# **Best Evidence Summaries of Topics in Mental Healthcare**

# **BEST** in MH clinical question-answering service

## Question

For people with dementia how effective is a continuity of care model (particularly in terms of staff) compared to any other model of care in achieving improved clinical outcomes? Is there any evidence that this model is more effective in adults with dementia than the general older population?

## **Clarification of question using PICO structure**

Patients: People with dementia Intervention: Continuity of staff / care Comparator: Any other model / treatment as usual Outcome: Improved patient outcomes.

## **Clinical and research implications**

One high quality Cochrane review, and a second poor quality systematic review provided the majority of the data to inform this evidence summary. Two randomised controlled trials (RCTs) and an analysis of data from an RCT published elsewhere provided some additional information. All of the primary studies were included in the second systematic review and all had important methodological weaknesses. The Cochrane review concluded that the available evidence on the effectiveness of a primary-care model compared with team nursing or usual care was unconvincing; this conclusion is likely to be reliable. By contrast, the conclusion of the second review, that the effectiveness of case management interventions is dependent upon their intensity and degree of integration with other aspects of care, is not adequately supported by the data presented. The results of the studies included in the second review were variable and not strongly supportive of the effectiveness of case management interventions.

No studies were identified which provided information on the effectiveness of continuity of care interventions in adults with dementia compared to their effectiveness in the general older population.

This summary suggests that the evidence base on continuity of care interventions in the elderly is currently weak. High quality randomised controlled trials are needed to provide reliable assessments of the effectiveness of continuity of care interventions on patient-relevant outcomes. Standardisation of interventions is also needed.

#### What does the evidence say?

#### Number of included studies/reviews (number of participants)

We identified two systematic reviews which were relevant to this evidence summary.<sup>1,2</sup> The first systematic review, a Cochrane review, assessed the effectiveness of nursing models for improving patient and staff outcomes in long-term residential care and included two observational studies; the description of participant characteristics did not include dementia/cognitive status.<sup>1</sup> The second systematic review assessed the impact of case management interventions on clinical outcomes and resource utilisation in older people with dementia; this review included six randomised controlled trials (RCTs).<sup>2</sup> We also identified three potentially relevant primary studies, two RCTs,<sup>3,4</sup> and one additional analysis of data from an RCT.<sup>5</sup> All of these studies were included in the larger of the two systematic reviews.<sup>2</sup>

#### Main Findings

One of the studies included in the Cochrane review found no significant differences, between intervention (resident assignment to the same nurse; use and evaluation of nursing care plans, nursing histories, nursing goals and actions for each resident; resident-oriented and ward oriented tasks; resident-oriented or ward oriented nurse communication) and control (not described), in resident or family satisfaction with care, resident well-being, or assessment of resident well-being by a significant other.<sup>1</sup> The second study found a limited number of improvements associated with primary nursing (24-hour accountability and decision making by one nurse for several patients; case method of assignment; direct communication between caregivers; change in emphasis in the role of head nurse to facilitator) compared with standard team nursing.<sup>1</sup> Improvements were in Geriatric Residents' Goals scale scores (geriatric rehabilitation unit only) and Tranquillity-Agitation Scale scores (long-term care unit only).<sup>1</sup>

Four of the six studies included in the second systematic review reported moderate effect sizes (defined as between 0.2 and 0.8), on the primary outcome measure, for case management interventions compared with a control group.<sup>2</sup> Reported primary outcome effect sizes, for patient clinical outcomes, were 0.24 for improvement in "intensity of behavioural problems," and 0.33 for reducing institutionalisation at one year (effect did not persist to year two and there was no significant effect on mortality).<sup>2</sup> The study which reported reduction in institutionalisation appeared to indicate that the case management program was more effective in patients with advanced dementia.<sup>2,5</sup>

The results of the three primary studies identified<sup>3,4,5</sup> did not differ substantially from those summarised in the systematic review by Somme et al.,<sup>2</sup> though some additional detail was reported. The study which was described in the Somme review as reporting moderate effects on "intensity of behavioural problems" reported improvements in patient Neuropsychiatric Inventory (NPI) scores, associated with the case management intervention, at 12 and 18 months (between group difference -5.6 (95% CI: -9.9 to -1.3) and -5.4 (95% CI: -9.9 to -1.2), respectively).<sup>3</sup> There were no significant effects on patient depression, cognition, or activities of daily living (ADL).<sup>3</sup> The study which reported was described in the Somme review as reporting reduction in institutionalisation reported that this finding applied to two separate elderly populations, one with dementia and one with delirium.<sup>5</sup> The final primary study assessed factors associated with care giver mastery and relationship strain (data not included in the Somme review) and found that only home environment assessments of patient and care giver needs by the care manager were significantly associated with improvements in care giver mastery; there were no significant predictors of relationship strain.<sup>4</sup>

#### Authors Conclusions

The Cochrane review concluded that the available evidence on the effectiveness of a primary-care model compared with team nursing or usual care was unconvincing.<sup>1</sup> The second systematic review concluded that the degree of integration and intensity of the case management intervention seem to determine its effectiveness.<sup>2</sup> The primary studies, all of which were included in the second systematic review, <sup>2</sup> concluded that collaborative care of patients with Alzheimer's disease resulted in improvements in behaviour and psychological problems, <sup>3</sup> home assessments for specific needs of caregivers and persons with dementia were associated with improvements in caregivers' sense of mastery, <sup>4</sup> and a Nurse Care manager (NCM) intervention was effective in prolonging the community care of elderly people with cognitive impairment.<sup>5</sup>

#### Reliability of conclusions/Strength of evidence

One high quality Cochrane review,<sup>1</sup> and a second poor quality systematic review<sup>2</sup> provided the majority of the data to inform this evidence summary. Two RCTs<sup>3,5</sup> and an analysis of data from an RCT published elsewhere<sup>4</sup> provided some additional information. All of the primary studies were included in the second systematic review and all had important methodological weaknesses. Overall, the conclusion of the Cochrane review, that the available evidence on the effectiveness of a primary-care model compared with team nursing or usual care was unconvincing, is likely to be reliable.<sup>1</sup> The Conclusion of the second review is not adequately supported by the data presented and the findings of the included studies were variable and not strongly supportive of the effectiveness of case management interventions.<sup>2</sup>

#### What do guidelines say?

No UK guidelines relevant to this evidence summary were identified.

Date question received: 23/06/2013 Date searches conducted: 24/06/2013 Date answer completed: 15/07/2013

## References

#### **Systematic Reviews:**

1. Hodgkinson B., Haesler, E.J., Nay, R., O'Donnell, M.H. and McAuliffe, L.P. (2011) Effectiveness of staffing models in residential, subacute, extended aged care settings on patient and staff outcomes. *Cochrane Database of Systematic Reviews.* Issue 6. <u>http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD006563.pub2/pdf</u>

2. Somme, D., Trouve, H., Dram, M., Gagnon, D., Couturier, Y. and Saint-Jean, O. (2012) Analysis of case management programs for patients with dementia: A systematic review. *Alzheimer's & Dementia* (8) pp. 426–436.

#### RCT's

3. Callahan, C.M., Boustani, M.A., Unverzagt, F.W., Austrom, M.G., Damush, T.M., Perkins, A.J., Fultz, B.A., Hui, S.L., Counsell, S.R. and Hendrie, H.C. (2006) Effectiveness of Collaborative Care for Older Adults With Alzheimer Disease in Primary Care: A Randomized Controlled Trial. *JAMA 295* (**18**) pp. 2148-2157

4. Connor, K.I., McNeese-Smith, D.K., Vickrey, B.G., van Servellen, G.M., Chang, B.L., Lee, M.L., Vassar, S.D. and Chodosh, J. (2008) Determining Care Management Activities Associated with Mastery and Relationship Strain for Dementia Caregivers. *JAGS* (**56**) pp. 891–897.

5. Eloniemi-Sulkava, U. (2002) Supporting community care of demented patients. *Kuopio University Publications D. Medical Sciences* (**275**)

## Results

#### SRs

Author	Search	Inclusion criteria	Number of	Summary of results	Risk of bias
(year)	Date		included studies		
Hodgkinson et al. (2011)	27/8/2007	ParticipantsStaff of residential/subacute/extended aged-caresettings (e.g. nursing homes, skillednursing facilities). Also residents orpatients of residential/subacute/extended aged-care settings aged 65years or older. Studies whichincluded participants ranging from55 upwards were consideredfor inclusion if the standarddeviation fell within one unit of 65.InterventionStudies assessing the followinginterventions were eligible forinclusion in the review:organisational interventions(e.g. team/modular nursing, primarynursing, hierarchical nursing,care pairs or partner-in-caremodels) or regulatory interventions(e.g. staff patient/resident ratios).ComparatorNo inclusion criteria were specifiedfor comparators.OutcomePrimary outcomes for patients of	The review included two observational studies. The total number of participants (residents/nurses) was unclear.	The aim of this review was to determine which staff (nursing) models are associated with the best patient and staff outcomes in residential aged care. Two observational studies were included in the review. The first study was conducted in three residential nursing homes in the Netherlands; each home selected four wards (2 somatic and 2 psychogeriatric) for participation, with one ward of each type being assigned to the intervention and control conditions. Wards were selected based on comparability, provision of long-stay care and willingness to participate. Control and intervention wards were matched by number of beds, bed occupation, length of stay, and care load. The intervention had four components: resident assignment to the same nurse; use and evaluation of nursing care plans, nursing histories, nursing goals and actions for each resident; resident- oriented and ward oriented tasks; resident-oriented or ward oriented nurse communication. The control condition was not described. Besidents had a mean are of 78 years and 70%	The article reported a clear research objective and appropriate inclusion criteria for the review were defined. Five bibliographic databases were searched to identify relevant publications. No language restrictions were applied. A Google search was conducted to try to identify grey literature sources. Measures to minimise error and bias (involvement of two reviewers

residential/subacute/extended	were female; no further characteristics were	with
aged-care settings: incidence of	reported. Nursing staff had a mean of >5 years ward	disagreements
pressure ulcers; incidence of falls;	experience.	resolved by a third
incidence of medication errors and	Outcomes assessed were extent of protocol	reviewer) were
adverse events; validated quality of	implementation (nursing records and interviews	applied to all
life measurements. Primary	with nurses and residents of somatic wards),	stages of the
outcomes for staff: days/hours lost	resident well being (questions to participants.	review process
to sick leave; days/nours lost to	nurses and family members), and satisfaction with	(study selection.
a percentage of staff total): staff	patient care (questions to residents and family	data extraction
burnout (as defined by the authors)	members). Outcomes were measured before	and assessment of
Secondary outcomes for residents:	implementation of the intervention and at six and	methodological
tranguility-agitation; vitality;	16 months post-intervention.	quality).
personal control; performance of		-1
activities of daily living. Secondary	The second study was conducted in two units (one	The
outcomes for staff: measurement of	geriatric rehabilitation and one long-term care) of a	methodological
nursing activities (e.g. notes, entries	Canadian university hospital. The intervention	quality of included
In care plan); job satisfaction.	(primary nursing) had four components: 24-hour	studies was
Bandomised controlled trials (BCTs)	accountability and decision making by one nurse for	assessed using
controlled clinical trials (CCTs).	several patients; case method of assignment; direct	appropriate
interrupted time series and	communication between caregivers; change in	Effective Practice
controlled before-and-after studies	The control condition was team pursing described	and Organisation
were eligible for inclusion.	as "a hierarchical system where nations care is	of Care (EPOC)
	supervised by a registered nurse, the team leader.	group tools for
	and the actual provision of care is assigned to	observational
	various skill levels of personnel according to the	studies.
	complexity of patient needs and care	
	requirements." The study design comprised four	The use of a
	time periods (not equal) with both units using team	narrative synthesis
	nursing, one unit using primary nursing and one	to summarise
	unit using team nursing, crossover of intervention	included studies
	and control, both units using primary nursing.	included studies

		<b>4</b>
	The study included 53 staff (30 registered nurses	<i>s,</i> 17 was appropriate.
	registered nursing assistants, 6 nursing orderlies	)
	and an un-specified number of residents who we	ere
	cognitively intact war veterans with a mean age	of
	79 years.	
	Outcomes assessed were measures of nursing	
	practice (e.g. record keeping, consistency of	
	patients assigned to caregivers, patients' knowle	edge
	of staff names), and measures of patient well-be	ling
	(Tranquillity-Agitation Scale, Vitality Rating Scale	<u>,</u>
	Personal Control rating Scale and Geriatric	
	Residents Goals Scale). The study was conducted	Ł
	over two years, with patient well-being outcome	25
	measured at 21 time points and nursing practice	1
	outcomes measured at 17-24 time points.	
	Nursing practice/protocol implementation	
	outcomes:	
	The first study found that assignment of the same	ie l
	nurse to residents and use and evaluation of	
	nursing care plans were significantly higher in th	e
	intervention wards. The level of resident-oriente	2
	tacks was also significantly higher (in the	
	nsychogeristric intervention words only) but the	ara
	were no significant differences in ward oriented	
	tacks or communication. The second study foun	4
	that continue accience of the control study found	
	that continuous assignment of the same care give	'er
	was significantly improved with the primary nur	ang
	model (geriatric rehabilitation unit only).	
	Consistency between daily and monthly nursing	
	care signatures and between signature and actu	al
	provider of care was also significantly higher for	
	primary nursing (both units). Patients' knowledg	e of

				staff names was significantly higher for the primary nursing model in the geriatric rehabilitation unit, but not in the long-term care unit. There were no significant differences in entries to the nursing notes or care plan between the two nursing models.	
				Patient benefit outcomes: The first study found no significant differences, between intervention and control wards, in resident or family satisfaction with care, resident well-being, or assessment of resident well-being by a significant other. The second study found a limited number of improvements associated with primary nursing: The highest mean score on the Geriatric Residents' Goals scale was significantly higher for the primary nursing model (geriatric rehabilitation unit only) and there was a significant improvement in Tranquillity-Agitation Scale scores associated with the primary nursing model (long-term care unit only).	
				The second study also reported no significant differences in staff morale measures of costs between the primary nursing and team nursing models.	
				Neither study reported any comparison of effectiveness between older adults with dementia and older adults in the general population.	
Somme et al. (2012)	04/2009	Participants Non-institutionalised patients with Alzheimer's disease and associated disorders (dementia).	The review included six RCTs. The total number of participants	This review aimed to impact of case management programs on clinical outcomes and the utilisation of resources in people with dementia.	The article reported a clear research objective and appropriate,

Intervention	(patients/case	Five of the six included studies were conducted in	broad inclusion
Case management (care	managers) was	the USA and one in Sweden. Settings varied and	criteria for the
management, case management, or	unclear.	included primary care, memory care, and non-	review were
disease management involving at		health care.	defined (outcome
least the functions of assessment,		The intervention was individual case management	measures were not
Individualised plan, and monitoring)		in all studies. The intensity of the case management	specified).
Comparator		intervention was defined using the 18-point Pacala	
implementation of a case		scale and was classified as "high" in 2 studies, "mid"	Nine bibliographic
management program had to be the		in 1 study and "low" in 3 studies. Integration of the	databases were
only difference between the		case management program with other aspects of	searched to
intervention and control groups.		service delivery was classified as "mid" in 3 studies,	identify relevant
Outcome		"low" in 1 study and "none" in 2 studies.	publications. The
Included studies had to report the		Where reported, the mean age of patients in the	authors' stated
results of longitudinal follow-up		included studies ranged from 70 to 80 years, and	that they intended
(outcomes not specified).		between 43 and 74% were female. The proportion	to restrict inclusion
Study design Randomised controlled trials (RCTs)		of ethnic minority participants ranged from 5-49%	to articles with an
		in four studies. Where reported, the care managers	English language
		previous profession was either social work or	abstract, but that
		nursing.	no articles were
			excluded on this
		Four of the six studies, including both of the "high"	criterion.
		intensity studies and the "mid" intensity	
		intervention study reported moderate effect sizes	The review process
		(defined as between 0.2 and 0.8) in their primary	did not include
		outcome measure. Detailed results were as follows:	standard measures
		Study one assessed a "high" intensity intervention	to minimise error
		(disease management program) with 50 cases per	and bias (the
		manager and a study duration of 18 months. Case	process was
		management had a moderate effect (effect size	undertaken by a
		0.54) on the primary endpoint of "following	single reviewer).

		recommendations in good practice guidelines," a	
		weak effect size (0.16) on patients' quality of life	The
		and no significant effect on mortality or carers'	methodological
		quality of life.	quality of included
		Study two assessed a "high" intensity intervention	studies was
		("collaborative care" model). The number of cases	assessed using the
		per manager was not reported and the study	25-item CONSORT
		duration was 18 months. Case management had a	checklist.
		moderate (0.24) effect size on the primary endpoint	However, it should
		of "intensity of behavioural problems," and a weak	be noted that
		effect size (0.17) on "care giver stress." There were	CONSORT is a
		no significant effects on rates of hospitalisation or	reporting guide for
		institutionalisaton.	RCTs and not a tool
		Study three assessed a "low" intensity intervention	designed to assess
		(the Medicare Alzheimer's Disease Demonstration	methodological
		and Evaluation (MADDE) program) with between 40	quality.
		and 100 cases per manager and a study duration of	
		36 months. The case management program had a	The use of Cohen's
		moderate effect size (0.34) on the primary outcome	effect size statistics
		of "patients' access to services", and very weak	to compare results
		effect sizes (0.04 and 0.03) caregiver depression	across studies with
		and feeling of burden.	varying
		Study four assessed a "low" intensity intervention	interventions,
		focusing on the empowerment of the person or	outcome measures
		family through the actions of a care consultant. The	and assessment
		number of cases per manager and study duration	methods is of
		were not reported. The effect sizes, for all reported	questionable
		measures of patient and care giver healthcare	value. This is
		utilisation and satisfaction, were weak (<0.2).	compounded by
		Study five assessed a "mid" intensity intervention	the authors'

	with <50 cases per manager. The program had a	statement that
	moderate effect size (0.33) on reducing	they only
	institutionalisation at one year, but this effect did	calculated Cohen's
	not persist to year two and there was no significan	effect size for
	effect on mortality. The program appeared to be	"results that were
	more effective in patients with advanced dementia	. statistically
	Study six assessed a "low" intensity intervention	significant in the
	with approximately 65 cases per manager and a	original
	study duration of six months. No significant effects	publication."
	of case management were found on health or soci	1
	care utilisation by patients or care givers.	

## RCTs

Author	Inclusion criteria	Number of	Summary of results	Risk of bias
(year)		participants		
Callaghan	Participants	n = 153	This study was included in the Somme 2012 systematic	Physicians
(2006)	Older adults (65 years or older) with a	older adults	review reported above (study two in Somme et al).	were the unit
	diagnosis of Alzheimer's and their carers,	with		of
	recruited from two primary care practices	Alzheimer's	The aim of the study was to assess the effectiveness of a	randomisation.
	In Indianapolis. Exclusion criteria were	disease and	collaborative care model on the quality of care for patients	Physicians
	understand English, no access to a	their care	with Alzheimer disease.	were
	telephone or no caregiver willing to	givers		randomised in
	consent to participate in the study.		Information additional to that reported in the systematic	blocks of 2
	Intervention		review:	stratified by
	Collaborative care management, for a		There were no significant differences, in demographic	teaching status
	maximum of 12, months by a team led by		characteristics, baseline Mini-Mental State examination	(faculty or
	the patient's primary care physician and a		(MMSE) score or number of medications, between patients in	resident) and
	geriatric nurse practitioner who served as		the intervention and control groups. Care giver	the clinic site.
	the care manager. All intervention patients		characteristics were also equivalent, with the exception that	Randomisation
	were recommended for treatment with		there were significantly more female care givers in the	used a random

cholinesterase inhibitors (or memantine)	control group.	numbers table.
unless contraindicated. The minimum		
intervention that all intervention group	There were no significant effects at 6 months. Patient NPI	Physicians,
caregivers and patients received	scores were significantly lower in the intervention group at	nurse
included education on communication	12 and 18 months (between group difference –5.6 (95% CI:	practitioners,
skills; caregiver coping skills; legal and	−9.9 to −1.3) and −5.4 (95% CI: −9.9 to −1.2), respectively).	patients and
mancial advice; patient exercise	There were no significant effects on patient depression,	care givers
videotape: and a caregiver guide provided	cognition, or ADL.	were blinded
by the local chapter of the Alzheimer's		to physician
Association.	Care giver NPI scores were significantly lower in the	randomisation
Comparator	intervention group at 12 months (between group difference	status until
Usual care appropriate as decided by	–2.2 (95% CI: –4.2 to –0.2)), but this effect did not persist at	initial
physicians.	18 months. Care giver stress, as indicated by Caregiver	assessment
Outcomes	Patient Health Questionnaire-9 was significantly improved in	was complete.
Outcomes were assessed at 6, 12 and 18	the intervention group at 18 months (between group	However, the
months and included: Neuropsychiatric	difference $-1.6$ (95% CI: $-3.0$ to $-0.2$ ), but not at earlier time	nature of the
Inventory (NPI); Cornell Scale for	points.	intervention
(measured by telephone interview):		precluded
Alzheimer Disease Cooperative		blinding during
Study Group Activities of Daily Living		the study.
(ADL); care giver NPI; Caregiver Patient		
Health Questionnaire-9.		Outome
		assessment
		was conducted
		by
		independent
		assessors who
		were blind to
		treatment
		group.

				Full outcomes
				data appear to
				have been
				reported for all
				studv
				participants.
Connor	Participants	n = 238	This study was included in the Somme 2012 systematic	Not applicable:
(2008)	This study uses data from the Alzheimer's	patients	review reported above (study one in Somme et al); two	This article
	Disease Coordinated Care for San Diego	with	additional related publications of the same study were	reports
	Seniors (ACCESS) trial. Three healthcare	dementia	included I the Somme review.	additional
	organisations (including managed care and	and their		analyses form
	ree-for-service health plans) and three	care givers	The aim of the study was to identify activities within a	an RCT
	implement and test a new dementia care		dementia care management intervention that are associated	published
	management program participants had a		with 18-month change in caregiver mastery and relationship	elsewhere.
	previous diagnosis of dementia and had an		strain.	
	informal caregiver.			
	Intervention		Information additional to that reported in the systematic	
	A care management program of nurse and		review:	
	social work care managers who		The mean age of patients was 80 years and 54% were female.	
	communicated about shared patient and		The mean baseline dementia severity score was 5.7±3.4.	
	caregiver needs, coordinated planned		Fifty-five percent of caregivers were spouses of the	
	interventions, and provided follow-		individuals with dementia. Fifty three percent of care givers	
	through for referrals across the		reported at least one behavioural problem in the preceding	
	participating healthcare organisations and		vear	
	social service agencies, thus providing		yeur	
	Comparator		Multivariable regression modelling indicated that home	
	Liquel core (treatment as usual		anvironment assessments of nations and care giver needs by	
	Osual care/treatment as usual.		the care manager, was the only variable which was	
	Caragivar's perception of caragiving		cignificantly accorded with improvements in care giver	
	mastery and relationship strain between		significantly associated with improvements in care giver	
	mastery and relationship strain between		mastery. Multivariable regression modelling found no	

	caregiver and care recipient, obtained		significant predictors of relationship strain.	
	from caregiver responses to the			
	Margaret Blenkner Research Center			
	Caregiver Strain Instrument.			
Eloniemi-	Participants	Dementia	A different publication of one of the studies (Kuopio	The dementia
Sulkava	Recruited from the register of the Social	study: n =	Dementia Study) in this report was included in the Somme	study was
(2001)	Insurance Institution living in the	100 (n = 53	2012 systematic review reported above (study five in Somme	reported as
	community, receiving primary support	intervention	et al). The systematic review incorrectly reported this study	"randomised",
	from an informal caregiver in eastern	arm, n = 47	as conducted in Sweden; the study was conducted in Finland.	randomisation
	Finland. Participants in the dementia study	control		was done by
	dementia without coexisting severe	arm); n=106	The Kuopio Dementia Study and the Kuopio Delirium Study	the patient or
	diseases (e.g. severe stroke or cancer)	caregivers.	had three aims, of which only the first is relevant to this	care giver
	Participants in the delirium study were 65		evidence summary: to assess the effects of a nurse care	drawing a non-
	years or older, admitted to hospital	Delirium	manager intervention on community care of elderly people	transparent
	consecutively with a delirious state based	study: n =	with cognitive impairment.	sealed
	on DSM-III-R criteria, otherwise healthy	102 (n=51		envelope. The
	without predisposing disorders (e.g.	intervention	Information additional to that reported in the systematic	delirium study
	cancer, hip fracture, moderate-severe	arm, n=51	review:	appears to
	dementia).	matched	Intervention and control groups were similar, with respect to	have been a
	Intervention	controls).	age and gender, in both studies. In the dementia study,	non-
	In both studies, patients with their	,	distribution of diagnoses (Alzheimer's disease, vascular	randomised
	caregivers were provided with a 2-year		dementia, other) and baseline MMSE scores were similar in	study with
	(NCM)		the intervention and control groups	age- and
	(NCM).			gender-
	Usual services provided for geniatric		Both the dementic and delirium studies reported that	matched
	natients in community care from the		survival in the community without institutionalisation was	controls
	municipal social and health care system or		survival in the continuity, without institutionalisation, was	controis.
	from the private sector.		significantly longer in the intervention than in the control	The network of
	Outcomes		group. Post-intervention MiNISE data were not reported.	The nature of
	MMSE (Mini-Mental State Examination):			the
	used before and after the intervention to			intervention

measure patients' cognitive symptoms.	precluded
Other outcomes were not clearly pre-	blinding of
specified.	study
	participants
	and personnel.
	Outcome
	assessment
	was done by
	the study
	physician.
	All study
	participants
	appear to have
	been included
	in the
	analyses, but
	outcomes
	were not fully
	pre-specified.

## **Risk of Bias: SRs**

Author (year)	Risk of Bias				
	Inclusion criteria	Searches	Review Process	Quality assessment	Synthesis
Hodgkinson et al. (2011)					
Somme et al. (2012)			8	8	8

RCTs

Study	RISK OF BIAS					
	Random allocation	Allocation concealment	Blinding of participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective Reporting
Callaghan (2006)		?	8		$\odot$	
Connor (2008)	Not applicable: This article reports additional analyses form an RCT published elsewhere.					
Eloniemi- Sulkava (2001)	<mark>©</mark>	?	8	8	$\odot$	8
Cow R	isk 🙁 High Ri	sk ? Unclear I	Risk		•	

## Search Details

Source	Search Strategy	Number of	Relevant evidence
		hits	identified
SRs and Guid	delines		
DARE	1 MeSH DESCRIPTOR Alzheimer Disease EXPLODE ALL	146	
	TREES 257 Delete		
	2 MeSH DESCRIPTOR dementia EXPLODE ALL TREES IN		
	DARE,NHSEED 368 Delete		
	3 (dementia):TI 343 Delete		
	4 #1 OR #2 OR #3 560 Delete		
	5 MeSH DESCRIPTOR Continuity of Patient Care		
	EXPLODE ALL TREES 102 Delete		
	6 ("continuity of care") 45 Delete		
	7 (continuity adj3 care) OR (continuity adj3 "patient		
	care") 145 Delete		
	8 (staff adj3 continuity) 3 Delete		
	9 #5 OR #6 OR #7 OR #8 146		
CDSR	#1 MeSH descriptor: [Dementia] explode all trees	131	
	3399		
	#2 Enter terms for search		
	dementiadementia 9106		
	#3 Enter terms for search		
	#1 or #2#1 or #2 9847		
	#4 MeSH descriptor: [Continuity of Patient Care]		
	explode all trees		
	462		
	#5 Enter terms for search		
	"continuity of care" 239		
	#6Enter terms for searc"continuity of patient care"499		

	#7Enter terms for searccontinuity adj3 care83		
	#8Enter terms for searccontinuous adj3 care1107		
	#9Enter terms for searcstaff adj3 continuity51		
	#10Enter terms for searc#4 or #5 or #6 or #7 or #8 or		
	#91730		
	#11Enter terms for searc#3 and #10 145		
	CDSR only 131		
Primary stud	lies		
CENTRAL	#1 MeSH descriptor: [Dementia] explode all trees		
	3399		
	#2 Enter terms for search		
	dementiadementia 9106		
	#3 Enter terms for search		
	#1 or #2#1 or #2 9847		
	#4 MeSH descriptor: [Continuity of Patient Care]		
	explode all trees		
	462		
	#5 Enter terms for search		
	"continuity of care" 239		
	#6Enter terms for searc"continuity of patient care"499		
	#7Enter terms for searccontinuity adj3 care83		
	#8Enter terms for searccontinuous adj3 care1107		
	#9Enter terms for searcstaff adj3 continuity51		
	#10Enter terms for searc#4 or #5 or #6 or #7 or #8 or		
	#91730		
	#11Enter terms for searc#3 and #10 145		
	Central only 6		
PsycINFO	1. PsycINFO; ALZHEIMER'S DISEASE/ OR exp	41	
	DEMENTIA/; 48382 results.		
	2. PsycINFO; dementia.ti,ab; 39636 results.		

	3. PsycINFO; 1 OR 2; 58239 results.		
	4. PsycINFO; CONTINUUM OF CARE/; 917 results.		
	5. PsycINFO; (continuity adj3 "patient care").ti,ab; 40 results.		
	6. PsycINFO; "continuity of care".ti,ab; 1242 results.		
	7. PsycINFO; (continuity adj3 care).ti,ab; 1429 results.		
	8. PsycINFO; 4 OR 5 OR 6 OR 7; 1942 results.		
	9. PsycINFO; 3 AND 8; 37 results.		
	10. PsycINFO; "continuous care".ti,ab; 106 results.		
	11. PsycINFO; (continuous adj3 care).ti,ab; 232 results.		
	12. PsycINFO; 8 OR 10 OR 11; 2155 results.		
	13. PsycINFO; 3 AND 12; 41 results.		
	14. PsycINFO; "continuity of patient care".ti,ab; 35 results.		
	15. PsycINFO; (staff adj3 continuity).ti,ab; 32 results.		
	16. PsycINFO; 12 OR 14 OR 15; 2177 results.		
	17. PsycINFO; 3 AND 16; 41 results.		
Embase	31. EMBASE; ALZHEIMER'S DISEASE/ OR exp DEMENTIA/; 209679 results.	427	

32. EMBASE; dementia.ti,ab; 81596 results.	
33. EMBASE; 31 OR 32; 220979 results.	
34. EMBASE; CONTINUUM OF CARE/; 0 results.	
35. EMBASE; (continuity adj3 "patient care").ti,ab; 239	
results.	
36. EMBASE; "continuity of care".ti,ab; 4486 results.	
37. EMBASE; (continuity adj3 care).ti,ab; 5378 results.	
38. EMBASE; 34 OR 35 OR 36 OR 37; 5379 results.	
39. EMBASE; 33 AND 38; 48 results.	
40. EMBASE; "continuous care".ti,ab; 388 results.	
41. EMBASE; (continuous adj3 care).ti,ab; 1328 results.	
42. EMBASE; 38 OR 40 OR 41; 6654 results.	
43. EMBASE; 33 AND 42; 65 results.	
44. EMBASE; ALZHEIMER'S DISEASE/ OR exp	
DEMENTIA/; 209679 results.	
45. EMBASE; dementia.ti,ab; 81596 results.	
46. EMBASE; 44 OR 45; 220979 results.	
47. EMBASE; CONTINUUM OF CARE/; 0 results.	
48. EMBASE; (continuity adj3 "patient care").ti,ab; 239	
results.	
49. EMBASE; "continuity of care".ti,ab; 4486 results.	
50. EMBASE; (continuity adj3 care).ti,ab; 5378 results.	
51. EMBASE; 47 OR 48 OR 49 OR 50; 5379 results.	
52. EMBASE; 46 AND 51; 48 results.	
53. EMBASE; "continuous care".ti,ab; 388 results.	
54. EMBASE; (continuous adj3 care).ti,ab; 1328 results.	
55. EMBASE; 51 OR 53 OR 54; 6654 results.	
56. EMBASE; 46 AND 55; 65 results.	
57. EMBASE; CONTINUITY OF PATIENT CARE/; 179673	
results.	

	58. EMBASE; 55 OR 57; 183289 results.		
	59. EMBASE; 46 AND 58; 3607 results.		
	60. EMBASE; 59 [Limit to: Exclude MEDLINE Journals];		
	427 results.		
	61. EMBASE; "staff continuity".ti,ab [Limit to: Exclude		
	MEDLINE Journals]; 0 results.		
	62. EMBASE; (staff adj3 continuity).ti,ab; 92 results.		
	63. EMBASE; 58 OR 62; 183343 results.		
	64. EMBASE; 46 AND 63; 3607 results.		
	65. EMBASE; 64 [Limit to: Exclude MEDLINE Journals];		
	427 results.		
Medline	14. MEDLINE; ALZHEIMER'S DISEASE/ OR exp	143	
	DEMENTIA/; 115305 results.		
	15. MEDLINE; dementia.ti,ab; 62656 results.		
	16. MEDLINE; 14 OR 15; 134222 results.		
	17. MEDLINE; CONTINUUM OF CARE/; 13899 results.		
	18. MEDLINE; (continuity adj3 "patient care").ti,ab; 222		
	results.		
	19. MEDLINE; "continuity of care".ti,ab; 3859 results.		
	20. MEDLINE; (continuity adj3 care).ti,ab; 4623 results.		
	21. MEDLINE; 17 OR 18 OR 19 OR 20; 16515 results.		
	22. MEDLINE; 16 AND 21; 130 results.		
	23. MEDLINE; "continuous care".ti,ab; 305 results.		
	24. MEDLINE; (continuous adj3 care).ti,ab; 1018 results.		
	25. MEDLINE; 21 OR 23 OR 24; 17408 results.		
	26. MEDLINE; 16 AND 25; 143 results.		
	28. MEDLINE; CONTINUITY OF PATIENT CARE/; 13899		
	results.		
	29. MEDLINE; 25 OR 28; 17408 results.		
	30. MEDLINE; 16 AND 29; 143 results.		
	31. MEDLINE; (staff adj3 continuity).ti,ab; 80 results.		
	32. MEDLINE; 29 OR 31; 17452 results.		

	33. MEDLINE; 16 AND 32; 143 results.		
Summary	NA	NA	

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