OR controlled OR clinical trial.</i>				increased as positive coping increased, but solution focused coping alone did not.
7	31 Li, Cooper, Bradley, Schulman & Livingston (2012).	Caregivers coping & psychological morbidity	Searched Embase, MEDLINE, PsycInfo, Web of Science, CINAHL, AMED to March 2010, for (<i>carer OR caregiver OR caring OR relative OR supporter OR family</i>); (<i>dementia OR Alzheimer OR cognitive impairment</i>); <i>cop</i> ing; (<i>anxiety OR depression OR mood OR psychiatric morbidity OR psychological morbidity</i>). Also hand search reviews & references.	Yes	33	5361	Dysfunctional coping (eg denial/avoidance) associated with greater depression & anxiety. Emotional support and acceptance based coping associated with less anxiety and depression. Solution focused coping not associated with depression or anxiety.
2	42 LoGiudice & Hassett, (2005)	Caregivers & uncommon dementias (FTD, HD, HIV)	No search strategy stated.		13	na	Disturbed behaviours typical of uncommon dementias associated with increased depression in carers.

4	43 Lupp, Luck, Brahler, Konig & Riedel- Heller (2008)	To assess factors influencing institutionalisation of persons with dementia.	Searched MEDLINE, Web of Science, Cochrane Library and PSYINDEX for keywords, <i>Institutionalisation, Nursing home placement, nursing home admission and dementia.</i>		42	467	CG burden , life satisfaction, health related QoL and dysfunctional coping strategies linked to earlier institutionalization
8	12 O'Connor, Ames, Gardner & King (2009).	To review psychosocial treatments of behaviour symptoms in AD	Searched MEDLINE, CINAHL, PsycINFO, Cochrane databases up to 2006. Keywords not given.		25	93	Effect sizes v controls mostly small; moderate to large effects with aromatherapy, ability focused career education, bed baths, music and muscle relaxation training.
5	13 Olazaran, Reisberg, Clare,	To evaluate effects of Nonpharmacological Therapies on	Searched MEDLINE, PsycINFO, CINAHL, Embase, Lilacs, Cochrane Dementia and Cognitive Improvement Group Specialized Register, up to September, 2008.	Yes	179	1134	Strong evidence that Multicomponent interventions for CGs education and support delayed institutionalisation. Some evidence for improvements linked to

	Cruz.....M uniz (2010)	Quality of Life of PWD and CGs of PWD.	Keywords not given in paper.				multicomponent interventions for PWD cognition, Activities of Daily Living, behaviour & mood, and for CG mood, well- being and Quality of Life.
6	25 Ornstein & Gaugler (2012)	To determine whether particular symptoms or symptom clusters exert undue negative impact on CG depression and burden.	Searched MEDLINE, Pubmed and PsycINFO <i>for dementia OR Alzheimer, caregivers OR caregiving, behaviour symptom OR BPSD OR psychiatric OR neuropsychiatric OR hallucination OR delusion OR aggression OR agitation OR wandering OR psychosis OR depression OR behaviour.</i>		35	673	Depression, aggression and sleep deprivation were most frequently identified patient symptoms to impact negatively on CGs. However, overall, a wide range of symptoms was associated with CG depression and burden.
7	44 Parker, Mills & Abbey (2008)	To assess effectiveness of interventions to assist CGs to provide support for	Extensive search of CINAHL, MEDLINE, PsycINFO and Cochrane databases.		40	645	12/13 psychoeducational interventions had positive results for depression and burden. Studies of support showed a small but significant benefit for burden. 10/12 multicomponent studies reported

		dementia patients in the community.					significantly improved outcomes.
7	45 Peacock & Forbes (2003)	To assess interventions to improve well being of CGs	Searched CINHAHL, Pubmed, PsycINFO 1992-2002, for keywords <i>caregiver, carer, Dementia, Alzheimer, burden, depression, strain, stress, support, respite, education, intervention, effective, assess, evaluate and measure</i> . Also hand searched relevant journals.		11	81	None of the types of interventions (case management, education, psychotherapy, computer networking) had consistent effects overall.
7	34 Pinquart & Sorensen (2006)	Which interventions for caregivers of AD patients help and how much?	Searched PsycINFO, MEDLINEe, Ageline, PSYINDEX (dates not specified), for <i>(dementia OR Alzheimer's disease) AND (caregiver OR care OR caregiving) AND (intervention OR trial OR support OR training)</i> . Note: overlaps strongly with Brodaty <i>et al</i> (2003) but extends coverage to more recent	Yes	127	No info	CG interventions had positive immediate effects on CG's burden, depression, well being, ability/knowledge, and CR symptoms. Effect sizes small. Psychoeducational interventions had broadest effects and were most effective when involved active participation.

			studies.				
7	19 Pinquart & Sorensen (2007).	To assess correlates of physical health of informal CGs	Searched PsycINFO, MEDLINE, PSYINDEX for keywords <i>health</i> AND (<i>caregiving</i> OR <i>Caregivers</i> OR <i>carer</i> OR <i>support provider</i>) AND (<i>elderly</i> OR <i>old age</i>)		176	Not given	Negative effects on CG health most common in in psychologically distressed CGs facing dementia –related stressors.
4	46 Powell, Chiu & Eysenbach (2008).	To assess effectiveness of networked ICT interventions in supporting CGs of people wirh dementia.	Searched MEDLINE, Embase, CINAHL, PsycINFO, AMED up to 2007, for <i>dementia</i> , <i>Alzheimer's</i> , <i>carer</i> , <i>caring</i> , AND <i>network</i> , <i>internet</i> .		15	1441	Interventions were multifaceted with inconsistent outcomes, but interventions tended to have moderate effects on CG stress and depression.
7	29 Pusey & Richards (2001)	Assess effectiveness of psychosocial interventions for CGs	Searched MEDLINE, CINAHL, Embase, Cochrane Library, HMIC, SCI, SSCI, Age Info, National Research Register and Health CD. Plus hand searching of relevant journals.		30	361	Study quality generally poor. Individualised interventions stressing problem solving and behaviour management most effective.

			Keywords not given.				
5	47 Quinn, Clare & Woods (2010)	To explore impact of meaning and motivation on well being of CGs	Searched, PsycINFO, SSCI, MEDLINE and CINAHL, 1960-2008, for keywords <i>caregiver*</i> , <i>carer*</i> , <i>caregiving</i> , <i>dementia</i> , <i>Alzheimer's</i> , <i>motiv*</i> , <i>drive*</i> , <i>oblig*</i> , <i>duty</i> , <i>filial</i> and <i>meaning*</i>		10	2	CGs' well being affected by nature of motivations. Finding meaning had a positive impact on CGs' well being.
8	48 Schoenmakers, Buntinx & deLepeleire, (2010).	Effects of home care intervention on carer well being	Search of MEDLINE, Embase, Cochrane Database of Systematic Reviews, Database of Abstracts of reviews of Effects , Cochrane Register of Controlled Trials and ACP Journal Club, (1980-2007), for <i>dementia</i> , <i>primary caregiver</i> , <i>interventions</i> , <i>home care</i> and their abbreviated terms.	Yes	26	880	On a meta-analysis, Psychosocial intervention had small positive but non significant effects on depression and burden.
4	49 Schulz, O'Brien, Czaja, Ory....Ste	To assess clinical significance of caregiver interventions.	Searched MEDLINE, PsycINFO, CINAHL, (1996-2001), for <i>caregivers</i> and <i>dementia</i> or <i>Alzheimer's disease</i> .		50	na	Relatively few studies showed clinically significant effects so far but conclude that interventions are promising and may show up more strongly with improved methods.

	vens (2002)						
6	50 Selwood, Johnston, Katona, Lyketsos & Livingston (2007).	To identify effective psychological interventions for CGs	Databases searched and keywords not reported. Search went up to 2003.		62	182	Individual behaviour management therapy re patients' behaviour effective. Teach caregivers coping strategies also effective. Education re dementia, group behaviour therapy and supportive therapy not effective.
6	16 Smits, de Lange, Droes...Po t (2007)	Assess evidence for benefits of combined intervention programmes (ie that address both the patient and the CG)	Search MEDLINE and Psychinfo 1992- 2005., for <i>dementia, family members,</i> <i>caregivers, caregiver burden, support</i> <i>programme, training, counselling, care-</i> <i>giving skills, intervention, combined</i> <i>intervention, integrated intervention, effect*,</i> <i>effic*</i>		25	27	Best results were for CG general mental health. Effects on cognitive, physical functioning, behaviour problems and survival of patents were small and inconsistent, although their mental health and time to admittance to long term care were positively affected.

		for patient and CG.					
7	51 Sorensen, Pinquart & Duberstein , P. (2002)	Determine effectiveness of interventions for CGs	Searched PsycINFO, MEDLINE, PSYINDEX, for <i>caregiver</i> or <i>carer</i> or <i>caregiving, intervention</i> or <i>support</i> or <i>training, and elderly</i> or <i>old age</i> .	Yes	78	61	Interventions generally successful. Effects larger on ability/knowledge than on burden/depression. Psychoeducational/ therapeutic effects most consistent overall.
7	14 Spijker, Vernooij- Dassen, Vasse, Adang...V erhey (2008).	Assess effectiveness of support programs in delaying institutionalisation of AD patients	Searched MEDLINE, Web of Knowledge, PsycINFO, (January 1990-March 2006), for <i>controlled studies, dementia costs,</i> <i>institutionalisation, time spent giving care,</i> <i>caregivers</i>	Yes	13	442	Support programmes significantly decreased odds of institutionalisation and lengthened time to institutionalisation. Actively involving CGs in choices about treatments was key to programme effectiveness.
4	15 Thinnes & Padilla (2011)	To review evidence re effectiveness of educational and supportive strategies	See Arbesman & Leiberman (2011) for method		43	7402	Interventions that jointly engage patients and CGs in education and training more effective. Interventions providing CGs with problem solving, technical skills, home

		for CGs					modification and referral to community resources are useful.
8	52 Thompson , Spilsbury, Hall, Birks, Barnes & Adamson,J . (2007).	To examine whether information and support interventions improve Quality of Life for CGs	Searched Specialized Register of Cochrane Dementia and Cognitive Improvement Group 2003-05 for <i>computer*</i> , <i>telephon*</i> , <i>training*</i> , <i>education*</i> , <i>information</i> , <i>“care-planning”</i> , <i>carer*</i> , <i>caregiv*</i>	Yes	44	97	Group based interventions had positive impact on psychological morbidity; technology and individual based interventions not effective.
8	53 Vernooij- Dassen, Draskovic, McCleery & Downs	To evaluate cognitive reframing interventions for CG’s psychological morbidity and stress	Searched Cochrane Library, MEDLINE, Embase, PsycINFO , CINAHL and LILACs, using extensive keyword lists.	Partly	11	73	Cognitive reframing reduced psychological morbidity, specifically anxiety, depression and stress.

	(2011).						
4	20 Vitaliano, Zhang & Scanlan (2003).	To assess physical health risks for CGs of PWD.	Searched Current Contents, MEDLINE, PsycINFO, Sociofile, Social Work Abstracts, and CINAHL to April, 2001, using keywords <i>dementia, Alzheimer's disease, cognitive disorders, health, physical and health, physiology*, illness*, hormones, cholesterol, cardiovascular diseases, blood pressure, obesity, diabetes, immune*, mortality, death and caregiv*</i>	Yes	23	Not reported	Evidence found of links between being a CG of PWD v controls and level of stress hormones (23% higher in CGs), antibodies (15 % lower in CGs) and global reported health.
9	3 Zabalegui, Hamers, Karlsson ,....Cabrer a (2014).	To identify effective interventions to improve quality of care	Searched MEDLINE, CINAHL, PsycINFO and ISI Web of Science, 1990-2012 for principal keywords <i>dementia, Alzheimers disease, patient care and home care</i>		23	743	Cognitive rehabilitation effective at early stages of AD. Case managers reduce institutionalisation and use of other services.