

## York HS&DR Evidence Synthesis Centre

### **How can organisations best support staff to manage patients with cognitive impairment? A rapid scoping review**

#### **Final Report**

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## 1. Introduction

Health and social care organisations need to identify what is required to support staff to deliver safe and quality care for patients with cognitive impairment (CI) and their families.

In order to inform a forthcoming HS&DR primary research call, we undertook a rapid scoping review to identify systematic reviews evaluating how organisations (within and related to the NHS or social care system in England) can provide support for staff to manage patients with cognitive impairment and to provide a map of the evidence. The focus was on how assessment and management of patients with CI can be carried out in the immediate care setting. A key aim for HS&DR was to describe the interventions, care settings, and staff groups involved.

## 2. Methods

### 2.1 Data sources

Searches were conducted for systematic reviews of evaluations of interventions to support staff managing patients with cognitive impairment.

The following databases were searched:

- Cochrane Database of Systematic Reviews and Database of Abstract of Reviews of Effectiveness (DARE) via the Cochrane Library, Wiley.
- DARE via Centre for Reviews and Dissemination website.
- As updating of the DARE database finished in 2014, additional searches were made for more recent reviews using MEDLINE (Ovid), Embase (Ovid), and PsycINFO (Ovid) from 2014 to present using the DARE systematic reviews search filter alongside the topic terms.
- Health Systems Evidence (<https://www.healthsystemevidence.org/>) produced by McMaster University

We also scanned selected websites (Alzheimer's Society <http://www.alzheimers.org.uk/>; AgeUK <http://www.ageuk.org.uk/>; Alzheimer's Research UK <http://www.alzheimersresearchuk.org/>; Dementia UK <https://www.dementiauk.org/>; Royal College of Psychiatrists <http://www.rcpsych.ac.uk/>; Health Education England <https://hee.nhs.uk/>) to try to identify additional systematic reviews.

See Appendix 1 for full details of the search strategy.

### 2.2 Inclusion/exclusion criteria

We defined patients with CI to be adults (18 years and over) with any cognitive impairment (including suspected cognitive impairment) but mainly “common” conditions which may or may not be the reason for admission to care (eg, stroke; head/brain injury; Parkinson's disease; Dementia/Alzheimer's; Multiple Sclerosis; Delirium).

Population/Setting: Staff (or formal caregivers, including volunteers and peer support) working in an immediate care context (eg, people involved in first encounters with patients with CI; those who might benefit from specific training in dealing with patients with CI). Settings included any NHS provider (eg, staff working in acute/mental health hospitals, GP surgery, dentists, community mental health); own home (eg, care worker; district nurse); care home (any staff). Rehabilitation/re-enablement settings were excluded.

Intervention: Included were interventions to support staff to manage patients with cognitive impairment.

- The intervention needed to focus on processes/approaches, culture, systems, management (eg, staff awareness and skills training/education; management care plans; smart technology/telehealth; Advance Care Planning; changes to care environment) and other interventions that potentially support staff.
- We assumed family/carer involvement in the design and management of care would be captured by the literature on interventions to support staff.
- Attitudes: We were interested in interventions that support staff change in attitudes/behaviour; not explorations of staff attitudes to cognitive impairment per se.
- Diagnostic/screening tools for CI: We included effectiveness of screening tools only where these clearly presented findings in the context of improving service delivery (eg, facilitating Emergency Department triage). We excluded interventions focusing on test accuracy/risk prediction.
- Drug treatments and other specific interventions (eg, falls prevention) were excluded unless they demonstrated a wider system element to support staff in managing patients with CI (eg, interventions to support prescribing practice).

Outcomes: We included all outcomes relating to patients, staff, and service delivery. Primary outcomes were those that support staff to enhance the quality and safety of delivery of care and improve outcomes of care.

Study design: Systematic reviews. Reviews of service provider or user views were included only where there was a clear link to an intervention.

Methodological quality: To be included in this rapid scoping review, systematic reviews had to meet the criteria established for inclusion in the Database of Abstracts of Reviews of Effects (DARE) from the Centre for Reviews and Dissemination, see Box 1. Full details of DARE inclusion criteria and critical appraisal process are available.<sup>1</sup>

## Box 1: Criteria for inclusion on DARE

To be included, systematic reviews must meet at least four of the following five criteria (the first three are mandatory):

1. Were inclusion/exclusion criteria reported (at least 3 from population, intervention, comparator, outcomes, study design)?
2. Was the search adequate (at least one named database plus other form of searching, eg checking references)?
3. Were the included studies synthesised (statistical or narrative)?
4. Was the quality of the included studies assessed (ideally a systematic application of quality criteria or checklist)?
5. Are sufficient details about the individual included studies presented (population, intervention, results)?

### 2.3 Selection of Reviews

The selection of reviews was carried out independently by two reviewers. Decisions were recorded as 'include' or 'exclude' according to the inclusion/exclusion criteria set out in 2.2 above. Discrepancies were resolved by discussion or with the involvement of a third reviewer if necessary. Full reports were obtained for the included studies. At the full text stage, an additional screening category 'of potential interest' was introduced for those papers that were relevant but did not meet our inclusion criteria (eg, summaries of systematic reviews; systematic reviews of guidelines; conference abstracts of systematic reviews, protocols for systematic reviews).

### 2.4 Data extraction and critical commentary

A data extraction template was developed and this was piloted on six systematic reviews by two reviewers independently. Pilot data extraction was discussed, following which any necessary adjustments were made to the data extraction and to the template. The remaining systematic reviews were divided equally between two reviewers and data extraction undertaken independently; queries and uncertainties about interpretation of the data were discussed between the two reviewers.

The data extraction table (Appendix 3) includes data from the systematic reviews as reported by the authors. The exception to this is the final column of the table which contains our assessment of how well the review was conducted (ie, review methods; the reliability of authors conclusions; and the appropriateness of the authors research recommendations). This is based on the critical appraisal process undertaken for DARE.<sup>1</sup>

## 2.5 Synthesis

The systematic reviews were initially mapped onto a synthesis template (a working document which is available on request) to illustrate the distribution of evidence across five broad headings as follows:

1. Severity of cognitive impairment
2. Care setting
3. Intervention (targeted at staff; targeted at people with CI; multiple targets)
4. Staff group
5. Outcomes

It was possible to divide the five headings into further categories (eg, sub-categories of staff training interventions were those relating to psychosocial activities, feeding/nutrition, advance care planning, etc). Reviews frequently covered more than one sub-category. One reviewer used data from the data extraction tables to populate the synthesis template. The template was checked with reference to the original papers by a second reviewer. Discrepancies were resolved by discussion between the two reviewers.

This provided the foundation for the development of a summary mapping of the results. The mapping was used to quantify the systematic reviews and illustrate their focus across the five headings and sub-categories (above). Reviews were grouped according to whether they were well-conducted or poorly-conducted. The mapping was undertaken by one reviewer and checked by a second reviewer. Discrepancies were resolved by discussion between the two reviewers.

## 3. Results

Searching identified 386 titles and abstracts (where available). Screening of these produced 73 potentially relevant reviews. On reading the full text of these papers, 32 systematic reviews were included and 31 reviews were excluded. For a list of excluded reviews and reason for exclusion, see Appendix 2. Ten reviews were identified as being of potential interest as part of the wider mapping of evidence (eg, summaries of systematic reviews; systematic reviews of guidelines; conference abstracts of systematic reviews, protocols for systematic reviews). As these reviews did not meet inclusion criteria for this rapid scoping review, they are provided here for signposting purposes only and are not discussed further (Table 1).

### 3.1 Number of included systematic reviews

As shown in Table 2, we identified 32 systematic reviews on how organisations (within and related to the NHS or social care system in England) can provide support for staff to manage patients with cognitive impairment in the immediate care setting.

We classified 25 reviews as well-conducted,<sup>2-26</sup> and six reviews as poorly-conducted.<sup>27-32</sup>

Additionally, for completeness, we included a Cochrane review that did not identify any studies

which met its inclusion criteria.<sup>33</sup> A full list and selected characteristics of included systematic reviews is available in Appendix 3.

**Table 1: Systematic reviews of potential interest that did not meet inclusion criteria.**

<b>Conference abstract (full final publication unavailable)</b>
Gupta K, Parulekar M, Tank L, Sarkar A, Gunadasa S, Locurto J, et al. Collaboration between geriatric medicine and trauma surgery: are there any established protocols? A literature review. <i>Am Geriatr Soc.</i> 2014;62:S229 <sup>34</sup>
Trogrlic Z, Van der Jagt M, Bakker J, Balas MC, Ely EW, Van den Voort PH, et al. Delirium screening, prevention and treatment in the ICU: a systematic review of implementation strategies. <i>Crit Care.</i> 2014;18(Suppl 1):S153. <sup>35</sup>
Vollmar HC, Leve V, Wilm S, Pentzek M. A peer-to-peer intervention to change attitudes of family physicians toward dementia. <i>Alzheimers Dement.</i> 2014;10:P761. <sup>36</sup>
<b>Published protocol</b>
Pelone F, Reeves S, Ioannides A, Emery C, Titmarsh K, Jackson M, et al. Interprofessional education in the care of people diagnosed with dementia: protocol for a systematic review. <i>BMJ Open.</i> 2015;5(4):e007490. <sup>37</sup>
<b>Published Cochrane protocol</b>
Marcano Belisario JS, Tudor KI, Sumalinog ARN, Middleton LT, Car J. Educational interventions for improving the skills of medical practitioners to detect, diagnose, and manage people with cognitive impairment and dementia. <i>Cochrane Database of Systematic Reviews: Reviews.</i> 2013;Issue 6:Art. No.: CD010580. DOI: 10.1002/14651858.CD010580. <sup>38</sup>
<b>PROSPERO record* (Full final publications unavailable)</b>
Anderson K, Bird M, MacPherson S, Blair A. Improving quality of residential dementia care and promoting change by supporting and caring for staff: PROSPERO 2014:CRD42014015224; 2014 [cited 11th December 2015]. Available from: <a href="http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42014015224">http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42014015224</a> . <sup>39</sup>
Hoffman A, Bateman D, Lee H. A systematic review of decision support interventions for patients with dementia and their caregiver 2012 [cited 11th December 2015]. Available from: <a href="http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42012002712">http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42012002712</a> . <sup>40</sup>
<b>Reviews of Guidelines</b>
Ngo J, Holroyd-Leduc JM. Systematic review of recent dementia practice guidelines. <i>Age Ageing.</i> 2015;44(1):25-33. <sup>41</sup>
Alzheimer Society of Canada. Guidelines for care. Person-centred care of people with dementia living in care homes. Ontario: Alzheimer Society of Canada, 2011. <sup>42</sup>
<b>Summary of a review</b>
Classen S. Summary of an evidence based review on interventions for medically at risk older drivers. <i>Occupational Therapy in Health Care.</i> 2014;28(2):223-8. <sup>43</sup>

Table 2: Summary mapping of results

	Well conducted systematic reviews																				Poorly conducted systematic reviews												
	Austin 2015 <sup>2</sup>	Barbosa 2014 <sup>18</sup>	Cooper 2012 Cooper 2012	Eggenberger 2012 <sup>20</sup>	Elliot 2012 Elliot 2012	Fossey 2014 <sup>3</sup>	Francke 2012 <sup>4</sup>	Hailey 2008 <sup>22</sup>	Khanassov 2014 <sup>5</sup>	Khanassov 2014 <sup>6</sup>	Konno 2014 <sup>7</sup>	Kuske 2007 <sup>23</sup>	La Mantia 2014 <sup>8</sup>	Lawrence 2012 <sup>24</sup>	Li 2014 <sup>9</sup>	Lui 2014 <sup>10</sup>	Mukadam 2015 Mukadam 2015	Perry 2011 <sup>12</sup>	Reilly 2015 <sup>13</sup>	Richter 2012 <sup>14</sup>	Robinson 2012 <sup>15</sup>	Seitz 2012 <sup>25</sup>	Thompson 2014 <sup>16</sup>	Vasse 2010 <sup>26</sup>	Zabalegui 2014 <sup>17</sup>	Finnema 2000 <sup>27</sup>	Phillips 2013 Phillips 2013	Smith 2014 <sup>29</sup>	Somme 2012 Somme 2012	Spector 2013 <sup>31</sup>	Zientz 2007 <sup>32</sup>	TOTALS	
<b>INTERVENTIONS</b>																																	
<b>Targeted at staff:</b>																																	
Staff training <sup>a</sup>		✓			✓	✓								✓	✓	✓				✓	✓			✓								✓	10
Education												✓						✓		✓													3
Non-pharmacological			✓								✓												✓			✓						✓	5
Screening for delirium													✓																				1
Group supervision of nurses							✓																										1
In-reach services & medication review																						✓											1
<b>Targeted at people with CI:</b>																																	
Decision aids	✓																																1
Psychosocial														✓						✓													2
Non-pharmacological			✓																				✓			✓							3
Feeding assistance																✓																	1
Environmental modifications																✓																	1
Education & training																✓																	1
Communication																							✓										1
<b>Multiple target (eg staff/patient/carer):</b>																																	
Training & environmental modification																✓																	1
Involvement of volunteers & family														✓																			1



	Well conducted systematic reviews																				Poorly conducted systematic reviews																	
	Austin 2015 <sup>2</sup>	Barbosa 2014 <sup>18</sup>	Cooper 2012 Cooper 2012	Eggenberger 2012 <sup>20</sup>	Elliot 2012 Elliot 2012	Fossey 2014 <sup>3</sup>	Francke 2012 <sup>4</sup>	Hailey 2008 <sup>22</sup>	Khanassov 2014 <sup>5</sup>	Khanassov 2014 <sup>6</sup>	Konno 2014 <sup>7</sup>	Kuske 2007 <sup>23</sup>	La Mantia 2014 <sup>8</sup>	Lawrence 2012 <sup>24</sup>	Li 2014 <sup>9</sup>	Lui 2014 <sup>10</sup>	Mukadam 2015 Mukadam 2015	Perry 2011 <sup>12</sup>	Reilly 2015 <sup>13</sup>	Richter 2012 <sup>14</sup>	Robinson 2012 <sup>15</sup>	Seitz 2012 <sup>25</sup>	Thompson 2014 <sup>16</sup>	Vasse 2010 <sup>26</sup>	Zabalegui 2014 <sup>17</sup>	Finnema 2000 <sup>27</sup>	Phillips 2013 Phillips 2012	Smith 2014 <sup>29</sup>	Somme 2012 Somme 2012	Spector 2013 <sup>31</sup>	Zientz 2007 <sup>32</sup>	TOTALS						
Volunteer mentoring & peer support																																			1			
Telemental health							✓																													1		
Case conferencing & management								✓	✓										✓																	5		
Help with dementia detection																	✓																			1		
Training & education <sup>b</sup>				✓																		✓		✓												3		
<b>CARE SETTING</b>																																						
Nursing care, residential home or long term care		✓	✓	✓	✓	✓					✓	✓			✓	✓					✓	✓	✓	✓	✓			✓	✓					✓	✓	19		
Own home			✓							✓																	✓										3	
Outpatients	✓																																				1	
Community/primary care			✓				✓	✓	✓								✓	✓	✓								✓							✓			9	
Hospital					✓		✓							✓														✓									4	
Day care																												✓									1	
<b>STAFF/GROUPS</b>																																						
Clinicians	✓						✓		✓				✓				✓				✓							✓									7	
Nursing/care home staff/managers		✓	✓		✓	✓					✓	✓		✓	✓	✓					✓	✓	✓		✓			✓	✓						✓		16	
Other direct/formal caregivers		✓			✓																							✓									3	
Social workers								✓													✓																2	
All health care workers				✓			✓	✓																													3	
Multi-discipline																			✓					✓													2	
Case managers										✓																									✓			2
Health care administrators							✓																															1

	Well conducted systematic reviews																				Poorly conducted systematic reviews																
	Austin 2015 <sup>2</sup>	Barbosa 2014 <sup>18</sup>	Cooper 2012 Cooper 2012	Eggenberger 2012 <sup>20</sup>	Elliot 2012 Elliot 2012	Fossey 2014 <sup>3</sup>	Francke 2012 <sup>4</sup>	Hailey 2008 <sup>22</sup>	Khanassov 2014 <sup>5</sup>	Khanassov 2014 <sup>6</sup>	Konno 2014 <sup>7</sup>	Kuske 2007 <sup>23</sup>	La Mantia 2014 <sup>8</sup>	Lawrence 2012 <sup>24</sup>	Li 2014 <sup>9</sup>	Lui 2014 <sup>10</sup>	Mukadam 2015 Mukadam 2015	Perry 2011 <sup>12</sup>	Reilly 2015 <sup>13</sup>	Richter 2012 <sup>14</sup>	Robinson 2012 <sup>15</sup>	Seitz 2012 <sup>25</sup>	Thompson 2014 <sup>16</sup>	Vasse 2010 <sup>26</sup>	Zabalegui 2014 <sup>17</sup>	Finnema 2000 <sup>27</sup>	Phillips 2013 Phillips 2012	Smith 2014 <sup>29</sup>	Somme 2012 Somme 2012	Spector 2013 <sup>31</sup>	Zientz 2007 <sup>32</sup>	TOTALS					
Staff (unspecified)				✓															✓															3			
Volunteers						✓																													2		
<b>OUTCOMES</b>																																					
Patient preference for health state/treatment	✓																																		1		
Staff stress, burnout or workload pressures		✓			✓		✓			✓		✓		✓																				✓	7		
Quality of life (patient and/or carer)			✓	✓						✓		✓							✓							✓									6		
Intervention implementation								✓														✓													3		
Health care worker knowledge/behaviour				✓	✓							✓						✓									✓							✓	✓	7	
Organisational					✓		✓		✓												✓													✓	5		
Costs										✓									✓																	2	
Clinical						✓	✓		✓				✓			✓	✓	✓	✓				✓		✓										10		
Patient behaviour												✓	✓		✓	✓												✓					✓	✓	8		
Admission to hospital or residential care																				✓															1		
Changes in medication																					✓			✓											2		
Communication				✓																					✓										2		
Volunteer health																																	✓		1		
Various standardised outcomes																																✓			1		
<b>SEVERITY OF COGNITIVE IMPAIRMENT</b>																																					
Dementia and/or CI (unspecified)	✓	✓		✓	✓	✓	✓	✓				✓		✓	✓	✓		✓	✓	✓				✓		✓						✓	✓	✓	20		

	Well conducted systematic reviews																	Poorly conducted systematic reviews																
	Austin 2015 <sup>2</sup>	Barbosa 2014 <sup>18</sup>	Cooper 2012 Cooper 2012	Eggenberger 2013 <sup>20</sup>	Elliot 2012 Elliot 2012	Fossey 2014 <sup>3</sup>	Francke 2012 <sup>4</sup>	Hailey 2008 <sup>22</sup>	Khanassov 2014 <sup>5</sup>	Khanassov 2014 <sup>6</sup>	Konno 2014 <sup>7</sup>	Kuske 2007 <sup>23</sup>	La Mantia 2014 <sup>8</sup>	Lawrence 2012 <sup>24</sup>	Li 2014 <sup>9</sup>	Lui 2014 <sup>10</sup>	Mukadam 2015 Mukadam 2015	Perry 2011 <sup>12</sup>	Reilly 2015 <sup>13</sup>	Richter 2012 <sup>14</sup>	Robinson 2012 <sup>15</sup>	Seitz 2012 <sup>25</sup>	Thompson 2014 <sup>16</sup>	Vasse 2010 <sup>26</sup>	Zabalegui 2014 <sup>17</sup>	Finnema 2000 <sup>27</sup>	Phillips 2013 Phillips 2012	Smith 2014 <sup>29</sup>	Somme 2012 Somme 2012	Spector 2013 <sup>31</sup>	Zientz 2007 <sup>32</sup>	TOTALS		
Advanced dementia	✓																					✓					✓						3	
Mild-severe dementia			✓							✓												✓		✓			✓							5
Moderate to severe dementia											✓																							1
Alzheimer's disease																														✓		✓		2
Delirium													✓																					1
Suspected CI/Dementia																	✓																	1

<sup>a</sup> Staff training interventions included: advanced care planning (Robinson 2012<sup>15</sup>), communications (Vasse 2012<sup>26</sup>, Zientz 2007<sup>32</sup>), feeding and nutrition (Liu 2014<sup>10</sup>), psychosocial (Lawrence 2012<sup>24</sup>, Richter 2012<sup>14</sup>) and mixed interventions (Barbosa 2015,<sup>18</sup> Elliot 2012,<sup>21</sup> Li 2014<sup>9</sup>)

<sup>b</sup> Training and education interventions included communication (Eggenberger 2013<sup>20</sup>), advanced care planning (Robinson 2012<sup>15</sup>) and/or inappropriate prescribing (Thompson Coon 2014<sup>16</sup>)

Note: Martin was a Cochrane Review but did not identify any primary studies and so was not included in this table<sup>33</sup>; Franke 2012<sup>4</sup> and Smith 2014<sup>29</sup> did not report care setting; Zabalegui<sup>17</sup> did not report staff population (intervention was aimed at patients and their caregivers in the home)

## 3.2 Characteristics of the included systematic reviews

### 3.2.1 Overview

Primary studies contained within the systematic reviews were located worldwide, but predominantly from the United States, Canada, Australia, Europe and Scandinavia. Eighteen reviews included one or more primary studies undertaken in the United Kingdom.

The following is an overview of review characteristics by interventions, care settings, staff groups, outcomes and severity of CI. Further details and references are provided later in the report.

#### Interventions

Various interventions were studied across the reviews. Further analysis by targeting focus (ie, separating interventions targeted at staff; targeted at people with CI; multiple targets) showed that training and education represented a large proportion of interventions targeted at staff. Training and education also featured substantially in interventions aimed at multiple audiences and to a lesser extent in those targeting people with CI. Non-pharmacological interventions were of interest in many reviews targeting staff and in those aimed at people with CI. Case conferencing and management was the primary interest in many reviews targeted at multiple audiences. Other reviews (variably crossing the targeting groups) looked at interventions capturing volunteer and/or family/peer support; environmental modifications; psychosocial interventions; screening and detection of illness; decision aids, in reach services and medication reviews; tele-mental health; staff supervision; feeding assistance; and communication strategies. Some reviews looked at more than one intervention and considered more than one target group. The 'empty' review focused on telecare and smart health technology. Further detail on interventions was often available in the full papers.

#### Care settings

Most reviews focused on nursing care, residential home or long term care settings, followed by services delivered in community/primary care, hospital, and own home. Outpatients and day care settings were the focus in some single reviews. Some reviews covered more than one care setting.

#### Staff groups

The most frequently reported staff groups were nursing and care home staff, followed by clinicians. Other reported staff groups were all health care workers, multidisciplinary staff and health care administrators; case managers and social workers; other direct/formal caregivers and unspecified staff; and volunteers. Some reviews covered multiple staff groups.

#### Intervention outcomes and severity of CI

Outcomes varied immensely and many reviews looked at multiple indicators. Outcomes relating specifically to patients covered clinical, quality of life (patients and/or carers); behavioural; and preferences for health state or treatment. Staff outcomes included stress and workload pressure; knowledge and behaviour in relation to dealing with people with CI. Outcomes linked to service delivery were broadly classified as organisational, costs, and intervention implementation. Specific

service delivery outcomes were reported as admissions to hospital or residential care. Volunteer health was studied in one review. Dementia and/or CI were overwhelmingly the most frequently studied medical conditions, though most reviews failed to specify illness severity. Some reviews presented a clinical spectrum (ie, people with mild to severe dementia; moderate to severe dementia). Advanced dementia was reported as the clinical condition in three reviews and Alzheimer's disease in two reviews. Other single reviews looked at people with suspected CI/dementia and people presenting with delirium.

### 3.2.2 Selected characteristics of well conducted reviews (n=25)

We classified 25 systematic reviews as well-conducted.<sup>2-26</sup>

Fifteen of these systematic reviews included one or more primary studies undertaken in the United Kingdom.<sup>4-6, 9, 11-14, 16, 17, 19, 20, 23-25</sup>

Fourteen reviews looked at training and education interventions targeted directly at staff, or as part of a multi-target approach.<sup>3, 9, 10, 12, 14-16, 18, 20, 21, 23-26</sup> All except one<sup>12</sup> were located in the long term care setting (residential or nursing care) and involved mainly nursing staff, direct and formal caregivers and clinicians. Perry<sup>12</sup> focused on providers working in the primary care setting. Three reviews looked at training connected to the delivery of person-centred care;<sup>3, 9, 18</sup> three reviews reported more generally on training, supervision, or multi-faceted education in relation to managing people with CI;<sup>12, 23, 24</sup> one of these reviews<sup>24</sup> involved support from volunteers outside the care home and family members. Two reviews focused on education to reduce antipsychotic medication.<sup>14, 16</sup> Other reviews focused on training to build capacity in dementia care;<sup>21</sup> the development of feeding and nutrition skills;<sup>10</sup> training in relation to advance care planning and palliative care leadership;<sup>15</sup> the development of communication strategies to nurture staff sensitivity to non-verbal communication;<sup>26</sup> training to develop relationships between professional and patient<sup>20</sup> and to manage neuropsychiatric symptoms.<sup>25</sup>

Four reviews focused on various non-pharmacological interventions involving training, internet-based care management software, communication strategies, group-based psychosocial activities, and rehabilitative input.<sup>7, 17, 19, 25</sup> Reviews were situated in long term care<sup>7, 25</sup> or long term care plus the community and own home setting<sup>19</sup> and involved nursing and care staff. One review was located solely in the persons own home<sup>17</sup> and described those delivering care more broadly as caregivers.

Case conferencing and/or management were covered in three well-conducted reviews.<sup>5, 6, 13</sup> These were generally situated in the community or primary health care setting, and one review focused additionally in the person's own home.<sup>6</sup>

Other well-conducted reviews involved screening for delirium by staff working in the Emergency Department<sup>8</sup> and help for clinicians with detection of dementia in the primary care and community setting;<sup>11</sup> decision aids for clinicians in the outpatient setting;<sup>2</sup> tele-mental health for clinicians working in rural hospitals or communities;<sup>22</sup> staff supervision for nurses;<sup>4</sup> and interventions on feeding assistance in long term care settings.<sup>10</sup>

## Potential primary research arising from well-conducted reviews

The authors of the well conducted systematic reviews reported various primary research recommendations in relation to future support for staff to manage patients with cognitive impairment in the immediate care setting. These are summarised below.

### *Training and education interventions*

Calls have been made for more robust evaluation of capacity building dementia training initiatives for health care workers, together with identifying the mechanisms for success.<sup>21</sup> In service training and education in nursing homes needs more well-defined and methodologically improved studies to provide conclusive evidence of effect.<sup>23</sup> Training to deal with mealtime difficulties needs to be targeted at different stages of dementia and levels of feeding difficulty in various settings.<sup>10</sup> More robust research using consistent and validated measures of patient quality of life and wellbeing is needed in communication skills training for patient/professional interaction.<sup>20</sup> More research is needed to evaluate the effect of communication interventions on neuropsychiatric symptoms<sup>26</sup>

### *Non-pharmacological interventions*

Further exploration of person-centred care (PCC) and the various features of this model have been recommended,<sup>18</sup> together with more RCTs examining the efficacy of PCC evidence-based training programmes.<sup>3</sup> Rigorous research on PCC is also recommended using subjective and objective measures, especially for biopsychosocial outcomes such as sleep, stress and physical wellbeing of recipients.<sup>9</sup> More research is needed on other non-pharmacological initiatives, such as those designed to reduce resistance to care.<sup>7</sup> More robust experimental study designs with larger samples are needed.<sup>17</sup>

### *Case management*

More studies on the implementation of case management are needed in primary health care.<sup>5</sup> Further exploration of case management components and more consistent use of outcome measures are also called for.<sup>13</sup>

### *Interventions to reduce inappropriate prescribing of drugs*

More attention to the careful development of complex interventions (including theory-based modelling and pilot testing of feasibility and acceptability using well-designed cluster RCTs) is needed for psychosocial interventions to reduce anti-psychotic medication use.<sup>14</sup> Interventions to reduce inappropriate prescribing of antipsychotics in care homes should be examined in future mixed methods research to understand more clearly the implementation success and long term intervention impact.<sup>16</sup>

### *Screening and illness detection*

Future research should focus on the validation of delirium screening tools in the Emergency Department setting, together with an evaluation of appropriate timing and processes involved.<sup>8</sup>

GP education to identify cases of suspected dementia shows promise, although good quality RCTs are needed to test the effectiveness and cost-effectiveness of interventions in primary care.<sup>11</sup>

#### *Other interventions to help with the management of people with CI*

Further mixed methods research is needed to examine psychosocial interventions for care home staff and residents, specifically to understand the process of intervention implementation.<sup>24</sup> More methodologically sound research is needed on group supervision programmes for nurses dealing with patients with dementia.<sup>4</sup> There appears to be promise for tele-mental health interventions but good quality studies in routine care and internet-based applications are needed.<sup>22</sup> The need for further studies on smart technology, telecare, and environmental control systems in the own home or community setting is implied by the systematic review that did not identify any studies.<sup>33</sup> More research is needed on the continued development of shared decision aids for serious diagnoses and conditions.<sup>2</sup> Further research is called for on practical and sustainable interventions for managing neuropsychiatric symptoms in long term care<sup>25</sup> and on the potential for advance care planning to become an evidence-based part of routine care for people with dementia.<sup>15</sup> Care management software for management of CI in the community seems to offer promise.<sup>19</sup> The same review recommended future research on other strategies (such as family-carer coping strategies for those living at home and group cognitive stimulation therapy in care homes) and their long term impact to improve quality of life for people with dementia in care homes or at home without a family carer.<sup>19</sup>

#### **3.2.3 Selected characteristics of poorly-conducted reviews (n=6)**

We classified six systematic reviews as poorly-conducted.<sup>27-32</sup> Three of these included one or more primary studies undertaken in the United Kingdom.<sup>27, 29, 31</sup>

Two reviews covered case conferencing and management interventions; one involved case managers drawn from social workers, nurses/nurse practitioners and other professions in the community and primary care setting;<sup>30</sup> the other included approaches to palliative care involving clinicians and nursing staff in the long term care setting.<sup>28</sup> Other poorly-conducted reviews focused on various non-pharmacological interventions involving nursing/care home managers and other direct/formal caregivers across multiple care settings;<sup>27, 31</sup> staff training interventions involving nursing/care home staff and managers in the long term care setting<sup>32</sup> and volunteer/peer support (no care setting reported).<sup>29</sup>

#### Methodological limitations of poorly-conducted reviews

In general, these reviews were considered to be methodologically weak due to their failure to report any assessment and/or results on the quality of the included studies. In addition, there were concerns about the transparency of the review process as set out in standards laid down for the DARE critical appraisal process.<sup>1</sup> Consequently, in these reviews it was not possible to conclude with certainty whether the authors' conclusions were reliable and/or whether research recommendations were appropriate.<sup>27-32</sup> Therefore, we have not reported here on any research recommendations arising, but they are listed in Appendix 3.

## 4. Summary

We undertook a rapid scoping review to identify systematic reviews evaluating how organisations (within and related to the NHS or social care system in England) can provide support for staff to manage patients with cognitive impairment in the immediate care setting and to provide a map of the evidence. We focused on describing the interventions, care settings, and staff groups.

Thirty-two systematic reviews met our inclusion criteria, following standards set for DARE. The reviews were assessed on whether they were well-conducted or poorly-conducted and examined accordingly to provide a summary of characteristics.

Of the 32 included reviews, 25 were well-conducted and six were poorly-conducted; one further 'empty' review was included. Eighteen reviews (15 classified as well-conducted) included one or more primary studies conducted in the United Kingdom. Data from these reviews may be particularly relevant to the delivery of services for people with CI in the NHS and/or the wider health and social care system in England.

A large proportion of included reviews examined staff training and education interventions delivered in nursing, residential, and care home settings in connection with people with dementia and/or CI. Unsurprisingly, the most frequently-reported staff groups included in these reviews were those linked directly to long term care settings. Other reviews focused on non-pharmacological interventions, case conferencing and management, and various others from shared decision aids to communication strategies. Outcomes varied widely and related to patients, staff and service delivery. Many reviews covered more than one intervention, staff group, care setting, and outcome.

Primary research recommendations were identified by the authors of the well conducted systematic reviews in relation to the following intervention types:

- Training and education interventions
- Non-pharmacological interventions
- Case management
- Interventions to reduce inappropriate prescribing of drugs
- Screening and illness detection
- Other interventions to help with the management of people with CI, such as psychosocial interventions, group supervision for nurses, telecare and other IT solutions, shared decision aids and advance care planning.



## 5. References

1. Chambers D, Wade R, Wilson P. *Training manual for selecting reviews and writing abstracts for the Database of Abstracts of Reviews of Effects (DARE)*. York: Centre for Reviews and Dissemination, University of York; 2012.
2. Austin CA, Mohottige D, Sudore RL, Smith AK, Hanson LC. Tools to promote shared decision making in serious illness: a systematic review. *JAMA Intern Med* 2015;**175**:1213-21. <http://dx.doi.org/http://dx.doi.org/10.1001/jamainternmed.2015.1679>
3. Fossey J, Masson S, Stafford J, Lawrence V, Corbett A, Ballard C. The disconnect between evidence and practice: a systematic review of person-centred interventions and training manuals for care home staff working with people with dementia. *Int J Geriatr Psychiatry* 2014;**29**:797-807. <http://dx.doi.org/http://dx.doi.org/10.1002/gps.4072>
4. Francke AL, de Graaff FM. The effects of group supervision of nurses: a systematic literature review. *Int J Nurs Stud* 2012;**49**:1165-79. <http://dx.doi.org/10.1016/j.ijnurstu.2011.11.012>
5. Khanassov V, Vedel I, Pluye P. Case management for dementia in primary health care: a systematic mixed studies review based on the diffusion of innovation model. *Clin Interv Aging* 2014;**9**:915-28. <http://dx.doi.org/http://dx.doi.org/10.2147/CIA.S64723>
6. Khanassov V, Vedel I, Pluye P. Barriers to implementation of case management for patients with dementia: a systematic mixed studies review. *Ann Fam Med* 2014;**12**:456-65. <http://dx.doi.org/10.1370/afm.1677>
7. Konno R, Kang HS, Makimoto K. A best-evidence review of intervention studies for minimizing resistance-to-care behaviours for older adults with dementia in nursing homes. *J Adv Nurs* 2014;**70**:2167-80. <http://dx.doi.org/10.1111/jan.12432>
8. LaMantia MA, Messina FC, Hobgood CD, Miller DK. Screening for delirium in the emergency department: a systematic review. *Ann Emerg Med* 2014;**63**:551-60. <http://dx.doi.org/http://dx.doi.org/10.1016/j.annemergmed.2013.11.010>
9. Li J, Porock D. Resident outcomes of person-centered care in long-term care: a narrative review of interventional research. *Int J Nurs Stud* 2014;**51**:1395-415. <http://dx.doi.org/10.1016/j.ijnurstu.2014.04.003>
10. Liu W, Cheon J, Thomas SA. Interventions on mealtime difficulties in older adults with dementia: a systematic review. *Int J Nurs Stud* 2014;**51**:14-27. <http://dx.doi.org/10.1016/j.ijnurstu.2012.12.021>
11. Mukadam N, Cooper C, Kherani N, Livingston G. A systematic review of interventions to detect dementia or cognitive impairment. *Int J Geriatr Psychiatry* 2015;**30**:32-45. <http://dx.doi.org/http://dx.doi.org/10.1002/gps.4184>
12. Perry M, Draskovic I, Lucassen P, Vernooij-Dassen M, van Achterberg T, Rikkert MO. Effects of educational interventions on primary dementia care: a systematic review. *Int J Geriatr Psychiatry* 2011;**26**:1-11. <http://dx.doi.org/10.1002/gps.2479>
13. Reilly S, Miranda-Castillo C, Malouf R, Hoe J, Toot S, Challis D, *et al*. Case management approaches to home support for people with dementia. *Cochrane Database Syst Rev* 2015;**1**:CD008345. <http://dx.doi.org/10.1002/14651858.CD008345.pub2>
14. Richter T, Meyer G, Möhler R, Köpke S. Psychosocial interventions for reducing antipsychotic medication in care home residents. *Cochrane Database Syst Rev* 2012;**12**:CD008634. <http://dx.doi.org/10.1002/14651858.CD008634.pub2>
15. Robinson L, Dickinson C, Rousseau N, Beyer F, Clark A, Hughes J, *et al*. A systematic review of the effectiveness of advance care planning interventions for people with cognitive impairment and dementia. *Age Ageing* 2012;**41**:263-9. <http://dx.doi.org/10.1093/ageing/afr148>
16. Thompson Coon J, Abbott R, Rogers M, Whear R, Pearson S, Lang I, *et al*. Interventions to reduce inappropriate prescribing of antipsychotic medications in people with dementia resident in care homes: a systematic review. *J Am Med Dir Assoc* 2014;**15**:706-18.
17. Zabalegui A, Hamers JP, Karlsson S, Leino-Kilpi H, Renom-Guiteras A, Saks K, *et al*. Best practices interventions to improve quality of care of people with dementia living at home. *Patient Educ Couns* 2014;**95**:175-84. <http://dx.doi.org/10.1016/j.pec.2014.01.009>

18. Barbosa A, Sousa L, Nolan M, Figueiredo D. Effects of person-centered care approaches to dementia care on staff: a systematic review. *Am J Alzheimers Dis Other Demen* 2015;**30**:713-22.
19. Cooper C, Mukadam N, Katona C, Lyketsos CG, Ames D, Rabins P, *et al.* Systematic review of the effectiveness of non-pharmacological interventions to improve quality of life of people with dementia. *Int Psychogeriatr* 2012;**24**:856-70. <http://dx.doi.org/10.1017/s1041610211002614>
20. Eggenberger E, Heimerl K, Bennett MI. Communication skills training in dementia care: a systematic review of effectiveness, training content, and didactic methods in different care settings. *Int Psychogeriatr* 2013;**25**:345-58.
21. Elliott KE, Scott JL, Stirling C, Martin AJ, Robinson A. Building capacity and resilience in the dementia care workforce: a systematic review of interventions targeting worker and organizational outcomes. *Int Psychogeriatr* 2012;**24**:882-94. <http://dx.doi.org/10.1017/s1041610211002651>
22. Hailey D, Roine R, Ohinmaa A. The effectiveness of telemental health applications: a review. *Can J Psychiatry* 2008;**53**:769-78.
23. Kuske B, Hanns S, Luck T, Angermeyer MC, Behrens J, Riedel-Heller SG. Nursing home staff training in dementia care: a systematic review of evaluated programs. *Int Psychogeriatr* 2007;**19**:818-41.
24. Lawrence V, Fossey J, Ballard C, Moniz-Cook E, Murray J. Improving quality of life for people with dementia in care homes: making psychosocial interventions work. *Br J Psychiatry* 2012;**201**:344-51.
25. Seitz DP, Brisbin S, Herrmann N, Rapoport MJ, Wilson K, Gill SS, *et al.* Efficacy and feasibility of nonpharmacological interventions for neuropsychiatric symptoms of dementia in long term care: a systematic review. *J Am Med Dir Assoc* 2012;**13**:503-6.
26. Vasse E, Vernooij-Dassen M, Spijker A, Rikkert MO, Koopmans R. A systematic review of communication strategies for people with dementia in residential and nursing homes. *Int Psychogeriatr* 2010;**22**:189-200. <http://dx.doi.org/10.1017/s1041610209990615>
27. Finnema E, Droes RM, Ribbe M, Tilburg W. The effects of emotion-oriented approaches in the care for persons suffering from dementia: a review of the literature. *Int J Geriatr Psychiatry* 2000;**15**:141-61.
28. Phillips JL, West PA, Davidson PM, Agar M. Does case conferencing for people with advanced dementia living in nursing homes improve care outcomes: evidence from an integrative review? *Int J Nurs Stud* 2013;**50**:1122-35. <http://dx.doi.org/10.1016/j.ijnurstu.2012.11.001>
29. Smith R, Greenwood N. The impact of volunteer mentoring schemes on carers of people with dementia and volunteer mentors: a systematic review. *Am J Alzheimers Dis Other Demen* 2014;**29**:8-17. <http://dx.doi.org/http://dx.doi.org/10.1177/1533317513505135>
30. Somme D, Trouve H, Drame M, Gagnon D, Couturier Y, Saint-Jean O. Analysis of case management programs for patients with dementia: a systematic review. *Alzheimers Dement* 2012;**8**:426-36. <http://dx.doi.org/10.1016/j.jalz.2011.06.004>
31. Spector A, Orrell M, Goyder J. A systematic review of staff training interventions to reduce the behavioural and psychological symptoms of dementia. *Ageing Res Rev* 2013;**12**:354-64.
32. Zientz J, Rackley A, Chapman SB, Hopper T, Mahendra N, Kim ES, *et al.* Evidence-based practice recommendations for dementia: educating caregivers on Alzheimer's disease and training communication strategies. *J Med Speech Lang Pathol* 2007;**15**:liii-lixiv.
33. Martin S, Kelly G, Kernohan WG, McCreight B, Nugent C. Smart home technologies for health and social care support. *Cochrane Database Syst Rev* 2008;**4**:CD006412. <http://dx.doi.org/10.1002/14651858.CD006412.pub2>
34. Gupta K, Parulekar M, Tank L, Sarkar A, Gunadasa S, Locurto J, *et al.* Collaboration between geriatric medicine and trauma surgery: are there any established protocols? A literature review. *Am Geriatr Soc* 2014;**62**:S229. <http://dx.doi.org/http://dx.doi.org/10.1111/jgs.12870>
35. Trogrlic Z, Van der Jagt M, Bakker J, Balas MC, Ely EW, Van den Voort PH, *et al.* Delirium screening, prevention and treatment in the ICU: a systematic review of implementation strategies. *Crit Care* 2014;**18**(Suppl 1):S153. <http://dx.doi.org/http://dx.doi.org/10.1186/cc13613>
36. Vollmar HC, Leve V, Wilm S, Pentzek M. A peer-to-peer intervention to change attitudes of family physicians toward dementia. *Alzheimers Dement* 2014;**10**:P761.
37. Pelone F, Reeves S, Ioannides A, Emery C, Titmarsh K, Jackson M, *et al.* Interprofessional education in the care of people diagnosed with dementia: protocol for a systematic review. *BMJ Open* 2015;**5**:e007490. <http://dx.doi.org/10.1136/bmjopen-2014-007490>

38. Marcano Belisario JS, Tudor KI, Sumalinog ARN, Middleton LT, Car J. Educational interventions for improving the skills of medical practitioners to detect, diagnose, and manage people with cognitive impairment and dementia. *Cochrane Database Syst Rev* 2013;**6**:CD010580.  
<http://dx.doi.org/10.1002/14651858.CD010580>
39. Anderson K, Bird M, MacPherson S, Blair A. *Improving quality of residential dementia care and promoting change by supporting and caring for staff*. PROSPERO 2014:CRD42014015224; 2014. URL: [http://www.crd.york.ac.uk/PROSPERO/display\\_record.asp?ID=CRD42014015224](http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42014015224) (Accessed 11th December, 2015).
40. Hoffman A, Bateman D, Lee H. *A systematic review of decision support interventions for patients with dementia and their caregiver*. PROSPERO 2012:CRD42012002712; 2012. URL: [http://www.crd.york.ac.uk/PROSPERO/display\\_record.asp?ID=CRD42012002712](http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42012002712) (Accessed 11th December, 2015).
41. Ngo J, Holroyd-Leduc JM. Systematic review of recent dementia practice guidelines. *Age Ageing* 2015;**44**:25-33. <http://dx.doi.org/http://dx.doi.org/10.1093/ageing/afu143>
42. Alzheimer Society of Canada. *Guidelines for care. Person-centred care of people with dementia living in care homes*. Ontario: Alzheimer Society of Canada; 2011.
43. Classen S. Summary of an evidence based review on interventions for medically at risk older drivers. *Occup Ther Health Care* 2014;**28**:223-8.  
<http://dx.doi.org/http://dx.doi.org/10.3109/07380577.2014.896490>

## Appendix 1: Literature search strategies

### Cochrane Database of Systematic Reviews (CDSR)

via Wiley <http://onlinelibrary.wiley.com/>

Issue 10 of 12, October 2015

Searched on: 23<sup>rd</sup> October 2015

Records retrieved: 7

The strategy below was used to search both CDSR and DARE.

- #1 MeSH descriptor: [Cognition Disorders] explode all trees
- #2 MeSH descriptor: [Mild Cognitive Impairment] explode all trees
- #3 cognitive\* near/2 impair\*:ti,ab,kw (Word variations have been searched)
- #4 memory near/2 impair\*:ti,ab,kw (Word variations have been searched)
- #5 MeSH descriptor: [Dementia] explode all trees
- #6 MeSH descriptor: [Confusion] explode all trees
- #7 MeSH descriptor: [Delirium] explode all trees
- #8 #1 or #2 or #3 or #4 or #5 or #6 or #7
- #9 MeSH descriptor: [Physician's Practice Patterns] explode all trees
- #10 MeSH descriptor: [Nurse's Practice Patterns] explode all trees
- #11 MeSH descriptor: [Attitude of Health Personnel] explode all trees
- #12 MeSH descriptor: [Health Knowledge, Attitudes, Practice] explode all trees
- #13 MeSH descriptor: [Awareness] explode all trees
- #14 MeSH descriptor: [Empathy] explode all trees
- #15 MeSH descriptor: [Education, Medical] explode all trees
- #16 MeSH descriptor: [Education, Continuing] explode all trees
- #17 MeSH descriptor: [Education, Nursing] explode all trees
- #18 MeSH descriptor: [Inservice Training] explode all trees
- #19 MeSH descriptor: [Needs Assessment] explode all trees
- #20 MeSH descriptor: [Geriatric Assessment] explode all trees
- #21 MeSH descriptor: [Clinical Competence] explode all trees
- #22 #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21
- #23 training near/5 (nurs\* or doctor\* or physician\* or clinician\* or manager\* or administrator\* or therapist\* or profession\* or staff or worker\* or workforce):ti,ab,kw (Word variations have been searched)
- #24 skills near/5 (nurs\* or doctor\* or physician\* or clinician\* or manager\* or administrator\* or therapist\* or profession\* or staff or worker\* or workforce):ti,ab,kw (Word variations have been searched)
- #25 support\* near/3 (nurs\* or doctor\* or physician\* or clinician\* or manager\* or administrator\* or therapist\* or profession\* or staff or worker\* or workforce):ti,ab,kw (Word variations have been searched)

#26 attitude\* near/3 (nurs\* or doctor\* or physician\* or clinician\* or manager\* or administrator\* or therapist\* or profession\* or staff or worker\* or workforce):ti,ab,kw (Word variations have been searched)

#27 perception\* near/3 (nurs\* or doctor\* or physician\* or clinician\* or manager\* or administrator\* or therapist\* or profession\* or staff or worker\* or workforce):ti,ab,kw (Word variations have been searched)

#28 perception\* near/3 (nurs\* or doctor\* or physician\* or clinician\* or manager\* or administrator\* or therapist\* or profession\* or staff or worker\* or workforce):ti,ab,kw (Word variations have been searched)

#29 (manual\* or guideline\*) near/3 (nurs\* or doctor\* or physician\* or clinician\* or manager\* or administrator\* or therapist\* or profession\* or staff or worker\* or workforce):ti,ab,kw (Word variations have been searched)

#30 empathy near/3 (nurs\* or doctor\* or physician\* or clinician\* or manager\* or administrator\* or therapist\* or profession\* or staff or worker\* or workforce):ti,ab,kw (Word variations have been searched)

#31 #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30

#32 #8 and #31

**Key:**

MeSH descriptor = indexing term (MeSH heading)

\* = truncation

:ti,ab,kw = terms in either title or abstract or keyword fields

near/2 = terms within two words of each other (any order)

**Database of Abstracts of Reviews of Effects (DARE)**

via Wiley <http://onlinelibrary.wiley.com/>

Issue 2 of 4, April 2015

Searched on: 23<sup>rd</sup> October 2015

Records retrieved: 28

See above under CDSR for the search strategy used to search the Wiley version of DARE.

**Database of Abstracts of Reviews of Effects (DARE)**

via CRD databases <http://www.crd.york.ac.uk/CRDWeb/>

Inception – 31<sup>st</sup> March 2015

Searched on: 23<sup>rd</sup> October 2015

Records retrieved: 48

Line	Search	Hits
1	MeSH DESCRIPTOR Cognition Disorders EXPLODE ALL TREES IN DARE	230
2	MeSH DESCRIPTOR Mild Cognitive Impairment EXPLODE ALL TREES IN DARE	30
3	MeSH DESCRIPTOR Dementia EXPLODE ALL TREES IN DARE	412

4	MeSH DESCRIPTOR confusion EXPLODE ALL TREES IN DARE	55
5	MeSH DESCRIPTOR delirium EXPLODE ALL TREES IN DARE	51
6	(cognitive* NEAR impair*) OR (memory NEAR impair*) IN DARE	289
7	#1 OR #2 OR #3 OR #4 OR #5 OR #6	777
8	MeSH DESCRIPTOR Physician's Practice Patterns EXPLODE ALL TREES	251
9	MeSH DESCRIPTOR Nurse's Practice Patterns EXPLODE ALL TREES	12
10	MeSH DESCRIPTOR Attitude of Health Personnel EXPLODE ALL TREES	144
11	MeSH DESCRIPTOR Health Knowledge, Attitudes, Practice EXPLODE ALL TREES	350
12	MeSH DESCRIPTOR Awareness EXPLODE ALL TREES	29
13	MeSH DESCRIPTOR Empathy EXPLODE ALL TREES	12
14	MeSH DESCRIPTOR Education, Medical EXPLODE ALL TREES	167
15	MeSH DESCRIPTOR Education, Continuing EXPLODE ALL TREES	113
16	MeSH DESCRIPTOR Education, Nursing EXPLODE ALL TREES	33
17	MeSH DESCRIPTOR Inservice Training EXPLODE ALL TREES	53
18	MeSH DESCRIPTOR Needs Assessment EXPLODE ALL TREES	74
19	MeSH DESCRIPTOR Geriatric Assessment EXPLODE ALL TREES	139
20	MeSH DESCRIPTOR Clinical Competence EXPLODE ALL TREES	150
21	#8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20	1262
22	(training NEAR (nurs* or doctor* or physician* or clinician* or manager* or administrator* or therapist* or profession* or staff or worker* or workforce)) IN DARE	152
23	(skills NEAR (nurs* or doctor* or physician* or clinician* or manager* or administrator* or therapist* or profession* or staff or worker* or workforce)) IN DARE	42
24	(support* NEAR (nurs* or doctor* or physician* or clinician* or manager* or administrator* or therapist* or profession* or staff or worker* or workforce)) IN DARE	170

25	(attitude* NEAR (nurs* or doctor* or physician* or clinician* or manager* or administrator* or therapist* or profession* or staff or worker* or workforce)) IN DARE	56
26	(perception* NEAR (nurs* or doctor* or physician* or clinician* or manager* or administrator* or therapist* or profession* or staff or worker* or workforce)) IN DARE	15
27	(empathy NEAR (nurs* or doctor* or physician* or clinician* or manager* or administrator* or therapist* or profession* or staff or worker* or workforce)) IN DARE	4
28	((manual* or guideline*) NEAR (nurs* or doctor* or physician* or clinician* or manager* or administrator* or therapist* or profession* or staff or worker* or workforce)) IN DARE	63
29	#21 OR #22 OR #23 OR #24 OR #25 OR #26 OR #27 OR #28	1604
30	#7 AND #29	48

**Key:**

MeSH DESCRIPTOR = indexing term (MeSH heading)

\* = truncation

NEAR = terms within six words of each other

**EMBASE**

via Ovid <http://ovidsp.ovid.com/>

1974 to 2015 October 22

Searched on: 23<sup>rd</sup> October 2015

Records retrieved: 246

The following strategy includes the DARE search strategy for identifying systematic reviews in EMBASE.<sup>1</sup>

- 1 exp cognitive defect/ (111018)
- 2 mild cognitive impairment/ (13210)
- 3 (cognitive\$ adj2 impair\$).ti,ab. (63695)
- 4 (memory adj2 impair\$).ti,ab. (17988)
- 5 exp dementia/ (256904)
- 6 exp confusion/ (23616)
- 7 delirium/ (18409)
- 8 or/1-7 (392306)
- 9 clinical practice/ (192553)
- 10 exp nursing practice/ (4101)
- 11 exp health personnel attitude/ (144389)
- 12 attitude to health/ (88640)

- 13 awareness/ (38398)
- 14 empathy/ (18065)
- 15 exp medical education/ (269584)
- 16 continuing education/ (28290)
- 17 exp nursing education/ (78763)
- 18 in service training/ (14488)
- 19 staff training/ (9936)
- 20 needs assessment/ (18220)
- 21 geriatric assessment/ (10758)
- 22 clinical competence/ (47369)
- 23 or/9-22 (821914)
- 24 (training adj5 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (45219)
- 25 (skills adj5 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (14837)
- 26 (support\$ adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (24301)
- 27 (attitude\$ adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (14348)
- 28 (perception\$ adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (11989)
- 29 ((manual\$ or guideline\$) adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (10676)
- 30 (empathy adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (756)
- 31 or/23-30 (885395)
- 32 8 and 31 (15300)
- 33 systematic\$ review\$.ti,ab. (93043)
- 34 systematic\$ literature review\$.ti,ab. (6680)
- 35 "systematic review"/ (97081)
- 36 "systematic review (topic)"/ (12896)
- 37 meta analysis/ (100686)
- 38 "meta analysis (topic)"/ (22998)
- 39 meta-analytic\$.ti,ab. (5029)
- 40 meta-analysis.ti,ab. (90646)
- 41 metanalysis.ti,ab. (346)
- 42 metaanalysis.ti,ab. (4315)
- 43 meta analysis.ti,ab. (90646)
- 44 meta-synthesis.ti,ab. (320)
- 45 metasynthesis.ti,ab. (169)
- 46 meta synthesis.ti,ab. (320)
- 47 meta-regression.ti,ab. (4011)



48 metaregression.ti,ab. (558)  
49 meta regression.ti,ab. (4011)  
50 (synthes\$ adj3 literature).ti,ab. (2022)  
51 (synthes\$ adj3 evidence).ti,ab. (5560)  
52 (synthes\$ adj2 qualitative).ti,ab. (907)  
53 integrative review.ti,ab. (1067)  
54 data synthesis.ti,ab. (9957)  
55 (research synthesis or narrative synthesis).ti,ab. (1067)  
56 (systematic study or systematic studies).ti,ab. (9519)  
57 (systematic comparison\$ or systematic overview\$).ti,ab. (2422)  
58 (systematic adj2 search\$).ti,ab. (14382)  
59 systematic\$ literature research\$.ti,ab. (166)  
60 (review adj3 scientific literature).ti,ab. (1164)  
61 (literature review adj2 side effect\$).ti,ab. (11)  
62 (literature review adj2 adverse effect\$).ti,ab. (2)  
63 (literature review adj2 adverse event\$).ti,ab. (9)  
64 (evidence-based adj2 review).ti,ab. (2575)  
65 comprehensive review.ti,ab. (9752)  
66 critical review.ti,ab. (13628)  
67 critical analysis.ti,ab. (6743)  
68 quantitative review.ti,ab. (590)  
69 structured review.ti,ab. (701)  
70 realist review.ti,ab. (88)  
71 realist synthesis.ti,ab. (56)  
72 (pooled adj2 analysis).ti,ab. (10493)  
73 (pooled data adj6 (studies or trials)).ti,ab. (1684)  
74 (medline and (inclusion adj3 criteria)).ti,ab. (13357)  
75 (search adj (strateg\$ or term\$)).ti,ab. (22862)  
76 or/33-75 (308120)  
77 medline.ab. (81708)  
78 pubmed.ab. (58307)  
79 cochrane.ab. (48495)  
80 embase.ab. (48162)  
81 cinahl.ab. (14323)  
82 psyc?lit.ab. (961)  
83 psyc?info.ab. (11411)  
84 lilacs.ab. (4072)  
85 (literature adj3 search\$).ab. (40381)  
86 (database\$ adj3 search\$).ab. (37463)  
87 (bibliographic adj3 search\$).ab. (1740)  
88 (electronic adj3 search\$).ab. (13032)  
89 (electronic adj3 database\$).ab. (18147)

90 (computerized adj3 search\$).ab. (3316)  
 91 (internet adj3 search\$).ab. (2690)  
 92 included studies.ab. (11767)  
 93 (inclusion adj3 studies).ab. (9810)  
 94 inclusion criteria.ab. (71820)  
 95 selection criteria.ab. (22941)  
 96 predefined criteria.ab. (1654)  
 97 predetermined criteria.ab. (969)  
 98 (assess\$ adj3 (quality or validity)).ab. (62040)  
 99 (select\$ adj3 (study or studies)).ab. (55707)  
 100 (data adj3 extract\$).ab. (45232)  
 101 extracted data.ab. (9709)  
 102 (data adj2 abstracted).ab. (5580)  
 103 (data adj3 abstraction).ab. (1400)  
 104 published intervention\$.ab. (145)  
 105 ((study or studies) adj2 evaluat\$).ab. (166137)  
 106 (intervention\$ adj2 evaluat\$).ab. (9400)  
 107 confidence interval\$.ab. (297899)  
 108 heterogeneity.ab. (128967)  
 109 pooled.ab. (70696)  
 110 pooling.ab. (10843)  
 111 odds ratio\$.ab. (206880)  
 112 (Jadad or coding).ab. (150418)  
 113 evidence-based.ti.ab. (88077)  
 114 or/77-113 (1232249)  
 115 review.pt. (2109981)  
 116 114 and 115 (153649)  
 117 review.ti. (351018)  
 118 114 and 117 (77435)  
 119 (review\$ adj10 (papers or trials or trial data or studies or evidence or intervention\$ or  
 evaluation\$ or outcome\$ or findings)).ti.ab. (345167)  
 120 (retriev\$ adj10 (papers or trials or studies or evidence or intervention\$ or evaluation\$ or  
 outcome\$ or findings)).ti.ab. (17159)  
 121 76 or 116 or 118 or 119 or 120 (639885)  
 122 letter.pt. (913682)  
 123 editorial.pt. (494136)  
 124 122 or 123 (1407818)  
 125 121 not 124 (628154)  
 126 (animal/ or nonhuman/) not exp human/ (4912868)  
 127 125 not 126 (603155)  
 128 32 and 127 (1280)  
 129 limit 128 to yr="2014 -Current" (246)

**Key:**

/ = indexing term (Emtree heading)

exp = exploded indexing term (Emtree heading)

\$ = truncation

adj2 = terms within two words of each other (any order)

? = optional wildcard – stands for zero or one character

.ti,ab. = terms in either title or abstract fields

.pt. = publication type

**Health Systems Evidence**

<http://www.healthsystemsevidence.org/>

Searched on: 27<sup>th</sup> October 2015

Records retrieved: 169

Due to limitations with the search interface 2 simple searches were carried out using the terms “cognitive impairment” (23 records retrieved) and “dementia” (146 records retrieved).

**MEDLINE(R) In-Process & Other Non-Indexed Citations and MEDLINE(R)**

via Ovid <http://ovidsp.ovid.com/>

1946 to Present

Searched on: 23<sup>rd</sup> October 2015

Records retrieved: 58

The following strategy includes the DARE search strategy for identifying systematic reviews in MEDLINE.<sup>1</sup>

- 1 Cognition Disorders/ (55972)
- 2 Mild Cognitive Impairment/ (3525)
- 3 (cognitive\$ adj2 impair\$).ti,ab. (43080)
- 4 (memory adj2 impair\$).ti,ab. (13728)
- 5 exp Dementia/ (131712)
- 6 exp confusion/ or delirium/ (10104)
- 7 1 or 2 or 3 or 4 or 5 or 6 (212075)
- 8 Physician's Practice Patterns/ (45680)
- 9 Nurse's Practice Patterns/ (1266)
- 10 Attitude of health personnel/ (98368)
- 11 Health Knowledge, Attitudes, Practice/ (80835)
- 12 Awareness/ (15666)
- 13 Empathy/ (13839)
- 14 exp Education, Medical/ (138538)
- 15 exp Education, Continuing/ (56186)
- 16 exp Education, Nursing/ (73672)
- 17 exp Inservice Training/ (25325)
- 18 Needs Assessment/ (24125)
- 19 Geriatric Assessment/ (20275)

20 Clinical Competence/ (71000)  
21 or/8-20 (518112)  
22 (training adj5 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (34195)  
23 (skills adj5 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (12070)  
24 (support\$ adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (19185)  
25 (attitude\$ adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (11931)  
26 (perception\$ adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (10219)  
27 ((manual\$ or guideline\$) adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (7980)  
28 (empathy adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (647)  
29 or/21-28 (568799)  
30 7 and 29 (9546)  
31 systematic\$ review\$.ti,ab. (74836)  
32 meta-analysis as topic/ (14980)  
33 meta-analytic\$.ti,ab. (4328)  
34 meta-analysis.ti,ab,pt. (89554)  
35 metanalysis.ti,ab. (139)  
36 metaanalysis.ti,ab. (1205)  
37 meta analysis.ti,ab. (70417)  
38 meta-synthesis.ti,ab. (317)  
39 metasynthesis.ti,ab. (166)  
40 meta synthesis.ti,ab. (317)  
41 meta-regression.ti,ab. (3222)  
42 metaregression.ti,ab. (345)  
43 meta regression.ti,ab. (3222)  
44 (synthes\$ adj3 literature).ti,ab. (1680)  
45 (synthes\$ adj3 evidence).ti,ab. (4951)  
46 integrative review.ti,ab. (1153)  
47 data synthesis.ti,ab. (8091)  
48 (research synthesis or narrative synthesis).ti,ab. (1023)  
49 (systematic study or systematic studies).ti,ab. (8492)  
50 (systematic comparison\$ or systematic overview\$).ti,ab. (2197)  
51 evidence based review.ti,ab. (1476)  
52 comprehensive review.ti,ab. (8199)  
53 critical review.ti,ab. (11928)  
54 quantitative review.ti,ab. (519)

55 structured review.ti,ab. (542)  
56 realist review.ti,ab. (94)  
57 realist synthesis.ti,ab. (72)  
58 or/31-57 (187791)  
59 review.pt. (2063977)  
60 medline.ab. (68548)  
61 pubmed.ab. (44926)  
62 cochrane.ab. (39370)  
63 embase.ab. (39606)  
64 cinahl.ab. (12844)  
65 psyc?lit.ab. (895)  
66 psyc?info.ab. (10272)  
67 (literature adj3 search\$).ab. (31966)  
68 (database\$ adj3 search\$).ab. (30236)  
69 (bibliographic adj3 search\$).ab. (1461)  
70 (electronic adj3 search\$).ab. (11159)  
71 (electronic adj3 database\$).ab. (13727)  
72 (computeri?ed adj3 search\$).ab. (2854)  
73 (internet adj3 search\$).ab. (2049)  
74 included studies.ab. (9445)  
75 (inclusion adj3 studies).ab. (8157)  
76 inclusion criteria.ab. (44365)  
77 selection criteria.ab. (22519)  
78 predefined criteria.ab. (1280)  
79 predetermined criteria.ab. (805)  
80 (assess\$ adj3 (quality or validity)).ab. (47990)  
81 (select\$ adj3 (study or studies)).ab. (43761)  
82 (data adj3 extract\$).ab. (34980)  
83 extracted data.ab. (8242)  
84 (data adj2 abstracted).ab. (3712)  
85 (data adj3 abstraction).ab. (1012)  
86 published intervention\$.ab. (120)  
87 ((study or studies) adj2 evaluat\$).ab. (121980)  
88 (intervention\$ adj2 evaluat\$).ab. (7087)  
89 confidence interval\$.ab. (263501)  
90 heterogeneity.ab. (107183)  
91 pooled.ab. (53596)  
92 pooling.ab. (8653)  
93 odds ratio\$.ab. (175372)  
94 (Jadad or coding).ab. (134077)  
95 or/60-94 (932555)  
96 59 and 95 (141352)

- 97 review.ti. (297201)
- 98 97 and 95 (61668)
- 99 (review\$ adj4 (papers or trials or studies or evidence or intervention\$ or evaluation\$)).ti,ab. (119641)
- 100 58 or 96 or 98 or 99 (341057)
- 101 letter.pt. (953119)
- 102 editorial.pt. (397340)
- 103 comment.pt. (670358)
- 104 101 or 102 or 103 (1511438)
- 105 100 not 104 (332037)
- 106 exp animals/ not humans/ (4132479)
- 107 105 not 106 (321862)
- 108 30 and 107 (355)
- 109 limit 108 to yr="2014 -Current" (58)

**Key:**

- / = indexing term (MeSH heading)
- exp = exploded indexing term (MeSH heading)
- \$ = truncation
- adj2 = terms within two words of each other (any order)
- ? = optional wildcard – stands for zero or one character
- .ti,ab. = terms in either title or abstract fields
- .pt. = publication type

**PsycINFO**

via Ovid <http://ovidsp.ovid.com/>

1806 to October Week 3 2015

Searched on: 23<sup>rd</sup> October 2015

Records retrieved: 35

The following strategy includes the DARE search strategy for identifying systematic reviews in PsycINFO.<sup>1</sup>

- 1 cognitive impairment/ (26780)
- 2 (cognitive\$ adj2 impair\$).ti,ab. (27888)
- 3 (memory adj2 impair\$).ti,ab. (10235)
- 4 exp dementia/ (58715)
- 5 delirium/ (2592)
- 6 mental confusion/ (805)
- 7 1 or 2 or 3 or 4 or 5 or 6 (96952)
- 8 clinical practice/ (14440)
- 9 exp health personnel attitudes/ or counselor attitudes/ or psychologist attitudes/ (21390)
- 10 health knowledge/ (6143)
- 11 awareness/ (10823)
- 12 empathy/ (10044)

- 13 exp personnel training/ (14644)
- 14 education/ or counselor education/ or nursing education/ or paraprofessional education/ or social work education/ (40901)
- 15 exp inservice training/ (2922)
- 16 needs assessment/ (3573)
- 17 geriatric assessment/ (811)
- 18 professional competence/ (5209)
- 19 or/8-18 (122758)
- 20 (training adj5 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (24532)
- 21 (skills adj5 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (7939)
- 22 (support\$ adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (13455)
- 23 (attitude\$ adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (8364)
- 24 (perception\$ adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (8418)
- 25 ((manual\$ or guideline\$) adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (3094)
- 26 (empathy adj3 (nurs\$ or doctor\$ or physician\$ or clinician\$ or manager\$ or administrator\$ or therapist\$ or profession\$ or staff or worker\$ or workforce)).ti,ab. (787)
- 27 or/19-26 (169872)
- 28 7 and 27 (2557)
- 29 metaanaly\*.ti,sh. (66)
- 30 meta-analy\*.ti,sh. (13009)
- 31 cochrane\*.ti. (154)
- 32 (review or overview).ti. (132202)
- 33 meta analysis/ (3745)
- 34 meta analysis.md. (13808)
- 35 (review adj2 literature).ti. (3444)
- 36 "literature review".md. (114793)
- 37 "systematic review".md. (12733)
- 38 (synthes\* adj3 (literature\* or research or studies or data)).ti. (645)
- 39 pooled analys\*.ti,ab. (512)
- 40 ((data adj2 pool\*) and studies).ti,ab. (733)
- 41 ((hand or manual\* or database\* or computer\* or electronic\*) adj2 search\*).ti,ab. (6486)
- 42 ((electronic\* or bibliographic\*) adj2 (database\* or data base\*)).ti,ab. (2979)
- 43 or/29-42 (230532)
- 44 (comment reply or editorial or letter or "review book" or "review media" or "review software other").dt. (276796)
- 45 (electronic collection or encyclopedia).pt. (43903)

46 (rat or rats or mouse or mice or hamster or hamsters or animal or animals or dog or dogs or cat or cats or bovine or sheep).ti,ab,sh. (279422)  
47 44 or 45 or 46 (549872)  
48 43 not 47 (140946)  
49 28 and 48 (185)  
50 limit 49 to yr="2014 -Current" (35)

**Key:**

/ = subject heading

exp = exploded subject heading

\$ = truncation

.ti,ab. = terms in either title or abstract fields

adj2 = terms within two words of each other (any order)

.md. = methodology

.sh. = subject heading

.dt. = document type

.pt. = publication type

**Targeted website searches**

Searched on: 29<sup>th</sup> October 2015

Records retrieved: 0

The following selected websites were searched to identify additional systematic reviews. No relevant reviews were identified.

**AgeUK** (<http://www.ageuk.org.uk/>)

Browsed the Knowledge Hub, research reports, tools and guides, research briefings and presentations and the ESRC Hub.

**Alzheimer's Research UK** (<http://www.alzheimersresearchuk.org/>)

Browsed the research section.

**Alzheimer's Society** (<http://www.alzheimers.org.uk/>)

Browsed the research sections, training and resources section, current research topic "Towards better care for people with dementia", newly funded research and research on care section.

**Dementia UK** (<https://www.dementiauk.org/>)

Browsed the documents and reports section.

**Health Education England** (<https://hee.nhs.uk/>)

Browsed the publications section. Searched for dementia or "cognitive impairment" across whole website.

**Royal College of Psychiatrists** (<http://www.rcpsych.ac.uk/>)

Browsed the publications section.

**References**

1. Centre for Reviews and Dissemination. *Search strategies for DARE*. 2015 [Accessed 8<sup>th</sup> December 2015] Available from: <http://www.crd.york.ac.uk/crdweb/searchstrategies.asp>



## Appendix 2: List of excluded studies and reasons for exclusion

Note – some papers may have been excluded for more than one reason

### **Excluded as did not relate to patients with cognitive impairment**

Abraha I, Trotta F, Rimland JM, Cruz-Jentoft A, Lozano-Montoya I, Soiza RL, et al. Efficacy of non-pharmacological interventions to prevent and treat delirium in older patients: A systematic overview. The SENATOR project ONTOP series. *PLoS ONE* 2015;10.

Alonso-Renedo FJ, Gonzalez-Ercilla L, Iraizoz-Apezteguia I. [Advanced organ failure in the elderly. Some issues from a geriatrics, palliative medicine and bioethics perspectives]. *Revista Espanola de Geriatria y Gerontologia* 2014;49:228-34.

Ayalon L, Gum AM, Feliciano L, Arian PA. Effectiveness of nonpharmacological interventions for the management of neuropsychiatric symptoms in patients with dementia: a systematic review (Structured abstract). *Arch Intern Med* 2006;166:2182-88

Dobscha SK, Clark ME, Morasco BJ, Freeman M, Campbell R, Helfand M. Systematic review of the literature on pain in patients with polytrauma including traumatic brain injury. *Pain Med* 2009;10:1200-17.

Finkelstine J, Knight A, Marinopoulos S, Gibbons MC, Berger Z, Aboumatar H, et al. *Enabling patient-centered care through health information technology*. Rockville, MD: Agency for Healthcare Research and Quality; 2012.

### **Excluded as interventions not aimed at staff**

Egan M, Berube D, Racine G, Leonard C, Rochon E. Methods to Enhance Verbal Communication between Individuals with Alzheimer's Disease and Their Formal and Informal Caregivers: A Systematic Review. *Int J Alzheimers Dis* 2010;2010.

Kuske S, Graf R, Hartig M, Quasdorf T, Vollmar H, Bartholomeyczik S. Dementia considered? Safety-relevant communication between health care settings: a systematic review. *J Public Health (Oxf)* 2014;22:383-93.

Roberts J, Browne G, Gafni A, Varieur M, Loney P, de Ruijter M. Specialized continuing care models for persons with dementia: a systematic review of the research literature. *Canadian Journal on Aging* 2000;19:106-26

Zimmerman S, Anderson WL, Brode S, Jonas D, Lux L, Beeber AS, et al. Systematic review: Effective characteristics of nursing homes and other residential long-term care settings for people with dementia. *J Am Geriatr Soc* 2013;61:1399-409.

### **Excluded as did not meet the criteria for a systematic review**

Abraha I, Trotta F, Rimland JM, Cruz-Jentoft A, Lozano-Montoya I, Soiza RL, et al. Efficacy of non-pharmacological interventions to prevent and treat delirium in older patients: A systematic overview. The SENATOR project ONTOP series. *PLoS ONE* 2015;10.

Anderiesen H, Scherder EJ, Goossens RH, Sonneveld MH. A systematic review – physical activity in dementia: the influence of the nursing home environment. *Appl Ergon* 2014;45:1678-86.

Athilingam P, Visovsky C, Elliott AF, Rogal PJ. Cognitive screening in persons with chronic diseases in primary care: Challenges and recommendations for practice. *American Journal of Alzheimer's Disease and other Dementias* 2015;30:547-58

Bush SH, Bruera E, Lawlor PG, Kanji S, Davis DH, Agar M, et al. Clinical practice guidelines for delirium management: Potential application in palliative care. *J Pain Symptom Manage* 2014;48:249-58.

Fields LM, Calvert JD. Informed consent procedures with cognitively impaired patients: A review of ethics and best practices. *Psychiatry Clin Neurosci* 2015;69:462-71.

Gridley K, Brooks J, Glendinning C. Good practice in social care for disabled adults and older people with severe and complex needs: evidence from a scoping review. *Health Soc Care Community* 2014;22:234-48.

Hermann DM, Muck S, Nehen HG. Supporting dementia patients in hospital environments: Health-related risks, needs and dedicated structures for patient care. *Eur J Neurol* 2015;22:239-45.

Hildreth KL, Church S. Evaluation and management of the elderly patient presenting with cognitive complaints. *Med Clin North Am* 2015;99:311-35.

Lange M, Rigal O, Clarisse B, Giffard B, Sevin E, Barillet M, et al. Cognitive dysfunctions in elderly cancer patients: A new challenge for oncologists. *Cancer Treat Rev* 2014;40:810-17.

Looi J, Byrne GJ, MacFarlane S, McKay R, O'Connor DW. Systemic approach to behavioural and psychological symptoms of dementia in residential aged care facilities. *Aust N Z J Psychiatry* 2014;48:112-15.

McCabe MP, Davison TE, George K. Effectiveness of staff training programs for behavioral problems among older people with dementia. *Aging and Mental Health* 2007;11:505-19.

Newton P, Reeves R, West E, Schofield P. Patient-centred assessment and management of pain for older adults with dementia in care home and acute settings. *Reviews in Clinical Gerontology* 2014;24:139-44.

O'Hanlon S, O'Regan N, Maclullich AM, Cullen W, Dunne C, Exton C, et al. Improving delirium care through early intervention: from bench to bedside to boardroom. *J Neurol Neurosurg Psychiatry* 2014;85:207-13.

Primetica B, Menne HL, Bollin S, Teri L, Molea M. Evidence-based program replication: translational activities, experiences, and challenges. *J Appl Gerontol* 2015;34:652-70.

Raymond M, Warner A, Davies N, Baishnab E, Manthorpe J, Iliffe S. Evaluating educational initiatives to improve palliative care for people with dementia: a narrative review. *Dementia (London, England)* 2014;13:366-81.

Schnitker LM, Martin-Khan M, Burkett E, Beattie ERA, Jones RN, Gray LC. Process quality indicators targeting cognitive impairment to support quality of care for older people with cognitive impairment in emergency departments. *Acad Emerg Med* 2015;22:285-98.

Thiem U, Heppner HJ, Singler K. Instruments to identify elderly patients in the emergency department in need of geriatric care. *Z Gerontol Geriatr* 2015;48:4-9

Wolfs CAG, Dirksen CD, Severens JL, Verhey FRJ. The added value of a multidisciplinary approach in diagnosing dementia: a review. *Int J Geriatr Psychiatry* 2006;21:223-32.

Rampatige R, Dunt D, Doyle C, Day S, van Dort P. The effect of continuing professional education on health care outcomes: lessons for dementia care. *Int Psychogeriatr* 2009;21(Suppl 1):S34-43. The Alzheimer Society. *Guidelines for care. Person-centred care of people with dementia living in care homes*; 2011.

**Conference abstract - full publication located and included in the review**

Eggenberger E, Heimerl K, Bennett MI. Communication skills training for health care professionals and family carers in dementia care: A systematic review. *Palliative Medicine* 2010;24(Supplement 5):S200-S01.

**PROSPERO record - full publication included in the review**

Fossey J, Ballard C, Masson S, Lawrence V, Stafford J, Corbett A. *A systematic review of person centred intervention and training manuals for care home staff working with people with dementia*. PROSPERO 2013:CRD42013004091; 2013. [Available from: [http://www.crd.york.ac.uk/PROSPERO/display\\_record.asp?ID=CRD42013004091](http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42013004091)]

**Cochrane review which was withdrawn by the Cochran Collaboration**

Britton A, Hogan-Doran J SN. Multidisciplinary Team Interventions for the management of delirium in hospitalized patients (Protocol). *CDSR* 2006:CD005995. DOI: 10.1002/14651858.CD005995

### Appendix 3: Data extraction table – selected characteristics of included systematic reviews

First author, year, reference	Population of interest <sup>a</sup>	Care setting(s), number of studies and countries	Types and severities of cognitive impairment (CI)	Intervention(s)	Outcomes measured	Summary of review authors conclusions and research recommendations	Review conduct <sup>b</sup>
Austin 2015 <sup>2</sup>	Clinicians.	Outpatients. 5 relevant RCTs/38 included quantitative studies. Countries not reported.	Serious illness, including dementia/advanced dementia.	Verbal/audio-visual/written decision aids to promote shared decision making. Interventions aimed primarily at patients or family caregiver for use without immediate support from clinician.  Further detail available in the full report.	Patient preference for future health states; concordance between patients and surrogates; awareness of/preference for treatment choices and feeding options; decisional conflict.	Decision tools can improve patient knowledge and awareness of treatment choices. Evidence-based tools are available to enable shared decision making with seriously ill patients. The included trials were moderate to high quality. Future research needed to develop new decision aids for other serious diagnoses and key decisions.	Well-conducted review. Conclusions are likely to be reliable for intermediate outcomes (changes in patient knowledge/attitudes). Research recommendations appear to be appropriate.
Barbosa 2014 <sup>18</sup>	Nursing staff; direct care workers; formal care givers.	Residential care. 7 quantitative studies (including 3 RCTs): Netherlands (3) USA (2) Canada (1) Australia (1)	Dementia.	Various training approaches aimed at staff to help deliver person-centred care (PCC) (Behavioural-emotion- stimulation- and cognition-oriented approaches; dementia care mapping).  Further detail available in the full report.	Staff outcomes: stress; burnout; job satisfaction.	There is a tendency towards the effectiveness of PCC on staff. Variation and methodological weaknesses in the included studies means that firm conclusions cannot be drawn. Future research should further explore the features of PCC.	Well-conducted review. Conclusions likely to be reliable. (DARE abstract available). Research recommendations appear to be appropriate.
Cooper 2012 <sup>19</sup>	Care managers and care and nursing home staff.	Care/nursing homes; own home; community. 20 RCTs. Countries reported: UK (3) Australia (2) Russia (1) USA (2) Hong Kong (1) Peru (1) Netherlands (1)	Dementia (various: mild to severe)	Non-pharmacological interventions: For staff: internet-based care management software; staff training and help to develop individualised resident care plans (eg, person-centred care and dementia care mapping). For residents: Family-carer coping-strategies with or	Quality of life and wellbeing (resident and/or carer).	Evidence suggests care management software can help management of patients in the community. There was no support for staff training interventions and help with care planning. Family-carer coping strategies with or without a resident activity programme are effective for people with dementia living at	Well-conducted review. Conclusions are likely to be reliable. Research recommendations appear to be appropriate.

First author, year, reference	Population of interest <sup>a</sup>	Care setting(s), number of studies and countries	Types and severities of cognitive impairment (CI)	Intervention(s)	Outcomes measured	Summary of review authors conclusions and research recommendations	Review conduct <sup>b</sup>
				without concurrent activity programmes for residents; cognitive stimulation and rehabilitation discussion groups; aromatherapy; reminiscence.  Further detail available in the full report.		home. Group cognitive stimulation therapy can be effective for those in care homes. Long term effects are uncertain. The majority of included studies were high quality.  Future research needed to explore the long-term impact of (and strategies to improve) quality of life in people with dementia in care homes or at home without a family carer.	
Elliott 2012 <sup>21</sup>	All health care workers (including nursing assistants; personal carers with practice certificates in formal care giving; registered nurses).	Residential care; specific dementia units and hospital wards. 6 RCTs: USA (5) Netherlands (1)	Dementia.	Capacity-building dementia training initiatives for health care workers. Multi-component interventions included case management; leadership; behavioural management; communication; network meetings; conflict resolution; counselling; dementia education; pain management; computer resource.  Interventions were delivered with staff support (eg clinical supervision/mentoring) or without staff support.  Further detail available in the full report.	Health care worker: knowledge communication, burnout/stress; mood; satisfaction. Organisational: staff retention; service delivery/other. Consumer: Patient with dementia/carer.	Variable effects were found for all intervention outcomes. No capacity-building intervention for training in dementia care has been rigorously tested in an RCT. Overall the quality of the included studies was poor.  Future research should focus on robust evaluation of intervention effectiveness, together with identifying mechanisms and mediators of effectiveness.	Well conducted review. Conclusions are likely to be reliable. Research recommendations appear to be appropriate.

First author, year, reference	Population of interest <sup>a</sup>	Care setting(s), number of studies and countries	Types and severities of cognitive impairment (CI)	Intervention(s)	Outcomes measured	Summary of review authors conclusions and research recommendations	Review conduct <sup>b</sup>
Eggenberger 2013 <sup>20</sup>	Professional and family caregivers	Nursing homes and home care settings 12 studies (7 RCTs): UK (1), USA (8), Germany (3).	People with dementia aged over 65	Communication skills training including institutional settings focussing on communication between professional and patient (8 studies, 5 RCTs) and in a home setting for family caregivers.(4 studies, 2 RCTs).  Further details available in full paper.	Quality of life and wellbeing of people with dementia. Caregiver communication skills, competency and knowledge.	Significantly improved quality of life and wellbeing of people with dementia and increased positive interactions in various care settings. Significant impact on professional and family caregivers' skills, competencies and knowledge. Methods of the included studies were variable. Further RCTs are needed using consistent validated measures.	Well conducted review. Conclusions are likely to be reliable.  Research recommendations appear to be appropriate
Finnema, 2000 <sup>27</sup>	Delivered by professional staff in Nursing home (14 studies), day care (2 studies), Psychiatric wards (2 studies), specialist care units (3 studies), own home (2 studies)	23 studies (4 RCTs).  Residential homes, nursing homes, day centres, psychiatric wards, community hospitals, community day hospitals, geriatric hospitals and the community  23 studies (4 RCTs): UK (9), USA (10), Canada (1), Netherlands (3).	People with mild to severe dementia.	'Emotion-oriented' approaches used in 24-hour care distinguished by the American Psychiatric Association (1997) i.e. validation (5 studies), sensory stimulation/integration (7 studies), simulated presence therapy (4 studies) and reminiscence (4 studies).  Further details available in full paper.	A wide variety of patient related outcomes including cognition, mood, behaviour, social contact, function. Some nursing assistant outcomes eg own behaviour on patient (2 studies).	Despite the limited cogency of the identified studies, results from emotion-orientated approaches are promising. Many studies had methodological limitations. Future research should focus on examining which emotion-orientated approaches effect an increase in the well-being of which patients	Poorly conducted review. A formal quality assessment was not reported. (DARE abstract available) Conclusions are of uncertain reliability. However the research recommendation appear appropriate.
Fossey. 2014 <sup>3</sup>	Staff in care and nursing homes, nursing assistants and volunteer groups	Care and Nursing homes 8 RCTs Countries not reported	Dementia	Person-centred care or training manuals on managing patients for care staff/volunteer groups.  Further details available in full paper.	Rates of neuropsychiatric symptoms or antipsychotic treatment	Despite the availability of a small number of evidence-based training manuals, there is a widespread use of person-centred intervention and training manuals that are not evidence-based. The quality of the included studies was generally good. This review highlights the need	Well conducted review. Conclusions are likely to be reliable. Review recommendations appear to be appropriate.

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						for further RCTs to examine the efficacy of training programmes and the imperative to define clear guidance to ensure training is evidence-based.	
Francke, 2012 <sup>4</sup>	Group supervision programmes directed at nurses;	Setting not reported. 17 studies (only 5 relate to dementia patients): Sweden (12), Australia (1), UK (1), Netherlands (1), Finland (2).	Patients with dementia	Group supervision programmes which included needs and characteristics of psycho-geriatric or psychiatric patients, as well as nurses feelings and emotional responses towards these patients; reflecting on nurses norms and values; nursing roles; organisational and management.  Further details available in full paper.	Various nurse related outcomes including stress, burnout, satisfaction, health, ;	Although there are indications that group supervision of nurses is effective, evidence of the effects is still scarce. Most of the studies had methodological limitations.[Note only 5 studies included dementia patients of which 4 were high quality). Further methodologically sound research is needed.	Well conducted review. Conclusions are likely to be reliable. Research recommendations appear to be appropriate.
Hailey 2008 <sup>22</sup>	Clinicians and administrators	Rural hospital or communities and other settings (not reported) 4 relevant studies/65 quantitative studies (including 42 RCTs). Countries not reported.	Dementia and cognitive disability. (Wider review covers multiple clinical conditions).	Telemental health (TMH) applications. Unclear whether targeted at staff or recipients. Telephone-based screen for cognitive disability; videoconferencing for diagnostic services and telemedicine.  No further detail available in full report.	Clinical/administrative, and the extent to which TMH was deemed suitable for clinical use.	Evidence of benefit from TMH applications is encouraging, but limited (relates to 65 included studies covering various clinical conditions). Studies on dementia indicate that TMH is potentially or definitely suitable for clinical use. 3 of the 4 relevant studies were fair to good quality. Further good quality studies of TMH in routine care and internet-based applications are needed.	Well-conducted review, but absence of detailed study characteristics precludes meaningful analysis in relation to managing cognitive impairment. Research recommendations appear to be appropriate.
Khanassov, 2014 <sup>5</sup>	Health care professionals	Primary health care (PHC) included case	People of any age with cognitive impairment	Case management including case finding and screening,	Conditions limiting and facilitating successful	The review supports a better understanding of factors that	Well conducted review.

First author, year, reference	Population of interest <sup>a</sup>	Care setting(s), number of studies and countries	Types and severities of cognitive impairment (CI)	Intervention(s)	Outcomes measured	Summary of review authors conclusions and research recommendations	Review conduct <sup>b</sup>
	in community settings provided case management support services to patients and carers.	managers, specialist professionals including social workers. 23 studies (11 quantitative (9RCTs)/ 12 qualitative): USA (10), UK (5), India (1), Netherlands (4), Belgium (1), China (1), Australia (1).	or any type of dementia	assessment, care planning, implementation and management, monitoring and review.  Further details available in full paper.	case management implementation aimed at patients and carers.	can explain inconsistent evidence with regard to the outcomes of dementia CM in PHC. The quality of the included evidence was moderate. Further research is needed to test implementation strategies in a primary health care clinical environment.	Conclusions are likely to be reliable. Research recommendations appear to be appropriate.
Khanassov, 2014 <sup>6</sup>	Programmes delivered in the home or primary care by case managers; clinicians. GPs, geriatric psychiatrists, and other health professionals; Alzheimer's Society Aimed at patients, caregivers and staff	43 studies: 31 quantitative (21 RCTs), 12 qualitative. Patient's own home or GP surgery 8 UK; 9 in rest of Europe; 19 USA; 1 Canada; 3 China; 2 Australasia; 1 India	Mild to moderately severe cognitive impairment and dementia	Case management in community-based primary health care (CBPHC) including assessment, coordination, monitoring, and delivery of services.  Further details available in full paper.	Clinical outcomes (behavioural symptoms, cognition, depression, functional status, health, quality of life, mortality), service use (nursing home, hospital and emergency department admission, length of hospital stay), caregiver outcomes (depression, burden, strain, quality of life, health), satisfaction, and cost-effectiveness.	Clinicians and managers who implement case management in CBPHC should take into account high-intensity case management and effective communication between case managers and other CBPHC professionals and services. Study quality was variable but analysis of quality did not affect overall results.	Well-conducted review. Conclusions are likely to be reliable. No specific recommendations for future research were reported..
Konno, 2014 <sup>7</sup>	Caregivers in residential care homes; Patients;	Residential care 19 studies (3 RCTs): USA (11), Canada (4), Taiwan (2), Belgium (1), Sweden (1).	People with moderate to severe dementia	Non-pharmacological intervention to reduce the resistance- to-care behaviours including mealtime care including music (6 studies); Bathing care (7 studies;2 RCTs);	Measures of resistance-to-care frequency and intensity during personal care	Non-pharmacological interventions are options to consider to reduce resistance-to-care behaviours in older people with dementia, even though the evidence level is low, given the lack of	Well conducted review. Conclusions are likely to be reliable. Research recommendations appear to be



First author, year, reference	Population of interest <sup>a</sup>	Care setting(s), number of studies and countries	Types and severities of cognitive impairment (CI)	Intervention(s)	Outcomes measured	Summary of review authors conclusions and research recommendations	Review conduct <sup>b</sup>
				morning care (5 studies; Mouth care (2 studies; 1 RCT); 9 studies included a caregiver education component.  Further details available in full paper.		alternatives. Most of the included studies had a high risk of bias.  More randomized controlled trials are recommended to confirm the effects of non-pharmacological interventions during personal care.	appropriate.
Kuske, 2007 <sup>23</sup>	Nursing home staff	Nursing home or long term care facility. 21 studies (6 RCTs): UK (1), USA (17); Canada (1), Sweden (1).	People institutionalised due to dementia	In-house staff training with educational focus on dementia care.  Further details available in full paper.	Staff: depression, anxiety, interaction, behaviour, compliance, satisfaction, knowledge. Residents: agitation, depression, behaviour, cognitive level, wellbeing; quality of life.	There is a lack of evaluated in-service training programs for caregivers in homes of people with dementia. Methodological weakness in the included studies was common. There is a need for well-defined methodologically improved studies, providing conclusive evidence of intervention effects.	Well conducted reviews; Conclusions are likely to be reliable. Research recommendations appear to be appropriate.
La Mantia, 2014 <sup>8</sup>	Staff in the Emergency Department (ED)	Emergency Department 22 studies (2 validation studies; 20 application of tools studies): USA (13), Canada (4), Australia (1), Turkey (1), Sweden (1), Belgium (1), Brazil (1).	Patients aged 65+ with delirium	Screening tools for delirium used in the Emergency Department.  Further details available in full paper.	Performance of screening tool and prevalence of delirium	Several delirium screening tools have been used in investigations in the ED, but validation for this particular environment has been minimal to date. Research will be needed both to validate delirium screening instruments to be used for investigation and clinical care in the ED and to define the ideal timing and form of the delirium assessment process for older adults.	Authors used robust methods but the quality of the included studies was not clearly reported. Conclusions are likely to be reliable. Research recommendations appear to be appropriate.
Lawrence 2012 <sup>24</sup>	Care home staff.	Care homes. 35 qualitative studies: USA (13) Sweden (7) England (5) Canada (5) Australia (2) Ireland	Dementia	Psychosocial interventions. For Staff: training and supervision programmes to help with manage patients (3 studies). For residents: psychosocial	For Staff: relationship with patient; reflections on care approach; attitudes to time and workload pressure.	Successful implementation of interventions relies on active engagement of staff and family alongside provision of tailored interventions and support. Majority of included studies	Well-conducted review. Conclusions likely to be reliable. Research recommendations

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		(1) Japan (1) Norway (1)		interventions (eg, person-centred care and planning; emotion-oriented therapy; cognitive stimulation; reminiscence; exercise; art therapy; animal assisted therapy, and more. For staff and residents: involvement of volunteers and from outside the care home (3 studies) and family members (3 studies).  Further detail available in the full report.	For residents: relationships with others; extent of meaningful contributions; opportunities to reminisce.  Knowledge of residents/relationships outside the care home.	were reasonable quality. Future quantitative and qualitative research is needed to strengthen the evidence base and to understand more clearly the process of intervention implementation.	appear to be appropriate.
Li, 2014 <sup>9</sup>	Staff in long term care homes	Long term care 24 studies, only 9 relating to dementia of which 4 were RCTs: UK (3), USA (5), Australia (3).	Residents with Dementia (all stages)	Person-centred interventions for people with dementia. Many were based on understanding residents' needs and wishes. Most interventions included staff training.  Further details available in full paper.	Range of resident outcome including behaviour, agitation, cognition, wellbeing and sleep.	Person-centred dementia care had significant effects on decreasing behavioural symptoms and psychotropic medication use in residents with dementia in long term care. But requires replication for the confirmation of the findings. The quality of the evidence base was mixed. Rigorous study design and objective and subjective measurement use are needed for future studies, especially those guided by culture change models. The effectiveness of person-centered care on residents' bio-psycho-social outcomes like sleep, stress, and physical wellbeing need to be addressed and systematically examined with subjective and objective measures in future studies.	Well conducted review. Conclusions are likely to be reliable. Research recommendations appear to be appropriate.

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Liu 2014 <sup>10</sup>	Nursing assistants; health professionals on dementia wards; physicians and caregivers.	Long-term care facilities. 22 quantitative studies (including 9 RCTs): USA (6) Canada (4) Taiwan (4) Spain (3) France (2) Netherlands(1) Finland (1) New Zealand (1)	Various stages of dementia and cognitive impairment.	Interventions for mealtime difficulties. For staff (3 studies): Feeding/nutrition skills training programme; health and nutrition training. For residents: dietary and feeding assistance interventions; environmental or routine modifications; education and training. For residents and staff (2 studies): mixed intervention of training and environment modification.  Further detail available in the full report.	Body weight; body mass index (BMI); food intake; eating time; feeding difficulty; agitation.	Moderate evidence for training programmes to increase eating time and reduced feeding difficulty; low/insufficient evidence for environmental modifications to increase food intake or decrease agitation. Overall moderate quality of included studies and attention is drawn to limitations. More rigorous research is needed, specifically targeted at different stages of dementia and levels of feeding difficulty and in various settings.	Well-conducted review. Conclusions are likely to be reliable. Research recommendations appear to be appropriate.
Martin, 2008 <sup>33</sup>	<b>No studies met the inclusion criteria</b> People with dementia; Health professionals	Participants home in a community setting.	Adults with a physical disability, dementia or learning disability	Smart technology including social alarms, electronic assistive devices, telecare social alert platforms, environmental control systems, automated home environments and 'ubiquitous homes'.  Further details available in full paper.	Any objective measure that records an impact on a participant's quality of life, healthcare professional workload, economic outcomes, costs to healthcare provider or costs to participant	This review highlights the current lack of empirical evidence to support or refute the use of smart home technologies within health and social care, which is significant for practitioners and healthcare consumers.	<b>Authors found no studies which met the inclusion criteria – (Cochrane Review)</b>
Mukadam 2015 <sup>11</sup>	Clinicians and medical assistants.	Primary care; specialist psychiatric services; community. 13 quantitative studies, including 4 RCTs: Europe (9, including 6 in the UK) USA (3)	Suspected or diagnosed cognitive impairment/Dementia.	Interventions to detect dementia or cognitive impairment. GP/primary care education; in-home geriatric assessment and management programme; memory clinics; community leaflets. Interventions	Number of people with memory difficulties presenting to services; proportion of people with dementia/CI accurately diagnosed and confirmed by gold standards; evidence of earlier diagnosis of	Good quality evidence that GP education increases number of suspected dementia cases but not accuracy or rate of earlier diagnoses. Geriatric assessment programme increased the diagnosis rate. Included studies were good quality.	Well-conducted review. Conclusions are likely to be reliable. Research recommendations appear to be appropriate.

First author, year, reference	Population of interest <sup>a</sup>	Care setting(s), number of studies and countries	Types and severities of cognitive impairment (CI)	Intervention(s)	Outcomes measured	Summary of review authors conclusions and research recommendations	Review conduct <sup>b</sup>
		Australia (1)		targeted staff (8 studies) and patients (5 studies).  Further detail available in the full report.	dementia.	Good quality RCTs are needed to test the effectiveness and cost-effectiveness of interventions to increase the detection of dementia.	
Perry 2011 <sup>12</sup>	Primary care providers (PCP)	Primary care 6 quantitative studies (1 controlled before and after study, plus 5 sets of results from 4 RCTs): USA (2) Denmark (1) UK (1) Germany (1) France (1)	Dementia	Educational interventions. All interventions targeted at staff: multi-faceted interventions comprising seminars, outreach visits, workshops; decision support system; handouts and website material; educational group meetings.  Further detail available in the full report.	Health care outcomes; health professionals' behaviour, performance or practice; learning and knowledge.	Moderate positive results. An educational intervention with active participation of PCPs improves detection of dementia but in isolation does not increase adherence to dementia guidelines. Minimal effects on knowledge and attitudes. Education should be combined with reimbursement or other organisational incentives. Diverse quality of quality of included studies.	Well-conducted review. Conclusions are likely to be reliable. No specific recommendations for future research were reported.
Phillips 2013 <sup>28</sup>	GPs; nursing home staff; aged care personnel	Nursing homes. 9 studies (2 RCTs; 4 qualitative; 3 mixed methods). Australia (7) USA (1) Sweden (1).	Advanced dementia.	Case conferencing; care planning; approaches to palliative care. Variably targeted at staff and/or residents across the studies.  Limited further detail available in the full report.	Resident and/or family care outcomes; case conference focus and format; barriers and facilitators to implementation.	Case conferencing provides opportunities to improve palliative care outcomes for older people with dementia. More evidence is needed to determine the efficacy and cost-effectiveness of case conferencing for aged care residents with advanced dementia.	Poorly-conducted review. No detailed quality assessment results. Reliability of conclusion is uncertain. It is unclear whether the research recommendations are appropriate.
Reilly 2015 <sup>13</sup>	Staff (unclear)	Community (including primary care and outpatient memory clinics). 13 RCTs: USA (3) Canada (2) Hong Kong (3) Netherlands(1) UK (1) India (1)	Dementia of any type	Various approaches to case management for home support. Focus on planning and co-ordination of care. Majority of interventions aimed at patients/carers or shared process with care staff.	Patient: Admissions to residential/nursing home/hospital; mortality; quality of life. Carer: Burden; quality of life. Service: Use; cost.	Evidence of reduced admissions to care homes and healthcare costs in the medium term. Uncertainty regarding patient depression, function, and cognition and long term carer outcomes. Included studies were low to moderate risk of bias.	Well-conducted review. Conclusions likely to be reliable (Cochrane review). Research recommendations appear to be appropriate.

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		Country not reported (2).		Further detail available in the full report.		Future research should explore the relative effectiveness of case management components and with more consistent use of outcome measures.	
Richter, 2012 <sup>14</sup>	Care home staff (including kitchen staff); nursing staff; physicians; pharmacists	Residential care homes. 4 RCTs: US (2), England (1), Sweden (1).	Dementia. [Note : all participants in nursing homes were included, irrespective of cognitive status assuming most who received antipsychotic medication did so because of behavioural and psychological symptoms of dementia]	Psycho-social interventions to reduce anti-psychotic medication use. Included education for physicians (2 studies); education for nursing staff (3 studies); consultation with home administrator and information evening for family members (1 study); additional education for care home staff and medication review (1 study); education for pharmacists (1 study).  Further details reported in paper.	Use of regularly prescribed antipsychotic medication; type dosage and duration of medication; adverse effects; residents' cognitive status; physician restraints; costs.	Interventions led to a reduction of antipsychotic medication use, but the overall size of the effect remains unclear. The review was based on a small number of variable studies with important methodological shortcomings. Small number of included RCTs of variable quality. Researchers are urgently requested to adhere to the recommendations of careful development of complex interventions including theory-based modelling of components and pilot testing of feasibility and acceptability and adhere to the best available methodological standards, especially putting more emphasis on well-designed cluster-RCTs with rigorous statistical methods.	Well-conducted review. Conclusions are likely to be reliable. (Cochrane Review) Research recommendations appear to be appropriate.
Robinson 2012 <sup>15</sup>	Nursing home Staff; GPs; palliative care providers; social workers.	Nursing homes. Four studies: (1 RCT; 2 CBA; 1 non-RCT) USA (2) Canada (1) Australita (1)	Mild-severe cognitive impairment; mild-moderate dementia. In one study, the cognitive state of participants was unclear.	Advance Care Planning (ACP). For staff: recruitment and training in palliative care leadership; educational workshops based on 'Let Me Decide' programme; interactive education sessions. For patients, family	Capacity to complete ACP. ACP documentation. Resident health: pain assessment/medication. Health-care use.	Limited evidence, though some positive findings for increased ACP documentation and reductions in hospitalisation/increased use of hospice care. Nursing home setting may be too late to discuss ACP. Quality of the evidence was variable.	Well-conducted review. Conclusions likely to be reliable. Research recommendations appear to be appropriate.

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				members and staff: education.  Limited further detail available in the full report.		Further high quality research is needed to determine whether ACP can become an evidence-based part of routine care for people with dementia.	
Seitz 2012 <sup>25</sup>	Staff/nurses employed in long term care (LTC)	LTC. 40 RCTs. USA (15) Netherlands (5) UK (3) Canada (3) Australia (3) Norway (2) France (2) Italy (2) Taiwan (2) Iceland (1) Not reported (2). Survey of facilities and qualitative study of LTC providers to assess feasibility of intervention.	Advanced dementia with mild to moderate severity of neuropsychiatric symptoms.	Non-pharmacological interventions for neuropsychiatric symptoms (NPS). For staff: training and education to manage NPS of residents; individualised geriatric mental health assessment or consultation. For residents: group-based psychosocial activities; exercise; music therapy; other sensory stimulation.  Further detail available in the full report.	Changes in NPS. Feasibility of interventions: time needed to train staff; specialised staff requirements; direct monetary costs (equipment and capital).	16/40 studies reported modest effects of interventions on NPS. Feasibility of implementing some interventions is limited in many LTC settings. Overall quality of the included studies was limited. Further research on practical and sustainable interventions for NPS in LTC is needed.	Well-conducted review. Conclusion is likely to be reliable. Research recommendation appears to be appropriate.
Smith, 2014 <sup>29</sup>	Carers and volunteers	Setting not reported 4 studies (2 RCTs): UK (1), USA (2), Canada (1).	Dementia (one study included stroke survivors)	Volunteer led mentoring including befriending for carers (1 study) and peer support (3 studies).  Further details available in full paper.	Included various psychological outcomes for carers.	The lack of need for matching of carer and peer support and the importance of experiential similarity deserve further investigation. But this review highlights a lack of demonstrated efficacy of volunteer mentoring for carers of people with dementia. Further research is needed into different types of volunteer mentoring schemes.	Poorly conducted review. However the conclusions reflect the evidence presented and are likely to be reliable. It is unclear whether the research recommendations are appropriate..
Somme 2012 <sup>30</sup>	Case Managers (drawn from social workers; nurse/nurse practitioners; other	Primary care; memory care system; outside the health care system; various. 6 RCTs: USA (5)	Alzheimer's Disease; other associated disorders (eg, dementia).	Case Management (CM). For patients: Individual CM (with or without the use of standardised assessment tools or evidence-based protocols).	Various (clinical, patient, caregivers, health care use and rate of institutionalisation). Sub group analyses by case management	The evidence is weak. The efficacy of case management may be related to the level of integration between health and social services and the intensity of case management practice.	Poorly conducted review. Authors' focused on quality of reporting and not risk of bias relating to the

First author, year, reference	Population of interest <sup>a</sup>	Care setting(s), number of studies and countries	Types and severities of cognitive impairment (CI)	Intervention(s)	Outcomes measured	Summary of review authors conclusions and research recommendations	Review conduct <sup>b</sup>
	professions).	Sweden (1)		Various types of CM were included: eg, disease management, collaborative care; the Medicare Alzheimers Diseases Demonstration and Evaluation (MADDE); care consultant; education for patients and caregivers.  Further detail available in the full report.	intensity and level of service integration. Outcomes standardised as effect sizes.	Further studies are needed to identify the best case management strategies for patients and how these might be delivered sustainably.	included studies. The reliability of the authors' conclusion is uncertain. Research recommendations appear appropriate.
Spector, 2013 <sup>31</sup>	Paid care staff	Nursing or residential care homes 20 studies (13 RCTs): UK (4), USA (5), Australia (3), South Korea (1), Canada (2), Netherlands (2), Norway (2), France (1).	People with dementia (stage not reported)	Interventions to reduce the behavioural and psychological symptoms of dementia including communication (9 studies, 3 RCTs), person-centred (3 studies, 1 RCT), emotion-centred (2 RCTs) approaches. Other approaches were briefly reported (6 studies, 5 RCTs).  Further details available in full paper.	Resident mood; rates of behavioural and psychological symptoms Staff outcomes included competency, skills, knowledge, use of behaviour management strategies, depression, anxiety, ability to manage problems	Overall, there was some evidence that staff training interventions can impact on behaviour and psychological symptoms in dementia. Training was found to impact on the way staff behaved towards residents. There were methodological weaknesses in the studies. There is an urgent need for more high quality research and evidence-based practice. Further adequately powered multicentre trials of clearly defined interventions are needed as is further qualitative research to understand the experience of participants and the mechanisms of change.	Poorly conducted but authors' conclusions broadly reflect the evidence. (DARE abstract available)
Thompson Coon 2014 <sup>16</sup>	All staff (eg, care/nursing home staff; physicians, administrators; dietary and pharmacy	Care homes. 22 studies (6 randomised trials; 5 controlled trials; 11 uncontrolled CBAs). USA (8) UK (5) Canada (5)	Dementia specified in 7 studies; the stated focus in remaining studies was all care home residents.	Interventions to reduce inappropriate prescribing of antipsychotic medications. For staff and/or family members: education programmes; multi-component programmes.	Changes in medication use.	Interventions to reduce inappropriate prescribing may be effective in the short term. Long term sustainability is unclear. Over one third of included studies rated strong or	Well-conducted review. Conclusions are likely to be reliable. Research recommendations appear to be

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	staff; rehabilitation staff; social workers; psychiatric liaison).	Australia (2) Norway (1) Sweden (1).		For staff only: in-reach services; medication review.  Further detail available in the full report.		moderate methodological quality. Future research should include large/good quality randomised studies together with process evaluations and qualitative research to understand the mechanisms for successful intervention implementation.	appropriate.
Vasse 2010 <sup>26</sup>	Care staff.	Residential and nursing homes. 19 studies (9 RCTs; 6 controlled trials; 4 quasi-experimental controlled trials). Country not reported.	Dementia (mild-to severe)	Interventions to improve communication for care staff and/or residents. For residents: Set-time interventions (eg, walking and conversation; group validation; life review; cognitive stimulation; activity therapy). For care staff: daily-care training and education programmes containing communication techniques (eg sensitivity to non-verbal communication).  Further detail available in the full report.	Communication. Neuropsychiatric symptoms.	Daily care activities or single-task interventions at set times (eg life review) offer the possibility to help care staff to improve communication with residents with dementia. There is divergent evidence of intervention effect on neuropsychiatric symptoms. There were methodological weaknesses in most of the studies. Future research is needed to evaluate the effect of communication interventions on neuropsychiatric symptoms.	Well-conducted review. Conclusion is likely to be reliable. Research recommendation appears to be appropriate.
Zabalegui, 2014 <sup>17</sup>	Patients living at home and their caregivers (most studies)	Home of patients; 23 RCTs: UK (4), USA (11), Finland (2), Italy (2), France (1), Germany (1), Netherlands (1), Hong Kong (1).	People with dementia aged over 65	Non-pharmacological interventions to improve quality of care. Patients (5 RCTs): cognitive rehabilitation; Care plan; Physiotherapy Informal caregivers (13 RCTs): mainly educational and skills building Patients & informal caregivers (6 RCTs): Nurse care management; support	Patients : quality of life measures; Informal carers: levels of knowledge, ability to manage patient, carer burden and stress.	Due to variety of interventions describing specific samples and contexts, comparison of practice effectiveness is difficult. However, cognitive rehabilitation in patients with dementia is effective when applied at an early stage of the disease. Case managers have demonstrated to reduce institutionalization and use of other community services.	Well-conducted review. Conclusions are likely to be reliable. Research recommendations appear to be appropriate.



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				groups, respite care; occupational therapist.  Further details available in full paper.		Limitations in reporting in primary studies. Future studies should use more robust experimental designs with larger samples.	
Zientz 2007 <sup>32</sup>	Nursing assistants (2 studies); Family caregivers, Nursing home staff (indirectly, 1 study).	Nursing home and own home. 5 studies (1 RCT): Countries not reported	Alzheimer's disease/dementia	Caregiver training in communication strategies including FOCUSED communication programme including knowledge, attitudes and coping strategies (1 study), adapted FOCUSED for caregivers (1 study), Caregiver communication training program (1 study), Family Visit Education Programme (1 study); Nursing assistant communication skills (1 study).  Further details available in full paper.	Nurses knowledge, attention, and/or satisfaction. Nursing staff turnover rates, Patient depression, problem behaviour, language, communication.	The authors' conclusion appeared to be that there was a variety of evidence to support educating and training caregivers in communication strategies for use with individuals who have dementia. Future research should address the effects of training programmes on broader psychosocial outcomes and quality of life for caregivers and for people with Alzheimer's Disease. Timing of the intervention and the use of generic versus individualised programmes are also recommended for exploration.	Poorly conducted review. Study quality was not incorporated into the synthesis nor the conclusions weighted accordingly. (DARE abstract available). Reliability of conclusions is uncertain. Research recommendations appear appropriate.

<sup>a</sup> Population of interest: eg, details of staff group/care provider involved.

<sup>b</sup> Brief commentary based on DARE criteria as stated in section 2.4 of the main report: Data Extraction and Critical Commentary.