Centre for Innovation and Leadership in Health Sciences

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Scoping the role of the dementia nurse specialist in acute care: technical appendices

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Appendix 1: Survey of UK dementia nurse specialists working in acute care

21,760 Royal College of Nursing members who had previously identified an interest in dementia, care for older people or mental health were approached. Dementia nurse specialists, those working primarily with people with dementia and those supporting people with dementia in a general hospital setting were invited to respond. 565 people responded and from these responses we identified 75 nurses whose job title indicated that they were specialist nurses working in an inpatient environment and who identified dementia care as the main function (23/75) or a substantial part (52/75) of their role. Of those who identified dementia care as their main role 16/23 identified dementia as their specialty, 6 mental health and 1 care for older people. The identified specialty for those who indicated dementia was a substantial part of the role varied but in almost all cases was a combination of older people and or mental health (Table 1)

Table 1	Is the care of people with dementia a part of your remit?		
Specialty (as indicated in job title)?	a substantial part of role	main function	Grand Total
Care for older people	20	1	21
Dementia care		16	16
Mental health	24	6	30
Older people's mental health	4		4
Other	4		4
Grand Total	52	23	75

Clinical areas supported

Most specialists supported / worked in a diverse range of clinical areas, suggesting a wide remit which often appeared to be trust wide, although a small number appeared to focus on wards for older people and or medicine exclusively and one accident and emergency / admissions. Older people, admissions, medical and orthopaedics were the areas most frequently covered (table 2). The pattern of coverage seemed broadly similar for specialists whose main role was dementia care as for others.

Table 2	Clinical areas you work in / support		
	a substantial part of role	main function	Grand Total
Older peoples ward	43	19	62
Admissions unit	31	19	50
Medical ward	33	16	49
Orthopaedics	32	16	48
Accident and emergency	23	12	25
Dementia Ward	13	9	22
Minor Injuries	8	8	16
Theatres	3	5	
Grand Total	52	23	75

Management arrangements

Management arrangements were diverse although none indicated that they were managed by a consultant physician and only one indicated management by the trust lead clinician for dementia. The commonest arrangements for those whose main function was to provide dementia care was management by director of nursing (5) or directorate nurse manager (4). For others management from outside the hospital was common, presumably reflecting the mental health specialism.

Roles

Table 2	What do you spend MOST time on (multiple choices allowed for equal contributions)		
	a substantial part of role	main function	Grand Total
Direct patient care	30	11	41
Consultancy	25	14	39
Education	15	12	27
Leadership	13	11	24
Evaluation	5	7	12
Grand Total	52	23	75

Overall, the activity that specialists identified spending most time on was direct patient care (41/75) although for specialists whose main function was dementia care more identified consultancy (14/23) and education (12/23) rather than direct patient care (11/23) as the activity consuming most time. Leadership (11/23) was also identified by a large number of these nurses.

1. Clinical

Table 3	Role in dementia care		All
	a substantial part of role	main function	Grand Total
Participating in discharge planning for individual patients	40	20	60
Supporting families/significant others	43	22	54
Assessing and diagnosing dementia	37	15	52
Developing individualised care plans	33	16	49
Screening of patients for cognitive impairment	35	13	48
Providing therapeutic interventions for challenging / distressed behaviour	27	16	43
Sharing diagnosis	27	10	37
Providing direct help to patients to involve them in decision-making	32	14	36
Providing direct care to patients	22	11	33
Reviewing medications	30	13	33
Prescribing medications	11	2	13
Grand Total	52	23	75

Specialists described a diverse range of clinical roles with discharge planning and support to families identified by most. Assessment, diagnosis and screening were also frequently identified as was care planning. Providing therapeutic interventions for challenging / distressed behaviour was undertaken by significant numbers including most (16/23) of those whose main role was dementia care. While reviewing medications was undertaken by many (33/75), few prescribed (13/75) [table

2. Consultancy

Table 4 Consultancy topics	Role in dementia care		All
	a substantial part of role	main function	Grand Total
appropriate physical environments for people with dementia	42	20	64
confusion or delirium	45	19	64
challenging/ distressed behaviour	43	19	62
best interest decisions for individual patients	40	18	60
cognitive assessment and identification of people with possible dementia	41	18	59
safeguarding issues	41	17	58
hydration and nutrition for people with dementia	36	19	55
end of life care for people with dementia	32	17	49
Mental Capacity Act assessments	32	17	49
falls prevention for people with dementia	30	17	47
provision of appropriate activity / rehabilitation potential	30	17	47
advance planning for people with dementia	31	14	45
Grand Total	52	23	75

Consultancy was performed on a range of topics and while there was some diversity a substantial majority provided consultancy on appropriate physical environment (64/75), confusion / delirium (64/75) challenging or distressed behaviour (62/75) and best interest decisions (60/75). Other areas were also frequently identified including cognitive assessment, hydration and nutrition and fall prevention, although this was slightly less common (47/75)

3. Education

Table 5 Educational roles (staff)	Role in dementia care		All
	a substantial part of role	main function	Grand Total
Teaching sessions for nurses/doctors/other staff about dementia care	52	23	75
Informal education for nurses/doctors/other staff about dementia care	43	21	64
Role-modelling good practice in dementia care to staff	39	18	57
Supporting ward- or department-based “dementia champions” in their role	33	19	52
Contributing to the design and/ or delivery of undergraduate and postgraduate education	14	12	36
Leading practice development in relation to dementia care	20	14	34
Grand Total	52	23	75

All the specialist nurses (75/75) provided formal teaching for other staff about dementia care and most also provided informal education (64/75) and role modelling (57) as part of their educational role. A majority also supported local dementia ‘champions’ (52/75) although only a minority (34/75) identified leading practice development for dementia as part of their educational role (table 5).

4. Leadership

Table 6 Leadership roles	Role in dementia care		All
	a substantial part of role	main function	Grand Total
Developing hospital/ward practices, policies, pathways / protocols, guidelines and procedures to ensure wellbeing of patients with dementia and their carers	31	16	47
Establishing relationships with local authorities, primary and community care, voluntary and independent sectors	27	19	46
Reviewing and introducing assessment scales/patient communication aids/other resources into practice	20	16	36
Developing hospital/ward practices, policies, guidelines and procedures for supporting and working in partnership with carers	20	13	33
Leading trust-wide developments in dementia care	16	16	32
Providing trust-wide strategic leadership on dementia care	10	13	23
Grand Total	52	23	75

Most, but not all (47/75) identified the development of practice including protocols, guidelines and procedures for care of people with dementia as part of their role, with fewer (33/75) identifying practice and procedures for working in partnership with carers as part of their leadership role. Leading trust wide developments (32/75) and providing strategic leadership (23/75) was identified by only a minority (table 6).

Expected Impacts

We asked respondents if they had been asked to demonstrate the impact of their role on a number of outcomes (table 7). Responses here may be indicative of a number of issues (including variation in the extent of evaluation) but the range of outcomes identified does suggest the broad range of issues that specialist nurses may be expected to address and both the challenge and the opportunity for making a difference. No one outcome was identified by a majority of respondents but staff development (33/75) and discharge outcomes (32/75) were the most frequently identified with length of stay (31/33) patient carer satisfaction (26/75) and use of anti-psychotic medication (25/75) also relatively common.

Table7 Expected impacts	Role in dementia care		All
	a substantial part of role	main function	Grand Total
Staff development	18	15	33
Discharge outcomes	21	11	32
Length of stay	20	11	31
Patient/Carer satisfaction	15	11	26
Use of anti-psychotic medication	13	12	25
Readmission rates	16	8	24
Falls	14	6	20
Pressure area care	8	2	10
Violent incidents	5	5	10
Grand Total	52	23	75

Qualifications.

Table 8	Qualifications		
	a substantial part of role	main function	Grand Total
Professional			
RN (general)	30	11	41
RN (mental health)	33	16	49
RN (learning disabilities)	2	2	4
Academic			
Bachelors qualification	33	10	43
Master's degree	11	6	17
PhD	2	0	2
Grand Total	52	23	75

Many nurses had dual qualification (e.g. RN / RMN) with the largest group having a mental health qualification (49/75). 43/75 held a bachelor's degree but only 17/75 had a master's (which is seen as the minimum qualification for a specialist nurse in many jurisdictions).

Line management

Few of the specialists managed any staff (18/75) and for those who did, the team under them was typically six people or fewer (for 15/18). For those whose main function was dementia care, the teams that they managed were diverse in job titles and professional qualifications but appeared equally divided between professional and support staff. Line management for specialists was often outside the hospital (13/75) with large numbers being managed by a directorate nursing manager (13/75) director of nursing (10/75) or other senior nurse (e.g. matron). None reported being managed by a consultant physician/geriatrician/psychiatrist and only one by the trust lead for dementia.

Appendix 2: Tables of evidence used in the report

Falls

Ref. No.	Reference	Design	Purpose	Sample, setting	Intervention, variables	Outcomes [relevant to falls]
24	Gillespie et al., 2012	Cochrane Systematic Review of randomized trials	To assess the effects of interventions designed to reduce the incidence of falls in older people living in the community.	159 trials (79,193 participants aged 60 years or older conducted in 21 countries). 89 trials excluded participants with cognitive impairment.	Most common interventions tested were exercise as a single intervention (59 trials) and multifactorial programmes (40 trials); see outcomes for full list of interventions. Outcome measures: rate of falls and risk of falling.	Multiple-component group exercise significantly reduced rate of falls (RaR 0.71, 95% CI 0.63 to 0.82; 16 trials; 3622 participants) and risk of falling (RR 0.85, 95% CI 0.76 to 0.96; 22 trials; 5333 participants), as did multiple-component home-based exercise (RaR 0.68, 95% CI 0.58 to 0.80; 7 trials; 951 participants and RR 0.78, 95% CI 0.64 to 0.94; 6 trials; 714 participants). Tai Chi resulted in a borderline significant reduction the rate of falls and a significant reduction in risk of falling. Overall, exercise interventions significantly reduced the risk of sustaining a fall-related fracture. Multifactorial interventions, which include individual risk assessment, reduced rate of falls (RaR 0.76, 95% CI 0.67 to 0.86; 19 trials; 9503 participants), but not risk of falling (RR 0.93, 95% CI 0.86 to 1.02; 34 trials; 13,617 participants). Overall, vitamin D did not reduce rate of falls or risk of falling but may do so in people with lower vitamin D levels before treatment. Other interventions found to be effective on either rate or risk of falls included: home safety assessment and modification (especially in those at higher risk of falling, including those with severe visual impairment; and when delivered by an occupational therapist); pacemakers (in people with carotid sinus hypersensitivity); first eye cataract surgery in women; gradual withdrawal of psychotropic medication; a prescribing modification programme for primary care physicians; an anti-slip shoe device reduced rate of falls in icy conditions; multifaceted podiatry including foot and ankle exercises (in people with disabling foot pain). Interventions with uncertain or no impact included those targeted at: vision problems; cognitive behavior; and knowledge. 13 trials provided a comprehensive economic evaluation: three indicated cost savings for their interventions during the trial period (home-based exercise in over 80-year-olds, home safety assessment and modification in those with a previous fall, and one multifactorial programme targeting eight specific risk factors). No sub-group analysis for 70 trials that did not exclude participants with cognitive impairment.

25	Oliver et al., 2007	Systematic review and meta-analyses	To evaluate the evidence for strategies to prevent falls or fractures in residents in care homes and hospital inpatients and to investigate the effect of dementia and cognitive impairment.	43 studies included; number of participants not provided. 13 included studies were multifaceted interventions in hospital (*3* individually randomized; 2 cluster randomised trials; 8 prospective & with one exception, of poor methodological quality).	Multifaceted interventions; removal of physical restraints; fall alarm devices; exercise; calcium/vitamin D; changes in the physical environment; medication review.	Meta-analysis for multifaceted interventions in hospital (13 studies) showed a rate ratio of 0.82 (95% confidence interval 0.68 to 0.997) for falls but no significant effect on the number of fallers or fractures. Evidence that use of hip protectors in care homes prevents hip fractures. Insufficient evidence for the effectiveness of any other interventions. Meta-regression – described by authors as pragmatic - showed no significant association between effect size and prevalence of dementia or cognitive impairment.
26	Udell et al., 2011	Protocol for a systematic review	To provide an overview of interventions for preventing falls in older people.	Evidence from multiple Cochrane intervention reviews that evaluate the effects in different populations of older people, such as those defined by setting or by specific medical conditions.	Interventions: single, multiple and multifactorial; supervised or unsupervised exercises; medication; surgery; management of urinary incontinence; fluid or nutrition therapy; psychological; environment and assistive technologies; social environment; knowledge/education interventions and any other.	Work in progress

27	Cameron et al., 2012	Cochrane Systematic Review	To assess the effectiveness of interventions designed to reduce falls by older people in nursing care facilities and hospitals.	41 RCTs (25,422 participants) conducted in 13 countries (10 in UK); 11 RCTs (7054 participants) were conducted in hospital settings (one acute, six subacute and four in both). Four studies specifically recruited participants with cognitive impairment; review author comments that in most studies a high proportion of participants would have been cognitively impaired.	Interventions included initial assessment (eg CGA, falls risk, medication); multifactorial and single (eg supervised exercise, medication review, Vitamin D & other medications, psychological, environmental & assistive technologies, knowledge interventions, management of urinary incontinence, fluid therapy, Primary outcomes: rate of falls and risk of falling. Secondary outcomes: severity of falls, fractures and deaths, and complications of the interventions.	In hospitals, multifactorial interventions reduced the rate of falls (RaR 0.69, 95% CI 0.49 to 0.96; 4 trials, 6478 participants) and risk of falling (RR 0.73, 95% CI 0.56 to 0.96; 3 trials, 4824 participants). Supervised exercise interventions showed a significant reduction in risk of falling (RR 0.44, 95% CI 0.20 to 0.97; 3 trials, 131 participants). Exercise in subacute hospital settings appears effective. In nursing care facilities Vitamin D supplementation is effective in reducing the rate of falls; multi-factorial interventions may be effective; the effectiveness of exercise is uncertain. Exploratory analysis of pooled data on participants with cognitive impairment from two multifactorial trials (Jensen 2003 and Shaw 2003) found no significant difference in the risk of falling (Analysis 8.1: RR 0.92, 95% CI 0.81 to 1.05: I2 = 0%). Jenson (2003) reported that the rate of falls in the subgroup with MMSE scores of less than 19 was not significantly reduced, while the rate of falls in the subgroup with MMSE score of 19 or greater was significantly reduced; there was however a significantly reduced fracture rate in the intervention subgroup with MMSE less than 19 compared with the control subgroup with MMSE less than 19.
28	Haines et al., 2011	3-group randomized controlled trial	To evaluate the efficacy of 2 forms of multimedia patient education compared with usual care for the prevention of in-hospital falls.	Older hospital patients (n=1206; aged 65 or older) admitted to a mixture of acute & sub-acute hospital wards at 2 Australian hospitals.	Interventions: a multimedia patient education program based on the health-belief model combined with trained health professional follow-up (complete program), multi-media patient education materials alone (materials only), and usual care (control). Variables: falls data	Rates of falls per 1000 patient-days did not differ significantly between groups (control, 9.27; materials only, 8.61; and complete programme, 7.63). However, the full programme did result in a significant reduction in falls among patients with intact cognitive function.

29	Haines et al., 2004	Randomised controlled trial of a targeted multiple intervention programme implemented in addition to usual care compared with usual care alone.	To assess the effectiveness of a targeted, multiple intervention falls prevention programme in reducing falls and injuries related to falls in a sub-acute hospital.	626 men and women aged 38 to 99 years (average 80 years) recruited from consecutive admissions to three sub-acute wards in a metropolitan hospital in Australia specialising in rehabilitation and care of elderly patients.	Intervention: falls risk alert card with information brochure, exercise programme, education programme, and hip protectors. Main outcome measures: incidence rate of falls, injuries related to falls, and proportion of participants who experienced one or more falls during their stay in hospital.	Participants in the intervention group (n = 310) experienced 30% fewer falls than participants in the control group (n = 316). This difference was significant (Peto log rank test P = 0.045) and was most obvious after 45 days of observation. In the intervention group there was a trend for a reduction in the proportion of participants who experienced falls (relative risk 0.78, 95% confidence interval 0.56 to 1.06) and 28% fewer falls resulted in injury (log rank test P = 0.20).

Length of Stay

Ref. No.	Reference	Design	Purpose	Sample, setting	Intervention, variables	Outcomes [relevant to length of stay]
30	Butler et al., 2011	Cochrane Systematic Review of randomised control trials, controlled clinical trials, controlled before and after studies and interrupted time series analyses of interventions	To explore the effect of hospital nurse staffing models on patient and staff-related outcomes.	15 studies conducted in hospital settings; 8 of these examined impact of additional specialist nursing post (not specific to dementia) including 6 (n=1,734) that used length of stay as an outcome measure.	Interventions: all studies of hospital nurse staffing model interventions, including staffing models, staffing levels, skill mix (includes proportion of advanced nurse practitioners), grade mix, or qualification mix (including the proportion of nurses with a post-graduate qualification). Outcome measures: any objective measure of patient or staff-related outcome.	In 3 studies the intervention resulted in a shorter length of stay but in 3 others the intervention had no impact. Dawes 2007 reported that the savings made due to reduction in patient length of stay offset the costs of employing the additional nurse specialist. Davies 2001 found no evidence of adverse effects from the reduced length of stay in terms of readmission rates, use of community resources or patient perceptions of quality of care. Only 2 (n=235) of six studies were suitable for meta-analysis (Dawes 2007;Feddersen 1994).The mean length of stay in the intervention groups was 1.35 lower (1.92 to 0.78 lower). Authors conclude that findings should be treated with extreme caution due to the limited evidence available from the research conducted to date.

31	Newhouse et al., 2011	Systematic review of RCTs & observational studies of at least two groups of providers, reporting quantitative data on patient outcomes	To answer the question, 'compared to other providers (physicians or teams without APRNs) are APRN patient outcomes of care similar?	69 studies included (no participant numbers given), all conducted in USA; 11 of 69 examined impact of CNS and seven of these (2 RCTs) reported patient length of stay. 37 of 69 examined impact of NPs and 16 of these (two RCTs) reported patient LOS. Participants were people with Alzheimer's Disease in one study (NP in community setting); 3 studies examined impact of GNP on outcomes in patients aged over 65 in inpatient settings. Other studies included inpatients from different specialties.	Interventions: addition of advance practice nurses in USA, including Clinical Nurse Specialists (CNSs) and Nurse Practitioners (NPs) including Gerontological Nurse Practitioners (GNPs). Studies reported on eleven outcomes, including length of stay, satisfaction, hospital costs, and complications.	Authors conclude that when comparing CNS and non-CNS groups, there is a high level of evidence to support equivalent or lower LOS for patients cared for in the CNS group. However the two RCTs found no significant difference on length of stay. Found moderate level of evidence to support equivalent LOS when comparing NP and MD groups. In three studies on impact of GNPs in inpatient settings: only one of 33 participants in Krichbaum (2007) only had MMSE <24/30; Lambing (2004) found patients in GNP group had a longer LOS compared to those in the MD group but the study was rated as a low quality study by the review authors; Miller (1997) was rated as high quality and found a shorter length of stay in the GNP group.
32	Kazui et al., 2004	RCT	To evaluate the usefulness of a clinical pathway (CP) for patients with dementia hospitalized for a three-week period.	Participants: consecutive patients with dementia hospitalized (n=23 intervention and 20 controls)	Intervention: CP for series of medical practices (diagnosis, treatment, establishment of a care system, and caregiver education). CP included clear role for nurse. Outcome measures: length of hospital stay and hospital costs.	The use of the CP significantly shortened the length of hospital stay and decreased hospital costs during hospitalization but increased the amount of work per day and made the medical staff feel that their freedom to choose medical procedures had been restricted.

33	Slaets et al., 1997	Prospective randomized trial	To examine the effect of psychogeriatric intervention in a group of elderly medical inpatients over 75 years of age.	Participants: medical inpatients aged over 75 years (n=237: 140 intervention / 97 usual care). Setting: Hospital in Netherlands	Intervention: in addition to usual care, multidisciplinary joint treatment by a psychogeriatric team led by a geriatrician with a specialized geriatric liaison nurse. Outcome measures: physical functioning, length of stay and nursing home placement within 12 months of discharge.	The mean length of stay was 5 days shorter for the intervention group. There were more readmissions to hospital in the usual care group (29.9%) compared with the intervention group (17.4%). The effects of intervention remained statistically significant for all the outcome variables after controlling for possible confounding baseline characteristics (including participants' MMSE scores).
34	Benedict et al., 2006	Randomized control trial	To evaluate the Acute Care of the Elderly (ACE) model for interdisciplinary management of high-risk community-dwelling older adults admitted an acute medical unit compared to usual medical inpatient care.	Full text of article not obtained; no details of participants provided in abstract.. Setting: US hospital.	ACE multidisciplinary team members include clinical nurse specialists; led by primary nurse, team develops a comprehensive care and discharge plan using protocols and implemented across a care continuum. Outcome measures: costs, length of stay, discharged to home (immediately or ultimately); readmissions to hospital within 31 days	ACE unit has lower costs and shorter length of stay than usual care medical unit. Readmissions to the hospital within 31 days were slightly lower on the ACE unit than the medical unit.

Readmission cited references

Ref. No.	Reference	Design	Purpose	Sample, setting	Intervention, variables	Outcomes [relevant to readmission]
30	Butler et al., 2011	Cochrane Systematic Review of randomised control trials, controlled clinical trials, controlled before and after studies and interrupted time series analyses of interventions	To explore the effect of hospital nurse staffing models on patient and staff-related outcomes.	15 studies conducted in hospital settings; 8 of these examined impact of additional specialist nursing post (not specific to dementia) including four (n=1,631) that used readmission rates as an outcome measure. settings: services for patients with MS in UK (n=735),	Interventions: all studies of hospital nurse staffing model interventions, including staffing models, staffing levels, skill mix (includes proportion of advanced nurse practitioners), grade mix, or qualification mix (including the proportion of nurses with a post-graduate qualification). Outcome measures: any objective measure of patient or staff-related outcome.	All four studies (n=1,631) that examined the impact of the intervention on readmission rates (Davies 2001; Dawes 2007; Einstadter 1996; Forbes 2006) concluded that there was no impact on readmission rates. Meta-analysis of data from the three RCT/CCT studies (n=878) supports this conclusion of no effect (RR 1.15, 95% CI 0.88, 1.52; Z = 1.02, p = 0.31). Quality of this evidence rated as moderate and overall the review authors conclude the review findings should be treated with extreme caution due to the limited evidence available from the research conducted to date.

35	Shepperd et al., 2010	Cochrane Systematic Review	To determine the effectiveness of planning the discharge of patients moving from hospital.	Twenty-one RCTs with hospital inpatients (n=7234) including those with a medical condition (14 trials; 4509 patients), a mix of medical and surgical conditions (4 trials; 2225 patients), from a psychiatric hospital (1 trial; 343 patients), from a psychiatric and a general hospital (1 trial; 97 patients), and patients admitted to hospital following a fall (1 trial; 60 patients).	Intervention: RCTs that compared an individualised discharge plan with routine discharge care that was not tailored to the individual patient. Outcome measures: hospital length of stay and readmissions to hospital.	Analysis of pooled data from 11 trials (n=2552) with patients admitted to hospital for a medical condition found readmissions to hospital were significantly reduced for patients allocated to discharge planning (RR 0.85, 95% CI 0.74 to 0.97, 11 trials). Authors conclude that “a structured discharge plan tailored to the individual patient probably brings about small reductions in hospital length of stay and readmission rates for older people admitted to hospital with a medical condition.”

36.	Ellis et al., 2011	Cochrane Systematic Review of RCTs comparing CGA to usual care.	To evaluate the effectiveness of comprehensive geriatric assessment (CGA) in hospital for older adults admitted as an emergency.	Twenty-two trials (n= 10,315 participants) in six countries. Only 2 trials addressed CGA in patients with dementia.	Intervention: CGA is a multidimensional, interdisciplinary diagnostic process (by mobile teams or in designated wards) to determine the medical, psychological and functional capabilities of a frail elderly person in order to develop a co-ordinated and integrated plan for treatment and long-term follow up. Outcome measures: primary measure was living at home (inverse of death or institutionalisation combined); readmission was a secondary outcome.	Meta-analysis of nine studies (n=3822 participants) found no significant difference between the intervention and control groups for the outcome of re-admission to hospital (OR 1.03, 95% CI 0.89 to 1.18, P = 0.72; Chi2 = 7.52, P = 0.48, I2 = 0%) and no statistically significant subgroup interaction (Chi2 = 0.75, P = 0.39, I2 = 0%). Review found positive effects on other measures; patients in receipt of CGA when compared to general medical care were: more likely to be alive and in their own homes at up to six months and at the end of scheduled follow up; less likely to be institutionalized, less likely to suffer death or deterioration and more likely to experience improved cognition.
37.	Handoll et al, 2011	Cochrane Systematic Review of randomised or quasi-randomised trials	To evaluate the effects of different interventions for improving mobility after hip fracture surgery in adults.	19 included trials (involving 1589 older adults)	Interventions: gait retraining, various forms of exercise and muscle stimulation.	There is insufficient evidence from randomised trials to establish the best strategies for enhancing mobility after hip fracture surgery.

38.	Handoll et al., 2009	Cochrane Systematic Review of randomised and quasi-randomised trials	To examine the effects of multidisciplinary rehabilitation, in either inpatient or ambulatory care settings, for older patients with hip fracture.	13 trials included with 2,498 older, usually female, patients who had undergone hip fracture surgery; conducted in 6 countries.	Intervention: post-surgical care using multidisciplinary rehabilitation of older patients (aged 65 years or over) with hip fracture. Outcome measures: primary measure 'poor outcome' (composite of mortality and decline in residential status at longterm follow-up.	Pooled analysis of data reported in six trials (n= 1269) found hospital readmissions did not significantly differ between intervention and control (Analysis 1.13. RR 0.99, 95% CI 0.82 to 1.19). However, there was some heterogeneity between the trial results (I^2 = 28%). Three trials with shorter lengths of stay in the intervention groups tended to have more readmissions in this group (Cameron 1993; Stenvall 2007a; Swanson 1998) whereas a trial where the average length of stay for the intervention group was 25 days more than the control group there were fewer readmissions in the intervention group (Galvard 1995).
39.	Krichbaum, 2007	RCT	To test the effectiveness of a nursing intervention model to improve health, function, and return-home outcomes in elders with hip fracture.	Participants: 33 hip fracture patients (65+ years) admitted to one of two acute care facilities (in USA) from home or assisted living facility prior to injury. Only one participant had MMSE <24/30.	Intervention: gerontologic advanced practice nurse as postacute care coordinator for 6 months who intervened with each elder regardless of the postacute care setting, making biweekly visits and/or phone calls.	The treatment group had better function at 12 months on several activities and instrumental activities of daily living, and no differences in health, depression, or living situation.

40.	Crotty et al., 2010	Cochrane Systematic Review of randomised and quasi-randomised trials	To evaluate the effects of interventions aimed at improving physical and psychosocial functioning after hip fracture.	Nine small heterogeneous trials (involving 1400 participants) were included. All but Krichbaum (2007) specifically excluded patients with cognitive impairment.	Intervention: rehabilitation interventions applied in inpatient or ambulatory settings to improve physical or psychosocial functioning in older adults with hip fracture. Primary outcomes: physical and psychosocial function and 'poor outcome' (composite of mortality, failure to return to independent living and/or readmission).	Review authors conclude that some outcomes may be amenable to psychosocial treatments; however, there is insufficient evidence to recommend practice changes.
41.	Naylor et al., 2011	Systematic review of RCTs	To summarise evidence on transitional care interventions targeting chronically ill adults.	21 RCTs	Intervention: transitional care programmes and services established to help hospitalized patients with complex chronic conditions transfer in a safe and timely manner from one level of care to another or from one type of care setting to another.	Nine interventions demonstrated positive effects on measures related to hospital readmissions. Assigning a nurse as the clinical manager or leader of care and including in-person home visits to discharged patients were features of successful interventions.

42.	Naylor et al., 2007	RCT	To test a model of care delivered by advanced practice nurses in hospitals in patients with cognitive impairments, including those with a dementia diagnosis.		Intervention: Transitional Care Model (TCM) with additional evidence based strategies in management of people with CI and dementia.	The results of the RCT not available at the time of writing but see Bradway et al. (2012) for qualitative analysis.
43.	Naylor et al., 2005	RCT	Cognitively impaired older adults: from hospital to home.	See Naylor et al., 2007	See Naylor et al., 2007	See Naylor et al., 2007
44.	Bradway et al., 2012	Qualitative directed content analysis of case & case conference notes	To explore the factors that facilitate and challenge the provision of transitional care for cognitively impaired older adults and their care givers (CGs)	15 patients in the APN intervention group	See Naylor et al., 2007	Three major themes emerged that summarize the key elements APNs encountered in the study.

Other adverse events

Ref. No.	Reference	Design	Purpose	Sample, setting	Intervention, variables	Outcomes [relevant to other adverse events]
47.	van Gaal et al., 2011	Cluster randomised trial	To test the effect of the SAFE or SORRY? programme on the incidence of three adverse events	Participants: Patients (≥18 years) with an expected length of stay of at least five days recruited from 10 wards in 4 hospitals (n=2201) and 10 wards in 6 nursing homes (n=392) in the Netherlands	Intervention: Programme consisted of the essential recommendations of guidelines for 3 adverse events (pressure ulcers, urinary tract infections and falls). Outcome measures: incidence of 3 adverse events	Patients in the intervention groups developed 43% and 33% fewer adverse events compared to the usual care groups in hospitals and nursing homes respectively.
48.	Inouye et al., 1993	Controlled trial (prospective cohort study with stratified and matched cohort analyses)	To test the effectiveness of a nursing-centered intervention to prevent functional decline among hospitalized elderly medical patients.	Participants: 216 patients aged > or = 70 years (85 intervention and 131 control patients). Setting: General medicine wards of a university teaching hospital in USA.	Intervention: identification and surveillance of frail older patients, twice-weekly rounds of the Geriatric Care Team, and a nursing-centered educational program. Outcome measures: functional decline, defined as a net decline in five activities of daily living (ADLs).	The intervention resulted in a beneficial effect with a relative risk of 0.82 (95% confidence interval [CI] 0.54 to 1.24) in patients (n = 106) with one of four geriatric target conditions at baseline (eg, delirium, functional impairment, incontinence, and pressure sores). The intervention had no effect in patients without target conditions at baseline (n = 110).

49.	Ryden et al., 2000	Quasi-RCT (intervention randomly assigned to two nursing homes and usual care to a third)	To determine the effect on clinical outcomes of an APGN delivered education programme for nursing home staff	Participants: 197 (86 intervention; 111 control) newly admitted residents in 3 US nursing homes.	Intervention: APGNs worked with staff to implement scientifically based protocols for incontinence, pressure ulcers, depression, and aggressive behavior.	Over six months, intervention group (n = 86) experienced significantly greater improvement or less decline in incontinence, pressure ulcers, and aggressive behavior, and they had higher mean composite trajectory scores compared with residents receiving usual care (n = 111). Significantly less deterioration in affect was noted in cognitively impaired residents in the treatment group.
50.	Bultler and Radhakrishnan, 2011	Systematic review of systematic reviews, RCTs, or observational studies (to guide UK clinical practice on clinicalevidence.bmj.com)	To report the evidence on effectiveness of clinical interventions in people with dementia.	49 studies; c.25,000 participants in total.	Interventions: for cognitive, behavioural and psychological and depressive symptoms of dementia.	Pharmacological interventions for behavioural and psychological symptoms: review found evidence of marginal benefit in acetylcholinesterase inhibitors and memantine; limited evidence of effectiveness in antipsychotic medications, however use was associated with severe adverse effects including cerebrovascular events and death) described as 'a trade off between benefits and harms'; the effectiveness of antidepressants (clomipramine, fluoxetine, imipramine, sertraline) in people with depression and dementia and benzodiazepines (diazepam, lorazepam) and mood stabilizers (carbamazepine, sodium valproate/valproic acid) was unknown. The effectiveness of non-pharmacological interventions (aromatherapy, CBT, exercise) was also unknown.
51.	Cunningham & McWilliam, 2006	Narrative review	Recommendations for nursing management of individuals with dementia in the ED setting.	United Kingdom	Interventions: communication, environment and common complications (dehydration, anxiety)	Recommendations: Keep communication simple, clear, and reinforced; assess for delirium; monitor for dehydration; maintain safety by using separate area or more-frequent observation; avoid physical and chemical restraints; provide eye-level signage to reorient to surroundings, particularly toilets (from Clevenger, 2012).
52.	Zimmermann & Ortigara, 1998	Narrative review	Overview of Alzheimer's disease and interventions for ED nurses.	USA	Interventions: from literature for family caregiving and nursing home staff.	Recommendations: Limit environmental stimuli such as bustling activity in center of ED; give simple, one-step instructions; ascertain information from caregivers; use touch; and be flexible and creative in providing care based on patient needs (from Clevenger, 2012).

53.	Tueth, 1995	Narrative review	To describe behavioral complications of dementia and make recommendations for management by emergency physician.	USA	Intervention: recommendations for best practice in the management of behavioural complications in people with dementia in emergency department medicine.	Recommendations: Emergency physician should attempt to gather full history (from family or facility caregiver, if possible); nonpharmacological interventions including avoidance of nighttime fluid and diuretics, pain management, sleep hygiene promotion, and limited environmental overload; soft restraints and bedrails; pharmacological interventions include neuroleptics, antipsychotics, and benzodiazepines (from Clevenger, 2012).

54.	Clevenger et al., 2012	Literature review (found no empirical studies)	To examine the practices undertaken in the care of persons with dementia (PWD) specific to the ED setting.	Seven articles (narrative review or opinions from authorities); many recommendations extrapolated from residential care settings.	Identify five themes in clinical practices: assessment of cognitive impairment, dementia communication strategies, avoidance of adverse events, alterations to the physical environment, and education of ED staff.	Review found minimal guidance for the care of PWD specific to the ED setting and no empirical studies. Conclude that existing (Level 7) recommendations lack a research base to support their effectiveness or adoption as evidence-based practice. 3 (of 7) included studies address communication (Cunningham & McWilliam, 2006; Zimmerman and Ortigara, 1998; Tueth, 1995). 5 (of 7) included studies address 'avoidance of adverse events', including above three on communication that addressed behavioural complications and/or the management of delirium in patients attending the emergency department. Other recommendations addressed reducing stress and discomfort and managing physiological complications including "dehydration (Cunningham & McWilliam, 2006), untreated pain (Tueth, 1995; James & Hodnett, 2009) and functional incontinence (Cunningham & McWilliam, 2006; James & Hodnett, 2009). Physical restraints are described as a last resort (McBrien, 2007) but outlined in the list of options for management in another study (Tueth, 1995)." 5 (of 7) included articles make recommendations for the ED physical environment and the movement of PWD through and beyond it which the review authors argue, though not "empirically tested in the ED setting… in acute care environments have been successful in reducing delirium and iatrogenic complications and thus reducing cost, hospital length of stay, and nursing home admissions (Rubin et al., 2006)."
55.	Mason, 2011	Narrative review	To describe adaptations to hospital ward physical environment to improve health of patients with dementia.	In-patients with dementia in a UK hospital.	Intervention: delivered by dementia nurse specialist with a ward improvement grant.	Adaptations to the ward physical environment to promote health improvements in patients with dementia.

Screening and Diagnosis

Ref. No.	Reference	Design	Purpose	Sample, setting	Intervention, variables	Outcomes [relevant to screening and diagnosis]
4.	Mukadam & Sampson, 2011	Systematic review	To systematically review the prevalence, associations and outcomes of dementia in older people in the general hospital, to examine the range of diagnostic tools used and highlight gaps in the literature.	14 studies included (used validated criteria for diagnosing dementia, involved subjects over the age of 55 years and were set in the general hospital).	Prevalence, patient outcomes, diagnostic tools.	Prevalence estimates for dementia in acute hospital settings ranged from 2.8–63.0% in the 14 studies included. Prevalence generally reflected the setting in which the data was collected and the demographic features of the cohorts, with the highest prevalence in geriatric wards and hospitals and the lowest in general medical wards. However, the authors suggest that even in these high quality studies, less than a third screened for delirium or depression and therefore some subjects may have been misclassified as having dementia. Patients with dementia in the acute hospital are older, require more hours of nursing care, have longer hospital stays, and are more at risk of delayed discharge and functional decline during admission.
19.	Elliot & Adams, 2011	Single site descriptive retrospective service evaluation	To describe the work of a new Dementia Nurse Specialist (DNS) role created to improve the experience of hospitalization for vulnerable older people and their carers.	DNS and patients admitted or attending A&E at a UK district general hospital.	Intervention: creation of a 2-year fixed-term one whole-time equivalent Band 7 RMN-qualified DNS. Outcome measures: activities undertaken by DNS.	The DNS saw over 30 patients each month, 6 to 12 of whom were diagnosed as having dementia. Since the establishment of the post in September 2009, the DNS has had a potential impact on reducing length of stay for each patient seen from an average of 11 days to 9 days, providing estimated saving of 720 bed days per year. Authors describe a single case where they argue the acceptance of the DNS diagnosis of dementia could have saved 66 bed days. Activities carried out by DNS over six months in 2010: screening, diagnosis, review, information and support for carers, nursing needs checklist, rehabilitation potential determination, end-stage dementia determination/advice on artificial hydration and nutrition, behavioural advice/support for wards, transfer to mental health bed, new patients, follow-up patients. Other activities described include advice on management of behaviours and support for ward staff, policy writing, pathway and local strategy planning, care plan development, and formal and informal teaching on dementia.

51.	Cunningham & McWilliam, 2006	Narrative review	Recommendations for nursing management of individuals with dementia in the ED setting.	United Kingdom	Interventions: communication, environment and common complications (dehydration, anxiety)	Recommendations: Keep communication simple, clear, and reinforced; assess for delirium; monitor for dehydration; maintain safety by using separate area or more-frequent observation; avoid physical and chemical restraints; provide eye-level signage to reorient to surroundings, particularly toilets (from Clevenger, 2012).
56.	Nygaard and Ruths, 2003	Descriptive study	To establish dementia diagnoses in patients recently admitted to a nursing home by a geriatrician, and to compare the agreement with diagnoses recorded in the nursing home's medical records and with short screening instruments.	Setting: Nursing homes in Bergen, Norway, with 123 long-term care patients.	Intervention: geriatric work-up of the individual patient, information obtained from the medical records of nursing homes, structured interviews with nurses and a short cognitive test. Outcome measures: dementia diagnosis according to ICD-10, Clinical Dementia Rating and the Short Portable Mental Status Questionnaire.	59% of the patients were diagnosed as demented according to the ICD-10. One-third of cases were not formerly diagnosed according to nursing home medical records. Clinical Dementia Rating and the Short Portable Mental Status Questionnaire detected "dementia/non-dementia" cases correctly in 93% and 94%, respectively.

57.	Mansdorf et al., 2008	Retrospective analysis of ongoing neuropsychological testing data	To investigate to what degree dementia diagnoses of record in skilled nursing facilities (SNFs) are supported by objective neuropsychological testing data.	Nursing home residents (n = 73) in US nursing facilities (n = 11).	Intervention: Neuropsychological testing. Measurements: Standardized neuropsychological testing instruments that included the Cognistat neurobehavioral status examination, the Dementia Rating Scale-2 (DRS-2), the Wechsler Abbreviated Scale of Intelligence (WASI), and the battery of the Consortium to Establish a Registry for Alzheimer's Disease (CERAD battery).	Found that only 38.6% of patients with an existing diagnosis of dementia and 15.7% of those with 'suspected dementia' met the DSM-IV criteria. About half of those wrongly diagnosed met criteria for Mild Cognitive Impairment (MCI) and the rest met criteria for an Axis I diagnosis (mostly depressive disorder, but also cases of anxiety and noncompliance). 75% of those mistakenly referred for suspected dementia met criteria for an Axis I diagnosis and the rest met criteria for MCI.
60.	Andrews & Christie, 2009	Opinions from authorities	To describe role for ED nurses in implementation of Scottish Government recommendations for the care of PWD in emergency settings.	Nurses working in ED settings in Scotland.	Intervention: n/a	Recommendations include: identification of PWD and alert others to the condition, avoid admission and unnecessary transfers, educate staff to reduce discrimination and improve management of disturbing behaviors (from Clevenger, 2012).
61.	Hare et al., 2008	Audit	To determine whether routine cognitive screening of elderly patients in ED could lead to early identification of delirium.	Participants: 28 elderly patients attending ED Australia.	Interventions: audit using the abbreviate mental test (AMT) and Confusion Assessment Method (CAM) tools.	14 (50%) of the 28 patients had no cognitive deficit on admission. Eleven (39.3%) displayed a cognitive deficit other than delirium and three (10.7%) had delirium, but only one had been diagnosed prior to the audit. Found the AMT had limitations which inhibited its use in ED. A four question version known as the AMT4 may be more suitable. Tool recommended for nurse administration and authors argue the need for more research to determine nurses' role in assessment in the ED.

62.	Brymer et al., 2001	Before & after controlled study	To measure the impact of a 1-day workshop for emergency nurses that addressed educational needs identified in a previous study.	101 ED nurses in Canada attended 1-day workshop; 51 completed pre- & post-workshop questionnaires (response rate, 50.5%).	Intervention: workshop consisted of case-based didactic sessions addressing (1) physical assessment of the elderly, (2) delirium, depression, and dementia, and (3) a practical approach to mental status testing in the elderly. Outcome measures: self-reported practice and number of referrals for geriatric assessment and home care from a large emergency department in the study area.	The most significant self-reported changes in practice 1 month after the workshop were improved screening for depression and altered mental status in older adults (P < .0001 and P < .01, respectively). Other positive changes were noted for inquiring about unplanned weight loss and assistance received at home. A steady increase in the number of referrals for geriatric assessment and home care was noted from the emergency department being monitored.
63.	McCulla et al., 1989	Small single site study	To determine the reliability of master's-prepared clinical nurse specialists for the identification and staging of dementia.	Participants: 3 nurses each reviewed 25 videotaped assessments in USA.	Intervention: CNS review of videotapes of physician assessments of both healthy older persons and those with senile dementia of the Alzheimer type using the Washington University (St Louis, Mo) Clinical Dementia Rating system as the staging instrument.	Found agreement was high between clinical nurse specialists and physicians for the presence and severity of dementia (kappa = .75). Authors conclude that study suggests that clinical nurse specialists can use the Clinical Dementia Rating scale effectively, and thus reliably identify and stage dementia.

64.	Page et al., 2008	Retrospective case note study	To compare nurse initial diagnoses with subsequent formal multidisciplinary (MDT) formulation based on full range of investigations.	Participants: 404 patients referred to a UK secondary care based MDT memory clinic following home-based nurse assessments.	Intervention: Case note review of 404 consecutive referrals by nurses over an 18-month period.	175 patients (43.3%) were diagnosed by MDT as having a dementia. Seventy-three (41.5%) were classified as Alzheimer's disease, 81 (46%) of mixed sub-type and 20 (11.4%) of vascular origin. Overall nurse-MDT diagnosis agreement was 0.88 (Kappa = 0.82). Together, two nurses were able to detect dementia with 94% accuracy (Kappa = 0.88). Sensitivity and specificity also high.
65.	Rubin et al., 2006	Pre-/post-test quality improvement study	To evaluate a replication of the Hospital Elder Life Program (HELP), a quality-improvement model, in a community hospital without a research infrastructure, using administrative data.	4,763 hospitalized patients aged 70 and older admitted over 3.5 years to one nursing unit in a 500-bed US community teaching hospital.	Intervention: application of the HELP multi-component intervention targeting patients at risk for delirium. Outcome measures: delirium rate, costs of care, length of stay, nursing staff and carer satisfaction.	The intervention reduced the absolute rate of delirium according to proxy report 14.4% from baseline, which represented a relative reduction in risk of 35.3% (P=.002). Total costs on this 40-bed nursing unit were reduced $626,261 over 6 months. Satisfaction of nursing staff and families was high in the intervention group. The intervention showed sustained benefits over time and remains funded by the hospital.
66.	Steele, 2010	Integrative literature review	To examines current evidence on models of acute care for hospitalized older people.	16 trials conducted with older people in hospital; no reference to dementia in review.	Intervention: 3 models with key role for nurse specialist were examined: Acute Care for Elders (ACE), Hospitalized Elder Life Program (HELP), and Nurses Improving Care for Health-System Elders (NICHE).	Author concludes that all 3 models are effective at improving patient outcomes (preventing functional and cognitive decline and reducing iatrogenic complications) and that hospitals should adopt the model with a focus most relevant to their needs (patient clinical outcomes, use of the interdisciplinary team, satisfaction, staff education, and cost-effectiveness).

Models of care

Ref. No.	Reference	Design	Purpose	Sample, setting	Intervention, variables	Outcomes [relevant to models of care]
3.	Alzheimers Society, 2009	Self-completion questionnaire survey & qualitative interviews	To support the case for a specific focus on improving the care for people with dementia on a general hospital ward within the current policy context.	c.21,000 PWD/carers who were Alzheimer's Society members in UK (responses =1,291); nursing staff (n=657); nurse/ward managers (n=479) responses received.	Experience and perceptions	Recommendation 1. The NHS as a whole and individual hospitals need to recognise that dementia is a significant, growing and costly problem for them, which lies at the heart of the agenda to drive efficiency and quality improvement. Recommendation 2. Reduce the number of people with dementia being cared for in hospitals.
4.	Mukadam & Sampson, 2011	Systematic review	To systematically review the prevalence, associations and outcomes of dementia in older people in the general hospital, to examine the range of diagnostic tools used and highlight gaps in the literature.	14 studies included (used validated criteria for diagnosing dementia, involved subjects over the age of 55 years and were set in the general hospital).	Prevalence, patient outcomes, diagnostic tools.	Prevalence estimates for dementia in acute hospital settings ranged from 2.8–63.0% in the 14 studies included. Prevalence generally reflected the setting in which the data was collected and the demographic features of the cohorts, with the highest prevalence in geriatric wards and hospitals and the lowest in general medical wards. However, the authors suggest that even in these high quality studies, less than a third screened for delirium or depression and therefore some subjects may have been misclassified as having dementia. Patients with dementia in the acute hospital are older, require more hours of nursing care, have longer hospital stays, and are more at risk of delayed discharge and functional decline during admission.

33.	Slaets et al., 1997	Prospective randomized trial	To examine the effect of psychogeriatric intervention in a group of elderly medical inpatients over 75 years of age.	Participants: medical inpatients aged over 75 years (n=237: 140 intervention / 97 usual care). Setting: Hospital in Netherlands	Intervention: in addition to usual care, multidisciplinary joint treatment by a psychogeriatric team led by a geriatrician with a specialized geriatric liaison nurse. Outcome measures: physical functioning, length of stay and nursing home placement within 12 months of discharge.	The mean length of stay was 5 days shorter for the intervention group. There were more readmissions to hospital in the usual care group (29.9%) compared with the intervention group (17.4%) and more nursing home placements. The effects of intervention remained statistically significant for all the outcome variables after controlling for possible confounding baseline characteristics (including participants' MMSE scores).

36.	Ellis et al., 2011	Cochrane Systematic Review of RCTs comparing CGA to usual care.	To evaluate the effectiveness of comprehensive geriatric assessment (CGA) in hospital for older adults admitted as an emergency.	Twenty-two trials (n= 10,315 participants) in six countries; only 2 included trials focused on patients with dementia.	Intervention: CGA is a multidimensional, interdisciplinary diagnostic process (by mobile teams or in designated wards) to determine the medical, psychological and functional capabilities of a frail elderly person in order to develop a co-ordinated and integrated plan for treatment and long-term follow up. Outcome measures: primary measure was living at home (inverse of death or institutionalisation combined); readmission was a secondary outcome.	Meta-analysis of nine studies (n=3822 participants) found no significant difference between the intervention and control groups for the outcome of re-admission to hospital (OR 1.03, 95% CI 0.89 to 1.18, P = 0.72; Chi2 = 7.52, P = 0.48, I2 = 0%) and no statistically significant subgroup interaction (Chi2 = 0.75, P = 0.39, I2 = 0%). Review found positive effects on other measures; patients in receipt of CGA when compared to general medical care were: more likely to be alive and in their own homes at up to six months and at the end of scheduled follow up; less likely to be institutionalized, less likely to suffer death or deterioration and more likely to experience improved cognition. Only two of the 22 included trials evaluated CGA for patients with dementia [71, 72].
65.	Rubin et al., 2006	Pre-/post-test quality improvement study	To evaluate a replication of the Hospital Elder Life Program (HELP), a quality-improvement model, in a community hospital without a research infrastructure, using administrative data.	4,763 hospitalized patients aged 70 and older admitted over 3.5 years to one nursing unit in a 500-bed US community teaching hospital.	Intervention: application of the HELP multi-component intervention targeting patients at risk for delirium. Outcome measures: delirium rate, costs of care, length of stay, nursing staff and carer satisfaction.	The intervention reduced the absolute rate of delirium according to proxy report 14.4% from baseline, which represented a relative reduction in risk of 35.3% (P=.002). Total costs on this 40-bed nursing unit were reduced $626,261 over 6 months. Satisfaction of nursing staff and families was high in the intervention group. The intervention showed sustained benefits over time and remains funded by the hospital.

67.	Thomas et al., 2012	Prospective cohort study	To compare performance characteristics of the Confusion Assessment Method (CAM) algorithm for screening and delirium diagnosis with criteria for delirium from ICD-10 and DSM-IV in high-risk individuals.	102 individuals aged 80 and older admitted to a geriatric hospital in Germany (n=102); 79 took part.	All acutely ill individuals aged 80 and older admitted to a geriatric hospital in Germany were systematically screened. Outcome measures: CAM instrument (nine items), scored using the four-item CAM diagnostic algorithm. Criterion standard classification of delirium was rated independently according to expert consensus based on DSM-IV and ICD-10 criteria for delirium.	The CAM diagnostic algorithm performed well against a DSM-IV reference standard but adding psychomotor change improved specificity and diagnostic value against ICD-10 criteria overall in older adults with dementia and improved sensitivity and screening performance when applied sequentially in CAM-negative individuals.
68.	Scherder et al, 2009	Literature review	To review evidence on whether patients with dementia experience and express pain in the same way as those without dementia.	32 references	Studies of pain in patients with dementia	Found the available literature, though sparse, suggests that pain may not be adequately treated in patients with dementia. Authors conclude, a clinically relevant question that remains unanswered is whether acute and chronic pain require different behavioral assessment strategies when dementia is present.
69.	Parke et al., 2012	Exploratory iterative scoping review	To identify modifiable factors for four theoretical dimensions of older adult-friendly hospital environment proposed in previous research.	66 studies included.	Findings from Primary research on hospitalised community-dwelling older adults mapped to 4 dimensions and modifiable factors identified.	Authors conclude, results highlight the importance of competent gerontological nursing in care for hospitalised older adults and the need for further understanding of the older adult and family as a unit of care. Suggest, registered nurses have a leadership role to ensure safe quality care for older people in hospital. This leadership role can be framed in interventions that focus on fixing the fit between what older people need and what the hospital environment provides. Modifiable factors for improvement are within the scope and competency of the registered nurse. None of included studies were focused on patients with dementia.

70.	Inouye et al., 1999	Prospective controlled cohort study	To evaluate the effectiveness of a multicomponent strategy for the prevention of delirium.	852 patients(aged 70 years or older) admitted to the general-medicine service at a US teaching hospital. Not specifically patients with dementia.	Intervention: HELP implemented by a trained MDT including a geriatric nurse-specialist and involving standardized protocols for the management of six risk factors for delirium (cognitive impairment, sleep deprivation, immobility, visual impairment, hearing impairment, and dehydration). Outcome measure: delirium, the primary outcome, assessed daily until discharge.	Delirium developed in 9.9% of the intervention group, as compared with 15.0% of the usual-care group (matched odds ratio, 0.60; 95 percent confidence interval, 0.39 to 0.92). The total number of days with delirium (105 vs. 161, P=0.02) and the total number of episodes (62 vs. 90, P=0.03) were significantly lower in the intervention group. The severity of delirium and recurrence rates were not significantly different. Other statistically significant outcomes that favoured the intervention included, the total number of targeted risk factors per patient, the degree of cognitive impairment among patients with cognitive impairment at admission and the rate of use of sleep medications among all patients. Among the other risk factors, there were trends toward improvement in immobility, visual impairment, and hearing impairment. Authors conclude that primary prevention of delirium is probably the most effective treatment strategy.
71.	Chen et al., 2011	Before & after study	To determine if modifying the HELP to include only 3 key interventions might prove cost-effective for surgical patients.	179 consecutive patients who had undergone common elective abdominal surgical procedures (102 in experimental group; 77 controls, received usual care before the intervention introduced.	Intervention: HELP modified to include only 3 aspects (early mobilization, nutritional assistance, and therapeutic/cognitive activities) implemented by a trained nurse on a surgical ward. Outcome measures: changes in ADL, nutritional status, and cognitive function between admission and discharge.	Independent of baseline functions (education, periampullary diagnosis, comorbidity, surgical procedure, and duration of surgery), patients in the HELP group declined significantly less on activities of daily living performance and nutritional status ($p < 0.001$) than controls. The delirium rate was also significantly lower in the HELP group (0%) than in the control group (16.7%) ($p < 0.001$). Authors conclude the intervention was effective and not costly but did require commitment and ongoing cooperation between physician and nursing leadership to achieve compliance with the protocols.

72.	Volicer et al., 1994	RCT	To determine effect of Dementia Special Care Unit on patient outcomes.	163 patients (mean age 72.3 yrs) with probable dementia of the Alzheimer type (Intervention group = 113; TLTC = 50).	Intervention: DSCU. Outcome measures: disease severity, patient discomfort, use of medical resources, and mortality rate.	Monthly levels of observed discomfort were lower in Dementia Special Care Unit (DSCU) than in traditional long term care (TLTC) patients. Other positive outcomes in the intervention group included lower costs of medications, radiology, and laboratory procedures and less frequent transfer to acute medical settings. The average 3-month cost for a DSCU patient was $197 vs $540 for a TLTC patient. However, patients in the DSCU with lower severity of DAT had a higher mortality rate than TLTC patients.
73.	Cole, M.G., et al., 1991	RCT	To examine whether geriatric psychiatric consultation was effective in reducing the severity of confusion, anxiety, depression, abnormal behaviors, and functional disability.	80 medical-surgical patients (aged 65+ yrs; 41 in treatment group and 39 in control group) in US hospital.	Outcome measures: patients were assessed 2, 4, and 8 wks after initial consultation on measures of memory, anxiety, depression, and behavior.	Consistent trends for more patients in treatment than control group to have improved on all measures (significantly re anxiety). Patients with delirium and depression improved most often. More in control than treatment group were discharged after 4 and 8 weeks, but twice as many in treatment group were discharged home.
74.	Woolley et al., 2008	Non Controlled Prospective Study	To investigate the feasibility of a person-centred observational practice development method known as dementia care mapping (DCM) in hospital wards for physically ill older people, including those who do not have dementia.	58 patients in three elderly care general hospital wards and in two community hospitals in the UK.	Participants mapped using DCM for 84 observation hours/414 patient hours (4,968 5-min time frames).	There was a relatively high proportion of missing data in the community hospitals due to time patients spent away from the area under observation. All patient-observed data could be coded utilizing the existing coding frameworks. The results from this preliminary study indicate that DCM is potentially feasible in elderly care general hospital wards, without the need for major modification.
75.	Boltz et al., 2008	Secondary analysis of data from Geriatric Institutional Assessment Profile for 8 sites	To examine the effects of the NICHE program (Nurses Improving Care for Health-System Elders), US nursing program that addresses the needs of the hospitalized older adult.	Direct care nurses (before implementation = 821; after = 942) in 8 acute care hospitals in the USA.	Intervention: NICHE implementation. Outcome measures: nurse perceptions of the geriatric nursing practice environment and quality of geriatric care, geriatric nursing knowledge.	Controlling for hospital and nurse characteristics, both nurse perceptions of the geriatric nursing practice environment ($P < .0001$) and quality of geriatric care ($P = .0004$) increased, but not geriatric nursing knowledge ($P = .1462$). Authors conclude, NICHE tools and principles can exert an important influence over the care provided to older adult patients by increasing the organizational support for geriatric nursing.

76.	Smith et al., 2004	Literature review	To review advances in geriatric nursing theory, practice, and research based on the Progressively Lowered Stress Threshold (PLST) model.	No quantification of included studies or participants provided; 49 references.	Intervention: nursing interventions based on PLST model to provide training to empower caregivers with the knowledge and skills necessary to reduce and better manage behavioral symptoms associated with dementia.	For more than 17 years, the model has been used to train caregivers in homes, adult day programs, nursing homes, and acute care hospitals and has served as the theoretical basis for in-home and institutional studies. Care planning principles and key elements of interventions that flow from the model are set forth, and outcomes from research projects using the PLST model are presented.
77.	Li et al., 2003	RCT	To evaluate the effectiveness of a family caregiver-focused intervention program (CARE) on the outcomes of hospitalized elders and their family caregivers.	49 family caregivers of hospitalized elders in a US university medical center.	Intervention: CARE program, (a) a mutual agreement consisting of family caregiving activities during hospitalization; and (b) audio-taped information regarding emotional responses and possible complications associated with an elderly patient's hospitalization as well as instructions for effectively participating in the elder's hospital care.	CARE elders had fewer incidents of acute confusion reported by family caregivers during hospitalization and fewer depressive symptoms at 2 weeks and 2 months post-hospitalization than did the comparison group. CARE family caregivers participated more in the care of their hospitalized elders and had higher scores on role rewards prior to hospital discharge.

Developing the skills of non-specialist staff

Ref. No.	Reference	Design	Purpose	Sample, setting	Intervention, variables	Outcomes [relevant to developing the skills of non-specialist staff]
51.	Cunningham & McWilliam, 2006	Narrative review	Recommendations for nursing management of individuals with dementia in the ED setting.	United Kingdom	Interventions: communication, environment and common complications (dehydration, anxiety)	Recommend training in communication strategies and management of disturbing behaviors.
50.	Andrews & Christie, 2009	Opinions from authorities	To describe role for ED nurses in implementation of Scottish Government recommendations for the care of PWD in emergency settings.	Nurses working in ED settings in Scotland.	Intervention: n/a	Recommendations include: identification of PWD and alert others to the condition, avoid admission and unnecessary transfers, educate staff to reduce discrimination and improve management of disturbing behaviors (from Clevenger, 2012). Suggest that staff education should also include an assessment of staff attitudes toward PWD.
80.	Iliffe et al., 2012	Pilot for an RCT	To describe development and field testing of the approach used in the Evidence Based Interventions in Dementia in the Community – Early Diagnosis trial (EVIDEM-ED).	Primary care team at five pilot practices in UK.	Intervention: ENA to identify individual GP practice educational needs around caring for patients with dementia then development of a plan ('educational prescription') for each practice to address any gaps.	Found educational prescriptions acceptable and useful and time commitment manageable. Practices prioritised diagnosis, assessment of carers' needs, quality markers for dementia care in general practice, and the implications of the Mental Capacity Act (2005) for clinical practice. Content of the educational needs assessment (ENA) tool seemed to be comprehensive, in that no new topics were identified by practices in the field trial. Results of the full RCT should be available shortly.

81.	Brooker, 2005	Synthesis of published studies	To review the published literature on dementia care mapping (DCM) to inform the ongoing revision of the tool and set an agenda for future research.	34 papers included; number of total participants not provided; setting in all studies was care facilities.	Review of publications in the DCM bibliographic database at the University of Bradford, UK that specifically examined the efficacy of DCM or in which DCM was used as a main measure in the evaluation or research.	Publications provide some evidence regarding the efficacy of DCM, issues of validity and reliability, and its use in practice and research. The need for further development and research in a number of key areas is highlighted.
82.	Burgess and Page, 2003	Focus groups and self-completion questionnaires	To evaluate the impact of a nurse educator in dementia care	100 nurses took part in education sessions; c.170 staff and 52 service users took part in focus groups and/or completed questionnaires. Setting: UK hospital	Intervention: introduction of a nurse educator in dementia post.	88% (n=152) of staff reported a greater understanding of dementia and the needs of those affected by it and 95% (n=164) reported increased confidence in their ability to deliver person-centred nursing care to people with dementia. 75% of the 100 nurses who had been involved in situation-based education sessions reported a significant increase in their knowledge base regarding the presentation of challenging behaviour in dementia and 65% reported a greater degree of confidence in delivering care to people with challenging behaviour. Following the involvement of the nurse educator, 80% (n=42) of relatives stated that the quality of care had improved significantly and that they had benefited from the service; 19% (n=10) perceived no evident improvement and 13% (n=7) subsequently made either a formal or informal complaint about the standard of care.
83.	Feldt & Ryden, 1992	Before & after study	To address challenge identified for NAs in long-term care facilities in caring for cognitively impaired aggressive residents.	17 NAs; 13 Residents in a US nursing home.	Intervention: educational program supplemented by CNS role modelling and problem solving. Outcome measures: staff knowledge of dementia care, perceptions of residents and the experience of care-giving.	Nursing assistants (NAs) reported that caring for cognitively impaired residents was significantly more rewarding and less frustrating. Use of the CNS to teach and assist in role modeling direct care of residents was effective in improving NA skill in working with aggressive cognitively impaired residents. Kuske (2007) rate the study as very poor quality (1/11) and report that the intervention showed no significant impact on staff knowledge of dementia care or positive regard for residents.

84.	James and Hodnett, 2009	Opinions from authorities	To describe NHS aims for improving dementia care and how they might be implemented in the ED setting.	ED nurses	n/a	Recommend training in communication strategies and management of disturbing behaviors. Recommendations include training for staff in communication strategies and management of disturbing behaviors. Other recommendations include designated space for persons with dementia, new toilet signage, distraction aids, reduction of stress during procedures, pain management, use of specially trained volunteers.
85.	Douglas-Dunbar and Gardiner, 2007	Qualitative methodology (semi-structured interviews)	The aim of this study was to help develop support services for carers of people with dementia on admission to a district general hospital.	Carers of patients with dementia admitted to a UK district general hospital	Interview study	Recommendations for change include workshops on dementia care for staff with emphasis on the need to work in partnership with informal carers.
86.	Wells et al., 2000	RCT	To examine the impact of an educational program delivered by CNSs to caregivers that focused on the abilities of people with dementia.	44 staff and 40 residents (loss of 29%) in Canadian nursing home.	Intervention: Abilities-focused program of morning care (5 sessions of 20–30 minute exercises, role play or games), supplemented by 6 reinforcement sessions in 3 months after training. Outcome measures: staff interaction-behavior, perceptions of care-giving, level of stress; residents interaction-behavior, level of agitation and functioning.	Rated as 8/11 on a quality scale based on the Cochrane Collaboration Guidelines (Kuske, 2007). The program had statistically significant effects on (a) residents' personal attending and calm/functional behaviors, level of agitation, and levels of overall and social function, and (b) caregivers' verbal relevance and personal attending, relaxed, and social/flexible behaviors.
87.	Kuske et al., 2007	Systematic review	To review studies that evaluated nursing home staff training programmes in dementia care.	21 studies conducted in Europe (n=2), Canada (n=3) and the rest in the USA.	Training programmes in dementia care for nursing home staff.	Just one trial was found of good quality (85); most of the others were rated as poor methodological quality. Categorise interventions into four groups – predisposing, enabling, reinforcing factors and a combination of these. Found, evidence of efficacy in 'extensive interventions with ongoing support' but only very weak evidence of knowledge transfer in simpler interventions when reinforcing and enabling factors were not present. About half of the studies gave no information about the persons delivering the training; in 4 studies training was conducted by nurses with advanced training/education (eg 82).

88.	Spector et al., 2013	Systematic review	To evaluate the effectiveness of staff training interventions for reducing behavioural and psychological symptoms of dementia (BPSD).	20 studies	Intervention: training programmes delivered to staff working in care homes.	Overall, there was some evidence that staff training interventions can impact on BPSD: twelve studies resulted in significant symptom reductions, four studies found positive trends and four studies found no impact on symptoms. No links were found between the theoretical orientation of training programmes and their effectiveness. Training was also found to impact on the way staff behaved towards residents. Most studies were of poor methodological quality. Authors argue this limits the conclusions that can be drawn and the urgent need for more high quality research and evidence-based practice in BPSD.
89.	Ivers et al., 2012	Cochrane Systematic Review of randomised trials	To assess the effects of audit and feedback on the practice of healthcare professionals and patient outcomes and to examine factors that may explain variation in the effectiveness of audit and feedback.	140 studies included	Intervention: summary of clinical performance over a specified period of time that reported objectively measured health professional practice or patient outcomes.	Meta-analysis showed generally positive outcomes for different sub-groups of interventions. Multivariable meta-regression indicated that feedback may be more effective when baseline performance is low, the source is a supervisor or colleague, it is provided more than once, it is delivered in both verbal and written formats, and when it includes both explicit targets and an action plan. In addition, the effect size varied based on the clinical behaviour targeted by the intervention.

Appendix 3: Search strategies

Databases searched:

1. The Cochrane Library: http://www.thecochranelibrary.com/view/0/index.html
2. The Campbell Collaboration: http://www.campbellcollaboration.org/library.php (Completed: 14/12/12)
3. Clinical-Evidence: http://www.clinicalevidence.com/x/index.html (Completed: 14/12/12)
4. Evidence-Based-Medicine: http://ebm.bmj.com/ (Completed: 14/12/12)
5. York Centre for Reviews and Dissemination (CRD): http://www.crd.york.ac.uk/crdweb/ (Completed: 23/12/12)
6. PubMed: http://www.ncbi.nlm.nih.gov/pubmed
7. CINAHL: http://www.ebscohost.com/academic/cinahl-plus-with-full-text/
8. Psych-Info: http://www.apa.org/pubs/databases/psycinfo/index.aspx
9. Others including: http://online.sagepub.com/ ; http://onlinelibrary.wiley.com/ ; http://www.embase.com/

The scoping review

Initial scoping searches were conducted on the Cochrane Library, MEDLINE, CINAHL and Sage databases using the following search terms:

("dementia" AND "nurse") AND ("specialist" OR "acute") IN title and abstract.

The titles of all citations generated by these searches were rapidly assessed for relevance in terms of the broad aim of the review:

"to analyse evidence in order to determine how nurse specialists could best be deployed to support people with dementia in acute hospitals".

Citations that appeared broadly relevant to the aim of the review were exported to an EndNote library. For those articles which appeared most relevant to the aims of the review a pdf of the full text article was obtained where rapid access using available resources was possible. Additional citations were identified by following the trail of articles suggested automatically by the different databases from which full text articles were sought (eg citations of and in; 'those who viewed this article also viewed xyz'; 'if you'd conducted this search in abc'; etc).

Six additional citations were added following a validation exercise by a second reviewer. Three of these had not been identified through the initial searching and suggested the need for subsequent searches to include the terms 'psychi$ OR mental health' AND 'geront$ OR geriat$'). A further preliminary finding regarding the search terms was that subsequent searches may need to use MeSH terms exploded to include (Alzheimers etc; confusion; delirium etc).

As a result of these searches, validation activities and rapid appraisal, a total of 292 references were retrieved and saved in an EndNote Library. Seventy duplicates were then removed. After closer inspection of the abstracts, 28 articles were removed as irrelevant. The abstracts of the 194 citations were thematically analysed and grouped in broad topic areas.

Measuring the impact of acute dementia nurse specialists
Following on from this general scoping review the next stage consisted of systematic searches to identify publications at the top of the evidence based nursing hierarchy of evidence on a specific set of outcomes related to the dementia nurse specialist role in hospitals.

For each outcome/intervention the Cochrane Library and PubMed were searched using the strategies outlined in the relevant section below. Three other databases of systematic reviews (campbellcollaboration, clinicalevidence and ebm.bmjjournals) were searched using the terms "dementia AND nurs*" and no articles were retrieved. The terms were widened to "dementia" and titles generated were rapidly appraised for relevance to the research questions. Searches were conducted on CINAHL and PsychINFO as set out below.

The titles of all search hits were rapidly appraised for relevance in relation to two questions:

1. Does this evidence apply to people with dementia?

2. Are these things that could be done by a CNS?

Those that appeared directly relevant to the research questions were downloaded to an EndNote library for review. Additional relevant citations were identified using the 'cited by', 'cited in' and 'related citations' functions in PubMed, CINAHL and other databases consulted to obtain full text articles.

CINAHL search (completed 23/12/12):

#	Query	Results
S9	S6 OR S8	28
S8	S4 AND S7	11
S7	dementia	23,741
S6	S3 OR S5	27
S5	S1 AND S4	13
S4	"nurse specialist"	2,008
S3	S1 AND S2	19
S2	(MH "Clinical Nurse Specialists")	4,773
S1	(MH "Dementia+")	30,511

PsycINFO search (16/01/13):

Terms used: "dementia" AND "nurse" AND "special*"; returned: 24 results

Outcome 1: Falls
Cochrane Library search (completed: 02/12/12):

#1 MeSH descriptor: [Dementia] this term only and with qualifiers: [Nursing - NU] 125
#16 falls 15383
#17 #1 and falls 4
#19 dementia and nursing and falls 244
#20 MeSH descriptor: [Nurse Clinicians] explode all trees 166
#21 #20 and falls 2
#32 hospital or acute or inpatient 174643
#33 #19 and #32 200
The titles of the (4+2+200 = 206) hits from Search ID's #17, #21 and #33 were rapidly appraised and those with potential relevance explored in more detail.

Outcome 2: Length of Stay
Cochrane Library search (completed: 14/12/12):

ID Search (Number of Hits)
#1 MeSH descriptor: [Dementia] this term only and with qualifiers: [Nursing - NU] (116)
#7 MeSH descriptor: [Dementia] this term only (1099)
#8 #7 and hospital (210)
#9 #7 and inpatient (57)
#10 #7 and acute (44)
#11 #8 or #9 or #10 (259)
#30 length of stay (11246)
#31 #1 and #30 (3)
#32 #30 and dementia (241)
#33 #32 and #11 (18)
#34 #32 and nursing (164)
#35 #34 and #11 (13)
The titles of all papers generated by searches number 31, 33 and 35 were appraised and those with potential relevance were downloaded into an Endnote Library for further exploration.

PubMed search (completed 15/12/12):

Search	Query	Items found
#17	Related Articles by Review for PubMed (Select 22423638)	18
#13	Related Citations for PubMed (Select 9407576)	246
#12	Search "dementia" AND "length of stay" Filters: Clinical Trial	34
#6	Search "dementia" AND "length of stay" Filters: Review	17
#5	Search "dementia" AND "length of stay"	598
#11	Search ("nurs") AND "length of stay"	6
#9	Search (("cognitive impairment") AND "nurs") AND "length of stay"	0
#10	Search (("cognitive impairment") AND "nurs") AND "length of stay" Schema: all	0
#4	Search "dementia" AND "nurs" AND "length of stay" Schema: all	0
#3	Search "dementia" AND "nurs" AND "length of stay"	0
#2	Search (("dementia") AND "nurs") AND "length of stay" Schema: all	0

Search	Query	Items found
#1	Search (("dementia") AND "nurs") AND "length of stay"	0

Citations generated by searches number 11, 6, 12 and 17 and those published within the last two years from search number 13 were downloaded into an EndNote Library group for further exploration.

Outcome 3: Readmission

"What evidence is there around impact of interventions on readmission to hospital for people with dementia that could inform the development of a clinical nurse specialist role in an acute hospital setting?"

All citations with potential relevance were saved in a group called 'Readmission' in an Endnote Library for further exploration.

Cochrane Library Search (completed 21/12/12):

ID	Search	Number of Hits
#1	MeSH descriptor: [Dementia] this term only and with qualifiers: [Nursing - NU]	116
#7	MeSH descriptor: [Dementia] this term only	1099
#8	#7 and hospital	210
#9	#7 and inpatient	57
#10	#7 and acute	44
#11	#8 or #9 or #10	259
#35	readmission	2022
#36	readmission and #1	0
#37	readmission and #11	3
#38	readmission and dementia and nursing	52
#39	#38 and specialist	28
#40	#38 not #39	24

PubMed Search (completed 20/12/12):

Search	Query	Items found
#5	Related Articles by Review for PubMed (Select 18698595)	27
#2	Search (readmission) AND dementia AND nurse	2
#1	Search (readmission) AND dementia	92

Outcomes and Interventions 4: Screening, Assessment and Diagnosis

What evidence exists about the role (actual or potential) of a dementia nurse specialist in relation to the assessment, screening and diagnosis of hospitalized patients?

The titles of all hits generated by the following searches were reviewed for relevance to the research question:

- Cochrane Library #38, 62 and 43
- PubMed #6, 7, 8 (systematic reviews and clinical trials) and 10
- CINAHL Search 1 #14 and Search 2 #2,4,8 and 9.

Cochrane Library Search (28/12/12):

ID	Search	Hits
#1	MeSH descriptor: [Dementia] this term only and with qualifiers: [Nursing - NU]	116

#7 MeSH descriptor: [Dementia] this term only 1099
#8 #7 and hospital 210
#9 #7 and inpatient 57
#10 #7 and acute 44
#11 #8 or #9 or #10 259
#40 MeSH descriptor: [Diagnosis] explode all trees 221799
#41 #1 and #40 21
#42 diagnosis and #11 111
#43 #42 and nurse 52
#44 #42 and nurse specialist 12
#45 #40 and dementia and clinical nurse specialist 18
#46 #45 or #44 29
#47 #43 or #46 69
#48 MeSH descriptor: [Mass Screening] explode all trees 4250
#49 #1 and #48 0
#50 #48 and dementia 34
#51 #50 and nurse 5
#52 #48 and #11 5
#53 #51 or #52 10
#54 screening and #11 and clinical nurse specialist 6
#55 screening and #11 and nurse specialist 6
#56 #54 or #55 6
#57 #53 or #56 16
#58 MeSH descriptor: [Geriatric Assessment] explode all trees 932
#59 #58 and #1 9
#60 #58 and #11 14
#61 assessment and dementia and nurse 703
#62 #61 and #11 70
#63 #62 and clinical nurse specialist 11
#64 #46 or #57 or #63 38

PubMed Search (29/12/12):

Search	Query	Items found
#7	Search (#6) AND hospital*	20
#12	Select 4 document(s)	4
#8	Search ((#4) AND hospital*) AND nurs*	900
#11	Select 25 document(s)	25
#10	Search ((#4) AND hospital*) AND nurs* Filters: Review	106
#6	Search (#4) AND #5	42
#5	Search nurse specialist	5978
#4	Search (#3) AND #2	73279
#3	Search dementia	136606
#2	Search ((screening) OR assessment) OR diagnos*	5242665

CINAHL Search 1

#	Query	Limiters/Expanders	Results
S14	S9 AND S13	Search modes - Boolean/Phrase	5
S13	(MH "Diagnosis+")	Search modes - Boolean/Phrase	610,376
S12	S1 AND S10	Limiters - Special Interest: Advanced Nursing Practice Search modes - Boolean/Phrase	0
S11	S9 AND S10	Search modes - Boolean/Phrase	0
S10	(MH "Diagnosis")	Search modes - Boolean/Phrase	2,609
S9	S6 OR S8	Search modes - Boolean/Phrase	28
S8	S4 AND S7	Search modes - Boolean/Phrase	11
S7	dementia	Search modes - Boolean/Phrase	23,741
S6	S3 OR S5	Search modes - Boolean/Phrase	27
S5	S1 AND S4	Search modes - Boolean/Phrase	13
S4	"nurse specialist"	Search modes - Boolean/Phrase	2,008
S3	S1 AND S2	Search modes - Boolean/Phrase	19
S2	(MH "Clinical Nurse Specialists")	Search modes - Boolean/Phrase	4,773
S1	(MH "Dementia+")	Search modes - Boolean/Phrase	30,511

CINAHL Search 2

#	Query	Limiters/Expanders	Results
S9	TI Dementia AND TI nurs* AND TI diagnos*	Search modes - Boolean/Phrase	17
S8	S5 AND S7	Search modes - Boolean/Phrase	20
S7	TI Hospital*	Search modes - Boolean/Phrase	54,658
S6	"Hospital OR Acute-care OR Inpatient*"	Search modes - Boolean/Phrase	0
S5	AB Dementia AND AB nurs* AND AB diagnos*	Limiters - Peer Reviewed; Age Groups: All Adult Search modes - Boolean/Phrase	353
S4	AB Dementia AND AB nurs* AND AB diagnos*	Limiters - Publication Type: Systematic Review Search modes - Boolean/Phrase	12
S3	AB Dementia AND AB nurs* AND AB diagnos*	Limiters - Inpatients Search modes - Boolean/Phrase	69

S2	AB Dementia AND AB nurs* AND AB Diagnos*	Limiters - Special Interest: Advanced Nursing Practice Search modes - Boolean/Phrase	24
S1	AB Dementia AND AB nurse specialist	Search modes - Boolean/Phrase	15

Outcomes and Interventions 5: the role of the dementia nurse specialist in delivering interventions to meet the needs of hospitalized patients with dementia
Searches for this section of the review focused on evidence supporting a role for dementia nurse specialists on pressure ulcers and on delirium, agitation and other behavioural symptoms.

Pressure ulcers

Cochrane Library (14/01/13):

ID	Search	Hits
#1	MeSH descriptor: [Dementia] explode all trees and with qualifiers: [Nursing - NU]	183
#2	pressure sore	631
#3	#1 and #2	0
#4	dementia and #2	42
#5	#4 and nurse	37
#6	pressure ulcer	1575
#7	bed sore	189
#8	#2 or #6 or #7	2013
#9	#1 and #8	0
#10	dementia and nurse	1209
#11	#8 and #10	70

PubMed search (14/01/13):

("pressure ulcer"[All Fields] AND "dementia"[All Fields]) AND "nurse"[All Fields] = 5 citations
("pressure ulcer"[All Fields] AND "dementia"[All Fields] AND Review[ptyp]) = 17 citations
CINAHL (14/01/13):

(AB Dementia AND AB pressure ulcer AND nurs*) = 4 citations
(MM "Dementia") AND (MM "Pressure Ulcer") = 8 citations
(MH "Pressure Ulcer") AND (MM "Dementia+/NU") = 2 citations
The titles of the 70 hits for search number 11 on the Cochrane Library and all hits for the searches on PubMed and CINAHL were rapidly appraised to determine relevance to the research question. All citations with potential relevance were imported into an EndNote library group which already contained 10 publications on the management of pressure ulcers in patients with dementia retrieved from earlier searches. After removing duplicates, the group contained 19 references.

Management of delirium, agitation and behavioural symptoms

Searches for this section of the report were conducted on the Endnote Library that had been generated from all previous searches described above.

Outcomes and Interventions 6: The dementia nurse specialist role in developing the skills of non-specialist staff
Searches for this section of the report were conducted on the Endnote Library that had been generated from all previous searches described above.