# APPENDIX B - Evidence Tables

# Critical Appraisal and Findings Tables

# Critical Appraisal Tables

## Tables Reporting Impact Studies

## Review area 1 Transitions for people with mental health difficulties

### Questions 8a and 8b

**What is the impact of specific interventions to support people with mental health difficulties during transition from general inpatient hospital settings to community or care home settings?**

**What is the impact of specific interventions to support people with mental health difficulties during admission to general inpatient hospital settings from community or care home settings?**

Davis KK, Mintzer M, Dennison Himmelfarb CR et al. (2012) Targeted intervention improves knowledge but not self-care or readmissions in heart failure patients with mild cognitive impairment European Journal of Heart Failure 14: 1041–9

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Is a randomised comparison approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Appropriate randomisation?<br>• Unclear. No details provided. Simply states "Patients were randomized to the control or intervention group".<br>Adequate concealment of allocation?<br>• Unclear. Study does not report any concealment.<br>Comparable groups at baseline?<br>• Yes. No significant differences between the groups on any of the baseline demographic or clinical characteristics<br>Selection bias appraisal<br>• Unclear because we don't know how allocation was made and concealment was not discussed.<br>Was selection bias present?<br>• High risk of bias because concealment is not mentioned and the method of allocation is not described.<br>Did both groups receive equal treatment aside from the intervention?<br>• Yes. Control received standard treatment and the intervention group received the intervention<br>Allocation: participants | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes. Outcomes were measured using validated scales and service data<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Yes. Research assistant was blinded to allocation<br>Were investigators kept 'blind' to other important confounding factors?<br>• Yes<br>Detection bias appraisal<br>• Low risk of bias<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Unclear<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Participants had mild cognitive impairment and high social support needs<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Internal validity<br>• +<br>External validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Unclear. No mention of whether participants were blinded.<br>Allocation: practitioners<br>• No. The practitioner was not blinded because the same case manager provided usual care and the intervention.<br>Performance bias appraisal<br>• Unclear/unknown risk of bias.<br>It is unclear whether participants were blinded. However practitioner was not blinded.<br>Follow-up<br>• Yes. 30 day post discharge data collected for both groups<br>Drop-out numbers<br>• Intervention dropouts:8<br>• Comparison dropouts:8<br>Groups comparable on intervention completion?<br>• Yes<br>Missing outcome data<br>• Intervention group missing data: An intention to treat analysis was performed.<br>• Comparison missing outcome data: Single imputation was used to impute missing values. Scores were not imputed for self-care management because this subscale is not completed if the patient is asymptomatic in the previous 30 days from the time the data are collected.<br>Groups comparable on available data?<br>• Yes<br>Attrition bias appraisal<br>• Low risk of bias | | | |

Goldberg SE, Bradshaw LE, Kearney FC et al. (2013) Care in specialist medical and mental health unit compared with standard care for older people with cognitive impairment admitted to general hospital: Randomised controlled trial (NIHR TEAM trial). BMJ. 347, f4132

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Yes<br>Adequate concealment of allocation?<br>• No. The randomisation sequence was concealed from clinical staff who allocated patients, but as recruitment took place after randomisation research staff who collected baseline data were not blind to allocation.<br>Comparable groups at baseline?<br>• Yes<br>Selection bias appraisal<br>• Unclear/unknown risk of bias<br>Was selection bias present?<br>• Unclear/unknown risk<br>Selection bias<br>• Direction of bias effect<br>Positive effect<br>Did both groups receive equal treatment aside from the intervention?<br>• Yes. Up until the point of allocation<br>Allocation: participants<br>• Unclear. Because of the ordering of randomisation and recruitment, it seems possible that patients could have been aware of their allocation: "Suitable patients were identified on the acute medical admission unit and were randomly allocated between the | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes<br>Validated outcome measures plus routine health service records.<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Yes<br>Research staff who were not involved in recruitment or collection of baseline data and who were blind to allocation carried out outcome assessments.<br>Were investigators kept 'blind' to other important confounding factors?<br>• Yes<br>Detection bias appraisal<br>• Low risk of bias<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Yes<br>UK<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Internal validity<br>• +<br>External validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| specialist unit and standard care. Randomised patients were subsequently approached for recruitment to the study." By allocating patients in this way, the design violated best practice for a randomised trial.<br>Allocation: practitioners<br>• No. The intervention and control were delivered in different settings so allocation was clear to practitioners<br>Performance bias appraisal<br>• High risk of bias. Towards positive effect<br>Follow-up<br>• Yes. Carers' satisfaction with hospital care was ascertained through telephone calls one to three weeks after discharge. Health outcomes were ascertained at interview with the patient and carer at home 90 days (± 7 days) after randomisation.<br>Drop-out numbers<br>• Intervention dropouts: 115<br>• Comparison dropouts: 102<br>Groups comparable on intervention completion?<br>• Unclear due to inadequate randomization<br>Missing outcome data<br>• Intervention missing outcome data<br>"Collecting follow-up data was not easy for frail participants who frequently moved around the health and social care system, and we relied on proxy reports for much information. Some data were missing, and we used imputation to include all cases when possible."<br>• Comparison missing outcome data<br>As above | | | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Groups comparable on available data?<br>• Unclear<br>Attrition bias appraisal<br>• Unclear/unknown risk of bias<br>Information not provided so difficult to ascertain risk of bias | | | |

Rollman BL, Belnap BH, LeMenager MS et al. (2009) The bypassing the blues treatment protocol: Stepped collaborative care for treating post-CABG depression. JAMA 71: 217–30

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Yes. Depressed intervention and control: Depressed patients were randomised to either the intervention or “usual care” group in a 1:1 ratio in blocks of 4 according to a computer-generated random assignment sequence stratified by hospital site.<br>Non-depressed control: Study randomly sampled approximately one PHQ-2 screen-negative patient who was not using an antidepressant and met all other protocol-eligibility criteria for every two randomized depressed post-CABG study subjects, stratified by participating hospital and gender, and oversampled by race.<br>Adequate concealment of allocation?<br>• Yes. Telephone assessors were blinded as to patients’ randomization and baseline depression status and they cautioned subjects at the beginning of each call not to divulge their treatment assignment. | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Yes<br>Were investigators kept 'blind' to other important confounding factors?<br>• Unclear<br>Detection bias appraisal<br>• Low risk of bias | Is the setting similar to the UK?<br>• Unclear<br>This is a US study but still of relevance<br>Is there a clear focus on adults with social care needs?<br>• Unclear<br>Social support level noted. Intervention offers patient self-directed support for depression.<br>Has a transition taken place or been prevented? | Internal validity<br>• ++.<br>External validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Comparable groups at baseline?<br>• Yes.<br>Selection bias appraisal<br>• Low risk of bias<br>Was selection bias present?<br>• Low risk of bias<br>Did both groups receive equal treatment aside from the intervention?<br>• Unclear. As patients received the telephone intervention at home (and all groups, including comparison groups) were discharged from hospital it is difficult to monitor their actions. Usual physician care would have been most likely administered by different GPs.<br>Allocation: participants<br>• No<br>Allocation: practitioners<br>• No. Given the nature of our intervention, neither patients nor their primary care practitioners were blinded to the treatment assignment.<br>Performance bias appraisal<br>• High risk of bias<br>Follow-up<br>• Yes. All patients were contacted bi-weekly for two to four months. The patient subsequently transitioned to the “continuation phase” of care during which the care manager contacted him/her every 1–2 months until completion of our 8-month intervention.<br>Drop-out numbers<br>• Intervention drop-outs: 24 lost to follow up at 8 months<br>• Comparison drop-outs: 36 in total<br>Groups comparable on intervention completion? | Do conclusions match findings?<br>• Yes | • Yes<br>Are the outcomes relevant?<br>• Yes | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Unclear. 24 dropped out of depressed intervention group and 26 dropped out of the depressed usual care group for similar reasons.<br>Groups comparable on available data?<br>• Yes<br>Multiple imputation used to address missing 8-month follow-up assessments (17%; 50/302).<br>Attrition bias appraisal<br>• Low risk of bias | | | |

## Findings Tables

## Tables Reporting Impact Studies

## Review area 1 Transitions for people with mental health difficulties

### Questions 8a and 8b

**What is the impact of specific interventions to support people with mental health difficulties during transition from general inpatient hospital settings to community or care home settings?**

**What is the impact of specific interventions to support people with mental health difficulties during admission to general inpatient hospital settings from community or care home settings?**

Davis KK, Mintzer M, Dennison Himmelfarb CR et al. (2012) Targeted intervention improves knowledge but not self-care or readmissions in heart failure patients with mild cognitive impairment European Journal of Heart Failure 14: 1041–9

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Study aim<br>• To test the effect of a targeted intervention on self-care, heart failure knowledge, and 30-day readmissions in heart failure patients with mild cognitive impairment<br>Source of funding<br>• Government<br>The Nursing Support Program I (a grant sponsored by the Health Service Cost Review Commission).<br>Social care outcomes<br>• Social support<br>The ENRICHD Social Support Inventory (ESSI) is a seven-item measure that assesses social support.<br>Clinical outcomes<br>• The Self-Care of Heart Failure Index (SCHFI) | Number of participants:<br>• Comparison group 62<br>• Intervention group 63<br>• Total = 125 patients hospitalized for exacerbation of heart failure who screened positive for MCI (mild cognitive impairment).<br>Country<br>• Not reported<br>Intervention<br>•The study intervention was based on principles of cognitive training. The intervention focused on environmental manipulations and training compensatory strategies for working with impairments in memory and executive functioning, and on improving self-confidence related to the patients' ability to manage their health. | Effect sizes<br>• Heart Failure Knowledge<br>Mean knowledge scores increased significantly in the intervention group −0.66 (1.56), but decreased in the control group 0.04 (1.69); P-value = 0.001.<br>• Readmission rates<br>The 30 day readmission rate for the entire sample was 21% (n = 26), with the control group readmitted at a rate of 19% (n = 12) and the intervention group at 22% (n = 14). There were no significant differences between the control and intervention groups in terms of readmission rates, days to first readmission, or total hospital days within the 30-day study period.<br>•Self Care<br>Mean change scores on all three Self-Care of Heart Failure Index subscales showed greater improvement in self-care for the intervention group when compared with the control group; however, this was not statistically significant.<br>Self-care maintenance, assessed with Self-Care of Heart Failure Index [SCHFI] | Internal validity<br>• +<br>External validity<br>• ++ |

<table>
<tr><th>Research Aims</th><th>Population</th><th>Findings</th><th>Summary of Quality</th></tr>
<tr>
<td>•The Dutch Heart Failure Knowledge Scale (DHFKS)<br>• Cognition: The Montreal Cognitive Assessment (MoCA)<br>• Physical health: The Charlson Comorbidity Index<br>• Depression: Geriatric Depression Scale (GDS)<br><br>Service outcomes<br>• Risk of hospital re-admission within 30 days</td>
<td>Setting<br>•The intervention was delivered while the patient was hospitalized, and also included a post-discharge phone call. The case manager tailored each intervention to integrate self-care into the patient’s personal routine and environment.</td>
<td>
<table>
<tr><th>Mean (sd)</th><th>Baseline</th><th>Follow-up</th><th>Change</th></tr>
<tr><td>Intervention</td><td>65.65 (18.17)</td><td>78.56 (16.57)</td><td>14.60 (17.50)</td></tr>
<tr><td>Control</td><td>61.45 (19.97)</td><td>75.0 (16.59)</td><td>13.75 (17.78)</td></tr>
</table>
p=0.711, comparing mean change scores<br>Both groups moved from inadequate to adequate self-care levels, with adequacy in self-care defined as ≥ 70 points on any SCHFI subscale.<br><br>Self-care management, assessed with Self-Care of Heart Failure Index [SCHFI]
<table>
<tr><th>Mean (sd)</th><th>Baseline</th><th>Follow-up</th><th>Change</th></tr>
<tr><td>Intervention</td><td>66.25 (23.70)</td><td>72.12 (16.35)</td><td>7.73 (18.88)</td></tr>
<tr><td>Control</td><td>70.41 (16.08)</td><td>73.28 (16.39)</td><td>3.75 (21.44)</td></tr>
</table>
p=0.430, comparing mean change scores
</td>
<td></td>
</tr>
</table>

<table>
<tr><th>Research Aims</th><th>Population</th><th>Findings</th><th>Summary of Quality</th></tr>
<tr><td></td><td></td><td>Self care confidence
<table>
<tr><th>Mean (sd)</th><th>Baseline</th><th>Follow-up</th><th>Change</th></tr>
<tr><td>Intervention</td><td>64.60 (15.61)</td><td>65.33 (18.75)</td><td>0.39 (18.41)</td></tr>
<tr><td>Control</td><td>65.37 (16.62)</td><td>64.453 (17.81)</td><td>-0.55 (17.86)</td></tr>
</table>
p=0.692, comparing mean change scores<br><br>Knowledge of condition, assessed with DHFKS
<table>
<tr><th>Mean (sd)</th><th>Baseline</th><th>Follow-up</th><th>Change</th></tr>
<tr><td>Intervention</td><td>11.27 (1.71)</td><td>11.85 (1.50)</td><td>0.66 (1.56)</td></tr>
<tr><td>Control</td><td>11.21 (1.98)</td><td>11.22 (1.66)</td><td>-0.04[1] (1.69)</td></tr>
</table>
p=0.001, comparing mean change scores<br><br>• Narrative findings<br>Compared with patients who received standard discharge teaching, patients who received the intervention had improved heart failure knowledge over time. Improvements in heart failure knowledge in the intervention group did not seem to affect self-</td><td></td></tr>
</table>

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[1] As reported in the paper

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | care or readmissions.<br>Patients in the intervention group had higher scores at follow-up on questions related to fluid restriction, causes of worsening HF symptoms, and the function of the heart, whereas the control group scores decreased on these questions at follow-up. | |

Goldberg SE, Bradshaw LE, Kearney FC et al. (2013) Care in specialist medical and mental health unit compared with standard care for older people with cognitive impairment admitted to general hospital: Randomised controlled trial (NIHR TEAM trial). BMJ, 347, f4132

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised controlled trial<br>Study aim<br>• To develop and evaluate a best practice model of general hospital acute medical care for older people with cognitive impairment.<br>Source of funding<br>• Government. UK National Institute for Health Research (NIHR)<br>Clinical outcomes<br>• Cognitive impairment (mini-mental state examination) | Number of participants:<br>• Comparison group 290<br>• Intervention group 310<br>• Total = 600 patients aged over 65 admitted for acute medical care, identified as “confused” on admission.<br>Country<br>• UK<br>Intervention<br>• Medical and Mental Health unit. The 28 bed specialist unit was an acute geriatric medical ward, with five enhanced components: | Effect sizes<br>Primary outcomes<br>• Days spent at home<br>There was no significant difference in days spent at home between the specialist unit and standard care groups (median 51 v 45 days; 95% confidence interval for difference −12 to 24; P-value = 0.3)<br>• Returning home from hospital<br>Specialist unit patients were more likely to return home from hospital (74% v 70%, 95% confidence interval for difference −3% to 11%, non-significant), but, for those who returned home, the number of days at home was similar (median 70.5 v 71 days, 95% confidence interval for difference −6 to 6.5). | Internal validity<br>• +<br>External validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| • Health related quality of life<br>• Mortality<br>• Caregiver burden/distress: Carer strain (carer strain index28); and carer psychological wellbeing (general health questionnaire, GHQ-1229).<br>Satisfaction<br>• Caregiver satisfaction: Satisfaction was measured on 10 dimensions of care (overall, admission, car parking, nutrition, medical management, being kept informed, dignity and respect, meeting the needs of a confused patient, discharge arrangements, timing of discharge) with Likert scales (very/mostly satisfied, mostly/very dissatisfied; items taken from an Alzheimer's Society report on acute hospital care<br>• Life satisfaction<br>Patients' mood and engagement on the wards were measured by direct observation in a randomly selected subsample of patients<br>Service outcomes<br>• Length of hospital stay<br>• Risk of hospital re-admission | • Specialist mental health staff were employed, including three nurses, an occupational therapist, and regular twice weekly visits from a psychiatrist. There was also additional physiotherapy, speech and language therapy, and geriatrician time.<br>• Staff received training in recognition and management of delirium and dementia and the delivery of person-centered dementia care<br>• There was a programme of organised therapeutic and diversionary activities<br>• The environment was made more appropriate for people with cognitive impairment<br>• A proactive and inclusive approach to family carers was adopted. The two consultant geriatricians on the ward had a special interest in delirium and dementia and wrote thorough discharge letters to family doctors | At 90 days, the number of days spent at home or in the same care home was similar (specialist unit median 51 days (IQR 0 to 79) and standard care 45 days (0 to 78); 95% CI for difference in medians -12 to 24 days (unadjusted)).<br>• Hospital Mortality<br>Mortality in hospital was 29 (9%) versus 22 (8%). Specialist unit patients were slightly more likely to survive to 90 days (specialist unit 22%, standard care 25%, a difference of -3%, 95% CI -9 to 4%), less likely to move to a care home (specialist unit 45/222 (20%) and standard care 65/230 (28%); OR 0.6 unadjusted (95% CI 0.42 to 1.00); OR 0.78 adjusted (95% CI 0.49 to 1.24)., or be readmitted (specialist unit, 99 (32%) and standard care 101 (35%); OR 0.88 unadjusted (95% CI 0.63 to 1.24); OR 0.83 adjusted (95% CI 0.58 to 1.19),, but none of these differences were significant after adjustment for baseline variables.<br>• Hospital length of stay<br>Both the index length of stay (specialist unit median 11 days (IQR 5-22) and standard care 11 days (5-20); OR 1.03 unadjusted (95% CI 0.88 to 1.20); OR 1.14 adjusted (95% CI 0.99 to 1.32) and the total number of days in hospital (specialist care median 16 (IQR 8-30) and standard care 16 (7-30); relative change 1.00 unadjusted (95% CI 0.87 to 1.16); relative change 1.07 adjusted (95% CI 0.93 to 1.23),were similar between groups. | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| • Risk of nursing home admission<br>The primary outcome was the number of days spent at home (or in the same care home) in the 90 days after randomisation. This composite outcome took account of death; time spent in hospital, re-admissions, inpatient rehabilitation or intermediate care; or new placement in a care home. | and other community services for all patients within a week of discharge.<br>Setting<br>• Large acute general hospital in the UK | Secondary outcomes<br>• Patients randomised to the specialist unit had a significantly higher quality of hospital experience, were more often in a positive mood or engaged (median 79% v 68%, equivalent to an additional 40 minutes per six hour observation), active (82% v 74%), or engaged in social interactions (47% v 39%) and less often in a negative mood (11% v 20%). They experienced more staff interactions that met psychological and emotional needs (“personal enhancers”). Family carers of patients randomised to the specialist unit were significantly more satisfied with overall care, nutrition, dignity and respect, the needs of confused patients being met, and discharge arrangements. Most carers were very or mostly satisfied, but there was a tail of severe dissatisfaction in both groups, which was about twice as frequent in standard care. Health status outcomes, carer strain, and carers’ psychological wellbeing were no different between groups 90 days after randomisation<br>The authors also reported "There were significant (p<0.05) differences between the specialist unit and standard care on 42/132 intervention process items, including more comprehensive assessment of mental state, function, collateral history, statement of a clear medical diagnosis, drug review, rehabilitation therapy, discussion with | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | family carers, and referral to community rehabilitation and mental health services."<br>Similarly, improved recording was seen in the specialist unit with inpatient falls being more often recorded in medical records on the specialist unit (30/110 (27%) v 17/95 (18%), 95% CI for difference −2% to 20%), although the difference was not statistically significant,<br>• Narrative findings<br>In this comparison between older patients with cognitive impairment managed on a specialist medical and mental health unit or on standard care wards there were no significant differences in days spent at home or other health status outcomes. Patients' experiences, however, were better, and family carers were more satisfied with care on the specialist unit. |  |

Rollman BL, Belnap BH, LeMenager MS et al. (2009) The bypassing the blues treatment protocol: Stepped collaborative care for treating post-CABG depression. JAMA 71: 217–30

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Study aim<br>• Primary aim: To compare the impact on health-related-quality-of-life of telephone-delivered collaborative care for post-coronary artery bypass graft (CABG) surgery depression with doctors' usual care. Secondary aims: To evaluate the effectiveness of the intervention on mood symptoms, physical health, and cardiovascular morbidity.<br>Source of funding<br>• Government<br>NIH grants R01 HL70000 (Rollman) and P30 MH71944 (Reynolds) and by the UPMC Endowed Chair in Geriatric Psychiatry (Reynolds).<br>Social care outcomes<br>• Social support: Perceived Social Support Scale<br>Clinical outcomes<br>• Function: Functioning (Duke Activity | Number of participants<br>• Comparison group: 151 non-depressed randomly sampled post-CABG patients and 152 depressed receiving usual care. Total = 303<br>• Intervention group: 150 = depressed intervention<br>• Total = 453 medically-stable patients who had just undergone coronary artery bypass graft surgery and were being discharged home or to short-term rehabilitation.<br>Country<br>• US<br>Intervention<br>• 8-Months of telephone-delivered collaborative care provided by nurses working with patients' primary care physicians and supervised by a study psychiatrist and study primary care physician.<br>1) workbook to enhance patient's ability to self-care for depression<br>2) initiation or adjustment of antidepressant pharmacotherapy | Costs<br>• Resource use data<br>Given the $32,201 mean cost of coronary artery bypass graft associated rehospitalisation, $14,471 annual expenses per Medicare beneficiary, and relationship of co-morbid depression with a doubling of health care costs independent of physical illness burden, post-coronary artery bypass graft patients are an attractive target for a depression treatment program likely to prove cost-effective and possibly cost-saving.<br>Effect sizes<br>• 33% of intervention patients and 32% of usual care patients were rehospitalized.<br>• Depressed intervention patients (N = 150) reported greater improvements (all P ≤ 0.02) in mental health related quality of life; (between group difference 3.2, 95% CI: 0.5–6.0), physical functioning (between group difference 4.6. 95% CI 1.9 to 7.3), and mood symptoms (between group difference 3.1, 95% CI 1.3 to 4.9); and were more likely to report a ≥ 50% decline in Hamilton Rating Scale for Depression score from baseline (50.0% vs. 29.6%, (assumed) RR 0.42, 95% CI 0.19 to 0.65) than depressed patients randomized to their physicians' usual care (N=152) (P<0.001). Men | Internal validity<br>• ++<br>External validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Status Index (DASI)<br>• Health related quality of life: Mental health-related quality of life (HRQoL) as measured by the SF-36 MCS<br>• Physical health: Physical HRQoL (SF-36 PCS)<br>• Depression: Hamilton Rating Scale for Depression (HRS-D)<br>Service outcomes<br>• Risk of hospital re-admission | prescribed under their PCPs' direction<br>3) watchful-waiting for mildly elevated mood symptoms<br>4) referral to a local mental health service | randomised to our intervention tended to have a lower incidence of rehospitalisation than those in usual care (13% vs. 23%; p=0.07).<br>No differences were seen between groups for physical health-related QoL (between group difference 1.6, 95% CI -0.5 to 3.8).<br>"Rates of self-reported pharmacotherapy use increased from baseline levels at all follow-up points; however, these rates were higher in intervention patients than in usual care ones.<br>Rates of mental health specialist care were low and did not differ by randomization status (eg, 4% in intervention patients vs 6% in usual care patients at 8-month follow-up)"<br>• Narrative findings<br>Collaborative care for treating post CABG depression was found to improve mental health-related quality of life and physical functioning and reduce mood symptoms at 8-month follow-up. |  |

## Critical Appraisal Table

## Table Reporting Views Study

## Review area 1 Transitions for people with mental health difficulties

### Questions 8a and 8b

**What is the impact of specific interventions to support people with mental health difficulties during transition from general inpatient hospital settings to community or care home settings?**

**What is the impact of specific interventions to support people with mental health difficulties during admission to general inpatient hospital settings from community or care home settings?**

**And views questions 1-4 and question 10 relating to mental health.**

Clissett P, Porock D, Harwood RH et al. (2013) Experiences of family carers and older people with mental health problems in the acute general hospital: a qualitative study. Journal of Advanced Nursing 69: 2707–16

| Study Aims and Suitability of Design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Is a qualitative approach appropriate?<br>• Appropriate.<br>Family carers play a key role in enabling people with dementia to receive quality healthcare; not only do they provide practical and emotional support but they also act as advocates. A qualitative approach was appropriate to better understand carers' experience of acute care admission for older people with dementia.<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes<br>Is the role of the researcher clearly described?<br>• Clearly described.<br>None of the researchers engaged in data collection had a clinical role in the acute | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Somewhat appropriately.<br>Recruitment occurred over 12 months, until data saturation occurred. 72 hours of individual patient observations were conducted on eleven acute medical and surgical wards together with thirty-five interviews concerning the experiences of 34 patients. Coding was by two experienced academic nurses.<br>Is the context clearly described?<br>• Clear.<br>Interviews were conducted in the home of the patient or carer and included the patient wherever possible. Interviews took place between 6–8 weeks after discharge, or after 12 weeks if the patient had died. Most interviews involved the patient and carer together and sometimes involved an extra family member if requested.<br>Was the sampling carried out in an appropriate way?<br>• Appropriate<br>For a larger linked study (Goldberg et al. 2012) 1,000 consecutive admissions to the identified wards were screened. Two hundred and fifty patient–carer pairs were recruited from among those identified as having a mental health problem. As part of the process of recording consent, participants were invited to indicate if they were willing to be contacted for an in-depth interview as part of this study. Following discharge from hospital, potential participants who agreed to this were contacted by telephone and invited to participate<br>Were the methods reliable? | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++ | Relevance to the guideline<br>• High. |

| Study Aims and Suitability of Design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| hospital where the study was conducted. | • Reliable<br>Are the data ‘rich’?<br>• Mixed<br>Is the analysis reliable?<br>• Somewhat reliable<br>Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate | | |

## Findings Table

## Table Reporting Views Study

## Review area 1 Transitions for people with mental health difficulties

## Questions 8a and 8b

**What is the impact of specific interventions to support people with mental health difficulties during transition from general inpatient hospital settings to community or care home settings?**

**What is the impact of specific interventions to support people with mental health difficulties during admission to general inpatient hospital settings from community or care home settings?**

**And views questions 1-4 and question 10 relating to mental health.**

Clissett P, Porock D, Harwood RH et al. (2013) Experiences of family carers and older people with mental health problems in the acute general hospital: a qualitative study. Journal of Advanced Nursing 69: 2707–16

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Study aim<br>• To explore the experiences of family carers of people with cognitive impairment during admission to hospital.<br><br>Methodology<br>• Semi-structured interviews with family carers of 34 older people who had been admitted to a UK general hospital and had co-morbid cognitive impairment.<br><br>Source of funding<br>• Government<br>National Institute for Health Research Service Delivery and Organisation | Participants:<br>Family carers of 34 patients aged over 70 admitted to a UK general hospital with co-morbid cognitive impairment (predominantly delirium, dementia or both).<br><br>Country<br>• UK<br><br>Setting<br>•Two sites of a single NHS Trust in the Midlands | Views of carers:<br>•Admission to acute care is a disruption from normal routine. It's a distressing, stressful time for older patients with cognitive impairment and their carers.<br>•The early stages of the admission process were particularly distressing and disorientating; the unfamiliar environment combined with the onset of cognitive impairment meant patients "did not understand why they were there, what was happening, and were anxious about being abandoned" (p.2712).<br>•The emergency department was seen as a chaotic place where treatment and transfer processes were slow, exhausting and uncomfortable.<br>What can be improved:<br>Understanding<br>•It is unlikely that family carers will report better experiences of care unless staff know 'where they are coming from', what they are thinking and why; appreciate their special relationship with a person with dementia (or other mental health problem or cognitive impairment); and recognize the emotional, psychological and practical needs of many family carers themselves.<br>Communication<br>•Family carers of such patients have different concerns and needs from other family carers. Healthcare professionals need to be more consistent in working in partnership with these family carers, recognizing them as a source of expertise in the specific needs of a person with dementia, as a source of direct care for their family member and also as a partner who needs to be welcomed, supported and kept informed.<br><br>•Family carers emphasised the paramount need for effective communication with members of staff, especially in the case of patients with dementia, who are 'unreliable historian(s)' (p.2713) and unable to either provide an accurate picture of the care they | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | have received to their carer, or relay useful information about their own situation to the staff.<br>•Family carers acted to preserve the personhood of the individual with dementia during their hospital stay. Family carers felt that members of staff would leave them uninformed if they did not ask questions.<br>Consistency of community support services<br>•Family carers were concerned that community support services might be withdrawn, increasing disruption in the longer term: "Another problem was the social services terminated her care package after a fortnight in hospital regardless of what I'd said and I was keeping in very close contact, keeping them informed. I was very concerned that she should stay with the same carers because she had a relationship with them, they're doing very personal things for her and it worked really well and I knew she was on the brink of not being able to stay at home" (p.2710). | |

## Critical Appraisal Table

## Table Reporting Impact Study

## Review area 2 Transitions for people with end of life care needs

### Questions 9a and 9b

**What is the impact of specific interventions to support people with end-of-life care needs during transition from inpatient hospital settings to community or care home settings, including hospices?**

**What is the impact of specific interventions to support people with end-of-life care needs during admission to inpatient hospital settings from community settings including care homes and hospices?**

Brody AA, Ciemins E, Newman J, et al. (2010) The effects of an inpatient palliative care team on discharge disposition. Journal of Palliative Medicine 13: 541–8

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Case-control study<br>Is a case-control approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Question appropriate and focused?<br>• Adequately addressed<br>Comparable populations?<br>• Well covered.<br>The intervention group were matched to the Usual Care patients based on 4 criteria:<br>1) Agency for Healthcare Research and Quality's (AHRQ) Clinical Classification Software (CCS), which groups patients with similar diagnostic codes<br>2) ADRDRG Mortality Risk and severity of illness rating<br>3) age of patient<br>4) days hospitalised in the year prior to the index hospitalisation<br>Same exclusion criteria?<br>• Well covered.<br>Patients excluded if they died during the hospitalisation, were younger than 18, had an initial hospital length of stay of less than 2 days, were hospice patients admitted for acute symptom management or respite care. | Question appropriate and focused?<br>• Adequately addressed<br>Participation rate for each group?<br>• Cases: 361 out of eligible 24,252<br>• Controls: 361 out of eligible 853<br>Comparison of participants?<br>• Not reported<br>Cases clearly defined?<br>• Well covered<br>Distinguishing of cases from controls?<br>• Well covered<br>Measures to prevent knowledge of primary exposure?<br>• Retrospective study so not applicable<br>Exposure status<br>• Adequately addressed<br>Recognised scales, and consideration of evidence from other sources covered.<br>Confounding factors<br>• Not reported<br>Statistical analysis<br>• Confidence Intervals provided<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Unclear. US context, access to service dependent on Medicare entitlement. Limited to a single PCT in a single urban multi-campus hospital.<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Referral to Home Health care benefit dependant on social care need<br>Has a transition taken place or been prevented?<br>• Yes<br>To hospice care, home without service and home with services<br>Are the outcomes relevant?<br>• Yes | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• + |

## Study Findings Table

## Table Reporting Impact Study

## Review area 2 Transitions for people with end of life care needs

### Questions 9a and 9b

**What is the impact of specific interventions to support people with end-of-life care needs during transition from inpatient hospital settings to community or care home settings, including hospices?**

**What is the impact of specific interventions to support people with end-of-life care needs during admission to inpatient hospital settings from community settings including care homes and hospices?**

Brody AA, Ciemins E, Newman J, et al. (2010) The effects of an inpatient palliative care team on discharge disposition. Journal of Palliative Medicine 13: 541–8

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Case-control study<br>Study aim<br>•To evaluate the impact of palliative care teams (PCTs) on discharge disposition using a matched case-control study.<br>Source of funding<br>•Voluntary/Charity<br>John A. Hartford Foundation and the Mayday Foundation<br>Clinical outcomes<br>• Physical health: APRDRG severity of illness<br>• Mortality: APRDRG Risk of mortality and Social Security Death Index<br>Service outcomes<br>• Length of hospital stay: Length of stay (in days) | Number of participants<br>• Comparison group 361<br>• Intervention group (PCT) 361<br>• Total = 722 matched pairs<br>Sample comprised all acute care patients seen by the PCT from July 2004 to December 2006 and individually matched cohort of inpatients during the same period who were not seen by the PCT at any point during their stay.<br>Country<br>• US<br>Intervention<br>• Acute care patients seen at least once by either the PCT physician or nurse practitioner were included in the intervention group. | • Effect sizes<br>Controlling for demographic factors, mortality, and hospitalisation characteristics, patients seen by the palliative care team were 3.24 times as likely to be discharged to hospice (95% CI 2.26 to 4.65, p < 0.0001), 1.52 times more likely to be discharged to a SNF (95% CI 1.20 to 1.92, p < 0.001), and 1.59 times as likely to be discharged to home with homecare (95% CI 1.23 to 2.06, p < 0.0001) than to be discharged home without services than those patients receiving usual care.<br>In a univariate analysis, patients who died within 30 days of discharge were more likely to have been seen by the PCT and discharged to a hospice (46.2%) compared to patients receiving usual care (32.4%) (p <0.0001) For death within 31-90 days, more people seen by the PCT were discharged to hospice care compared with usual care (35.9% vs 2.8%, P < 0.0001). Similarly, fewer patients seen by the PCT were discharged to a SNF by date of death (42.0% vs 48.7% within 30 days P < 0.0001, and 20.3% vs 30.6% for 31-90 days, P < 0.0001).<br>• Narrative findings<br>"Patients who received an inpatient palliative care team (PCT) consultation were associated with a greater likelihood of receiving formal follow-up | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | services upon discharge, particularly hospice care services. Patients receiving an inpatient PCT consultation were more likely to be discharged to hospice at an earlier point in their disease trajectory. PCT in inpatient setting more able to assess and anticipate patient discharge needs, and discuss discharge plans with patients and /or their family members, and recognize severity of illness at an earlier stage."<br>The authors suggested that PCTS can have a large impact on the hospital course and future care of the patient; they promote earlier referrals to hospice - patients in hospice have been found to have lower hospital utilization and costs. |  |

## Critical Appraisal Tables

## Table Reporting Views Studies

## Review area 2 Transitions for people with end of life care needs

### Questions 9a and 9b

**What is the impact of specific interventions to support people with end-of-life care needs during transition from inpatient hospital settings to community or care home settings, including hospices?**

**What is the impact of specific interventions to support people with end-of-life care needs during admission to inpatient hospital settings from community settings including care homes and hospices?**

**And views questions 1-4 and question 10 relating to end of life care needs.**

Hanratty B, Holmes L, Lowson E et al. (2012) Older adults' experiences of transitions between care settings at the end of life in England: A qualitative interview study. Journal of Pain and Symptom Management 44: 74–83

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes<br>Is the role of the researcher clearly described?<br>• Clearly described<br>How clear and coherent is the reporting of ethics?<br>• Yes | How defensible/rigorous is the research design/methodology?<br>• Defensible. Authors show the need for this type of research by highlighting the gaps in the UK for capturing the views of service users in the last year of life.<br>How well was the data collection carried out?<br>• Appropriately. Interviews took place in a location of the participant's choice. Interviews were recorded with permission. Interviews could be terminated by the participant at any time they were tired. The average duration was 90 minutes.<br>Is the context clearly described?<br>• Clear. Northern England between 2009 and 2010. Patients identified from hospital, care home and hospices.<br>Was the sampling carried out in an appropriate way?<br>• Somewhat appropriate<br>Purposive sampling identified by consultants and specialist nurse teams. There may be a selection bias towards those who had a good relationship with their consultant and nurses.<br>Were the methods reliable?<br>• Reliable. Semi-structured interviews were recorded and transcribed verbatim. Double coding of themes between more than one researcher and use of open ended questions. Systematic and transparent approach to data management. Stakeholder involvement in interpreting results.<br>Are the data 'rich'?<br>• Rich<br>Quotes illustrate well the themes identified. There are quotes from different participants, family members, males and females.<br>Is the analysis reliable?<br>• Reliable | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++ | Relevance to the Transitions guidance<br>• Highly relevant |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
|  | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate |  |  |

Hanratty B, Lowson E, Grande G et al. (2014) Transitions at the end of life for older adults - patient, carer and professional perspectives: a mixed-methods study. Health Services and Delivery Research 2 (17): 1–130

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Mixed methods<br>Is the mixed-methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed-methods question?<br>• Yes<br>Is the integration of qualitative and quantitative data (or results) relevant to address the research question?<br>• Yes. Triangulating views with national data<br>Is appropriate consideration given to the limitations associated with this integration, such as the divergence of qualitative and quantitative data (or results)?<br>• No divergence. The integration of qualitative and quantitative data is a strength of this paper. | Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question?<br>• Yes<br>Is the process for analysing qualitative data relevant to address the research question?<br>• Yes<br>Is appropriate consideration given to how findings relate to the context, such as the setting, in which the data were collected?<br>• Yes<br>Is appropriate consideration given to how findings relate to researchers' influence; for example, though their interactions with participants?<br>• Yes | Internal validity<br>• ++ | Is the setting similar to the UK?<br>• Yes<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| | | | External validity<br>• ++ |

Ingleton C, Payne S, Sargeant A et al. (2009) Barriers to achieving care at home at the end of life: transferring patients between care settings using patient transport services. Palliative Medicine 23: 723–30

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Mixed<br>Study approved by ethics committee?<br>• Yes<br>Approval from Huntingdon Research Ethics Committee in August 2005 and local Research Governance approval was obtained in accordance with the requirements of all local organisations in the each area throughout the evaluation.<br>Is the role of the researcher clearly described?<br>• Not described<br>How clear and coherent is the reporting of ethics?<br>• Not stated | How defensible/rigorous is the research design/methodology?<br>• Somewhat defensible<br>Stakeholders and health professionals were recruited by post, telephone and e-mail (initial contact details were provided by local Marie Curie DCP managers). Recruitment of patients, family carers and bereaved carers was via local health professionals and palliative care services, which acted as an intermediary.<br>How well was the data collection carried out?<br>• Somewhat appropriately<br>Context of interviewees and focus group members described, but nothing divulged about interviewers<br>Is the context clearly described?<br>• Clear.<br>Was the sampling carried out in an appropriate way?<br>• Somewhat appropriate<br>Were the methods reliable?<br>• Somewhat reliable | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++ | Relevance to the Transitions guidance<br>• Highly relevant |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| | Interviews and focus groups<br>Are the data 'rich'?<br>• Mixed<br>Is the analysis reliable?<br>• Somewhat reliable<br>Data coded and checked<br>Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate | | |

Kusmaul N, Waldrop D (2011) The living-dying interval in nursing home-based end-of-life care: Family caregivers' experiences Journal of Gerontological Social Work 54: 768–87

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Mixed. The stated aim was to interview nurses as well as caregivers, but this was not reported on<br>Study approved by ethics committee?<br>• Yes<br>Is the role of the researcher clearly described?<br>• Clearly described. Researcher is lead author, developed the interview schedule and conducted | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Appropriately.<br>Participants were approached via letter worded by the first author, but sent by the hospital. Interviews were conducted very soon after the death of the loved one to ensure good recall (Interviews were conducted between 3 to 4.5 months after the death (M = 3.5 months; 105 days).) Interviews were conducted in the place of the interviewee's choice. Additional family member who | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++ | Relevance to the Transitions guidance<br>• Somewhat relevant |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| the interviews.<br>How clear and coherent is the reporting of ethics?<br>• The study was approved by the Social and Behavioral Sciences Institutional Review Board at the University at Buffalo (which we assume to be the University Ethics Committee). | wished to participate and give their views were invited. Interviews conducted by lead author. Audio data were professionally transcribed.<br>Is the context clearly described?<br>• Clear<br>US policy and legal context clearly described as are the participants and the setting.<br>Was the sampling carried out in an appropriate way?<br>• Appropriate<br>Participants were selected based on their status as caregivers (formal and informal/ unpaid) of nursing home residents. For the family carers: each month, an administrative assistant mailed invitation letters to all family caregivers of people who had died at the nursing home 2 months prior. The invitation letter was written by the first author but mailed by the nursing home to assure compliance with Health Insurance Portability and Accountability Act (HIPAA) guidelines for protected health information.<br>Were the methods reliable?<br>• Reliable<br>The interviews were conducted by the author who is a licensed social worker with 20 years of social work practice experience. Interviews were guided by the use of an interview instrument that included 18 open-ended questions and probes. Interviews were audio taped with permission and transcribed by a professional transcriptionist.<br>Are the data 'rich'? | | |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
|  | • Mixed<br>Although the first phase of the study included views of nursing care staff, none of these were reported. Which participant is speaking could have been made clearer.<br>Is the analysis reliable?<br>• Reliable<br>Methods of coding were transparent, themes generated were quality assured.<br>Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate. The conclusions match the findings. |  |  |

O'Brien M, Jack B (2010) Barriers to dying at home: the impact of poor co-ordination of community service provision for patients with cancer. Health and Social Care in the Community 18: 337–45

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>A qualitative study, using two audio tape-recorded focus group interviews, with a purposive sample of district nurses and community specialist palliative care nurses<br>Is a qualitative approach appropriate?<br>• Appropriate<br>To obtain an overview of cases the nurses had experienced and to facilitate dialogue and | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Somewhat appropriately<br>A thematic analysis approach was adopted incorporating the four stages of organisation, familiarisation, reduction and analysis. The interviews were transcribed verbatim and subjected to in-depth analysis independently by the two researchers. The reduction phase of the analysis involved | As far as can be ascertained from the paper, how well was the study conducted?<br>• + | Relevance to the Transitions guidance<br>• Highly relevant |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| interaction, focus group interviews were deemed to be appropriate.<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes<br>Research ethics committee approval was obtained<br>Is the role of the researcher clearly described?<br>• The authors acted as the researchers; they led the focus group and acted in the role of moderator.<br>How clear and coherent is the reporting of ethics?<br>• Yes. During transcription, specific participants were not identified, as was the convention at the time; in addition, the ethics committee required tapes to be erased following transcription, so individuals cannot now be identified | coding of the data, where categories under each question were identified and coded. The analysis stage continued with theme descriptors defined and re-defined until all data were fully represented.<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Somewhat appropriate<br>It was a small, purposive sample, but appropriate for the study. Further research that includes a wider range of district nurses, medical staff and carers is undoubtedly required.<br>Were the methods reliable?<br>• Somewhat reliable<br>Are the data 'rich'?<br>• Mixed<br>Is the analysis reliable?<br>• Reliable<br>Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate | | |

## Findings Tables

## Table Reporting Views Studies

## Review area 2 Transitions for people with end of life care needs

## Questions 9a and 9b

**What is the impact of specific interventions to support people with end-of-life care needs during transition from inpatient hospital settings to community or care home settings, including hospices?**

**What is the impact of specific interventions to support people with end-of-life care needs during admission to inpatient hospital settings from community settings including care homes and hospices?**

**And views questions 1-4 and question 10 relating to end of life care needs.**

Hanratty B, Holmes L, Lowson E et al. (2012) Older adults' experiences of transitions between care settings at the end of life in England: A qualitative interview study. Journal of Pain and Symptom Management 44: 74–83

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Study aim<br>• To explore older adults' experiences as they move between places of care at the end of life<br><br>Methodology<br>• Qualitative study<br><br>Source of funding<br>• Independent research funding body | Participants<br>• 30 older people thought to be in the last year of life. Lung cancer, heart failure and stroke<br><br>Country<br>• UK<br><br>Intervention<br>• Participants had experienced transitions between at least two care settings in the previous three months | Qualitative outcomes<br>• What works well<br>Descriptions of good or exceptional care were directed towards individual practitioners, rather than systems and processes. A good understanding of the purpose of any move into or out of an institution and the associated practical arrangements may help to minimize distress associated with transition. Individual health professionals were singled out for praise by our interviewees and not held accountable for the overall experience provided.<br><br>• What can be improved<br>Participants' criticisms were directed towards systems rather than individuals. Convenience for the system sometimes takes precedent over convenience for the patient. As the older adults in this study moved between home and other institutions they sometimes felt unsupported, unheard and treated with insufficient dignity.<br><br>• Experiences described<br>An example is given of an 80 year old female with lung cancer having a bed installed in her home against her wishes whilst she was in hospital. She was then "deposited onto the bed" when she got home, unable to get off. Her elderly husband was left to help her off the bed.<br>"...when I did come home, the nurses came, they lifted me onto this bed, and they had to leave me, they couldn't take me off...that was the law, I suppose or something. They just said they had done what they were told to do, and so I would just have to stay, so that was it" (p.78)<br>Another interviewee reported that they were told to sleep downstairs to meet the requirements of ambulance insurance. Another example is given | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | of a pointless appointment, with all the inconvenience of getting there and requiring help from family members who have taken time off work to be there, a source of annoyance and guilt.<br>At times it was felt that no-one was listening to patients and their families, particularly when they had just moved into or out of hospital. Family carers said they were not being heard, either when advocating for their relative's care or when discussing their own stresses involved in the responsibility in delivering care.<br>Participants experienced care that may have lacked dignity such as loss of false teeth or being left unattended until early morning after an evening admission.<br>• Narrative findings. Four main themes emerged:<br>1.The prioritisation of institutional processes<br>The care system was inflexible with limited recognition of individual needs, which may leave staff unable to respond to individual needs or wishes. Some rules intruded upon home life, against individual wishes. Staff appeared to make unthinking rule-based decisions.<br>2. Support across settings<br>Some accounts suggested that they felt sent home from hospital without adequate time to prepare themselves, insufficient community support in place, insufficient knowledge of how to access services they required. Failure of communication between hospital and community, leaving people to advocate for themselves because nothing would happen otherwise.<br>3. Being heard<br>At times it was felt that no one was listening to patients and their families, particularly when they had just moved into or out of hospital. | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | 4. Dignity<br>A lack of attention to non-health needs; being placed in new and unfamiliar surroundings described care that may have lacked dignity. | |

Hanratty B, Lowson E, Grande G et al. (2014) Transitions at the end of life for older adults - patient, carer and professional perspectives: a mixed-methods study. Health Services and Delivery Research 2 (17): 1–130

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Mixed methods<br>Study aim<br>• The aim of this study was to understand the experiences, influences and consequences of transitions between settings for older adults at the end of life. Three conditions were the focus of study, chosen to represent differing disease trajectories. | Participants:<br>• Older adults aged 75 and older<br>• Providers of services in primary care, hospital, hospice, social care and ambulance services<br>• Caregivers of decedents aged 66 to 98 years<br>• Commissioners of services in primary care, hospital, hospice, social care and ambulance services<br>Country<br>• UK<br>Intervention<br>• Mixed-methods study, composed of four parts: | Qualitative outcomes<br>• What works well<br>When discussing their involvement in transitions at the end of life, the GPs highlighted the importance of having a good relationship with patients and carers. This was perceived to be essential to providing appropriate care. Establishing trust between the patient and the GP was felt to be important for the success of doctors' interventions in transitions at the end of life. Having an honest conversation with patients was upheld as a goal, although achieving this level of communication in practice was often difficult.<br>• What can be improved<br>Communication between professionals: staff working in the acute setting in particular, were concerned that primary care was not equipped to manage those patients most likely to undergo transitions at the end of life. Some family carers recalled a discussion about wishes for the location and nature of end-of-life care, but there was no mention of documenting wishes except with regards to resuscitation. In many instances, discussion about initiating or changing treatment or transitions between care settings did not include patients' wishes. | Internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | (1) in-depth interviews with older adults<br>(2) qualitative interviews and structured questionnaire with bereaved carers of older adult decedents<br>(3) telephone interviews with care commissioners and providers using case scenarios derived from the interviews with carers<br>(4) analysis of linked Hospital Episode Statistics (HES) and mortality data | Handover and staff communication: "It [hospital to care home] wasn't very well planned as I say because I don't think there was a handover with the information for the staff at the home. I think they just arrived in wheelchairs and they were just left there" [laughs]. 69-year-old carer of 71-year-old woman who died following colorectal cancer, S.181 (p.46)<br>Timely care: "Another thing for me, too, is the rate of work of social services – because they are dealing far more with chronic long term issues – is inordinately slow. Because in health . . . time is of the essence in palliative care and so . . . trying to encourage someone to see that actually no, next week is not good enough for this particular patient, it may well be good enough for someone else, but not for this person, it's quite hard. But I also recognise that for social services their mode of operation is, on the whole, about long term issues, not about short term ones". Hospice medical director, age 26 (p.47)<br>Some of the professionals interviewed did acknowledge that the tensions between health and social care staff could hinder timely provision of care for end-of-life patients, especially in relation to disagreements about funding.<br>Funding: Greater integration, better co-ordination and improved communication links were considered key areas for fostering co-operation. Both health and social care professionals advocated joint funding where it was not already in place.<br>Suggestions from carers: integration of IT systems to enable transfer of information between primary and secondary care and care homes; verbal handover of key information between professionals at interfaces between settings and at shift handover; having a particular person to co-ordinate all care and support the family in instances where people die at home. Carers are pivotal to care across transitions, but there is no shared understanding of their role and their expectations. Many of them lack the |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | knowledge and support to fulfil their role as they would like. There was a particular need for more support in arranging transfers to care homes.<br>Staff view carers either as patients in their own right who require help, or as resources who smooth the professional's path. Choice is not a concept recognised by patients or carers. Greater material advantage did confer the ability to purchase services that could influence the timing and nature of transitions. Older people without carers or those living alone were restricted in their care choices, and it was acknowledged that their care might be disadvantaged by their circumstances. Stereotypical divisions between health and social care were described, with differences in culture, language and approaches to patients or clients.<br>• Experiences described<br>The extent to which patients had an effective choice with regards to transitions at the end of life was felt to be strongly limited by the availability of resources. The availability of carers was identified by professionals as a key determinant of whether or not a patient could be cared for at home. The choice open to isolated patients was acknowledged to be particularly restricted. A small number of carers identified the division of funding between health and social care as an issue that left them feeling stranded between the two services.<br>Findings<br>• Qualitative data<br>Six separate themes are reported, based on analysis across the three data sets, from patients, carers and professionals:<br>1. An imperfect system with beacons of excellence 2. Perspectives on the carer's role 3. General practitioner and out-of-hours care 4. Communication and expectations about death and dying 5. Choice and the influence of personal finances 6. Inter-professional relationships | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | Key findings: Enabling family carers to have a stronger voice, particularly in hospital settings, has the potential to improve older patients' experiences of care transitions. Patients and carers are already engaged in self-management. Identifying ways to enhance their skills would be welcomed and may reduce unnecessary end-of-life transitions.<br>Ensuring that people who live alone, or have no family carers, are given the same choices and care as others is a challenge for existing services. A critical examination of the traditional model of GP care at the end of life is required, and their role in care transitions in particular. The impact of inter-professional disagreement and discord on patients' experiences must be acknowledged and addressed. The question of how professionals should co-ordinate care for older adults across settings and sectors is an important underlying issue.<br>Satisfaction?<br>• Caregiver satisfaction. Carer's views on end-of-life care transitions Response to questions on care from health and social services<br>[n (%) Yes No Don't know N/A or no response]<br>Could any of the transitions in last 3 months have been avoided?<br>Yes: 26 (22%) No: 54 (45.8%) Don't know: 5 (4.2%) N/A or no response: 33 (28%)<br>Was the transition well co-ordinated?<br>Yes: 50 (42.4%) No: 36 (30.5%) Don't know: 12 (10.2%) N/A or no response: 20 (16.9%)<br>Do you feel your family got as much help and support as you needed when caring for the decedent?<br>Yes, as much as needed 50 (42.4%), Yes, some support but not as much as needed 10 (8.5%); No, although we tried to get more help 10 (8.5%); No, but we did not ask for more help 15 (12.7%) ; We did not need any help 6 (5.1%) | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | In your opinion, did the GP know enough about their condition or treatment?<br>Yes: 85 (72%) No: 10 (8.5%) Don’t know: 9 (7.6%)<br>• Summary: A minority of respondents reported that care from health and social services had been well co-ordinated (42%). Ratings of both the amount and the nature of help and support were not high; 42% received as much help and support as needed. Only 26 (22%) of all respondents judged that any of the transitions in the final 3 months of life could have been avoided. | |

Ingleton C, Payne S, Sargeant A et al.(2009) Barriers to achieving care at home at the end of life: transferring patients between care settings using patient transport services. Palliative Medicine 23: 723–30

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study. Interviews and focus groups<br><br>Study aim<br>• To explore perceptions of key stakeholders, health and social care professionals, patients, carers and bereaved carers at three study sites about how patient | Number of Participants<br>• Stakeholders: 44<br>• Patients: 16<br>• Carers: 19<br>• Bereaved carers: 20<br>• Specialist Nurses: 67 (over 9 focus groups)<br><br>Country<br>• 3 areas of the UK: Lincolnshire, Leeds, Tayside | Qualitative outcomes<br>• What can be improved<br>As patients’ condition at the end-of-life stage can deteriorate rapidly and carers can have problems responding to this change there is sometimes an urgent need for transport.<br>However, there is limited time to arrange transfers and inconsistencies in the quality of the care provided by the ambulance service:<br>"I mean certainly from a transport perspective, those patients have got an extremely poor standard of care in terms of waiting. You go for them at five or six o'clock at night, they may have been three hours waiting already and then we stand on the ring road in traffic for the best part of another two hours. It's really, really quite poor" Ambulance staff, Leeds (p.726)<br>"I'm sure the problems are all in the transport [...]. You can go from Lincoln | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| transport and local transport service protocols impact upon patients' choices and place of care at the end of life.<br>Source of funding<br>•Voluntary/Charity<br>Marie Curie Cancer Care (MCCC) - national charity | Intervention<br>• In 2004 the Marie Curie 'Delivering Choice Programme (DCP)' was launched in the UK. 3 flagship projects in Lincolnshire (October 2004), second launched in Tayside in (December 2005) and the third in Leeds in (May 2006). This evaluation of palliative and end-of-life care provision lasted 4 years in the areas where the DCP was (to be) implemented. | to Boston for about forty miles, and there's nothing in between, and I think the rural areas have got a transport problem, I don't think there's a problem at all with the care" Stakeholder, Lincolnshire (p.727)<br>Planned urgent transfers undertaken without specially trained crews were reported as leading to potentially unsafe journeys, patient distress and ultimately as a barrier to fulfilling patients' end-of-life care wishes:<br>"She was extremely distressed, what's the word, disorientated, she was blue, they'd run out of oxygen on the way home, and the guy in the back couldn't reconnect it properly, and she panicked...It was awful, and they literally did drop her off and leave" Family carer, Lincolnshire (p.726)<br>"...sometimes you can have a patient who does wish to die at home, there's maybe been a change and we've had a couple of issues with "you're missing the boat", if we don't try and get them home in the next 12 hours, and that's their wish, at the moment we would need to (be able to) get the ambulance, and there's nothing, that's just good will, there's nothing in writing on that." Marie Curie Nurse, Tayside (p.726)<br>Problems arise around managing syringe drivers and specialist equipment during ambulance journeys.<br>"You have to have - is it a paramedic or something if you have a syringe driver, going on something stupid like that. We've had to take batteries out of syringe drivers until we got there." Health professional, Lincolnshire (p.727)<br>• Experiences described<br>Health and social care practitioners described the issues surrounding negotiation of protocols, particularly 'Do Not Attempt Resuscitation' Orders.<br>Transporting palliative care patients to hospices was problematic where DNAR orders were concerned because of the need for GPs to sign the | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | form; this legislation has led to patients being resuscitated against their will.<br>• Narrative findings<br>Ambulance transport services for urgent and planned journeys were an essential aspect of facilitating patient choice at the end of life, particularly in supporting the decision by patients to be cared for and die at home. Despite being cited as the most popular location to die there is no strategic document that comprehensively covers the transfer of a dying patient between places of care. The findings revealed a determination on the part of the professionals to facilitate a home death, and this sometimes led to situations, where practices could be described as questionable or not tailored to the specific needs of the patient. It could be questioned whether the motivation to get patients home to die at short notice is appropriate in relation to the amount of staff time that arranging such journeys, booking ambulances and arranging do not attempt to resuscitate orders can necessitate. | |

Kusmaul N, Waldrop D (2011) The living-dying interval in nursing home-based end-of-life care: Family caregivers' experiences Journal of Gerontological Social Work 54: 768–87

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Study aim<br>• To explore family members' experiences with a loved one who died in a nursing home, and the nature of the living-dying interval from their | Number of Participants<br>• 31 caregivers of 27 residents who had died<br>• Nursing Home Staff<br>Country | Qualitative outcomes<br>• What can be improved<br>Social workers can provide important individual and family interventions to assist in the transition to nursing home placement<br>• Experiences described<br>Coming to terms/ awareness: | As far as can be ascertained from the paper, how well was the study |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| perspectives. The data presented here will focus on the elements in the study relating to transition from Hospital to home, hospice or nursing home<br>Methodology<br>• Qualitative study<br>Source of funding<br>• Not reported | • US<br>Intervention<br>• Transition from acute medical crisis to nursing home care<br>Setting<br>• Nursing home | Initial family responses to trigger events were often described as the sense that the placement would be temporary; the person would recover and return home.<br>“At first we were reluctant; we wanted to bring her home. We thought she’d do better at home.” However, when her mother continued to fall, she said, “We came to see that we couldn’t bring her home—we were not handicap accessible.” (daughter's view p.776)<br>The words of a resident’s daughter illustrated a situation in which the staff was aware of her mother’s transitions to end-stage but she was not.<br>The nurse said, “Maybe she should be under hospice care.” I said, “Oh definitely. No problem with hospice.” But that was like a lightning bolt and the first time I really thought, “Oh my gosh, she’s dying.” (daughter's view, p.782)<br>Level of care crisis<br>Loss of independence can lead to a transfer to a nursing home. The transfer is often sudden and exacerbates distress. The daughter of a previous Assisted Living resident (aged 101 years) described the approaching need for transfer.<br>“While living at the ALF ...she would tell me, “I think you need to know this; I had another fall, I am not going to tell anybody and you can’t either.” But I did, and they watched her more". (p.778)<br>Reviewer comments: the secrecy indicated by this comment suggests that the resident was protective over her independence and sought to hide any indications of her growing needs leading to a transfer to a higher level of care setting, and resultant loss of independence.<br>Hospitalistion<br>In the time period between nursing home admission and death there were 3 elements that carers were faced with, one of which was hospitalisaton. | conducted?<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | When a resident's condition was rapidly deteriorating, family caregivers were often asked whether or not they wanted a resident to return to the hospital. In some cases, there was agreement not to hospitalise the resident, but in others there was conflict between families and providers. Questions about rehospitalisation were accompanied by thoughts and feelings about how well the nursing home would be able to manage the person's dying process.<br>"They asked if I wanted him to go to the hospital. He had all this phlegm and would drool. He didn't want to swallow it and it would be coming out and they were trying to get rid of it. I was afraid that if he got into the hospital, he would go even faster with strangers. I said, "No, there is nothing they can do for him there that you aren't doing for him here," so we kept him at the nursing home. I would rather he be with friends." (resident's wife, p.780)<br>Other participants' responses to a dramatic change in the person's condition favoured hospitalisation. One participant who agreed to her father's hospitalisation described the series of events she learned of from a conversation with a nurse who asked, "Do you want us to send him back to the hospital or do you want to just have us keep him comfortable?" I said, "What does the doctor say?" [After midnight] the doctor said "I think we should send him to the hospital so we know where the bleeding is coming from." (Resident's daughter, p.780)<br><br>• Narrative findings<br>1) The results of this study suggest that the acute crisis (phase) is generated by trigger events such as falls, strokes, and symptom exacerbations, by an accumulation of stressors while caregiving is occurring at home or with a level of care crisis (ALF or senior housing).<br>2) The living–dying phase involves attention to advance care planning, |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | consideration of hospitalisation and end-stage decision-making about artificial nutrition and hydration or resuscitation. These elements of the living–dying phase were described by participants as intensely emotional and sometimes difficult choices for family caregivers.<br>3) These results suggest that entry into the terminal phase follows a catalytic event such as a fall or relocation, which becomes the beginning of the end. The results of this study provide an illustration of critical periods for social work intervention. Nursing home admission, the need for family involvement in advance care planning, and the move toward end-stage care each offer important opportunities for social workers to assist and support family caregivers during difficult transitions. |  |

O'Brien M, Jack B (2010) Barriers to dying at home: the impact of poor co-ordination of community service provision for patients with cancer. Health and Social Care in the Community 18: 337–45

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• A qualitative study, using findings from two focus group interviews with a purposive sample of district nurses and community specialist palliative care nurses<br>Study aim<br>• To explore the views of community nurses | Participants<br>• 8 specialist palliative care nurses<br>• 11 district nurses<br>Country<br>• UK<br>Setting<br>• The research took place across two primary care trusts (PCTs) in the north west of England within one | Qualitative outcomes<br>• What can be improved<br>There have been cases where the hospital staff have planned to discharge someone in time for the weekend, but because the nurses haven't been able to get the right equipment in place (hospital bed, pressure mattresses) it was not possible for the discharge to take place.<br>"We can provide a lot of the care in the personal care, but we still need equipment and if that is being left until the Friday afternoon, we can't accommodate that discharge, which is a shame then if somebody can't make it home." (District Nurse, p.341)<br>Nurses expressed a wish to be more involved with discharge planning and case conferences: | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Purposive, small sample in |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| (district nurses and specialist palliative care nurses) regarding end of life care and the place of death for patients with cancer (barriers to dying at home) | regional health authority. | "It might alleviate a few of the problems if we could be more actively involved in the discharge. If there was a little bit more communication between the ward staff and us here in the community, I think we could overcome a lot of these problems." (District Nurse, p. 341)<br>"If these case conferences are going on without our input, people are not going to be able to make that informed decision because they are not aware of the full facts. So their decision ultimately as to where the place of death is, might be based on wrong information, so we need a bit more input." (District Nurse, p.342)<br>There was also seen to be a lack of communication/ correct information provided to the community teams:<br>"But you will get a referral for removal of sutures and you will go out and find that they have had extensive surgery and they have got a palliative diagnosis and are dying, it was just crazy." (District Nurse, p.342)<br>Nurses experienced problems with out of hours services, especially since they often have locum GPs who do not have appropriate knowledge/ resources. For example, there was a case where a GP would not prescribe morphine, even though he/she was dealing with a palliative patient. The nurses rationalised that locums were unwilling to prescribe such medication due to a fear of litigation in the post-Shipman NHS.<br>"I've had recent experience where the carers, who were quite vocal and quite determined about the care of a family member, have had to call out the Out of Hours services …..and then when the doctor arrived, they then ask what the diagnosis is and they [carers] have to give it them. It is only for that relative actually having the knowledge that this information should already be known and being confident in themselves that they want to maintain that patient at home, otherwise there would have been a very good chance that patient would have been admitted." (Specialist Palliative Care Nurse, p.342) | one region of England |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | Findings<br>• Narrative findings<br>From a service provision perspective, the results reveal that poor discharge planning and co-ordination, difficulty in establishing additional equipment and services together with inadequate out of hours medical provision were all factors contributing to hospital admissions for patients with cancer in the last hours and days of life, and thus were barriers to dying at home. | |

## Critical Appraisal Tables

## Tables Reporting Impact Studies

## Review area 3 The Hospital Admission Process

### Question 5

### How do different approaches to care planning and assessment affect the process of admission to inpatient hospital settings from community or care home settings?

Eklund K, Wilhelmson K, Gustafsson H et al. (2013) One-year outcome of frailty indicators and activities of daily living following the randomised controlled trial; "Continuum of care for frail older people". BMC Geriatrics 13: 1–10

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Yes.  The persons who accepted to participate in the study were randomised to either the intervention or the control group by the nurse, by using sealed opaque envelopes.<br>Adequate concealment of allocation?<br>• Unclear. No more information given<br>Comparable groups at baseline?<br>• Yes. There were no significant differences in baseline characteristics between the participants in the two study groups.<br>Selection bias appraisal<br>• Low risk of bias<br>Did both groups receive equal treatment (aside from the intervention)?<br>• Yes. Components of care as usual and intervention are provided. Usual care comprises: hospital care/ rehabilitation if needed, care planning if changed home care requirements, rehabilitation in the municipality if needed, follow up after research.<br>Were the participants receiving care kept 'blind' to how the intervention was allocated?<br>• Unclear<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• No. Non-blinded trial. | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• No. Authors felt there would be less attrition if the older person could meet the same research assistant at most of the follow-ups.<br>Were investigators kept 'blind' to other important confounding factors?<br>• Unclear<br>Detection bias appraisal<br>• Unclear/unknown risk of bias<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Unclear<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Internal validity<br>• +<br>External validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Performance bias appraisal<br>• Unclear/unknown risk of bias<br>Follow-up<br>• Yes. Both groups were followed up at three, six and 12 months<br>Drop-out numbers<br>• Intervention drop-outs: 18; declined = 4; deceased = 14<br>• Comparison drop-outs: 17; declined = 5; too ill = 2; deceased = 9; excluded = 9<br>Groups comparable on intervention completion?<br>• Yes<br>Groups comparable on available data?<br>• Yes. The imputation method chosen was to replace missing values in the sum of ADL activities managed independently and the sum of frailty indicators with a value based on the median change of deterioration (MCD) between two measuring points (baseline to follow-up and between two follow-ups) of all who participated at both measuring points. An exception was made for missing values due to death, which were imputed with the worst case rank at each follow-up. Sensitivity analyses were made comparing MCD analysis with complete case analysis and showed aligned trends.<br>Attrition bias appraisal<br>• Low risk of bias | | | |

Ellis G, Whitehead MA, Robinson D et al. (2011) Comprehensive geriatric assessment for older adults admitted to hospital: meta-analysis of randomised controlled trials. BMJ 343: d6553

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Do all studies fulfil inclusion criteria?<br>• No. 22 included studies. 21 studies are from before 2003. Earliest is 1984, majority from 1990s.<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes. 22 relevant randomised controlled trials giving information on 10315 participants across six countries.<br>Rigorous literature search?<br>• Yes. EPOC Register, Cochrane's Controlled Trials Register, the Database of Abstracts of Reviews of Effects (DARE), Medline, Embase, CINAHL, AARP Ageline, and hand-searching of high yield journals.<br>Study quality assessed and reported?<br>• Yes. All relevant trials were evaluated and potential sources of bias were recorded, including assessment of randomisation procedure, concealment of treatment allocation, blinding of participants, and documentation or evidence of intention to treat analysis. | Adequate description of methodology?<br>• Yes. Pre-planned sub-group analyses included comparisons by wards and teams, admission criteria, and timing of admission to specialist care. Meta analysis was not carried out if there was significant heterogeneity in the outcomes. For e.g length of stay $I^2 = 86\%$; $P<0.001$. Number of relevant trials and participants stated for each outcome calculation. Attrition within trials was noted, and when included within meta-analyses, results were calculated both with and without said studies.<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear. Geriatric assessment defined as a "multidimensional interdisciplinary diagnostic process focused on determining a frail older person's medical, psychological and functional capability in order to develop a coordinated and integrated plan for treatment and long term follow up." (p.1)<br>Implies population would have social care needs.<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| | | outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• Yes. Graham Ellis is a consultant geriatrician and senior clinical lecturer at Monklands Hospital, North Lanarkshire, Scotland. Co-authors are from Scotland and Dublin. | |

Fox MT, Persaud M, Maimets I et al. (2012) Effectiveness of acute geriatric unit care using acute care for elders components: A systematic review and meta-analysis. Journal compilation, The American Geriatrics Society 60: 2237–45

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Do all studies fulfil inclusion criteria?<br>• No. This systematic review pools results from studies that evaluate the effectiveness of one or more components of the Acute Care for Elders (ACE) model. All participants were admitted into an acute | Adequate description of methodology?<br>• Yes<br>Do conclusions match findings?<br>• Partly | Is the setting similar to the UK?<br>• Unclear<br>Is there clear focus on adults with social care needs? | Overall assessment of internal validity<br>• ++<br>Overall assessment of |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| geriatric unit but the components<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Somewhat relevant. Review is about Acute Care for Elders model of geriatric care in the acute unit, and includes evaluations that include one of more components, : patient-centred care, frequent medical review, early rehabilitation, early discharge planning, prepared environment. by including studies that may be about only one of these component, its not clear that this model that has of all of these featured is being tested, or which components are the most necessary, or effective for the efficacy of the model, or whether this is a review of individual components.<br>Rigorous literature search?<br>• Yes<br>Study quality assessed and reported?<br>• Yes | | • Unclear<br>Has a transition taken place or been prevented?<br>• Somewhat<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No | external validity<br>• + |

LaMantia MA, Scheunemann LP, Viera AJ et al. (2010) Interventions to improve transitional care between nursing homes and hospitals: a systematic review. Journal of the American Geriatrics Society 58: 777–82

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Do all studies fulfil inclusion criteria?<br>• No. Two refer to the discharge process (outside the scope for this | Adequate description of methodology?<br>• Yes<br>Do conclusions match findings? | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on | Overall assessment of internal validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| review area) and 3 are about the admission process. However 2 of those are published before 2003. Strictly speaking only one included study meets the inclusion criteria.<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Somewhat relevant. 3 out of 5 are about admission; the other 2 are about hospital discharge.<br>Rigorous literature search?<br>• Partly rigorous<br>Study quality assessed and reported?<br>• Yes | • Partly | adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes. Either admission or discharge<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No | Overall assessment of external validity<br>• ++ |

Manderson B, McMurray J, Piraino M et al. (2012) Navigation roles support chronically ill older adults through healthcare transitions: a systematic review of the literature. Health and Social Care in the Community 20: 113–27

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Do all studies fulfil inclusion criteria?<br>• No. Claiborne (2006), Krichbaum (2007), Mayo (2008), and Lim | Adequate description of methodology?<br>• Partly adequate. The review states that its aim is to synthesise the peer-reviewed literature. However, | Is the setting similar to the UK?<br>• Yes<br>Is there clear focus on | Overall assessment of internal validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| (2003) focussed on the transition from hospital to home (rather than admission process). Gagnon (1999), and Naylor (1999) were both pre-2003.<br>Appropriate and clearly focused question?<br>• Unclear. More exploratory than a specific question. Mapping exercise of existing literature on navigator models serving chronically ill, multi-morbid, older adults.<br>Inclusion of relevant individual studies?<br>• Yes. All included studies are RCTs with specific outcomes measurement. Studies focussing on children, mental health or homeless people were excluded.<br>Rigorous literature search?<br>• Yes. A search strategy was developed alongside a subject matter library expert. The following databases were searched: the Cumulative Index to Nursing and Allied Health Literature (CINAHL), the Medical Literature Analysis and Retrieval System Online (Medline), Cochrane Evidence Based Medicine reviews, Embase and PsycINFO. References from relevant articles were hand searched.<br>Study quality assessed and reported?<br>• Partly reported. Studies collected data using various methodologies; all of them conducted a randomised trial. However, studies were not quality assessed. | owing to the heterogeneity of models and interventions it is not possible to make direct comparisons between the models. Outcomes are presented for individual studies and tallied together if possible.<br>Do conclusions match findings?<br>• Partly. Conclusions are left very open (i.e the navigator role is in its infancy and has shown sufficient efficiency to warrant further development and evaluation). Conclusions match findings but are not very precise. | adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• Unclear | Overall assessment of external validity<br>• + |

Mudge AM, Denaro C, O'Rourke P et al. (2012) Improving hospital outcomes in patients admitted from residential aged care: results from a controlled trial. Age and Ageing 41: 670–3

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Comparison evaluation<br>Attempts made to balance the comparison groups?<br>• Unclear. Assignment was 'purely administrative' but no more information given.<br>Groups comparable at baseline?<br>• Yes. There were no statistically significant differences between the groups.<br>Was selection bias present?<br>• Low risk of bias<br>Did both groups receive equal treatment (aside from the intervention)?<br>• Yes. Intervention compared and contrasted to usual care by way of following components: discharge planning, medical team, allied health care team, and meetings conducted.<br>Were the participants receiving care kept 'blind' to how the intervention was allocated?<br>• Yes<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• Yes<br>Performance bias appraisal<br>• Low risk of bias<br>Groups comparable on intervention completion?<br>• Yes | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Unclear<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Unclear<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Internal validity<br>• +<br>External validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Groups comparable on available data?<br>• Yes<br>Attrition bias appraisal<br>• Unclear/unknown risk of bias<br>Did the study have an appropriate length to follow-up?<br>• Yes | | | |

# Study Findings Tables

## Tables Reporting Impact Studies

## Review area 3 The Hospital Admission Process

### Question 5

### How do different approaches to care planning and assessment affect the process of admission to inpatient hospital settings from community or care home settings?

Eklund K, Wilhelmson K, Gustafsson H et al. (2013) One-year outcome of frailty indicators and activities of daily living following the randomised controlled trial; "Continuum of care for frail older people". BMC Geriatrics 13: 1–10

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Study aim<br>• To evaluate the effects of the "Continuum of Care for Frail Older People" intervention on functional ability in terms of activities of daily living (ADL)<br>.<br>Source of funding<br>• Government<br>The Vardal Institute, the Swedish Institute for Health Sciences and Vinnvard.<br>Clinical outcomes<br>• Function<br>The degree of independence was measured as a sum of activities managed independently using the ADL staircase. The ADL staircase measures independence of, or dependence on, another person in five personal ADL items (i.e. bathing, dressing, going to the toilet, transferring, and feeding), extended with four instrumental items | Participants<br>• Older people<br>Country<br>• Sweden<br>Sample characteristics<br>• Age 80 and older or 65 to 79*<br>• Level of need<br>*If aged 65 to 79 participants had at least one chronic disease and were dependent in at least one activity of daily living<br>Sample size<br>• Comparison: 76<br>• Intervention: 85<br>• Total: 161<br>Interventions bridging the transition<br>• The intervention involved collaboration between a nurse with geriatric competence at the emergency department, the | • Effect sizes<br>At both the three and twelve month follow-ups the intervention group had a higher odds ratio (OR) in improved degree of activities of daily living (ADL) independence.<br>Odds ratio with 95% confidence interval (CI) for changes in degree of independence in ADL at follow-ups:<br>Improved ADL<br>3 months 42% OR 2.37 (95% CI; 1.20–4.68)<br>6 months 36% OR 1.50 (95% CI; 0.77–2.94)<br>12 months 39% OR 2.04 (95% CI; 1.03–4.06)<br>Maintained ADL<br>3 months 38% OR 0.79 (95% CI; 0.42–1.48)<br>6 months 32% OR 1.30 (95% CI; 0.66–2.59)<br>12 months 24% OR 0.76 (95% CI; 0.37–1.53)<br>Decreased ADL<br>3 months 20% OR 0.51 (95% CI;0.25–1.04)<br>6 months 31% OR 0.52 (95% CI;0.27–0.98)<br>12 months 38% OR 0.67 (95% CI;0.36–1.26)<br>Odds ratio with 95% confidence interval (CI) for changes in levels of frailty at follow-ups: | Internal validity<br>• +<br>External validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
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| (i.e. cleaning, shopping, transportation, cooking).<br>• Physical health<br>Frailty was measured as a sum of eight core frailty indicators: weakness, fatigue, weight loss, low physical activity, poor balance, low gait speed, visual impairment and cognitive impairment. | hospital wards and a multi-professional team for care and rehabilitation of older people in the municipality with a case manager as the hub. Together a continuum of care was created for the older person from the emergency department, through the hospital ward and on to their own homes. The intervention adopted a person-centred approach with shared decision making throughout the care chain. (The multi-professional team included professionals in nursing (the case manager), occupational therapy, physiotherapy and social work). | Improved<br>3 months 8% OR 0.59 (95% CI; 0.21–1.64)<br>6 months 12% OR 0.65 (95% CI; 0.27–1.57)<br>12 months 12% OR 0.46 (95% CI; 0.20–1.09)<br>Maintained<br>3 months 78% OR 1.08 (95% CI; 0.52–2.25)<br>6 months 74% OR 0.95 (95% CI; 0.47–1.94)<br>12 months 74% OR 1.32 (95% CI; 0.67–2.62)<br>Decreased<br>3 months 14% OR 1.40 (95% CI;0.54–3.63)<br>6 months 14% OR 1.92 (95% CI;0.68–5.39)<br>12 months 14% OR 1.62 (95% CI;0.60–4.32)<br>• Narrative findings<br>The 'Continuum of care for frail older people' intervention succeeded in both improving ADL independence among its participants up to one year, and in postponing dependence in ADL up to six months. Median improvement was one step (on the ADL staircase) in the control group at all follow-ups, with one step at 3 months, and two steps at 6 and 12 months in the intervention group. Median decrease was two steps in the control group at all follow-ups, one step at 3 months and two steps at 6 and 12 months in the intervention group. There were no differences between the groups among those who had maintained the same degree of independence compared to baseline either at the 3-, | |

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|  |  | 6-, or 12-month follow-ups.<br>There did not appear to be any differences between the groups with regards to change in frailty as a result of the intervention.<br>Most movements between levels of frailty were either from being frail to being pre-frail or vice versa. In all, three participants had moved two levels at 12 months, one from non-frail to frail (intervention group) and two from frail to non frail (control group).<br>During the course of the study, no participants were institutionalized.<br>Due to possible relevant differences at baseline between groups, ADL was tested for confounders with MMSE, frailty and self-rated health, and frailty with MMSE and self-rated health.  No modifying effects were found. |  |

Ellis G, Whitehead MA, Robinson D et al. (2011) Comprehensive geriatric assessment for older adults admitted to hospital: meta-analysis of randomised controlled trials. BMJ 343: d6553

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Systematic review<br><br>Do all studies fulfil inclusion criteria?<br>• No. 21 studies (out of 22) are from before 2003.<br><br>Study aim<br>• To evaluate the effectiveness of comprehensive geriatric assessment in hospital for older adults admitted as an emergency.<br><br>Source of funding<br>• Other. This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.<br><br>Clinical outcomes<br>• Cognition<br>• Mortality<br>• Living at Home Activities of Daily Living<br>Service outcomes<br>• Length of hospital stay | Participants<br>• Older people. Participants were adults aged 65 or older who were admitted to hospital care as an emergency, including all unplanned, unscheduled, or acute presentations.<br><br>Sample size<br>• 22 studies<br><br>Countries<br>• Australia, Canada, Germany, Norway, Sweden, US<br><br>Intervention<br>• Comprehensive geriatric assessment in an inpatient setting: both discrete geriatric units ("wards") and inpatient geriatric consultation service ("team") models. | • Effect sizes<br>The odds of a patient living at home at the end of scheduled follow-up were higher for those patients who had undergone comprehensive geriatric assessment (OR 1.16, 95% CI 1.05 to 1.28; P = 0.003; 18 trials, 7062 participants).<br>Significant interaction between subgroups (ward versus team) showed there was a significant difference from the effect of comprehensive geriatric assessment wards (OR 1.22, 95% CI 1.10 to 1.35; P<0.001; 14 trials, 6290 participants), whereas mobile comprehensive geriatric assessment teams were associated with a trend towards a worse outcome (OR 0.75, 95% CI 0.55 to 1.01; P=0.06; four trials, 772 participants).<br>The overall effect equates to a number needed to treat of 33 to prevent one unnecessary death or admission to residential care, compared with general medical care. This effect is most pronounced for comprehensive geriatric assessment wards where the number needed to treat would be 20. This effect was more pronounced at analysis up to six months (median six months, range six weeks to six months; OR 1.25, 95% CI 1.11 to 1.42; P<0.001; 14 trials, 5117 participants) equating to a number needed to treat of 17.<br>There was sub-group interaction with comprehensive geriatric assessment wards were associated with a significantly improved odds of being alive and at home at | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

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| • Risk of nursing home admission<br>• Community service use | | six months (OR 1.31, 95% CI 1.15 to 1.49; P<0.001; 11 trials, 4624 participants), equating to a number needed to treat of 13 to avoid one unnecessary death or admission to residential care, compared with general medical care. By contrast, comprehensive geriatric assessment teams were not associated with a benefit (three trials, 493 participants, OR 0.84, 95% CI 0.57 to 1.24, P=0.39), though numbers were smaller in this subgroup.<br>Living in residential care at the end of scheduled follow-up showed a significant reduction for patients who had undergone comprehensive geriatric assessment (OR 0.78, 95% CI 0.69 to 0.88; P<0.001; 19 trials, 7137 participants). This equates to a number needed to treat of 25 to avoid one unnecessary admission to residential care, compared with general medical care. There was interaction between the subgroups, showing a difference between the benefits of comprehensive geriatric assessment wards (OR 0.73, 95% CI 0.64 to 0.84; P<0.001; 14 trials, 6252 participants; number needed to treat 20) and teams (OR 1.16, 95% CI 0.83 to 1.63; P=0.39; five trials, 485 participants,). This suggests that the overall benefit results from trials of wards. Comparison of living in residential care at interim analysis (median six months, range six weeks to six months) demonstrated an overall decrease of patients in receipt of CGA in residential care at up to six months (14 studies, 4925 participants, OR 0.72, 95% CI 0.61 to 0.85, P = 0.0001;). This equates to a number needed to a NNT of 20 to avoid one unnecessary admission to residential care at up to six months compared to general medical care. | |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | There was no difference between the subgroups (that is, no subgroup interaction was seen).<br>Analysis of data for the outcome of death or deterioration (a combined outcome of death or functional decline) showed a significant reduction in death or deterioration (OR 0.76, 95% CI 0.64 to 0.90; P = 0.001; five trials, 2622 participants). This equates to a number needed to treat of 17 to avoid one unnecessary death or deterioration compared with general medical care. There was no difference between the subgroups (that is, no subgroup interaction was seen) although the CGA teams subgroup (two studies, 317 participants) is considerably smaller than the CGA wards subgroup (three studies, 2305 participants).<br>Analysis of cognitive function showed an overall benefit on cognitive measures (five trials, 3317 participants, standardised mean difference 0.08, 95% CI 0.01 to 0.15, P = 0.02) for patients who underwent comprehensive geriatric assessment. There was no subgroup interaction, though data were available from only one comprehensive geriatric assessment ward (375 participants).<br>Analysis of mortality at the end of scheduled follow-up showed no significant difference between intervention and control groups (OR 0.99, 95% CI 0.90 to 1.09; P = 0.82; 23 trial arms, 9963 participants). There was also no difference at up to six months' follow-up (OR 0.91, 95% CI 0.80 to 1.05; P = 0.20; 19 trials, 6787 participants). There was no subgroup interaction at either time point.<br>Eight trials (4128 participants) reported data on |  |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | dependence (all CGA trials in wards). No usable dependence data were recorded for teams. There was no significant difference between intervention and control groups (OR 0.94, 95% CI 0.81 to 1.10, P=0.44).<br>There was no significant difference for the outcome of death or dependence (OR 0.98, 95% CI 0.77 to 1.25; P=0.87; three trials - all ward based, 1212 participants) or activities of daily living (standardised mean difference 0.06, 95% CI −0.06 to 0.17; P = 0.33; five trials, 1296 participants). There was no significant difference between the groups for the outcome of readmission to hospital (OR 1.03, 95% CI 0.89 to 1.18; P = 0.72; nine trials, 3822 participants). There was no difference between the subgroups (that is, no subgroup interaction was seen) for ADL or readmission.<br>Data on length of stay were reported in 12 studies but significant heterogeneity meant meta-analysis was not undertaken. For the ward subgroup length of stay ranged from a mean reduction of -9.20 days to 9.00 days more, and for the team subgroup length of stay ranged from a mean difference of -0.79 days to an increase of 3.60 days for comprehensive geriatric assessment.<br>Similarly, data on costs and associated outcomes were not reported in a consistent way, suitable for meta-analysis. See also the cost-effectiveness section reporting these results. |  |

<table>
<tr><th>Research Aims</th><th>Population</th><th>Findings</th><th>Summary of Quality</th></tr>
<tr><td></td><td></td><td>Other comparisons<br>Comparison of CGA vs usual care (targeting)<br>Recreated from the Cochrane Review<br>Ellis G, Whitehead MA, O’Neill D, Langhorne P, Robinson D. Comprehensive geriatric assessment for older adults admitted to hospital. Cochrane Database of Systematic Reviews 2011, Issue 7. Art. No.: CD006211. DOI: 10.1002/14651858.CD006211.pub2.
<table>
<tr><th>Outcome</th><th>Targeting approach</th><th>Number of studies</th><th>Number of participants</th><th>Effect size* [95% CI]</th></tr>
<tr><td rowspan="3">Living at home (up to 6 months)</td><td>All</td><td>14</td><td>5117</td><td>1.25 [1.11, 1.42]</td></tr>
<tr><td>Wards with needs-related admission criteria</td><td>5</td><td>631</td><td>2.20 [1.56, 3.09]</td></tr>
<tr><td>Wards with age-related admission criteria</td><td>6</td><td>3993</td><td>1.20 [1.05, 1.38]</td></tr>
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| Research Aims | Population | Findings | | | | | Summary of Quality |
|---|---|---|---|---|---|---|---|
| | | | Teams with needs-related admission criteria | 1 | 197 | 0.71 [0.38, 1.33] | |
| | | | Teams with age-related admission criteria | 2 | 296 | 0.94 [0.57, 1.55] | |
| | | Living at home (end of follow-up) | All | 18 | 7062 | 1.16 [1.05, 1.28] | |
| | | | Wards with needs-related admission criteria | 9 | 2564 | 1.36 [1.16, 1.60] | |
| | | | Wards with age-related admission criteria | 5 | 3726 | 1.13 [0.98, 1.29] | |
| | | | Teams with needs- | 2 | 476 | 0.75 [0.51, 1.11] | |

<table>
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<tr><td></td><td></td><td>
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<tr><td></td><td>related admission criteria</td><td></td><td></td><td></td></tr>
<tr><td></td><td>Teams with age-related admission criteria</td><td>2</td><td>296</td><td>0.74 [0.45, 1.20]</td></tr>
</table>
*All OR, M-H, fixed effect<br>
Comparison of CGA vs usual care (timing of admission)<br>
Recreated from the Cochrane Review<br>
Ellis G, Whitehead MA, O’Neill D, Langhorne P, Robinson D. Comprehensive geriatric assessment for older adults admitted to hospital. Cochrane Database of Systematic Reviews 2011, Issue 7. Art. No.: CD006211. DOI: 10.1002/14651858.CD006211.pub2.
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<tr><td rowspan="3">Living at home (up to 6 months)</td><td>All</td><td>14</td><td>5117</td><td>1.25 [1.11, 1.42]</td></tr>
<tr><td>Wards (direct admission)</td><td>6</td><td>3993</td><td>1.20 [1.05, 1.38]</td></tr>
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| Research Aims | Population | Findings | | | | | Summary of Quality |
|---|---|---|---|---|---|---|---|
| | | | (stepdown admission) | | | [1.56, 3.09] | |
| | | | Teams (direct admission) | 1 | 111 | 1.18 [0.50, 2.80] | |
| | | | Teams (acute admission) | 1 | 185 | 0.83 [0.45, 1.55] | |
| | | | Teams (stepdown admission) | 1 | 197 | 0.71 [0.38, 1.33] | |
| | | Living at home (end of follow-up) | All | 18 | 7062 | 1.16 [1.05, 1.28] | |
| | | | Wards (direct admission) | 5 | 3726 | 1.13 [0.98, 1.29] | |
| | | | Wards (acute admission) | 2 | 545 | 1.21 [0.84, 1.74] | |
| | | | Wards (stepdown admission) | 7 | 2019 | 1.40 [1.17, 1.67] | |
| | | | Teams (direct assessment) | 1 | 111 | 1.18 [0.50, 2.80] | |
| | | | Teams | 2 | 464 | 0.65 | |

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<table>
<tr><td></td><td>(acute assessment)</td><td></td><td></td><td>[0.44, 0.96]</td></tr>
<tr><td></td><td>Teams (stepdown assessment)</td><td>1</td><td>197</td><td>0.82 [0.46, 1.48]</td></tr>
</table>
*All OR, M-H, fixed effect<br>
Comparison of CGA vs usual care (outpatient follow-up)<br>
Recreated from the Cochrane Review<br>
Ellis G, Whitehead MA, O’Neill D, Langhorne P, Robinson D. Comprehensive geriatric assessment for older adults admitted to hospital. Cochrane Database of Systematic Reviews 2011, Issue 7. Art. No.: CD006211. DOI: 10.1002/14651858.CD006211.pub2.
<table>
<tr><th>Outcome</th><th>Outpatient follow-up</th><th>Number of studies</th><th>Number of participants</th><th>Effect size* [95% CI]</th></tr>
<tr><td rowspan="3">Living at home (up to 6 months)</td><td>All</td><td>9</td><td>3542</td><td>1.26 [1.09, 1.46]</td></tr>
<tr><td>Outpatient follow-up</td><td>5</td><td>2896</td><td>1.18 [1.00, 1.38]</td></tr>
<tr><td>No outpatient follow-up</td><td>4</td><td>646</td><td>1.71 [1.22, 2.41]</td></tr>
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<tr><td rowspan="3">Living at home (end of follow-up)</td><td>All</td><td>14</td><td>5754</td><td>1.17 [1.05, 1.30]</td></tr>
<tr><td>Outpatient follow-up</td><td>7</td><td>3861</td><td>1.13 [0.99, 1.30]</td></tr>
<tr><td>No outpatient follow-up</td><td>7</td><td>1893</td><td>1.24 [1.03, 1.50]</td></tr>
</table>
*All OR, M-H, fixed effect<br><br>
• Narrative findings<br>
"Significantly more older patients are likely to survive admission to hospital and return home if they undergo comprehensive geriatric assessment while they are inpatients. Fewer will die or experience deterioration and more will have improved cognitive functioning. These effects of acute geriatric medicine programmes are consistently shown in trials of geriatric wards but are not replicated in trials of geriatric consultation teams on general wards."
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</table>

Fox MT, Persaud M, Maimets I et al. (2012) Effectiveness of acute geriatric unit care using acute care for elders components: A systematic review and meta-analysis. Journal compilation, The American Geriatrics Society 60: 2237–45

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Systematic reviews ONLY: Do all studies fulfil inclusion criteria?<br>• No This systematic review pools results from studies that evaluate the effectiveness of ONE OR MORE components of the Acute Care for Elders (ACE) model. 7 studies were pre-2007.<br>Study aim<br>• This systematic review pools results from studies that evaluate the effectiveness of ONE OR MORE components of the Acute Care for Elders (ACE) model. And the effect on hospital acquired functional decline.<br>Social care outcomes<br>• Discharge destination<br>Number reporting nursing home admissions<br>Clinical outcomes<br>• Function<br>Functional decline at discharge from | Participants<br>• Older people<br>Sample characteristics<br>• Sample age<br>Age 65 and older, average age 81<br>• Level of need<br>In acute illness or injury phase<br>Sample size<br>• Systematic reviews: number of studies<br>19 studies of 13 trials, 6,839 participants<br>Countries<br>• Sweden, USA, UK, Spain, Australia, France, Peru<br>Intervention<br>• List interventions of interest<br>One or more component of Acute Care for Elders model: patient-centred care, frequent medical review, early rehabilitation, early discharge planning, prepared environment | • Effect sizes<br>Eleven meta-analyses were undertaken, using published and unpublished data.<br>Compared with usual care, individuals receiving acute geriatric unit care experienced:<br>- Fewer falls (risk ratio) RR = 0.51, 95% confidence interval (CI) = 0.29 to 0.88 (based on 2 studies, with 749 participants)<br>- Less delirium RR = 0.73, 95% CI = 0.61 to 0.88 (based on 3 studies, with 1,154 participants)<br>- Less functional decline between their baseline 2 week pre-hospital admission status and discharge (RR = 0.87, 95% CI = 0.78 to 0.97) (based on 6 studies, with 4,485 participants)<br>- Shorter lengths of hospital stay (weighted mean difference (WMD) = −1.28, 95%CI = −2.33 to −0.22) (based on 11 studies, with 6,098 participants)<br>- More discharges to home (RR = 1.05, 95% CI = 1.01 to 1.10) (based on 9 studies, with 4,315 participants)<br>- Lower costs (WMD = −$431.37, 95% CI = −$933.15 to −$70.41) (based on 5 studies, with 4,287 participants) | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
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| baseline - 2 week prehospital admission status, hospital admission status<br>• Mortality<br>• Iatrogenic complications - Falls, pressure ulcers, delirium,<br>Service outcomes<br>• Length of hospital stay<br>• Risk of hospital re-admission | | - Fewer pressure ulcers. A non-significant trend toward fewer pressure ulcers was observed. (RR = 0.49, 95% CI = 0.23 to 1.04, based on 2 studies, with 749 participants).<br>Even after sensitivity analysis (removal of outliers), functional decline from hospital admission to at discharge remained a non-significant difference (RR = 0.92, 95% CI 0.75 to 1.13, based on 3 studies, with 3,717 participants); length of stay remained significantly shorter (WMD = -0.61, 95% CI -1.16 to -0.05, based on 4 studies, with 3,956 participants); and costs also remained lower (WMD = −$245.80, 95% CI = −$446.23 to −$45.38, based on 4 studies, with 4,226 participants)<br>No difference was seen in discharges to nursing homes, (RR = 0.96, 95 CI 0.80 to 1.15, based on 6 studies, with 3,378 participants); however, after removal of outliers, significantly fewer discharges to nursing homes were seen (RR = 0.82, 95% CI = 0.68 to 0.99, based on 3 studies, with 2,040 participants).<br>No differences were found in functional decline between baseline hospital admission status and discharge (RR = 0.83, 95% CI 0.64-1.08, based on 4 studies, with 3,860 participants), mortality (RR = 1.01, 95% CI 0.81-1.27, based on 11 studies, with 6,612 participants), or hospital readmissions ( RR = | |

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|  |  | 1.05 95% CI 0.92 to 1.18, based on 5 studies with 3,983 participants).<br>Post hoc subgroup meta-analyses were performed in the three studies that examined the effect of the full ACE model on the study outcomes.<br>Results remained the same - that is significant (length of hospital stay) or non-significant (functional decline between baseline hospital admission status and discharge, mortality, and hospital readmissions) - or were inconclusive because of heterogeneity (discharge home). Differences in functional decline between baseline 2-week prehospital admission status and discharge and costs became no longer significant, with the authors suggesting this may have been because of low power resulting in a Type I error. No details of these analyses were reported in the paper.<br>• Narrative findings.<br>"Results from meta-analyses demonstrate that acute geriatric unit care including one or more ACE components and introduced during the acute illness or injury phase has significant beneficial effects over usual care in reducing falls, delirium, functional decline between baseline 2-week prehospital admission status and discharge, length of hospital stay, discharge to a nursing home, and costs and in increasing discharges to home. In addition, a |  |

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| | | nonsignificant trend of finding fewer pressure ulcers was observed."<br>The authors suggested that, "[g]iven the demographic and health characteristics of the average study participant, these findings are mainly applicable to octogenarians admitted through the emergency department with acute illnesses or injuries and other morbidities". | |

LaMantia MA, Scheunemann LP, Viera AJ et al. (2010) Interventions to improve transitional care between nursing homes and hospitals: a systematic review. Journal of the American Geriatrics Society 58: 777–82

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| Methodology<br>• Systematic review<br>Systematic reviews ONLY: Do all studies fulfil inclusion criteria?<br>• No. 2 refer to the discharge process (outside the scope for this review area) and 3 are about the admission process. However 2 of those are published before 2003. Strictly speaking only one included study meets the inclusion criteria.<br>Study aim<br>• To identify and evaluate interventions | Countries<br>• US and Australia; none were UK<br>Intervention<br>• Patient transfer sheet used for nursing home patients transferred to emergency department - Use of prospective order form for lifesustaining treatment - Use of a one-page transfer sheet for extended care facility patients transferred to emergency department | Only results from the 3 studies on hospital admission are presented below.<br>• Narrative findings<br>Madden et al prospectively evaluated a one-page transfer document designed to ease transitions of nursing home patients to a university hospital emergency department in North Carolina. The accuracy of information was not evaluated but a survey on the form's effectiveness at improving providers’ abilities to care for their patients was | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• ++ |

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| to improve communication of accurate and appropriate medication lists and advance directives for elderly patients who transition between nursing homes and hospitals.<br>Source of funding<br>• Voluntary/Charity<br>Clinical outcomes<br>• Medication management<br>Appropriate medication use - discrepancy-related adverse drug event<br>• Physical health<br>• Mortality<br>• "Successful" documentation rates<br>Service outcomes<br>• Risk of unplanned admissions | Participants<br>• Older people<br>Sample characteristics<br>• Sample age<br>65+<br>• Level of need<br>Not reported except in so far as we know that some study participants were nursing home residents.<br>Sample size<br>• Number of studies: 5 included - of which 3 were about hospital admission. | administered to a cross-sectional convenience sample of 34 nurses and seven physicians in the emergency department." (p.780)<br>"Of 41 providers [nurses and physicians] surveyed, 88% replied that the list of medications included in the transfer form made providing care to these elderly patients ‘‘a lot easier’’ than before. It also saved a significant amount of time, with 56% of the staff reporting needing more than 10 minutes to collect data in patients without forms and 93% requiring less than 5 minutes to collect data on patients with forms." (p.780)<br>Madden et al also evaluated the transfer form’s effectiveness at transmitting advance directives. They found that "234 patients (55.7% of the study population) had a do not resuscitate (DNR) preference recorded on their transfer form and that 156 patients had indications of whether they had a living will recorded on their transfer form." However, "rates of provider awareness of DNR orders or living will forms were not recorded before this intervention, so it is unclear whether the intervention improved communication of this information". (p.780)<br>Terrell et al reported the effect of a one-page transfer form for extended care facility patients transferred to the ED on 'successful' communication | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | [defined as at least 9 of 11 pieces of medical information] for nursing home patients transferring to an Indiana emergency department.) Chart review was undertaken for all patients transferring from any of 10 study nursing homes during a 3-month pre-intervention period (n = 65 patients) and a 3-month period after implementation of the transfer form (n = 72 patients).<br>They found that "[s]uccessful documentation increased from 58.5% to 77.8% with use of the transfer form, and the rate of documentation of DNR status rose from 64.6% to 87.5%." (p.780)<br>Tolle et al evaluated the effect of a physician order form for life-sustaining treatment (POLST) in people transitioning from long-term care facilities to acute care hospitals.<br>"Over the course of a year, there were 26 instances in which patients who had requested to be transferred only if comfort measures failed were transferred to the hospital. Of these 26 cases, 22 (85%) were to pursue more aggressive comfort measures, and four (15%) were to pursue life-extending therapies. None of these 26 cases was admitted to an intensive care unit, intubated, or received cardiopulmonary resuscitation (CPR). | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | Of the patients who died in [the Tolle et al. study], 95% died in their nursing home, however rates of hospitalization, intensive care unit admission, ventilator use, or CPR administration were not reported for this population before the intervention." (p.780)<br>Overview: "Although medication errors are a major problem in transitions, this review identified no intervention that clearly improved the communication of accurate and appropriate medication lists bi-directionally between nursing homes and hospitals." (p.780)<br>Two unique transfer documents did facilitate the transfer of advance directive information, (Terrell et al and Madden et al) from long-term care to EDs although these studies did not report the accuracy of information transfer.<br>The authors suggested that "well-designed and structured patient transfer records may improve the frequency and the accuracy of transfer of medication lists and advance directives." | |

Manderson B, McMurray J, Piraino M et al. (2012) Navigation roles support chronically ill older adults through healthcare transitions: a systematic review of the literature. Health and Social Care in the Community 20: 113–27

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>- Systematic review<br>Systematic reviews ONLY: Do all studies fulfil inclusion criteria?<br>- No. Claiborne (2006), Krichbaum (2007), Mayo (2008), and Lim (2003) focussed on the transition from hospital to home (rather than admission process). Gagnon (1999), and Naylor (1999) were both pre-2003.<br>Study aim<br>- To describe existing navigator models relevant to chronic disease management for older adults undergoing healthcare transitions and to investigate the potential impact of each model and synthesise the findings to identify common elements.<br>Source of funding<br>- Government<br>Emerging Team Grant from the Canadian Institutes of Health Research<br>Clinical outcomes | Participants<br>- Chronically ill older adults<br>Sample size<br>- Systematic reviews: 15 articles which documented nine discrete studies.<br>Countries<br>•U.S, Canada and Australia<br>Intervention<br>- Navigation roles for older adults with at least one chronic illness; heart failure; post-discharged from stroke rehabilitation; hospitalised for hip fracture repair; older 'high-risk' adults with chronic conditions and complex needs; frail older people at risk for repeated hospital admissions and discharged from hospital emergency department in last 12 months; older adults discharged from hospital and | NOTE: the effect sizes are as reported in the review<br>- Effect sizes<br>Naylor (2004)<br>Reduced hospital readmissions for intervention<br>(104 versus 162; P < 0.047)<br>Time to readmission or death longer for intervention.<br>(Kaplan–Meier log rank, P < 0.026)<br>Short-term improvement in overall quality of life<br>(12 weeks, P < 0.05)<br>and patient satisfaction<br>(2 and 6 weeks, P < 0.001)<br>Short-term improvement in physical quality of life<br>(2 weeks, P < 0.01; 12 weeks, P < 0.05)<br>Lower mean reimbursement for intervention ($7636 vs $23, 482; P < 0.002)<br>Parry et al. (2003) Coleman et al. (2006) Parry et al. (2006)<br>Lower hospital readmission rates at 30 days<br>(8.3% versus 11.9%; P < 0.048)<br>and 90 days (16.7% versus 22.5%; P < 0.04) | Overall assessment of internal validity<br>- +<br>Overall assessment of external validity<br>- + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| • Function<br>Impact on patient quality of life and capabilities (e.g.improvements in activities in daily living)<br>• Physical health<br>• Depression<br>Satisfaction<br>• Satisfaction with care<br>• Caregiver satisfaction<br>Service outcomes<br>• Risk of hospital re-admission | requiring community services. | post-discharge for intervention.<br>Lower rehospitalisation rates for the same condition at 90 days (5.3% versus 9.8%; P < 0.04)<br>and 180 days (8.6% versus 13.9%; P < 0.046)<br>post-discharge for the intervention.<br>Lower mean hospital costs for intervention ($2058 vs $2546; P < 0.049) at 180 days<br>Claiborne (2006)<br>Outpatient MD reimbursement higher for intervention (P < 0.05) and lower for emergency room reimbursement (P < 0.005)<br>Intervention improved mental quality of life (P < 0.001),<br>depressive symptoms (P < 0.001)<br>and adherence to self-care (P < 0.05)<br>No impact on physical quality of life<br>Krichbaum (2007)<br>Improvement in function (activities of daily living (ADLs) and instrumental activities of daily living (IADLs) measured by the Functional Status Index) at 12 months in the intervention<br>Boult et al. (2008) Boyd et al. (2007) Boyd et al. | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | (2009) Leff et al. (2009)<br>Intervention group had 24% fewer hospital days<br>(aOR = 0.76, 95% CI = 0.51–1.13),<br>37% fewer skilled nursing facility days<br>(aOR = 0.63, 95% CI = 0.35–1.15),<br>15% fewer emergency department visits<br>(aOR = 0.85, 95% CI = 0.62–1.18),<br>29% fewer home healthcare episodes<br>(aOR = 0.71, 95% CI = 0.47–1.08),<br>but 9% more specialists visits<br>(aOR = 1.09, 95% CI = 0.92–1.09),<br>46% more durable medical equipment items<br>(aOR = 1.46, 95% CI = 0.74–2.87),<br>12% more tests<br>(aOR = 1.12, 95% CI = 0.99–1.27)<br>and 10% more treatments<br>(aOR = 1.10, 95% CI = 0.94–1.28).<br>The intervention produced an annual net savings of $75 000 per nurse (50–60 patients) or $1364 annual net savings per patient.<br><br>Intervention group were twice as likely to rate their quality of care higher<br>(aOR = 2.13, 95% CI = 1.30–3.50; P < 0.003),<br>particularly coordination of care |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | (aOR = 1.80, 95% CI = 1.12–9.90; P < 0.016)<br>and decision support<br>(aOR = 1.49, 95% CI = 1.05–2.11; P < 0.025).<br><br>Primary care physicians more likely to be satisfied with patient communications (P < 0.026),<br>family caregiver communications (P < 0.023),<br>education of family caregivers (P < 0.009),<br>motivating patients to participate in maximising their health (P < 0.005)<br>referrals to community resources (P < 0.039)<br>and also reported higher rates of knowing all the medications that patients were taking (P < 0.045)<br><br>Mayo et al. (2008)<br>No significant effect on health services utilisation, except the average number of specialist visits that were lower for the intervention group (77% versus 82%) No significant effect on clinical outcomes.<br><br>Lim et al. (2003)<br>No difference in unplanned readmissions<br>Fewer hospital bed-days (up to 6 months from discharge)between intervention (mean 3.0 days; 95% CI, 2.1–2.9) |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | and control (5.2 days; 95% CI, 3.8–6.7); P < 0.01.<br>Hospital utilisation costs lower in intervention (mean difference $1770; 95% CI, $237–$3304) Total costs (hospital, intervention, community services over 6 months) lower in intervention (mean difference $2545; 95% CI, $11–$3078)<br>Improved self-reported quality of life (P < 0.02) and independent living (P < 0.002) in intervention.<br>No significant difference in caregiver burden at 1 month.<br>No difference in mortality between control and intervention (6%).<br>• Narrative findings<br>The studies demonstrate mixed support for the effectiveness of navigation roles.<br>“Two of the studies revealed little to no effect of the navigation position (Gagnon et al. 1999, Mayo et al. 2008); one resulted in higher use of emergency health services (Gagnon et al. 1999). While methodological design may account for some of the outcomes in these studies, we note that both were conducted in Canada where, similar to the UK, there is a single payer, universal healthcare system. However, the study interventions as described were more passive than the other six models; both initiated care at either discharge or after, rather than on admission. |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | Some evaluation studies have revealed an 'investment effect' (Toseland et al. 1997) where benefits of the intervention are not seen in the short-term, but are evident in longer term follow-up. This phenomenon is inferred in the studies selected for this review and supports the notion that navigation interventions and their evaluation should occur over a sufficient period of time to accommodate investment costs and assimilation into the system." (p123)<br>Of the nine navigator programmes identified for chronically ill older adults while transitioning between setting or provider, five reported positive economic outcomes, two reported higher satisfaction with care for providers and patients and five reported increased patient quality of life or functionality.<br>Recommended elements (qualifications and responsibilities) for navigator programmes serving chronically ill, multi-morbid, older adults.<br>Common elements<br>Qualifications:<br>Post-secondary healthcare training<br>Registered Nurse (RN) or Medical Social Worker (MSW) depending on the population.<br>Advanced gerontological training | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | Responsibilities:<br>Early discharge planning (if transitioning from hospital)<br>Skilled home visits and/or phone support/ availability<br>Medication management<br>Care or treatment planning<br>Service or care provider access and coordination<br>Patient advocacy to remove barriers to care<br>Patient and caregiver education<br>Assessment and management of health status<br>Collaboration with healthcare providers<br>Part of a multidisciplinary team | |

Mudge AM, Denaro C, O'Rourke P et al. (2012) Improving hospital outcomes in patients admitted from residential aged care: results from a controlled trial. Age and Ageing 41: 670–3

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Comparison evaluation<br><br>Study aim<br>• To compare characteristics and outcomes of acute medical inpatients | Participants<br>• Older people. 65 years old and over<br>• Level of need<br>Dependent in one or more Activities of Daily Living (ADL) | • Effect sizes<br>Patients from residential aged care allocated to the intervention had dramatically reduced in-hospital mortality (4.1 versus 22.1%, P < 0.001), and this difference was sustained at 6 months (28.2 versus 44.2%, P = 0.02). | Internal validity<br>• +<br>External validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| admitted from RACF and community. To measure the impact of an interdisciplinary care intervention on outcomes of RACF residents admitted acutely to general medical wards.<br>Clinical outcomes<br>• Mortality<br>In-hospital mortality and mortality at 6 months. | prior to admission<br>Control 63/76 (82.9%)<br>Intervention 77/95 (81.1%)<br>Sample size<br>• Control = 86<br>Intervention = 103<br>Total = 189<br>Country<br>• Australia<br>• Pre-discharge Interventions<br>Allied health team, which made an assessment and commenced discharge planning upon admission. Daily "board rounds". Mandatory attendance for allied health and junior medical staff, twice weekly consultant attendance. Nursing case manager actively seeks pre-morbid function data. Specialty discharge facilitator attends team meetings. Team estimates discharge date within 24 hours of admission. | 6-month readmissions (32.7 versus 22.4%, P = 0.15) and bed day use (14.7 versus 12.3 days, P = 0.24) were non-significantly increased.<br>• Narrative findings<br>The findings of the study suggest that the in-hospital mortality in hospitalised RAC patients is poor partly because the usual model of medical ward care does not meet their complex needs. Interdisciplinary care resulted in similar in-hospital mortality rates for RAC residents as for community-dwelling older people.<br>Importantly, the absolute mortality difference was sustained at 6 months, suggesting that the reasons for hospitalisation were correctly identified as acute reversible deterioration. While the study may provoke important questions about the societal value and cost of this mortality difference, the results challenge prevailing assumptions that RAC patients are too frail to benefit from these models of care, and that hospital is necessarily a dangerous place for this patient group | |

## Critical Appraisal Tables

## Tables reporting views studies

## Review area 3 The hospital admission process

### Question 5

### How do different approaches to care planning and assessment affect the process of admission to inpatient hospital settings from community or care home settings?

**And views questions 1-4 and question 10 relating to hospital admissions.**

Cheah S, Presnell S (2011) Older people's experiences of acute hospitalisation: An investigation of how occupations are affected. Australian Occupational Therapy Journal 58: 120–8

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study. Face to face semi-structured interview with each participant, conducted in the hospital plus patient observations.<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes. Ethical approval to conduct this research was obtained from the Alfred Human Research Ethics Committee and La Trobe University Faculty Human Ethics Committee. All participants provided written informed consent to participate prior to recruitment, and were free to withdraw from the research any time.<br>Is the role of the researcher clearly described? | How defensible/rigorous is the research design/methodology?<br>• Somewhat defensible. Only 6 participants were interviewed. It is hard to see how 'data saturation' had been reached at this stage. Although it is reported that observations were also made, the results are not reported here.<br>How well was the data collection carried out?<br>• Appropriately<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Appropriate<br>Were the methods reliable?<br>• Reliable<br>Are the data 'rich'?<br>• Mixed<br>Is the analysis reliable?<br>• Reliable | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Somewhat adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| • Clearly described | | | |

Parke B, Hunter K, Strain L et al. (2013) Facilitators and barriers to safe emergency department transitions for community dwelling older people with dementia and their caregivers: A social ecological study. International Journal of Nursing Studies 50: 1206–18

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes. This study was approved by University of Alberta Human Research Ethics Board.<br>Is the role of the researcher clearly described?<br>• Clearly described. Study co-leads conducted caregiver interviews. Trained research assistants conducted registered nurses and gerontological nurse practitioner interviews. The research team consisted of multiple disciplines (nursing, sociology, medicine) and not-for- | How defensible/rigorous is the research design/methodology?<br>• Defensible. Interpretive, descriptive exploratory design with three iterative interrelated phases: Researchers conducted interviews; created photographic narrative journals; and held focus groups which drew on the photographic journals.<br>How well was the data collection carried out?<br>• Appropriately.<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Appropriate. Purposive sampling was used in keeping with qualitative studies that seek thick description.<br>Were the methods reliable?<br>• Reliable. Rigor was ensured by triangulating data sources, peer debriefing, multiple checks, and an audit trail.<br>Are the data 'rich'?<br>• Rich<br>Is the analysis reliable?<br>• Somewhat reliable. Each data set (dyad, RN, and NP) was initially coded separately. The dyad data was used as the anchor so that the views of the older adults with dementia and their caregivers remained | Are the findings convincing?<br>•Convincing<br>Are the conclusions adequate?<br>• Adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| profit dementia and caregiver community organizations | primary in the analysis ensuring an older adult caregiver-focused approach to the analysis. Using constant comparative analysis the researchers arrived at themes that crossed the data sets. | | |

Randall S, Daly G, Thunhurst C et al. (2014) Case management of individuals with long-term conditions by community matrons: report of qualitative findings of a mixed method evaluation. Primary Health Care Research & Development 15: 26–37

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>This paper reports the qualitative element of a mixed methods study, which is reported elsewhere. The following methods were employed for the qualitative elements: focus groups, semi-structured interviews and audio diaries. This paper will be critically appraised using the checklist for qualitative studies.<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee? | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Appropriately<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Somewhat appropriate.<br>Chosen by the community matrons so it is possible they may have included people they knew to be positive about their care<br>Were the methods reliable?<br>• Reliable<br>Are the data ‘rich’?<br>• Rich<br>Is the analysis reliable?<br>• Reliable | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• A bit relevant |

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| • Yes. Ethical approval was granted by a research ethics committee (REC ref: 09/H1210/66) and local site approval was granted by four trusts through their research and development departments.<br>Is the role of the researcher clearly described?<br>• Clearly described. Although details of who conducted the interviews are not provided (we assume it was the researcher or research assistant). | | | |

Shanley C, Whitmore E, Conforti D et al. (2011) Decisions about transferring nursing home residents to hospital: Highlighting the roles of advance care planning and support from local hospital and community health services. Journal of Clinical Nursing 20: 2897–906

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study. One to one interviews.<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Appropriately<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way? | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate | As far as can be ascertained from the paper, how well was the study conducted? |

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| to do?<br>• Mixed. The title and abstract suggest the study explores decision making during the process of admission to hospital from nursing homes. In practice, it reports on ways of avoiding unnecessary hospital admissions from Nursing Homes, which would be beyond the scope of this review.<br>Study approved by ethics committee?<br>• Yes. The research project was granted ethics approval by the Human Research Ethics Committee of Sydney South West Area Health Service (Western Zone).<br>Is the role of the researcher clearly described?<br>• Clearly described<br>How clear and coherent is the reporting of ethics?<br>• Yes | • Appropriate<br>Were the methods reliable?<br>• Somewhat reliable. Only one means of data collection with one professional group. Triangulation with hospital professionals or admission records would have made the methods more reliable. Also, interviews with residents or families.<br>Are the data 'rich'?<br>• Mixed<br>Is the analysis reliable?<br>• Reliable | | • ++<br>Relevance to the Transitions guidance<br>• A bit relevant |

Themessl-Huber M, Hubbard G, Munro P (2007) Frail older people's experiences and use of health and social care services. Journal of Nursing Management 15: 222–9

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes. Scotland Multi-centre Research and Ethics Committee, five Local Research and Ethics Committees and five Acute Trust-based Research and Development departments.<br>Is the role of the researcher clearly described?<br>• Unclear | How defensible/rigorous is the research design/methodology?<br>• Somewhat defensible<br>How well was the data collection carried out?<br>• Somewhat appropriately.<br>All interviews were conducted by one researcher, recorded on mini disc and transcribed verbatim.<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Somewhat appropriate.<br>The participating group of older people was selected purposefully by geriatric consultants working in acute hospitals in each of the four regions. The consultants were asked to identify people fitting the following inclusion criteria that would enable the researcher to explore the patients' experience of their unscheduled hospital admissions.<br>Inclusion criteria as follows: • people aged 80 years and over; • more than two emergency admissions in the previous five years; • admitted to hospital between October and December 2003 as this was the time frame for the interviews; • including men and women; • interviewees had | Are the findings convincing?<br>• Somewhat convincing<br>Are the conclusions adequate?<br>• Somewhat adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• A bit relevant |

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
|  | knowledge and experiences of multiple emergency admissions (patients with dementia were excluded from the study).<br>Were the methods reliable?<br>• Somewhat reliable<br>The study is based exclusively on one form of data collection - the subjective reports of the older people interviewed. However, the researchers claim that they deliberately avoided triangulations of different data sources because: - case notes were shown to have considerable limitations. The research literature suggests that research is needed that regards older people as the best qualified experts to give a holistic and longitudinal view of their health and their experiences in relation to being recipients of health and social care.<br>Are the data 'rich'?<br>• Mixed. Themes were developed around older peoples' expectations and views around support services when they were in the community. However, even though the population were all selected on account of having unplanned hospital admissions, and section 3) of the interview is labelled: 'experience of emergency admission', there is little information provided by way of the older peoples' experience of this transition.<br>Is the analysis reliable?<br>• Somewhat reliable. The literature provided key themes that formed an initial framework for analysis. Coding categories were revisited, expanded and refined independently by two researchers throughout the period of analysis. |  |  |

Toles MP, Abbott KM, Hirschman KB et al. (2012) Transitions in care among older adults receiving long-term services and supports. Journal of Gerontological Nursing 38: 40–7

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study. Interviews<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes. All study procedures were reviewed and approved by the University Institutional Review Board.<br>Is the role of the researcher clearly described?<br>• Clearly described<br>How clear and coherent is the reporting of ethics?<br>• Yes | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Appropriately<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Appropriate<br>Were the methods reliable?<br>• Reliable<br>Are the data 'rich'?<br>• Rich<br>Is the analysis reliable?<br>• Reliable | Are the findings convincing?<br>• Somewhat convincing. Authors conclude that a greater involvement of nurses would address the issues raised, but participants also welcomed input from pharmacists and physicians as well.<br>Are the conclusions adequate?<br>• Somewhat adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• Highly relevant |

## Study Findings Tables

## Tables reporting views studies

## Review area 3 The hospital admission process

## Question 5

## How do different approaches to care planning and assessment affect the process of admission to inpatient hospital settings from community or care home settings?

**And views questions 1-4 and question 10 relating to hospital admissions.**

Cheah S, Presnell S (2011) Older people's experiences of acute hospitalisation: An investigation of how occupations are affected. Australian Occupational Therapy Journal 58: 120–8

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study.<br>Single face to face semi-structured interview with each participant, conducted in the hospital plus patient observations.<br>Study aim<br>• To examine older people's experience of acute hospitalisation. Specifically: 1. The effect acute hospitalisation has on older people's occupations.<br>2. The meaning of any changes in occupation, as perceived by older people.<br>3. The influence of the hospital environment on older people's abilities to engage in meaningful occupation.<br>Source of funding<br>• Not reported | Participants<br>• Six older people admitted to an acute ward and receiving the Functional Conditioning Program that aims to promote activity and prevent deconditioning for older patients admitted to acute wards.<br>Sample characteristics<br>• Sex<br>3 male, 3 female<br>• Sample age<br>72-86 years<br>• Level of need<br>Participants were hospitalised - although they were living in a non institutionalised environment prior to admission and intend to return there following discharge. Reason for admission: central cord syndrome, subarachnoid haemorrhage, COPD, chest pain, gallbladder removal. | • Narrative findings<br>The authors conclude that patients endured a form of occupational deprivation. Occupations lack meaning in hospital and this has profound implications for occupational therapy, "With occupational performance decontextualised from normal life, it is difficult to see how the assessment of performance in the (further decontextualised) environment of functional assessment might be regarded as a direct surrogate for actual performance." (p126)<br>Hospitalisation was seen as undesirable but ultimately justified by the purposes of admission. "This highlights the importance of patient education and collaborative treatment planning early in the individual's admission." Also: "By shifting the focus from enduring the present to planning for the future, it is possible that some of the context lost from occupational performance may be recaptured by the individual.<br>The anticipation of getting back into life following discharge from hospital served as a motivation towards recovery and participation in occupations and exercises while in hospital. In the absence of meaning attributed to occupational engagement while in hospital it was this imagined future that shaped engagement in present activities. "This suggests that if the therapist is to understand an individual's occupational performance, a detailed consideration of the individual's projected future (as well as his/her experienced past) must be included in the process of assessment." (p127)<br><br>• Qualitative data<br>Hospital as an alien environment<br>Patients recalled their lives pre-admission as being full of meaning, their | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | Country<br>• Australia | roles (e.g. in the community) were very important. This contrasted with life in hospital which lacked meaning and purpose and mainly comprised of waiting - for medical professionals and test results, "When you're home … you're able to do more. I go walking in a lovely environment which [I] get a lot of enjoyment from. Whereas walking here, you're just walking to get the exercise and build up your fitness."(p.123) People felt alienated by the impact of the hospital on the individual's sense of routine – experienced either as a lack of routine, a feeling of a forced routine or a routine dependent on the availability of the staff.<br>Hospital in undesirable, but serves its purpose:<br>"Although hospital was not a place where participants wanted to be, they nonetheless recognised that it was a place where they were going to get help with their health and receive treatment for their illness. […] I'd like to go home but … I know I'm in a good place. And if someone's going to try and cure me, or work out what the problem is, it's in here, it's not at home.'" (p.124)<br>Understanding own condition/ abilities<br>People's understanding of their condition affected their perception about the likelihood of re-engaging with previous activities/ managing roles & routines after discharge. Some were resigned to the fact that their age limited their potential for occupational recovery.<br>Expert Opinion<br>Professionals' views were highly regarded and informed patients' expectations/ hopes about going home. However patients also felt uninformed because doctors would appear, make decisions about their health and then move on "They often sweep in with a little entourage and then they – they pontificate and then they sweep out again (laughs) … before you can ask a question." (p.125) |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | Partnerships with staff<br>Patients realised that relationships and cooperation with staff were fundamental to re engage with occupations. Working with nursing staff helped motivate patients. On the other hand when staff routines and workload meant they were unavailable to help patients, this was frustrating "I'm out and about a lot, and I have my independence. And that's the big thing, here you're not independent. It's … sometimes you have to fight for it, sometimes it's just the circumstances don't allow it." (p.125)<br>Getting back into life<br>Recovery and returning to life as it was before hospitalisation was the most frequently mentioned motivator. Patients readily engaged in activities and exercises because they were seen as a means of becoming strong enough to return home. | |

Parke B, Hunter K, Strain L et al. (2013) Facilitators and barriers to safe emergency department transitions for community dwelling older people with dementia and their caregivers: A social ecological study. International Journal of Nursing Studies 50: 1206–18

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study. Interpretive, descriptive exploratory design with three iterative, interrelated phases - interviews, photographic narrative journal (PNJ), and photo elicitation focus | Participants<br>•Community dwelling adults 60 years of age or older who had visited an area ED at least once in the six months prior to the interview; were considered to have mild to moderate cognitive impairment associated with | • Narrative findings<br>Four interconnected reinforcing consequences emerged from our analysis:<br>Being under-triaged; waiting and worrying about what was wrong; time pressure with lack of attention to basic needs; and, relationships and interactions leading to feeling ignored, forgotten and unimportant.<br>The findings suggest that prioritizing as currently conducted within the emergency department (ED) presents a barrier to safe quality care because complex issues associated with dementia are ignored. In an | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| groups.<br><br>Study aim<br>• To identify factors that facilitate or impede safe transitional care in the Emergency Department for community dwelling older adults with dementia. To identify solutions that would support registered nurses' roles to provide gerontologically sensitive care that could be tested in future studies.<br>Source of funding<br><br>• Government. Canadian Institute of Health Research – Institute of Aging, Parkinson Society, and the Alzheimer Society of Canada | Alzheimer's Disease or mixed dementia diagnosis; had a Mini Mental State examination (MMSE) score between 18 and 23; and had a caregiver willing to participate.<br>•Professionals/practitioners<br>• Carers/family members<br><br>Sample characteristics<br>• Disability<br>Mini Mental State examination (MMSE) score between 18 and 23<br><br>• Sample age<br>60 years of age or older<br><br>• Sample size<br>10 older adult-family caregiver dyads; 10 ED Registered Nurses; 4 Nurse Practitioners (NPs) from hospital geriatric consultative teams.<br><br>Country | aging population where dementia is becoming more prevalent, the unit of care in the ED must include both the older person and their family caregiver. Negative reinforcing consequences can be interrupted when nurses communicate and engage more regularly with the older adult-caregiver dyad to build trust.<br><br>• Qualitative data<br>Being Under-Triaged<br>Rachel (RN) explained that older adults with dementia are potentially 'under-triaged' because they may not be able to explain their symptoms:<br>"They could have a raging urinary tract infection which is just throwing them way out of whack, they could be septic. You know, which usually is what's happening […] they're not able to communicate what's going on. . . they don't often have fevers so they don't exhibit the same symptoms as the younger population would."(p.1212)<br>Norah (RN) described her tendency to assume that older adults coming in are less acute:<br>"From a triage perspective, when I have someone that's an older adult, I think that I definitely, have a feeling that a lot of times it's a non-urgent complaint. So that's what I see, like in all honesty. . . So that's one big thing is that they're not treated urgently because I think I already feel like I don't think that it's going to be urgent." (p.1212)<br><br>Waiting: Worried About What's Wrong<br>For the caregivers, waiting presented two confounding safety issues. First there was concern about the physical problem that required the ED visit. Second there was worry about worsening of the dementia related symptoms by waiting in an environment that they were powerless to | Relevance to the Transitions guidance<br>• Somewhat relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | • Canada | modify:<br>“We sat there for about three hours…without anybody ever saying anything to us and now he’s getting antsy. After about an hour, an hour and a half, ‘‘when are they coming? When are we gonna go? How long we gotta sit here?’’ We don’t know. So we sat there and I said, ‘‘Well, we just have to be patient". (Vivian, CG)" (p.1212)<br>An older adult with early to mid stage Alzheimer’s Disease, explained that avoiding rushed, chaotic places was important because these places made him feel "panicky". (p.1213)<br>Rita (CG) described the effect of the environment on her mother who continually wanted to leave the ED and ‘the activity’ as being major challenge:<br>“The hustle and bustle in the cubicle area, the noise, the running around; it was like an uptight atmosphere and feeling. . . the buzzing around bothered Mom very badly. And she was constantly trying to take the needle out of her arm and put her clothes on, as I say, because this is not what she’s used to, she’s used to a calm home. She’s used to a TV on. And yes, that activity made such a big difference.”(p.1213)<br>Sara (RN) explained: “The whole department is very noisy, very high stress, intense. There’s alarms going off, there’s a lot of stimulation which I think could definitely affect an older patient with dementia. . .they get more anxious, they get more agitated because there’s always continuous noise.” (p.1213)<br>RNs and NPs recognized that waiting long periods could add risk of hunger, dehydration, and incontinence, setting up a cascade of decline: | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | “clearly waiting three, four hours in the waiting room, the chance comes up that they’re hungry and they need to eat, so the access to food is very poor. And if there is access, they’re been told not to eat until they see a physician. So they’re already starting the process of perhaps becoming, if they’re not already, dehydrated; if they’re diabetic, maybe hypoglycemic. Access to the bathroom is very limited….it’s probably overwhelming to them, as they’re out of their routine.”(Vicky, NP) (p.1213)<br>Sara (RN) described the difficulty of keeping the older adult with dementia continent and the inability of the patient to express their need:<br>“You can tell that they’ve been bypassed all night and there’s no reason in an entire shift that they can’t be addressed a time or two to see if they need to go to the bathroom but again, we don’t see it as a priority, or it may not be seen at that time as a priority and you just don’t go in there. You don’t realize if they don’t tell you they have to pee ‘cause they don’t know, then if you don’t go in and check them.” (p.1214)<br>Restraints were also used because there was little time to attend to mobilization needs and a concern for safety. For many of the RNs, keeping older adults with dementia safe in the ED meant keeping them in their beds so they would not risk falling or wandering without supervision. Molly (RN) explained:<br>"Keeping them safe—so if they are able to ambulate or mobilize on their own, it’s a matter of just making sure that they’re not wandering away and leaving. And then if they just. . .it’s nighttime but they want to get out of bed, they want to be up, they want to get up and they’re not safe on their own. They’ve got a Foley and an IV and whatever. They can’t just. . .and then worrying that they’re gonna fall or crawl over side rails or that sort of thing. (Molly RN)" (p.1214) |  |

Randall S, Daly G, Thunhurst C et al. (2014) Case management of individuals with long-term conditions by community matrons: report of qualitative findings of a mixed method evaluation. Primary Health Care Research & Development 15: 26–37

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study. This paper reports the qualitative element of a mixed methods study, which is reported elsewhere. The following methods were employed for the qualitative elements: focus groups, semi-structured interviews and audio diaries. This paper will be critically appraised using the checklist for qualitative studies.<br>Study aim<br>• To consider findings from a study that evaluated case management of individuals with long-term conditions (LTCs) by a community matron (CM) service. The qualitative aim of the study (which is part of a larger multi | Participants<br>• Adults<br>•Professionals/practitioners<br>• Carers/family members<br>Sample characteristics<br>• Level of need<br>Patients had multiple long term conditions.<br>• Professionals Community matrons and staff who worked at the acute hospitals.<br>Sample size<br>• Secondary care staff n = 7<br>Community Matrons n = 15<br>Patients n = 13<br>Carers n = 8<br>Country<br>• UK<br>Interventions bridging the transition<br>•Case management of individuals with long-term conditions by a community | • What works well<br>For patients and family carers, knowing that they had a community matron (CM) and knowing how and when to contact them was important (generally e.g. not specifically in relation to admission).<br>Community nurses reported that even when a person is admitted to hospital, case management continues 'co-ordination without interfering'.<br>Preventing Admission<br>For patients, trust and knowing that someone was there improved their mental well-being and, in addition, CMs also gave them an extra layer of support instead of patients having to contact their GP and then dial for emergency help: 'I've stopped ringing the GP, who would say ‘ring an ambulance’.’(p32)<br>It was clear most people didn't want to go into hospital so the fact that the community matron helped implement self management was seen as very positive. This was also important from the carers' point of view who felt they could now cope better and didn't need to phone for help.<br>Connected with this, one CM reported a success story where she'd taught a patient about 'rescue packs' and his hospital admissions subsequently reduced.<br>Continuity (not in relation to admission)<br>A CM noted the trust and rapport element and commented:<br>"That consistency makes a massive difference...even though in actual fact, generally speaking, you’re not actually doing that much different to everybody else. It’s just the same person doing it." (p.32)<br>• What can be improved | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• A bit relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| methods study) is: to assess and evaluate the extent to which a CM service had implemented case management [and the impact that this had had on the quality of care provided to patients, on the everyday experiences of their carers, and on the number of hospital encounters for patients with comorbid LTCs].<br>Findings in respect of the last 3 (in square brackets) are reported elsewhere.<br>Source of funding<br>• Other. The Primary Care Trust (PCT) | matron (CM) | A problem with the community matron service was that it did not operate out of hours (evenings and weekends). This is when patients reported a poor service - if they ring the 'out of hours' service they're just told to phone an ambulance so as a result one person said he wouldn't bother ringing the out of hours any more.<br>One CM supported this view and suggested that admission at the weekend and in the evenings may rise among her patients because the carers find they just can't cope and can't phone the CM for support as they usually would.<br>A CM also commented on other problems with systems/ professional boundaries. The CM reflects on a case where communication and procedures in relation to an individual at the end of life were ineffectively managed - a carer called an ambulance in the middle of the night and attempts were made by the ambulance to crew to resuscitate the patient and transfer them to hospital when they shouldn't have been.<br>• Experiences described<br>The matrons noted that their presence in an acute hospital (when a patient had been admitted) was not always welcomed by staff, "I can stand there for 20 minutes without anyone speaking to me." (p32)<br>CMs felt their role was misunderstood by hospital staff despite their own efforts to explain, leaving leaflets and notes.<br>• Narrative findings<br>In order that the CMs fulfil their roles of leadership and leading case management, there needs to be a clear understanding of their role by fellow health- and social-care workers.<br>Systems of information are not clear and work against the aims of the |  |

| Research Aims | Population | Findings | Summary of Quality |
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| | | community matron role:<br>"The CM service is a subset within a whole, which can place limitations on the achievement of one of the aims of the service, which is to reduce avoidable hospital admissions. Qualitative findings, included examples of out of hours GPs instructing patients to phone for emergency help. Similarly, ambulance personnel when confronted with a very sick individual, but one who may only be marginally sicker than is their normal condition, would frequently take the individual to hospital. Systems of sharing information were not clear." (p33)<br>It was the coordination role that carers reported as being most valuable in supporting them and in supporting their relative who was experiencing the LTC - the assembly of knowledge of all the symptoms and circumstances of the patient contributed to the effective coordination of care. | |

Shanley C, Whitmore E, Conforti D et al. (2011) Decisions about transferring nursing home residents to hospital: Highlighting the roles of advance care planning and support from local hospital and community health services. Journal of Clinical Nursing 20: 2897–906

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study. One-to-one interviews<br>Study aim<br>• To explore current practice and opportunities to improve practice in decision-making about transfer of nursing home | Participants<br>• Professionals/practitioners Nursing home managers<br>Sample characteristics<br>• Type of ownership<br>Private n = 11<br>Not for profit n = 29<br>Government n = 1<br>• Total Sample size: 41 | • Narrative findings<br>" The study has found many of the same issues raised in other research – the acuteness of the resident’s condition; the level and style of medical care available; the role of family members; the numbers, qualifications and skills of staff; and concern about criticism for not transferring to hospital... Two factors emerging from this study that have not featured in previous research are the role of advance care planning and the role of support from local hospital and community health services." (p2903)<br>• Qualitative data | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| residents to hospital.<br><br>Source of funding<br>• Government | Country<br>• Australia | Factors affecting manager's decisions about whether to refer a resident to hospital:<br>1. MEDICAL SUPPORT<br>Whether a resident is admitted to hospital depends on the home's relationship with the GP. If there's a good relationship, the GP takes the manager's views on board. However one reported: "I might have all the policies and procedures in the world here, but a GP walks in and says 'Oh, I want her to be sent to hospital'. It happens, it doesn't matter what I've got here."<br>2. ROLE OF THE RESIDENT'S FAMILY<br>The way families are involved in decisions about transferring to hospital is partly determined by the urgency of the situation. In acute emergencies where the priority is immediate treatment, the decision will be made by the staff and the family will be informed as soon as practicable. Apart from emergency situations, the extent to which the family intervene in the decision is affected by how often they visit, their faith in the NH having adequate facilities. They often feel guilty about the person being in the NH and if there's any doubt will want them to go to hospital so that they know they've done all they possibly could.<br>3. AVAILABILITY & SKILL LEVELS OF NURSES<br>NHs with registered nurses (usually high care homes), especially if available 24 hours are likely to keep the patient in the NH. Low care homes have minimal access to registered nurses & those managers felt it unfair to make personal care assistants, so the usual approach is to say "if in doubt, ship them out". (p2901)<br>4. LEVEL OF STAFFING AND OTHER RESOURCES AVAILABLE<br>In low care nursing homes (NH) there are fewer staff per resident. A manager of one such home reported that they would send a person to | to the Transitions guidance<br>• A bit relevant |

| Research Aims | Population | Findings | Summary of Quality |
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| | | hospital more readily because keeping them in the NH would require more staff to care for them - thereby limiting the care that could be given to the other residents.<br>5. FEAR OF CRITICISM AND LITIGATION<br>"We can't not [transfer], because it's too litigious not to transfer them…and that's gone to the Complaints Resolution scheme on a few, on a couple of occasions." (High Care Manager) (p.2901)<br>6. ADVANCED CARE PLANNING PROCESSES USED IN THE FACILITY<br>The study found that there was large variation across the nursing homes in how systematically they approached ACP (Shanley et al. 2009). Managers that took a more deliberate and systematic approach indicated that they were less likely to have unplanned transfers to hospital than other nursing homes. This happens for three reasons:<br>- Because it means the resident and family have had chance to think about future possible scenarios so when it comes to a decision about hospital admission, the family are fully prepared. If this hasn't happened, families tend to err on the side of caution and send the person to hospital.<br>- Having ACP in place puts the resident's views at the fore. If they've chosen not to have unnecessarily invasive treatment they won't be subject to them just because nobody can make a clear decision not to transfer them.<br>- It gives (sometimes less experienced) staff clear guidelines about how to deal with a deterioration in the health of a resident. They're not making decisions in an information vacuum.<br>7. AVAILABILITY AND AWARENESS OF SUPPORT SERVICES FROM LOCAL HOSPITAL AND COMMUNITY HEALTH SERVICES.<br>A range of AHS (Area Health Service, which provides a range of community services) staff are already going into the nursing homes to | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | provide a consultation service to staff that prevents several residents from having to be transferred to hospital. The services that go into nursing homes most frequently are community aged care assessment, psychogeriatrics, palliative care, wound care, continence care and community nurses. While some nursing homes make use of several AHS staff, other facilities either do not know about or else do not use these services at all.(p2902)<br>Communication between NHs and hospitals varies and a number of innovative approaches were reported which aimed to try and improve the situation e.g. collaborative and shared care (a visit by ED staff to the NH so they'd understand constraints and conditions in the NH), educational and professional support of NH staff (training in advanced nursing skills by community nurses), alternatives to ED & inpatient care (Some hospitals offer an outpatient or ambulatory care clinic where people can come in for relatively simple procedures as an alternative to going to the Emergency Department.)<br>8. TECHNOLOGY<br>In one NH staff email digital pictures of resident's wounds to medics at the hospital so they can advise on the most appropriate treatment. | |

Themessl-Huber M, Hubbard G, Munro P (2007) Frail older people's experiences and use of health and social care services. Journal of Nursing Management 15: 222–9

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study<br><br>Study aim<br>• To highlight older people’s experiences and expectations of services in the context of emergency admissions and extramural services.<br><br>Source of funding<br>• The study was funded by all former Scottish Primary Care Trusts. | Participants<br>• 18 older people<br>Sample characteristics<br>• Sex<br>12 women and 6 men<br>• Sample age<br>80-92 years<br><br>• Level of need<br>The number of emergency admissions per person in 2003 ranged from one to seven and between 1998 and 2003 from three to 12.<br>• Living arrangement<br>15 were living alone,<br>2 with their spouse, and one with their daughter.<br>10 were living in their own house, 7 in sheltered housing and one in residential care.<br><br>Country<br>• UK | • What works well<br>Although older people do not perceive the Community Alarm (CA) as having been able to prevent their emergency admissions, it was appreciated for raising their confidence about being at home prior to the admission.<br>"I don’t know what I’d do without it. I wear it night and day. Because I know that it’s been a help to me on several occasions when I have been ill. I’ve taken ill and it’s my main communication.(MT)" (p.226)<br><br>• Narrative findings<br>The older people in this study associated older age with increasing frailty and did not consider their emergency hospital admissions to be avoidable.<br>Older people appeared to be ambivalent with respect to the process of being admitted to hospital as an emergency. Initially, some were reluctant to contact formal services and in some instances they were opposed to being admitted. However, once in hospital they praised the quality of intramural services and perceived their admission as having been unavoidable.<br>The reports of older people suggest that they prefer services that focus on tertiary prevention. In other words, rather than concentrating on avoiding the onset of health problems or addressing health risks, this group of older people would prefer health and social care services to focus efforts on the care of their already established health issues, minimize detrimental consequences and diminish age-related complications. They prefer a service that supports and boosts their capacities, capabilities and social networks and a service that makes them feel safe while remaining inconspicuous when not needed and that ensures easily accessible help in | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• A bit relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | emergency situations (like the Community Alarm (CA) for example).<br>The older people said that services are not yet sufficiently flexible, do not yet involve older people enough and do not adapt care provision to individual circumstances and preferences, including being admitted to hospital. | |

Toles MP, Abbott KM, Hirschman KB et al. (2012) Transitions in care among older adults receiving long-term services and supports. Journal of Gerontological Nursing 38: 40–7

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Interviews<br>Study aim<br>• To describe Long Term Services and Supports (LTSS) recipient and family caregiver perceptions of care provided during transitions between LTSS settings and hospitals for acute medical conditions. Authors sought to understand a) their involvement in components of transitional care provided | Participants<br>• 51 Older people<br>• 6 Carers/family members<br>• Sample age (years) mean/SD/Range<br>76.2/ 11/58-100<br>• Sample Size<br>Total = 57<br>30 Nursing Home residents<br>11 Assisted Living Facility residents<br>10 PACE participants (Programme of All-Inclusive Care of the Elderly)<br>6 family caregivers of cognitively impaired (MMSE 18 or under) ALF and NH | • What works well<br>When LTSS residents did speak with their physicians (37 of 57) they consistently related appreciation about these opportunities to be involved in care: "The doctor seems very very interested... he did call up my son to tell us what was going on, which I thought was very nice since we had no idea what was going on." (p.44)<br><br>• What can be improved<br>When asked, LTSSs and care givers expressed a strong desire for more information and explanations from their physicians, nurses, and social workers.<br>Information LTSS recipients and family care givers wanted to learn in the hospital diagnosis --" I wanted to learn what I was doing there "treatment--"about me, my condition, you know what I mean? Do I need a follow up?" (p.44)<br>Referrals: "I'd like to find out the situation, the why, why was I brought back [to this nursing home." (p.44)<br>"I want a physical therapist, if he just come two or three times a week that | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• Highly relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| by professional staff in both LTSS settings and hospitals and b) understand the issues related to the experiences with care provided by professional staff.<br>Source of funding<br>• Government<br>• Voluntary/Charity | residents<br>• Level of need<br>Length of hospital stay Mean/SD/Range 5.8/7.3/1–42<br>Type of Long-Term Services and Supports (LTSS)<br>Nursing home n = 33 (58.9%)<br>Country<br>• Northeastern US<br>Intervention<br>• Nursing home, Assisted Living facility, PACE Programme<br>Assisted living facility<br>n = 13 (23.2%)<br>PACE Programme<br>n = 10 (17.9%) | would hep me to walk and that's all I'm interested in , to try and stand up." (p.44)<br>• Experiences described<br>During hospitalisation: Limited involvement in planning with professional hospital staff.<br>Nearly 30% of LTSS recipients reported no conversation with a hospital physician regarding acute medical conditions or planned treatments: "they didn't have the time".<br>"I would have liked the doctor to tell me about my condition, he never came in to tests...he never told me what my diagnosis was." (p.44)<br>"Only 33% (19 of 57) of LTSS recipients or family care givers reported discussions about their medical condition with hospital nurses, "the nurses ignore you" "they don't talk to you", "it is nerve racking, nobody tells you nothing"." (p.44)<br>Only 21% of LTSS recipients reported discussions with hospital social workers. "They kept saying social worker, social worker and I never saw her! At first they just told me that they were letting me go, but I said...that I aint leaving here until somebody talks to me"." (p.44)<br>To get information about hospital care and planning, recipients needed to initiate the conversations.<br>Uncertainty About Hospital Care and Follow Up Planning<br>One caregiver reported "I have to ask the questions and be on top of things with my dad...they don't just come to me with information"."(p.45)<br>LTSS recipients wanted to know how to follow up and what was going to happen next.<br>• Narrative findings | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | This study found that fundamental components of transitional care were not available to support older adults and their family care givers as they transitioned between providers and settings of care.<br>• Qualitative data<br>Authors found that LTSS recipients and their family caregivers reported limited opportunities to speak with their health care provider let alone participate in services to facilitate successful transitions in care.<br>LTSS were often passive bystanders in their own care.<br>Nursing implications - Gaps in transitional care suggest opportunities for nurses to engage, support and empower older adults as they transitions between LTSS and hospital care.<br>There is a need for nurses to carefully talk with LTSS recipients and family care givers about acute changes in health and the treatments being used to address them.<br>Nursing expertise are required to deliver fundamental elements of transitional care such as - a) reconciling medications; b) encouraging and activating LTSS and caregivers to take the next steps in care; c) providing written plans, instructions and calendars; d) teaching self management skills; e) explaining discharge plans and follow up. | |

## Critical Appraisal Tables

## Tables reporting impact studies

## Review Area 4 Improving hospital discharge

## Question 6

## What is the effectiveness of interventions and approaches designed to improve hospital discharge?

American Pharmacists Association and American Society of Health-System (2013) Medication Management in care transitions best practices.

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Review of best practice programmes<br>Appropriate and clearly focused question?<br>• Partly<br>Inclusion of relevant programmes?<br>• Partly<br>80 programmes responded to the call and were assessed according the stated criteria<br>Programme quality assessed and reported?<br>• Yes | Adequate description of methodology?<br>• Partly<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• No<br>Is there clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Somewhat<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• -<br>Overall assessment of external validity<br>• + |

Bahr SJ, Solverson S, Schlidt A et al. (2014) Integrated literature review of post-discharge telephone calls. Western Journal of Nursing Research 36: 84–104

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Systematic reviews ONLY: Do all studies fulfill inclusion criteria?<br>• No. Included studies range from 1988 - 2009<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Yes<br>Study quality assessed and reported?<br>• Partly reported | Adequate description of methodology?<br>• Yes<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• No<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Somewhat<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

Burton C, Gibbon B (2005) Expanding the role of the stroke nurse: A pragmatic clinical trial. Journal of Advanced Nursing 52: 640–50

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Yes. Stratified, then randomized by independent third party<br>Adequate concealment of allocation?<br>• Yes<br>Comparable groups at baseline?<br>• Yes<br>Was selection bias present?<br>• Low risk of bias<br>Did both groups receive equal treatment?<br>• Yes<br>Were the participants receiving care and support kept 'blind' to how the intervention was allocated?<br>• Yes<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• No<br>Performance bias appraisal<br>• Low risk of bias<br>Follow-up<br>• At 3 and 12 months<br>Drop-out numbers<br>• Intervention drop-outs<br>At 3 months: Incomplete assessment n = 34, lost to | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• No<br>Were investigators kept 'blind' to other important confounding factors?<br>• No<br>Detection bias appraisal<br>• Unclear/unknown risk of bias<br>The recruitment target of 121 in each group to meet 80% power was not met. Therefore small changes in outcomes may not have been detected.<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Yes<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Internal validity<br>• ++<br>External validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| follow up n = 0, At 12 months: Incomplete assessment n = 25, withdrew n = 6, died n = 7, lost to follow up n = 10<br>• Comparison drop-outs<br>At 3 months: Incomplete assessment n = 36, lost to follow up n = 0, At 12 months: Incomplete assessment n = 24, withdrew n = 5, died n = 8, lost to follow up n = 14<br>Groups comparable on intervention completion?<br>• Yes<br>Groups comparable on available data?<br>• Yes<br>Attrition bias appraisal<br>• Low risk of bias | | | |

Chhabra PT, Rattinger GB, Dutcher SK et al. (2012) Medication reconciliation during the transition to and from long-term care settings: A systematic review. Research in Social and Administrative Pharmacy 8: 60–75

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Appropriate and clearly focused question?<br>• Unclear. The focus on medication reconciliation during the transition to and from long-term care settings draws out comprehensive parameters. However, the review does not have clearly stated outcomes or look for specific ways of measuring efficacy. Rather than setting a question at the start of the review it examines and evaluates the quality of studies. | Adequate description of methodology?<br>• Unclear.<br>The reviews are only evaluated on a one-by-one basis and there is no data analysis or synthesis aside. The authors state that the results could not be pooled across studies because of heterogeneity of the outcomes considered in each study, which is possibly a consequence of | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• - |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Inclusion of relevant individual studies?<br>• Somewhat relevant. One study Delate (2008) is not about hospital to community or care home transition, but about discharge from secure nursing facility to home. The remaining six are all about transition to or from hospital.<br>Rigorous literature search?<br>• Yes. A search was conducted on six databases, and reference lists of relevant articles were hand-searched. Studies published before 2000, not written in English, that were not empirical or that were not experimental or quasi-experimental were excluded.<br>Study quality assessed and reported?<br>• No. There is no quality assessment of studies. | not stating the outcomes a priori.<br>Do conclusions match findings?<br>• Partly. It is not possible to comment on the judgements made on the methodological flaws of the included papers as only a few details are provided. | Relevant to social care outcomes?<br>• No<br>Does the review have a UK perspective?<br>• No. USA | |

Conroy SP, Stevens T, Parker SG et al. (2011) A systematic review of comprehensive geriatric assessment to improve outcomes for frail older people being rapidly discharged from acute hospital: ‘interface geriatrics’. Age and Ageing 40: 436–443

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Somewhat relevant. One study was pre-2003 (Close et at, 1999). Close and Davison measured falls as their | Adequate description of methodology?<br>• Yes. Authors described their approaches to heterogeneity, and methods for anlaysing data. The methods were justified. | Is the setting similar to the UK?<br>• Yes<br>Is there clear focus on adults with social care needs?<br>• Unclear. Not explicitly stated, but being frail older people it is implied. Plus, occupational | Overall assessment of internal validity<br>• ++<br>Overall assessment of |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| primary outcome which was not applicable to the guidance question. However, all five included studies measured hospital readmission (3 trials reported readmissions at 1 month (Caplan, McCusker and Mion)). The review focuses on rapid discharge, which they describe as 'within 72 hours'. This is problematic as it may include not just inpatients but those discharged within hours<br>Rigorous literature search?<br>• Partly rigorous. 11 databases searched from inception until September 2009 (repeated in October 2010). No mention of hand searching of key journals or of the language inclusion criteria.<br>Study quality assessed and reported?<br>• Yes. Trials were only included if they scored over a mean of 9/19 on the van Tulder critical appraisal score. | Do conclusions match findings?<br>• Yes | therapy, home-based physiotherapy, referral to community services as appropriate, activities of daily living all featured.<br>Has a transition taken place or been prevented?<br>• Yes. Focus in on acute-community interface.<br>Relevant to health outcomes<br>• Yes. 30 day readmission and mortality (although nothing statistically significant found).<br>Relevant to social care outcomes?<br>• No<br>Does the review have a UK perspective?<br>• Yes | external validity<br>• ++ |

Fox MT, Persaud M, Maimets I et al. (2012) Effectiveness of acute geriatric unit care using acute care for elders components: A systematic review and meta-analysis. Journal compilation, The American Geriatrics Society 60: 2237–45

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Somewhat relevant<br>Review is about Acute Care for Elders model of geriatric care in the acute unit, and includes evaluations that include one of more components, : patient-centred care, frequent medical review, early rehabilitation, early discharge planning, prepared environment. by including studies that may be about only one of these component, its not clear that this model that has of all of these featured is being tested, or which components are the most necessary, or effective for the efficacy of the model, or whether this is a review of individual components.<br>Rigorous literature search?<br>• Yes<br>Study quality assessed and reported?<br>• Yes | Adequate description of methodology?<br>• Yes<br>Do conclusions match findings?<br>• Partly | Is the setting similar to the UK?<br>• N/A<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Somewhat<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

Fox MT, Persaud M, Maimets I et al. (2013) Effectiveness of early discharge planning in acutely ill or injured hospitalized older adults: a systematic review and meta-analysis. BMC Geriatrics 13: 1–9

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Yes<br>Study quality assessed and reported?<br>• Yes | Adequate description of methodology?<br>• Yes<br>Do conclusions match findings?<br>• Partly. Authors point out that those studies that included follow up telephone calls long period of time after discharge may explain some of the effectiveness, and not solely discharge planning. Authors also point out the lack of evidence available for sub groups of older people, such as those with dementia. | Is the setting similar to the UK?<br>• Yes<br>Is there clear focus on adults with social care needs?<br>• No. The social care needs were assumed from the age and health condition of the participants in the individual studies<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes. Although limited to satisfaction with discharge planning and quality of life<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

Hesselink G, Schoonhoven L, Barach P et al. (2012) Improving patient handovers from hospital to primary care: a systematic review. Annals of Internal Medicine 157: 417–28

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review of RCTs<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Yes<br>Study quality assessed and reported?<br>• Yes | Adequate description of methodology?<br>• Yes<br>Do conclusions match findings?<br>• Partly | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear. Social care needs are assumed<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

Larsen T, Olsen TS, Sorensen J (2006) Early home-supported discharge of stroke patients: a health technology assessment. International Journal of Technology Assessment in Health Care 22: 313–20

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• No. Only Pubmed searched<br>Study quality assessed and reported?<br>• No. All RCTs | Adequate description of methodology?<br>• Yes<br>Do conclusions match findings?<br>• Partly<br>Difficult to assess the effectiveness in the reduction of risk, as different time points have been pooled.<br>May overstate the reduction in the risk of death of referral to an institution or nursing home in studies that have only one, or recent time points, compared to comparing poor outcomes in studies with one, three month outcome, to those with longer time periods. | Is the setting similar to the UK?<br>• Yes<br>Is there clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• + |

Laugaland K, Aase K, Barach P et al. (2012) Interventions to improve patient safety in transitional care - a review of the evidence. Work 41 (Suppl.1): S2915–24

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic review including qualitative and quantitative studies<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Yes<br>6 databases were searched, plus reference lists of selected articles, and numerous 'aging' journals.<br>Study quality assessed and reported?<br>• No. The absence of a thorough assessment of the methodological quality of included studies is declared by the authors and is listed as a major weakness/ limitation of the review | Adequate description of methodology?<br>• Partly adequate<br>The authors are transparent about their methods, including their lack of rigour in quality-assessing and synthesising the data. They emphasise that the studies are not bias-free (owing to the lack of quality assessment) and that there is a need for caution when interpreting results.<br>Do conclusions match findings?<br>• Partly. Although presented results are selective. Only the studies that demonstrated positive effects on measures related to the prevention of adverse patient outcomes were outlined (11 out of 37 studies). | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes?<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No<br>Authors are from Norway and the Netherlands. | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• + |

Li H, Powers BA, Melnyk BM et al. (2012) Randomized controlled trial of CARE: An intervention to improve outcomes of hospitalized elders and family caregivers. Research in Nursing & Health 35: 533–49

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Yes. Randomized block design, blocking on family carer type of relationship (spouse or non-spouse). The random allocation sequence was generated using a computerized random number system.<br>Adequate concealment of allocation?<br>• Yes<br>Comparable groups at baseline?<br>• Yes. There were no statistically significant differences between the groups at baseline on participants' demographic or clinical characteristics.<br>Selection bias appraisal<br>• Low risk of bias<br>Did both groups receive equal treatment?<br>• Yes. Although the content differed, family carers in both groups received the same amount of audio-taped and written information, at the same time, and in the same manner.<br>Were the participants receiving care kept 'blind' to how the intervention was allocated?<br>• N/A<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• Yes | Did the study use a precise definition of outcome?<br>• Yes. Detailed descriptions of tool and scales to measure outcomes were provided.<br>Was the method used to determine the outcome valid and reliable?<br>• Yes. Self-reporting, nurses assessments and validated scales.<br>Were investigators kept 'blind' to other important confounding factors?<br>• N/A.<br>Detection bias appraisal<br>• Unclear/unknown risk of bias<br>Using audio-taped and printed material is described as a way of minimising bias. It is also potentially a limitation of the study.<br>Do conclusions match findings?<br>• Partly.<br>There were no statistically significant differences in patient or family caregivers' outcomes. As the intervention was unsuccessful the authors conclude that a one-size- | Is the setting similar to the UK?<br>• U.S<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Unclear | Internal validity<br>• ++<br>External validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Performance bias appraisal<br>• Low risk of bias<br>Follow-up<br>• Yes. Follow up took place at 2 weeks and 2 months post-discharge for both groups<br>Drop-out numbers<br>• Intervention drop-outs: 31 • Comparison drop-outs: 22<br>Groups comparable on intervention completion?<br>• Unclear. 25 patients died/ went to ICU in the control group compared to 11 in the intervention. 19 caregivers chose not to participate compared to 9 in the control group.<br>Missing outcome data<br>• Intervention missing outcome data<br>Patient early discharge = 9 patient in ICU/ died = 11 caregiver chose not to participate = 19 lost to follow up =26 missing =5.  70 lost to follow up<br>• Comparison missing outcome data<br>Patient early discharge = 9 patient in ICU/ died = 25 caregiver chose not to participate = 9 lost to follow up =20 missing =3. 66 lost to follow up<br>Groups comparable on available data?<br>• Yes. Mostly. Authors deployed a mixed effects model approach to deal with missing data.<br>Attrition bias appraisal<br>• Low risk of bias | fits all approach is not suitable for interventions aimed at helping family caregivers with hospitalised older relatives who are transitioning through care settings. The majority (% not specified) of CARE study caregivers had pervious experience of caring for hospitalized and ill elderly people. This could be one explanation for the negligible effect sizes. The authors hypothesize that future interventions may show more positive effects when aimed specifically at particular subgroups of carers, for example, caregivers facing stressful new experiences to which they are unaccustomed. | | |

Lindpaintner LS, Gasser JT, Schramm MS et al. (2013) Discharge intervention pilot improves satisfaction for patients and professionals. European journal of internal medicine 24: 756–62

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Is a randomised comparison approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Mixed. This is a pilot study to test the feasibility and acceptability of the intervention for a larger, well-powered trial.<br>Appropriate randomisation?<br>• Yes. Block randomization<br>Adequate concealment of allocation?<br>• Unclear<br>Comparable groups at baseline?<br>• Unclear. Comorbidity as measured by the Charlson Comorbidity Index (CCI) was high, with a trend toward higher comorbidity seen in the intervention group. This difference was primarily the result of 3 cancer patients with ongoing chemotherapy who were randomized to the intervention group.<br>Selection bias appraisal<br>• Unclear/unknown risk of bias<br>Selection bias<br>• Direction of bias effect<br>Higher comorbidity and higher percent of widowed people in the intervention group could negatively influence effectiveness of intervention - however authors | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Unclear. Many of the scales used were validated. However the tool used to measure satisfaction with discharge processes in patients, family caregivers and primary care physicians (one of the main reported findings) was not clearly explained. Authors only relayed that satisfaction with discharge process was assessed using a four point Likert scale which ranged from 1 to 4.<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Yes. Study nurses who conducted interviews were kept blind to the allocations.<br>Were investigators kept 'blind' to other important confounding factors?<br>• Unclear.  No information given. | Is the setting similar to the UK?<br>• Unclear<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Internal validity<br>• +<br>External validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| do not provide information about patients' 'living alone status' which could potentially redress balance.<br>Did both groups receive equal treatment?<br>• Yes<br>Were the participants receiving care and support kept 'blind' to how the intervention was allocated?<br>• N/A<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• No<br>Performance bias appraisal<br>• Unclear/unknown risk of bias<br>Follow-up<br>• Yes. Follow up at 5 days and 30 days post discharge.<br>Drop-out numbers<br>• Intervention drop-outs<br>17% of the intervention group were not discharged home and so could not be included in the study. They were discharged to: Rehabilitation: n = 2 Respite care: n = 1 Psychiatric hospital: n =1 Another hospital: n = 1<br>• Comparison drop-outs<br>No dropouts<br>Groups comparable on intervention completion?<br>• Unclear<br>Missing outcome data<br>• Intervention missing outcome data: 5<br>• Comparison missing outcome data: 0<br>Groups comparable on available data? | Detection bias appraisal<br>• Low risk of bias<br>Do conclusions match findings?<br>• Partly. Results presented are sporadic and selective. There is a lack of transparency with how p-values were calculated; for example the satisfaction with discharge processes table only presents p-values which demonstrate a positive effect. Combined with the small sample size and lack of information on questions asked to assess satisfaction it is difficult to connect findings with conclusions with any certainty. | | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Yes. Data from patients who were not discharged directly to home, and therefore could not receive the discharge intervention, were analyzed according to intention to treat.<br>Attrition bias appraisal<br>• Low risk of bias | | | |

Newcomer R, Kang T, Graham C et al. (2006) Outcomes in a nursing home transition case-management program targeting new admissions. The Gerontologist 46: 385–90

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Is a randomised comparison approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Appropriate randomisation?<br>• Unclear. No information given<br>Adequate concealment of allocation?<br>• Unclear<br>Comparable groups at baseline?<br>• Yes.<br>Selection bias appraisal<br>• Unclear/unknown risk of bias. Authors do not provide information on randomisation process or concealment.<br>Was selection bias present? | Did the study use a precise definition of outcome?<br>• Yes. Rates of discharge and length of stay<br>Was the method used to determine the outcome valid and reliable?<br>• Yes. Determined by patient charts and clients records.<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Unclear. Does not specify<br>Were investigators kept 'blind' to other important confounding factors? | Is the setting similar to the UK?<br>• No. US.<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Unclear | Internal validity<br>• +<br>External validity<br>• - |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Unclear/unknown risk<br>Did both groups receive equal treatment?<br>• Yes. All patients were recruited from the same nursing homes/ hospital rehabilitation units.<br>Were the participants receiving care and support kept 'blind' to how the intervention was allocated?<br>• N/A<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• N/A<br>Performance bias appraisal<br>• Low risk of bias<br>Follow-up<br>• Yes. Data obtained from nursing home patient charts and client records compiled by the PACT program - although authors do not specify time frame for this.<br>Drop-out numbers<br>• Intervention drop-outs<br>1 caregiver refused assessment because the nursing home placement had become permanent.<br>• Comparison drop-outs<br>5 caregivers dropped out of the study when the nursing home placement was deemed as permanent<br>Groups comparable on intervention completion?<br>• No. There are 4 more people who dropped out of the comparison group that the intervention.<br>Missing outcome data<br>• Intervention missing outcome data: 3 (10.7%) | • Unclear<br>Detection bias appraisal<br>• Unclear/unknown risk of bias<br>Do conclusions match findings?<br>• Yes | | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Comparison missing outcome data: 4 (16.7%)<br>Groups comparable on available data?<br>• Yes. Intention to treat analysis used.<br>Attrition bias appraisal<br>• Low risk of bias | | | |

Olson DWM, Bettger JP, Alexander KP et al. (2011) Transition of care for acute stroke and myocardial infarction patients: from rehospitalisation to rehabilitation, recovery, and secondary prevention. Evidence Report/Technology Assessment (202)

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Somewhat relevant<br>19 out of 62 studies were published before 2003<br>Rigorous literature search?<br>• Yes<br>Study quality assessed and reported?<br>• Yes | Adequate description of methodology?<br>• Yes. Very detailed<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• No. US insurance-based health system<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No. Clearly has a US perspective | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

Preyde M, Macalay C, Dingwall T (2009) Discharge planning from hospital to home for elderly patients: a meta-analysis. Journal of Evidence-Based Social Work 6: 198–216

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Partly rigorous<br>Small number of relevant databases, no grey literature searching. No trials databases searched<br>Study quality assessed and reported?<br>• Yes | Adequate description of methodology?<br>• No. No publication bias analysis, tests for heterogeneity, methods of synthesis not clear, only results from significant outcomes synthesised, should be all.<br>Do conclusions match findings?<br>• Partly. Effect sizes may not have been so large if all outcomes had been included in the synthesis | Is the setting similar to the UK?<br>• N/A<br>Is there clear focus on adults with social care needs?<br>• No<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• N/A | Overall assessment of internal validity<br>• -<br>Overall assessment of external validity<br>• ++ |

Preyde M, Brassard K (2011) Evidence-based risk factors for adverse health outcomes in older patients after discharge home and assessment tools: a systematic review. Journal of Evidence-Based Social Work 8: 445–68

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Appropriate and clearly focused question?<br>• Yes. Seeks to find risk factors for adverse outcomes in elderly patients discharged from an acute care facility. And review discharge assessment tools for use with a general population of elderly patients.<br>Inclusion of relevant individual studies?<br>• Yes. The inclusion criteria were as follows:<br>(a) older patient population<br>(b) risk factors for patients discharged from hospital to home<br>(c) non-psychiatric care<br>(d) discharge from an acute care setting and<br>(e) research article; that is, the study had to have a stated purpose, research question, methods, data analyses, results, and conclusion.<br>Rigorous literature search?<br>• Partly rigorous.<br>A comprehensive search of the MEDLINE, CINAHL, Health Sciences, Science Citation Index, Social Sciences Citation Index, and Abstracts in Social Gerontology databases was conducted to locate relevant articles, written in English, and published between the years of 1977 to 2007. Unpublished and non-research literature was not included.<br>Study quality assessed and reported?<br>• Unclear | Adequate description of methodology?<br>• Partly adequate<br>The search for research articles was conducted independently by two researchers. There was 90% agreement, and disagreements were settled by consensus.<br>Do conclusions match findings?<br>• Partly. Findings are presented in narrative form and we are not presented with individual effects of each study. From information presented the conclusions match findings. | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear<br>Does the review have a UK perspective?<br>• Unclear | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• + |

Rennke S, Nguyen OK, Shoeb MH et al. (2013) Hospital-initiated transitional care interventions as a patient safety strategy. Annals of Internal Medicine 158: 433–40

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Appropriate and clearly focused question?<br>• Yes.<br>Inclusion of relevant individual studies?<br>• Unclear<br>Disease specific cohorts were excluded as were non-clinical outcomes such as 'satisfaction with care'. Certain medicine management interventions may not have been included owing to these restrictions<br>Rigorous literature search?<br>• Partly rigorous<br>Study quality assessed and reported?<br>Yes. Reviewers rated the quality of individual studies using the Cochrane Collaboration Effective Practice and Organisation of Care checklist | Adequate description of methodology?<br>• Yes<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

## Study Findings Tables

## Tables reporting impact studies

## Review Area 4 Improving hospital discharge

## Question 6

## What is the effectiveness of interventions and approaches designed to improve hospital discharge?

American Pharmacists Association and American Society of Health-System (2013) Medication Management in care transitions best practices.

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Review of Best Practice programmes<br><br>Study aim<br>• To identify and profile existing best practice models that are scalable for broad adoption. To evaluate the best practice models, the American Society of Health-System Pharmacists (ASHP) and American Pharmacists Association (APhA) assembled expert panels composed of pharmacists skilled in working with Medication Management in Care Transitions (MMCT) programs<br><br>Source of funding<br>• Not stated<br><br>Outcomes<br>• Health-related quality of life<br>• Satisfaction with care<br>• Continuity of care | Participants<br>• Out of 80 programmes that responded to the call for best practice models, eight programs were designated as 'best practice'.<br><br>Country<br>• U.S<br><br>Interventions<br>The assessment process focused on three main criteria:<br>• Impact of the care transitions model on patient care<br>• Pharmacy involvement in the transition process from inpatient to home settings.<br>• Potential to scale and operationalize the process for implementation by other health systems. | • Narrative Findings<br>Barriers to ensuring successful transitions:<br>Financial Resources<br>Resources were needed for additional staffing and advancing electronic data sharing systems. Additional and creative use of existing resources could be justified by being self-sustaining or even revenue generating, as well as by reductions in preventable harm.<br><br>Staffing Resources<br>Staffing was a significant challenge, particularly in providing out of hours or weekend care.<br><br>Communication<br>Barriers to communication during transition were reported between:<br>- Pharmacists and providers<br>- Inpatient and outpatient partners<br>- Inpatient and outpatient pharmacists<br>- Pharmacists and patients/caregivers<br>- Pharmacists and administrative leadership<br><br>Facilitators of successful discharge:<br>Electronic Transfer of Patient Information and Data | Internal validity<br>• -<br>External validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
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| Service outcomes<br>• Risk of hospital re-admission | | to Partner Groups<br>Those best practice programmes that had a bi-directional ability to view and augment Electronic Health Records had a distinct advantage in assisting educational efforts and communication of drug therapy.<br>Multidisciplinary Support and Collaboration<br>The ability for multiple health professional disciplines to collaborate and communicate effectively and efficiently was evident in all successful models.<br>Programs that could foster collaborative ways of working demonstrated pronounced benefits to patient care, decreased length of stay, and decreased readmissions.<br>Effective Integration of the Pharmacy Team<br>Educational resources and training opportunities in conjunction with colleges and schools of pharmacy have played an important part in addressing the needs of patients during care transitions.<br>Data Available to Justify Resources<br>Solid data collection processes and the ability to systematically review and share applicable metrics drove successful practice. Common metrics included: | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | • Readmissions<br>• Length of stay<br>• Emergency department visits<br>• Medication-related problems at medication reconciliation (e.g., duplication of therapy; omission of needed drug therapy; correct drug but dosage too high or too low; drug interactions)<br>• Disease-specific metrics.<br>• Patient satisfaction or Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS)–related metrics.<br><br>Electronic Patient Information and Data Transfer Between Inpatient and Outpatient Partners<br>In all these best practice programmes the ability to securely and efficiently transfer patient information were beneficial.<br><br>Strong Partnership Network<br>The alignment of resources was a keystone to providing a unified approach to patient care. Pharmacy partnerships involved hospital pharmacy departments, community pharmacies, regional pharmacy chains, ambulatory pharmacy services and clinics, health clinic pharmacies, home infusion pharmacies, and many others. | |

Bahr SJ, Solverson S, Schlidt A et al. (2014) Integrated literature review of post-discharge telephone calls. Western Journal of Nursing Research 36: 84–104

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Systematic reviews ONLY: Do all studies fulfil inclusion criteria?<br>• No. Included studies range from 1988 - 2009<br>Study aim<br>• Telephone follow-up has been used in a variety of settings as a means to provide support and education, and to collect data about clinical concerns. This integrated review examines the question, "are post-discharge phone calls made by hospital staff an effective way of improving patient outcomes and easing transition from hospital to home?"<br>Source of funding<br>• Other<br>The author(s) received no financial support for the research, authorship, and/or publication of this article. | Participants<br>•Practitioners<br>9 professional from medicine, 2 surgical, 5 cardiac surgery, 2 medical-surgery, 1 cancer specialist<br>Sample characteristics<br>• Professional level - Calls were made by nurses, students, pharmacists, and telephone services.<br>Country<br>• Not reported<br>Post-discharge Interventions<br>•From 24 hour post discharge to 30 days | Qualitative outcomes<br>• What works well<br>Out of six studies that measured patient satisfaction two studies (Brau et al., 2009; Dudas et al., 2001) found that patients who received telephone calls were more satisfied than patients who did not. Two studies (Johnson (2000) and Roebuck (1999)) reported that patients "liked" receiving telephone calls but found no differences in satisfaction.<br>• Experiences described<br>Four studies found no difference in satisfaction between patients who received post-discharge telephone calls and patients who did not receive telephone calls.<br>Costs<br>• Resource use data<br>One study reported the high costs associated with reconciliation negatively impacted the cost–benefit ratio because there was a lack of effect on health care utilization. One study concluded that no change in ED visits and readmission made post-discharge telephone calls a questionable strategy in terms of cost-effectiveness.<br>Dudas et al. (2001) found post-discharge telephone calls averaged 10 min costing US$27 per patient in 2001. Gombeski et al. (1993) described a post- | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | discharge telephone call program that employed three clinical (non-nursing) personnel at a cost of US $50,000 per year. Walker et al. (2009) found 87.5 minutes of pharmacist time per patient was required to improve medication compliance: a phone call cost that exceeded the benefit according to their calculations.<br>• Narrative findings<br>Medicines Studies: studies conducted using pharmacist-delivered interventions focusing on medication-related health behaviours had better outcomes than studies where medication health behaviours were one of many areas of concern. One study (Schnipper et al. (2006)) reported an improvement in drug-related preventable adverse events but no difference in total adverse advents One study (Braun et al. (2009)) reported an increased compliance with medications.<br>Follow up: Post-discharge telephone calls were associated with an increased rate in the scheduled follow-up in two studies(Balaban et al. 2008; Beney et al. 2002))  One study (Beney et al. 2002) found people in the intervention group had a higher rate of initiating contact with the health care system in the first 24 hours (68 persons compared with 40 persons). Another study (Balaban et al,2008) stated post-discharge telephone calls significantly increased the rates of timely follow-up. |  |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | Self-care knowledge: No difference in knowledge between persons receiving post-discharge telephone call and persons who did not receive telephone calls - concerns raised were related to appointment scheduling or service concerns (not often clinical concerns).<br>Quality of life/physical well-being/anxiety/self-efficacy: One study (Beney et al. (2002)) found no change in quality of life or physical well-being between persons receiving and not receiving post-discharge telephone calls. Roebuck (1999) found no change in post-discharge anxiety between persons who receive telephone calls and persons who did not. One study Wong et al. (2005) reported an increase in self-efficacy among persons who received post-discharge telephone calls and those who did not.<br>Client Feedback: Johnson (2000) and Savage and Grap (1999) reported that nursing care processes were changed as a result of feedback received from calls.<br>Hospital readmission: No change in hospital readmission was found in any of the studies in which readmission was measursed (n=7)<br>Visits to the ED: Four studies evaluated visits to the ED. Dudas et al. (2001) reported a decrease in visits to the ED. orThree studies reported no difference in the use of ED between persons who received post-discharge telephone calls and those |  |

| Research Aims | Population | Findings | Summary of Quality |
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| | | who did not.<br>Service use: Beney et al. (2002) and Smith et al. (1998) found an increased use of unscheduled service. but there were no differences between groups in. Schnipper et al. (2006) and Wong et al. (2005).<br>Undesirable events: Mixed results, little data from individual studies to draw firm conclusions.<br>Conclusion<br>The findings from this review were inconclusive as there were positive and negative findings for most outcomes. | |

Burton C and Gibbon B (2005) Expanding the role of the stroke nurse: A pragmatic clinical trial. Journal of Advanced Nursing 52: 640–50

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Study aim<br>• The study aimed to test the hypothesis that expanding the stroke nurse role to provide continuity in care to stroke survivors and carers after discharge from hospital would | Number of participants:<br>• Comparison group 89<br>• Intervention group 87<br>• Total = 176 adults with a diagnosis of stroke<br>Country<br>• UK | • Effect sizes<br>Change in mean outcome scores from 3 to 12 months (median and interquartile range):<br>Barthel Index (Function)<br>Control 0.0 (1.0) (n = 62)<br>Intervention 0.0 (2.0) (n = 63)<br>P-Value = 0.049<br>Depression (outcomes not assessed at randomization): | Internal validity<br>• ++<br>External validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
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| improve recovery from stroke.<br>Source of funding<br>• Government<br>The study was funded by the National Health Service Executive (North West) reactive funding scheme.<br>Social Care outcomes<br>• Activities of Living: Frenchay Activity Index<br>Clinical outcomes<br>• Function: Barthel score<br>• Depression: Beck Depression Inventory<br>• Health-related quality of life: The Nottingham Health Profile (NHP)<br>• Mortality<br>• Caregiver burden: Caregiver Strain Index<br>Satisfaction<br>• Life satisfaction: The quality-of-life was only reported in one trial (Mion) using the Short Form-36 (SF-36) questionnaire<br>Service outcomes<br>• Risk of hospital re-admission | Intervention<br>• Follow up from stroke nurse at place of discharge within two working days. The stroke nurse reviewed:<br>- physical functioning using activities of living<br>- patient and carer knowledge of the consequences and implications of stroke<br>- patient and carer abilities to cope emotionally with the aftermath of stroke<br>- the potential of the home environment to support recovery<br>- medication adherence, appropriateness and effectiveness<br>- transfer of care arrangements<br>- health promotion, including patient and carer education, stroke prevention and the use of resources to support recovery<br>• Post-discharge Interventions<br>Stoke nurse home visits after discharge<br>Setting<br>• National Health Service trust in the | Control −1.0 (3.0) (n = 55)<br>Intervention −2.0 (3.0) (n=59)<br>Activities of Living:<br>Control 2.0 (5.0) (n=58)<br>Intervention 4.0 (7.0) (n=61)<br>Health related quality of life (NHP total score)<br>Control −11.32 (104.57) (n = 56)<br>Intervention −29.29 (94.49) (n = 60)<br>P-Value = 0.039<br>Social Isolation (Subsection of NHP):<br>Control at 3 months: 30.52 (67.87)<br>Control at 12 months: 38.50 (46.62)<br>Intervention at 3 months: 22.01 (42.14)<br>Intervention at 12 months 15.97 (36.10)<br>P-Value = 0.002<br>(significant reduction in social isolation)<br>Caregiver Strain (outcomes not assessed at randomization):<br>Control 0.0 (2.0) (n = 36)<br>Intervention 0.0 (2.5) (n = 37)<br>P-Value = 0.045 | |

| Research Aims | Population | Findings | Summary of Quality |
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|  | north-west of England, comprising two district general hospitals | • Narrative findings<br>The study intervention was not designed to enhance physical dependence, although the data did demonstrate that experimental group members appeared to receive some benefit after the 3-month assessment point. Whilst the Frenchay Activity Index failed to show improvement in the performance of activities with social meaning, the Nottingham Health Profile subsection showed statistically significant reductions in social isolation.<br>The study intervention augmented existing clinical practice, providing enhanced support to carers in the immediate period after hospital discharge. It is unsurprising, therefore, that carers of survivors in the experimental group reported less strain at the 3-month assessment period. The data demonstrate, however, that this effectiveness may be short term, and therefore dependent on continued receipt of the study intervention. The clinical effectiveness of providing specialist nurse outreach on perceptions of general health was generally consistent at 3 and 12 months after stroke in this study, with statistically significant reductions in perceived social isolation and emotional distress. The key window of recovery that appeared to be affected by the study intervention was after the 3-month assessment point. |  |

Chhabra PT, Rattinger GB, Dutcher SK et al. (2012) Medication reconciliation during the transition to and from long-term care settings: A systematic review. Research in Social and Administrative Pharmacy 8: 60–75

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br><br>Study aim<br>• To examine and evaluate studies performing medication reconciliation interventions in patients transferred to and from long-term care settings<br><br>Clinical outcomes<br>• Medication management<br>Service outcomes<br>• Length of hospital stay<br>• Risk of hospital re-admission<br>• Risk of unplanned admission | Participants<br>• Older people<br><br>Countries<br>• Sweden, Belgium, Australia, U.S.<br><br>Intervention<br>• All interventions involved medication reconciliation in patients transferred to and from long-term care settings | Findings<br>• Effect sizes<br>Boockvar et al, 2006<br>Lower odds of discrepancy related Adverse Drug Events in post-intervention group<br>(adjusted OR = 0.11; 95%CI 0.01 to 1.00; P-Value = 0.05)<br>Delate et al, 2008<br>78% reduction in the risk of death<br>(adjusted hazard ratio = 0.22; 95% C1 0.06 to 0.88)<br>No significant differences in mortality, rehospitalisations, and emergency department visits<br>Koehler et al, 2009<br>Average length of stay in control group was 4 days whereas in intervention group was 8.1 days<br>Bergkvist et al, 2009<br>Intervention group had fewer medication errors (0.53 error/patient) as compared with control group (1.06 errors/patient)<br>Crotty et al, 2004<br>At 8 week of follow-up, quality of prescribing significantly better in the intervention group vs. control group<br>Intervention group had protective effect against worsening pain (RR = 0.55; 95% CI 0.32 to 0.94)and hospital usage (RR = 0.38; 95% CI 0.15 to | Internal validity<br>• +<br>External validity<br>• - |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | 0.99); hospital usage similar between groups when all patients were included in analysis<br>Steurbaut et al, 2010<br>Clinical pharmacist identified 442 drugs, and the physician identified 385 drugs among Nursing Home patients<br>There was a statistically significant difference (P< .001) between medication histories obtained by pharmacists and physicians<br>• Narrative findings<br>A clinical pharmacist proved useful in providing medication reconciliation interventions in long term care settings. In various studies, a clinical pharmacist adopted specialized responsibilities such as serving as a transition pharmacist coordinator or working through a call centre. Additional roles of pharmacists seen in the literature include reducing the medication errors, taking accurate and complete medication histories, and providing effective admission and discharge education and planning. Despite evidence in all 7 studies demonstrating the effectiveness of having a clinical pharmacist who provides medication reconciliation during the transition to and from long-term care, the authors felt the results were not generalisable owing to flaws in study design. |  |

Conroy SP, Stevens T, Parker SG et al. (2011) A systematic review of comprehensive geriatric assessment to improve outcomes for frail older people being rapidly discharged from acute hospital: ‘interface geriatrics’. Age and Ageing 40: 436–443

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Study aim<br>• To examine the evidence for services for older patients who developed a crisis and attended hospital, and who were assessed, treated and discharged, either immediately, or within a short-time period (up to 72 hours) from an Acute Medical Unit or Emergency Department.<br>Source of funding<br>• Government<br>National Institute for Health Research (NIHR) under its Programme Grants for Applied Research funding scheme<br>Clinical outcomes<br>• Function: Barthel score<br>• Cognition: Mini-Mental State Examination<br>• Mortality<br>Satisfaction<br>• Life satisfaction: The quality-of-life was only reported in one trial (Mion) using the Short Form-36 | Participants<br>• Older people<br>Country<br>• Not reported<br>Interventions<br>• Hospital-based geriatric assessment, and home-based physiotherapy and occupational therapy assessment focussing on falls<br>• Hospital or home-based, nurse-led comprehensive geriatric assessment (CGA) with multidisciplinary team supported by geriatricians.<br>• Brief, standardised geriatric nursing assessment with geriatrician or emergency physician input as required, followed by referrals to the community services/GPs<br>• CGA led by an advanced practice nurse specialising in geriatrics, liaison with emergency staff, referral to community services as appropriate and short-term case management<br>• Geriatrician led, day hospital delivered CGA and single occupational therapy home visit. | • Effect sizes<br>Re-admission.<br>Over the full follow-up period for each of the five trials (n = 2474), there was no significant difference in readmissions comparing control to intervention groups [(risk ratio 0.95 (95% CI 0.83 to 1.08)<br>However, I-squared was 42% indicating some heterogeneity in the trials.<br>An analysis by intervention type revealed that the predominantly nurse-led interventions (Caplan, McCusker and Mion, n = 1764) gave a risk ratio for readmission of 1.01 (95% CI 0.89 to 1.15) whereas the predominantly geriatrician-led intervention trials (n = 710) gave a risk ratio for readmission of 0.81 (95% CI 0.59 to 1.12)<br>Mortality. There was no significant difference in mortality at final follow-up when combining data for the five trials n = 2474, risk ratio 0.92 (95% CI 0.55 to 1.52)<br>Institutionalisation. In the Mion and Caplan trials, there was a clinically meaningful, but statistically non-significant trend towards reduced institutionalisation at final follow-up [(risk ratio 0.75 (95% CI 0.44 to 1.29) In the Close trial, there was a non-statistically significant trend towards increased institutionalisation [(risk ratio 1.16 (95% CI 0.62 to | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
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| (SF-36) questionnaire<br>Service outcomes<br>• Risk of hospital re-admission | | 2.16)<br>Functional outcomes. Only one trial reported function (Close). The standardised mean difference on the 20 point Barthel score was 0.41 (95% CI 0.21 to 0.61) in favour of the intervention. This is of doubtful clinical importance.<br>Quality of life (only reported in Mion, 2003) ) At 4 months there was a mean difference of 0.2 (95% CI −1.9 to 2.3) in the physical component of the SF36, and 0.6 (95% CI −1.3 to 2.5) difference in the mental component of the SF36—both in favour of the intervention, although these differences are not clinically meaningful.<br>Cognition. One trial (Davison) reported cognition at 12 months. The mean difference (on a 30-point scale) was 0.5 (95% CI −0.3 to 1.2) in favour of the control group; this is unlikely to be clinically important.<br>• Narrative findings<br>The review furnished no firm evidence that any form of Comprehensive Geriatric Assessment (CGA) carried out on frail older people discharged from acute care settings within 72 hours has any effect on mortality, long-term institutionalisation, subsequent use of acute care, physical function, quality-of-life or cognition. | |

Fox M, Persaud M, Maimets I et al. (2012) Effectiveness of acute geriatric unit care using acute care for elders components: A systematic review and meta-analysis. Journal compilation, The American Geriatrics Society 60: 2237–45

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Study aim<br>• This systematic review pools results from studies that evaluate the effectiveness of one or more components of the Acute Care for Elders (ACE) model, one component of which is discharge planning. And the effect on hospital acquired functional decline.<br>Social care outcomes<br>• Discharge destination<br>Number reporting nursing home admissions<br>Clinical outcomes<br>• Function<br>Functional decline at discharge from baseline - 2 week pre-hospital admission status, hospital admission status<br>• Mortality<br>Service outcomes | Participants<br>• Older people<br>Country<br>• Sweden, USA, UK, Spain, Australia, France, Peru,<br>Interventions<br>• One or more component of Acute Care for Elders model: patient-centred care, frequent medical review, early rehabilitation, early discharge planning, prepared environment | • Effect sizes<br>n = total number of participants from individual studies<br>Iatrogenic Complications<br>Falls (n=749) RR = 0.51 95% CI 0.29 to 0.88 P = .02<br>Pressure Ulcers (n=749) RR = 0.49 95% CI 0.23 to 1.04 P=.06<br>Delirium (n=1154) RR = 0.73 95% CI 0.61 to 0.88 P<.001<br>Functional Decline at Discharge<br>(n=4485) RR = 0.87 95% CI 0.78 to 0.97 P = .01<br>Length of stay in hospital (days)<br>(n=6098) WMD = -1.28 95% CI -2.33 to -0.22; P = .02<br>Discharge Destination<br>Home (n=4315) RR = 1.05 95% CI 1.01 to 1.10; P = .01<br>Nursing Home (n=3378) RR = 0.96 95% CI 0.80 to 1.15; P = 0.63 | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

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| • Length of hospital stay (days)<br>• Risk of hospital re-admission |  | Mortality<br>(n=6612) RR = 1.01 95% CI 0.81 to 1.27; P = .90<br>Hospital Readmission<br>(n=3983) RR = 1.05 95% CI 0.92 to 1.18; P = .49<br>Some data are not reported here because they are not relevant to our review question. Please see source paper for details.<br>• Narrative findings<br>Hospital readmissions. Meta analysis of 5 studies identified no significant difference within 1 or 3 months of discharge.<br>Discharge destination meta analysis of 9 studies showed that those receiving ACE care were 1.05 times more likely to be discharged home (RR =1.05 P = 0.01)<br>Length of stay in hospital in 11 complete studies. Individuals receiving ACE care experienced significantly shorter length of stay than usual care Weighted Mean Difference = −1.28 P = 0.02)<br>Mortality: no significant effect in 11 studies<br>Functional decline meta-analysis of 6 studies indicated individuals receiving ACE were 13% less likely to experience functional decline compared to usual care (RR 0.87 P = 0.01) |  |

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|  |  | Iatrogenic complications (falls, pressure ulcers, delirium)  ACE was associated with significantly fewer falls (RR 0.51 P = 0.02) , ACE was associated with significantly less occurrence of delirium (RR = 0.73; P<.001 ) |  |

Fox MT, Persaud M, Maimets I et al. (2013) Effectiveness of early discharge planning in acutely ill or injured hospitalized older adults: a systematic review and meta-analysis. BMC Geriatrics 13: 1–9

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br><br>Study aim<br>• To compare the effectiveness of early discharge planning to usual care primarily in reducing index length of hospital stay, hospital readmissions and readmission length of stay and secondarily in reducing mortality and increasing satisfaction with discharge planning and quality of life for older adults admitted to hospital with an acute illness or injury<br><br>Source of funding<br>• Government<br>Canadian Institute of health research | Participants<br>• Older People<br>Country<br>• US, France, Australia<br><br>• Post-discharge Interventions<br>Specific programmes include: Care Transitions, Project BOOST, Re-engineered Discharge and Transforming care at the bedside in EBM reviews | Effect sizes<br>• Narrative findingsHospital Readmissions: Meta-analysis of seven studies identified that older adults who received early discharge planning experienced significantly fewer hospital readmissions within one or twelve months of index hospital discharge (RR = 0.78, 95% CI 0.69 to 0.90 P = 0.0003) when compared with those who received usual care. This amounts to a reduction of 22% in hospital readmissions, favouring early discharge planning.<br>Readmission length of Stay: Meta-anlysis of three studies identified that older adults who experienced early discharge planning experienced a lower readmission length of hospital stay of almost two and a half days when compared to usual care (WMD* = −2.47, 95% CI -4.13 to -0.81P = 0.005) *Weighted mean difference<br>Mortality:  Meta-anlysis of five studies identified no significant difference in mortality from hospital admission to within two or twelve months of hospital discharge in older adults who received early | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
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| Social care outcomes<br>• Social care-related quality of life<br>Clinical outcomes<br>• Health related quality of life<br>• Mortality<br>Satisfaction<br>• Satisfaction with care<br>Service outcomes<br>• Length of hospital stay (days)<br>• Risk of hospital re-admission | | discharge planning compared with those who received usual care. (RR = 0.97 95% CI 0.80 to 1,17; P-Value = 0.73)<br>• Qualitative data<br>Satisfaction with discharge care planning: reported in two studies after two weeks on likert-type scales. No differences were found between the two groups.<br>Quality of Life: reported in four studies. Two studies used the SF36 scale;1 study the Minnesota Living with Heart Failure questionnaire; 1 study the Chronic Heart Failure questionnaire. The early discharge planning group reported higher quality of life scores at two weeks and three months than the usual care group. In the two studies using the SF-36 scale, no differences were found on other domains, including physical functioning, role limitations due to physical problems, bodily pain, mental health, role limitations due to emotional problems, social functioning and vitality. | |

Hesselink G, Schoonhoven L, Barach P et al. (2012) Improving patient handovers from hospital to primary care: a systematic review. Annals of Internal Medicine 157: 417–28

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review of randomised controlled trials<br>Study aim<br>• To systematically review interventions that aim to improve patient discharge from hospital to primary care<br>Source of funding<br>• Government<br>The European Union, the Framework. Programme of the European Commission.<br>Social care outcomes<br>• Social care-related quality of life<br>Clinical outcomes<br>• Health related quality of life<br>• Mortality<br>• Medication Management<br>Satisfaction<br>• Satisfaction with care<br>Service outcomes<br>• Length of hospital stay (days)<br>• Risk of hospital re-admission | Participants<br>• Older Adults (in 18 studies) with various diagnoses (general medical, surgical, heart failure, geriatric, stroke, and breast cancer)<br>• Adults<br>Countries<br>• Range<br>Australia, Canada, Denmark, Ireland, the Netherlands Norway, Taiwan, UK, US<br>• Interventions<br>All interventions that aim to improve patients' transition of care from hospital to primary care or home care. | • Narrative findings<br>Fourteen of the 22 studies examining an intervention with a focus on improving the quality of the information exchanged at discharge showed a statistically significant improvement in continuity of care. In these 14 studies, activities aiming to improve the quality of the information exchanged involved; medication reconciliation by a hospital pharmacist, study pharmacist, liaison pharmacist, or community pharmacist in continuity of care.<br>Effective interventions included<br>• Medication reconciliation<br>• Electronic tools to facilitate quick, clear, and structured summary generation<br>• Discharge planning<br>• Web-based access to discharge information for general practitioners.<br>• Use of electronic discharge notifications;<br>• Shared involvement in follow-up by hospital and community care providers.<br>While most interventions were multi-component, medicine management emerged as a specific component often associated with statistically significant positive outcomes. | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

Larsen T, Olsen TS, Sorensen J (2006) Early home-supported discharge of stroke patients: a health technology assessment. International Journal of Technology Assessment in Health Care 22: 313–20

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Study aim<br>• A comprehensive and systematic assessment (HTA) of early home supported discharge by a multidisciplinary team that plans, coordinates and delivers care at home (EHSD) was undertaken and results compared with that of conventional rehabilitation stroke units<br>Clinical outcomes<br>• Function<br>• Mortality<br>Service outcomes<br>• Risk of nursing home admission | Participants<br>• Adults with a diagnosis of stroke<br>Country<br>• Range of countries<br>Intervention<br>• Support from multidisciplinary team that delivers care at home | Costs<br>• The calculation of costs and savings restricted to average changes in a period of 12 months. From randomization converting EURO to USD at April 2005. Minimal expected savings expected are 3.2 inpatient days and 1.5 % of nursing home for a year, corresponding to 5.5 days amounting to 8.7 nursing home days having a value of 8.7x 170 = $1,480 .<br>• Effect sizes<br>When data was pooled incidence of poor outcomes odds risk reduction OR = 0.75 (CI 0.47 to 0.95), Numbers of patients Needed to Treat (NNT) = 14.<br>Referral to nursing home/ institution significantly reduced OR = 0.45 (CI 0.31 to 0.96) NNT =20.<br>Length of Stay<br>Pooled effect sizes identified a significantly shortened length of initial stay by 10 days (CI 2.6 to 18 days) to an average of 22 days.<br>Readmissions<br>No significant effect<br>Mortality | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | Specific odds ratio for mortality OR = .78 (not significant).<br><br>Significant effects of Early Home-Supported Discharge<br>Effect on Barthel Index (BI) <.2 (small effect)<br>No. of patients 374; difference from poor outcome 3%; difference in inpatient days 9<br>Effect on Barthel Index (BI) >0.8 (large effect)<br>No. of patients 734 patients; difference from poor outcomes 4%; difference in bed days 11<br><br>• Narrative findings<br>Incidents of poor outcomes (health or institution) reduced from 21.7% in the conventional stroke unit to 14.5% in the EHSD group.<br>Referrals to a nursing home or institution reduced by 5% from 11.3% in the conventional stroke rehabilitation unit to 6.3% in the EHSD group |  |

Laugaland K, Aase K, Barach P et al. (2012) Interventions to improve patient safety in transitional care - a review of the evidence. Work 41 (Suppl.1): S2915–24

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review including qualitative and quantitative studies<br>Study aim<br>• To focus on the effects of discharge interventions on patient safety, for example, adverse events confined to elderly patients (>65) who have been discharged either home or to a nursing home from tertiary care hospitals. The paper seeks to identify and evaluate the effects of the interventions in terms of effectiveness and efficiency of care processes.<br>Source of funding<br>• Not reported<br>Clinical outcomes<br>• Medication management<br>• Mortality<br>Satisfaction<br>• Satisfaction with care<br>• Caregiver satisfaction<br>Service outcomes | Participants<br>• Older Adults (65yrs+)<br>Country<br>• Range of countries<br>Intervention<br>• Interventions proposed to improve transitional care, and more specifically, hospital discharge. Studies were eligible for inclusion if they described or measured the effects of discharge interventions on adverse patient outcome (i.e. readmission rates, rehospitalisation, adverse events, medical errors, delays in diagnosis or treatment, mortality, patient, family and carer satisfaction). | • Narrative findings<br>Strong evidence of effectiveness of interventions aimed at facilitating cross site communication and accurate information transfer in transitional care seems principally to be limited to specific diagnostic groups managed in specific settings.<br>This may suggest that developing a single approach within transitional care of the elderly is not possible because of the diversity and complexity of elderly health care. Improving safe transitional care of the elderly will require future interventions that involve a multi-component approach which incorporates and takes into account the following characteristics.<br>Features of successful interventions:<br>-Interventions which commence at an early stage and are maintained throughout rehospitalisation and the post-discharge period<br>-Interventions that consist of a key health care worker which acts as a discharge coordinator<br>-Interventions that include patient participation and /or education<br>-Interventions that involve family caregivers<br>-Interventions which undertake a multidisciplinary approach<br>-Curriculum interventions teaching transitional care<br>-Pharmacy interventions- medication reconciliation<br>-Standardized medication reports | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| • Risk of hospital re-admission | | -Comprehensive transitional care programs with multi-interventional components<br>• Qualitative data<br>All the health care professionals interviewed in the study by Bull and Roberts identified a multidisciplinary team approach as critical for a proper discharge because elders have complex needs and each discipline brought different perspectives in planning for the elders' needs following rehospitalisation. There is strong evidence from both qualitative and quantitative studies which highlights the importance of involving patient and family caregivers in the hospital discharge process. Numerous studies on discharge planning have identified the importance of the role of the family, suggesting it as one of the most significant factors influencing the success of discharge planning for frail older patients. | |

Li H, Powers BA, Melnyk BM et al. (2012) Randomized controlled trial of CARE: An intervention to improve outcomes of hospitalized elders and family caregivers. Research in Nursing & Health 35: 533–49

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Study aim<br>• To test the efficacy of an | Participants<br>• Older People<br>• Family Caregivers<br>Country | Effect sizes<br>• Family Caregivers Outcomes<br>Role adaptation Lower score means better outcome. Mean (standard error) | Internal validity<br>• ++<br>External validity |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| intervention program (CARE: Creating Avenues for Relative Empowerment) for improving outcomes of hospitalized older adults and their family caregivers<br>Source of funding<br>• Government<br>Outcomes<br>• Role adaptation<br>• Caregiver burden<br>Service outcomes<br>• Length of hospital stay<br>• Risk of hospital re-admission | • US<br>Intervention<br>• The Creating Avenues for Relative Empowerment (CARE) intervention.<br>Session I. Within 1 to 2 days after hospital admission, family caregivers were assisted to develop a plan for their relatives' hospital care, based on their abilities and preferences. They also received audio-taped and written materials containing information on (a) common emotional responses, behavioural characteristics, and dysfunctional syndromes of hospitalized older adults and (b) how family carers can participate in care to prevent or help manage dysfunctional syndromes.<br>Session II, initiated 1 to 3 days before discharge, consisted of audio-taped and written materials containing information on how to (a) make a smooth hospital-to-home transitions, (b) participate in the discharge process, (c) foster a positive caregiver–care receiver relationship, and (d) prepare for follow-up care. | Time 2 : Intervention: 1.68 (0.23)<br>Control: 2.35 (0.21) P-value = 0.02<br>Time 3:Intervention: 1.73 (0.21)<br>Control: 1.98 (0.20) P-value = 0.34<br>Time 4: Intervention: 1.84 (0.22)<br>Control: 2.17 (0.20) P-value = 0.23<br>Quality of care giving<br>Time 2 (before discharge) :<br>Intervention: 40.07 (1.10) scale range 8–67<br>Control: 38.45 (1.00) scale range 8–66 p-value= 0.23<br>Time 3<br>Intervention: 7.83 (0.33) scale range 0–11<br>Control: 7.38 (0.29) scale range 0–11 P-value = 0.24<br>• Patient Outcomes<br>Length of Readmissions<br>1–15 days after discharge<br>Intervention: 0.08 (0.03) scale 0–2<br>Control: 0.09 (0.03) scale 0–1 P-value = 0.83<br>16–60 days after discharge<br>Interventions: 0.11 (0.03) scale 0–2<br>Control: 0.06 (0.03) scale 0–10 P-value = 0.18<br>Some data are not reported here because they are | • + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | not relevant to our review question. Please see source paper for details.<br>• Narrative findings<br>Family Caregiver Outcomes:<br>There were no significant differences between CARE and attention control groups on emotional coping measures for depression, anxiety, and worry or on functional coping measures for amount and quality of care giving.<br>CARE family caregivers reported less role strain and better preparation to participate in elders' post-hospital care than those in the control group. There were no significant differences between CARE and control groups in their ability to know what to expect and how to assist in the care of hospitalized older relatives.<br>Patient Outcomes:<br>There were no significant differences between the study groups on patient outcomes at any time point.<br>It appears that CARE may not work as a one-size-fits-all intervention. It may be more beneficial for subgroups of family caregivers, especially those facing stressful new experiences without previously formulated cognitive schemas. |  |

Lindpaintner LS, Gasser JT, Schramm MS et al. (2013) Discharge intervention pilot improves satisfaction for patients and professionals. European journal of internal medicine 24: 756–62

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Study aim<br>• To report the feasibility and acceptance of a discharge management intervention which was developed using nurse care managers to coordinate post-hospital care both during the hospital stay and for the first 5 days following discharge.<br>Source of funding<br>• Pharmaceutical MediService AG, Zuchwil, Switzerland.<br>Clinical outcomes<br>• Health related quality of life<br>• Caregiver burden/distress.<br>Satisfaction<br>• Satisfaction with care<br>Service outcomes<br>• Length of hospital stay<br>• Risk of hospital re-admission | Participants<br>• Adults (mean age 75yrs)<br>• Family caregivers<br>• Professionals<br>Country<br>• Switzerland<br>Interventions bridging the transition<br>An individualized discharge plan was formulated by the nursing care manager in collaboration with the physician team, with the following elements being implemented by the nursing care manager:<br>• Teaching about self-management strategies and medicine adherence.<br>• Scheduling of follow-up appointments with the primary care physician as well as with visiting nurse, specialist physician, and other support services as needed<br>• Preparing a standardized discharge fax which included discharge diagnoses, medication, and plans for follow-up and home care as | • Effect sizes<br>A secondary analysis of the individual endpoints showed more re-hospitalisations in the intervention group, a difference which reached significance in the time period between days 6 and 30 post-discharge (P = 0.026). The trend toward more re-hospitalisations in the intervention group persisted when planned rehospitalisations for chemotherapy were excluded but the difference no longer reached significance (3 cancer patients were randomized to the intervention group, whereas no such patients were assigned to the control group).<br>Significantly higher satisfaction with discharge processes was reported by patients in the intervention group on day 5 (P = 0.0272) and by family caregivers in the intervention group on day 30 (P = 0.008).<br>There were no significant differences between groups with respect to caregiver burden or health related quality-of-life, but a trend toward higher caregiver burden in the control group on day 30 was detected. Primary care physicians reported incomplete discharge information significantly more often in the control group than in the intervention group.<br>Barriers to continuity and provider efficiency<br>Missing information | Internal validity<br>• +<br>External validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | recommended by the hospital internists.<br>• Contacting each intervention group patient by structured telephone contact within 24 h of discharge, evaluating self-efficacy and giving reminders about self-management strategies and follow-up appointments<br>• Availability of the nursing care manager by pager 24/7 for 5 days following discharge<br>• Ending the intervention with a home visit and a letter to the primary care physician<br>• Using proprietary case management software (e-case) adapted for the project to collect data and generate correspondence | Intervention group 1 (n = 29) Control group 8 (n = 24) P-value = 0.031<br>N.B P-Values are only provided for significant effects in this paper.<br>• Narrative findings<br>The intervention group did not differ significantly from the control group with respect to the primary composite endpoint measured on days 1 to 5 after discharge (deaths: intervention group = 0, control group = 0; re-hospitalisation: intervention group = 1, control group = 2; urgent consultation: intervention group = 2, control group = 2; adverse medicine reaction: intervention group = 3, control group = 2).<br>The hospital-based discharge intervention initiated by a nurse care manager improved satisfaction with care among patients and caregivers and provided improved communication of relevant clinical data as judged by community physicians. |  |

Newcomer R, Kang T, Graham C et al. (2006) Outcomes in a nursing home transition case-management program targeting new admissions. The Gerontologist 46: 385–90

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Study aim<br>• The Providing Assistance to Caregivers in Transition (PACT) program offers nursing home discharge planning and case management for individuals in the transitional period following a return to the community. Effectiveness of the program is measured through discharge rates and length of stay.<br>N.B Patients eligible for PACT participation included those aged 60 years or older who were living in a freestanding nursing home or a hospital-based rehabilitation centre.<br>Source of funding<br>• Government<br>U.S. Administration on Aging<br>Service outcomes<br>• Length of hospital/nursing home | Participants<br>• Older People (aged 60 years +)<br>• Family Caregivers<br>Country<br>• US<br>Pre-discharge Intervention<br>• Patient Assessment<br>PACT nurse carried out an assessment to identify the patient's health, function, and mobility issues that the caregiver would have to address for a successful transition.<br>Interventions bridging the transition<br>• Caregiver Assessment and Care Management: Social worker (who acted as the case manager) conducted an assessment of the caregiver in his or her home setting. The assessment identified environmental, social, emotional, and financial issues that could pose a problem during the patient's transition from the nursing home.<br>Assistive Devices and Environmental | • Effect sizes<br>PACT program outcomes | Internal validity<br>• +<br>External validity<br>• - |

| Variable | Intervention Group | | Comparison Group | |
|---|---|---|---|---|
| | N | % | N | % |
| Discharged from nursing home | 33 | 83.8 | 29 | 76.5 |
| If discharged: | | | | |
| Mean days in nursing home | 28 | 46.6 (33.2) | 24 | 52.2 (30.2) |
| Median days in nursing home | 28 | 42 (5–139) | 24 | 55 (5–100) |
| Post-discharge outcomes | | | | |
| No. of emergency room visits | 2 | 7.1 | 3 | 12.5 |
| No,of hospital admissions | 6 | 21.4 | | 16.7 |
| No.of nursing home admissions | 3 | 10.7 | 5 | 20.1 |
| No. diseased | 2 | 7.1 | 1 | 4.2 |

<table>
<tr><th>Research Aims</th><th>Population</th><th>Findings</th><th>Summary of Quality</th></tr>
<tr>
<td>stay<br>• Admission to hospital<br>• Mortality</td>
<td>Assessments – Community provider, Independent Living Resource, conducted in-home assessments, as necessary, to determine need for assistive technology and assist with the purchase, set up, and training of caregivers in its use.<br>PACT Services and Financial Assistance</td>
<td><table><tr><td>No. lost to follow up</td><td>3</td><td>10.7</td><td>4</td><td>16.7</td></tr></table><br>Notes: Fisher’s exact tests were used for 2 x 2 tables and t tests for the mean days in the nursing home comparison. There were no statistically significant differences between groups.<br>• Narrative findings<br>There is a trend suggesting a modest effect, reflected in both higher rates of discharge (84% versus 76%) and shorter median stays (42 versus 55 days) in the intervention group, but these differences are not statistically significant.<br>The end-of-study status of each group was similar in terms of the number of emergency room visits, hospital stays, nursing home readmissions, losses to follow-up, and deaths.<br>The authors comment that withdrawals from case management, coupled with the comparable post-discharge outcome status of those with and without PACT case management, suggest room for improvement in the identification of caregivers who require (as distinct from those who find it helpful but not necessary) the enhanced assistance of this program. Results from qualitative interviews conducted after this trial suggests that early</td>
<td></td>
</tr>
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| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | withdrawal from PACT reflects judgments about not needing the assistance, rather than dissatisfaction with it. | |

Olson DW, Bettger J, Alexander K et al. (2011) Transition of care for acute stroke and myocardial infarction patients: from rehospitalisation to rehabilitation, recovery, and secondary prevention. Evidence Report/Technology Assessment (202)

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Study aim<br>• To review the available published literature to assess whether evidence supports a beneficial role for coordinated transition of care services for the post-acute care of patients hospitalized with first or recurrent stroke or myocardial infarction (MI)<br>Social care outcomes<br>• Social care-related quality of life<br>Return to normal activities<br>Clinical outcomes<br>• Function<br>• Cognition<br>• Health related quality of life<br>• Physical health | Participants<br>• Older People<br>• Family Caregivers<br>Country<br>• Norway, Germany, Canada, Australia, Iran, UK, Italy, Mexico, Denmark, Netherlands, Poland, Finland, US<br>Pre-discharge Interventions<br>• Early supported discharge<br>• Intensified transition<br>• Integrated care pathway<br>• Computer tailored stroke education<br>MI only:<br>• Illness perception education<br>• Disease management program | Effect sizes<br>MI patients<br>Rehospitalisation: Young et al., 2003 Disease management program demonstrated reduced rehospitalisation days out of 1000 patient follow up days (P < 0.0001), both overall and cardiac.<br>Stroke patients<br>Rehospitalisation and hospital days: Andersen et al., 2000 MD or PT home visits after discharge from inpatient rehabilitation significantly reduced readmissions at 6 months (26% or 34% versus 44% control; P = 0.028).<br>Bautz-Holtert et al., 2002 Early supported discharge to multidisciplinary team resulted in fewer hospital days than standard care (22 days versus 31 days, P = 0.09).<br>Fjaertoft et al., 2005 Early supported discharge | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| • Depression<br>• Mortality<br>• Caregiver burden/distress<br>Satisfaction<br>• Satisfaction with care<br>• Caregiver satisfaction<br>Service outcomes<br>• Length of hospital stay<br>• Risk of hospital re-admission<br>• Risk of unplanned admissions | • Educational and behavioural cardiac rehabilitation.<br>• Home rehabilitation<br>• Stroke information packet and family<br>• Counselling post discharge<br>• Post discharge education and follow-up<br>• Post discharge care management<br>• Follow up services (physician or physical therapist)<br>• Telephone follow up and home follow up<br>• Community based stroke team<br>• Home care cognitive behavioural therapy<br>• Psychosocial interventions<br>MI only:<br>• Self help manual supported by facilitator<br>• Telephone counselling<br>• Trans-disciplinary care<br>• Early return to normal activities (plus with nurse coordinator weekly phone calls)<br>• Follow up with implementation intervention program<br>• Home follow up and education expert patient programme | resulted in fewer hospital days (66.7 versus 85, P = 0.012).<br>Holmqvist et al., 2000 von Koch et al., 2001 Early supported discharge resulted in fewer overall hospital days, mostly due to the shortened initial rehospitalisation (15 versus 30, P < 0.0001).<br>Outpatients visits/ communications:<br>Fjaertoft et al., 2005 Early supported discharge had increase in clinic visits (11.4 versus 8.9, P = 0.027).<br>Mant et al., 2000 Family support services resulted in fewer visits to PT compared to control. (44% versus 56%, P = 0.04).<br>Mayo et al., 2008<br>Case management group has fewer visits to specialists after discharge (2.2 versus 3.4, P = 0.01).<br>Sulch et al., 2002<br>Integrated-care pathways improved communications with primary MDs (80% versus 45%, P > 0.0001).<br>• Narrative findings<br>The review identified 4 intervention types.<br>Intervention type 1: hospital-initiated support for | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | Interventions bridging the transition<br>• Family support<br>• Social worker coordination services<br>• Case management<br>• Follow up and care coordination<br>• Integrated care | discharge to home (13 studies)<br>Intervention type 2: patient and family education interventions, both hospital-based and community-based (7 studies)<br>Intervention type 3: community-based models of support (20 studies)<br>Intervention type 4: chronic disease management models of care (4 studies)<br>• Early supported discharge as a component of hospital-initiated discharge planning (intervention type 1) after stroke was associated with a reduction in total hospital length of stay without adverse effects on death or functional recovery (moderate strength of evidence).<br>• Specialty follow up, a component of hospital-initiated support (intervention type 1), after MI and guideline-based practice were associated with a reduction in mortality (low strength of evidence).<br>• There was insufficient evidence to support a beneficial role for intervention types 3 or 4 in terms of improvement in functional status; quality of life; and reduction in hospital readmission, morbidity, and mortality.<br>• There was little consistency in the transition of care interventions from one study to another.<br>• There was much variability in the selection of outcome measures for evaluating the success of | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | transition of care interventions<br>Stroke and MI-specific key points<br>• Early return to work after an MI was safe and may be cost-effective from a societal perspective. Returning to work did not increase health care utilization, and it saved the cost of cardiac rehabilitation in patients without complications or comorbidity<br>• Early supported discharge, particularly in patients without complications or comorbidity, was either cost-neutral or cost-effective as it substantially reduced overall hospital days. This difference in hospital days was driven by the early discharge strategy, with no difference observed in rehospitalisation rates in either arm. Early supported discharge did not increase burden on family providers, and it reduced days in the hospital and outpatient physical therapy and occupational therapy visits.<br>• Physician appointments or home visits by physical therapists may reduce readmission rate for stroke patients, particularly those with prolonged rehabilitation and stroke-related impairment prior to the intervention. Visits by nurses did not produce a similar effect<br>• There was a trend suggesting that patients with less severe strokes (lower NIH Stroke Scale) demonstrated a benefit from transition of care interventions compared to those with more severe deficits. |  |

Preyde M, Macalay C, Dingwall T (2009) Discharge planning from hospital to home for elderly patients: a meta-analysis. Journal of Evidence-Based Social Work 6: 198–216

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Study aim<br>• Comprehensive examination of discharge planning over the last 10 years<br>Source of funding<br>• Not reported<br>Clinical outcomes<br>• Function<br>• Depression<br>• Mortality<br>Satisfaction<br>• Satisfaction with care<br>• Life satisfaction<br>Service outcomes<br>• Length of hospital stay<br>• Risk of hospital re-admission | Participants<br>• Older people (65 yrs+)<br>Country<br>• Range of countries<br>Pre-discharge Interventions<br>• Chronic disease nurse consultation, chronic disease clinic assessment, multi-factorial for chronic disease.<br>Nurse or trained volunteer delivered intervention targeted toward risk factors for delirium.<br>Acute care for elders (ACE), attention to physical environment, patient-centred care, discharge plan (DP). One home visit 72 hours post-discharge by a public health nurse.<br>Emergency department identification, standardized assessment and community referral for high-risk elders. GP input into DP for frail elders. Hospital pharmacist developed DP of medications and support needed. Interdisciplinary, nurse DP, early physical rehabilitation for patients with | Costs<br>• Five studies reported intervention group savings Naylor et al. (1999) cited the most significant reduction, with Medicare reimbursements per patient reduced by half in the 24 week follow up period for acute care services.<br>• Effect sizes<br>Augmented discharge planning appears to have a large effect on patient satisfaction (mean ES 0.83), moderate effects on QoL (.45) and readmission (.45), while only a small effect on function (.31) and length of stay (.26).<br>There seems to be no statistically significant relation between effect size and type of intervention (F = 0.969, P = 0.475, Quality Assessment Rating (QAR) and type of intervention (F = 2.12), P = 0.115), nor was there a relationship between ES and QAR (r= -0.173, P = 0.572).<br>• Narrative findings<br>Augmented discharge planning appears to have a robust effect on patient satisfaction and moderate effects on quality of life and hospital resources. No strong effects were noted for any one type of DP, patient characteristic, or quality assessment rating. In terms of study quality, inadequate reporting of methods and outcome data was evident in a | Overall assessment of internal validity<br>• -<br>Overall assessment of external validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | Hip Fracture Psychogeriatric, multidisciplinary intervention and DP for elders (75+). Geriatric assessment, nurse DP, referral to community services<br>• Postdischarge Interventions Encouraged to contact outpatient clinic, home visit by nurse. Intensive community nurse-supported DP older patients with chronic lung disease, home visit. Post-acute care coordinator with more geriatric expertise and time than usual DP, home telephone follow-up. Geriatric assessment, interdisciplinary home intervention. Multidisciplinary nurse DP for elderly with congestive heart failure home follow-up. Hospital care provided in home for medically stable elderly patients<br>• Interventions bridging the transition Comprehensive geriatric assessment, home follow-up by multidisciplinary outreach team in emergency department. Psychosocial preadmission, SW screening for orthopaedic patients. Transition home for patients with heart failure, link to | considerable number of trials. Finally, only one study could be located where the test intervention was social work coordinated. | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | community support, self-management, family. Discharge planning screening tool used in ICU for critically ill elderly, home follow-up. Comprehensive discharge plan and home follow-up for elderly patients. Advanced practice nurse discharge planning and home follow-up for patients with heart failure. Multidisciplinary, discharge planning coordinator, individualized plan of community service providers. Geriatric evaluation and management unit, geriatrician, multidisciplinary comprehensive assessment and DP, home visit if needed. DP and counselling, one home visit from nurse and pharmacist for patients with chronic conditions |  |  |

Preyde M, Brassard K (2011) Evidence-based risk factors for adverse health outcomes in older patients after discharge home and assessment tools: a systematic review. Journal of Evidence-Based Social Work 8: 445–68

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br><br>Study aim<br>• To develop a profile of risk factors for adverse health | Country<br>• Range of countries<br>Participants<br>• Older people | • Narrative findings<br>Discharge Factors Although the review was not specifically focused on discharge activities or decisions, discharge factors were significantly associated with adverse outcomes post-discharge.<br>A lack of documented family or patient education | Overall assessment of internal validity<br>• +<br>Overall |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| outcomes after older patients have been discharged from an acute care setting to their homes. A second purpose was to identify and assess discharge assessment tools that could identify these risk factors a priori.<br>Source of funding<br>• Not reported<br>Clinical outcomes<br>• Cognition<br>• Physical health<br>• Mortality<br>Service outcomes<br>• Risk of unplanned admissions | Intervention<br>• Risk factors for adverse outcomes in elderly patients discharged from an acute care facility and discharge assessment tools for use with a general population of elderly patients. | (Marcantonio et al., 1999) was found to significantly relate to readmission. This finding is consistent with other research identifying patient and family needs at discharge and one week post-discharge as important considerations for successful discharge planning. Tseng, Shyu, See, and Chen (2001) indicated that need for health care information, health and concrete resource services, and emotional counselling were central to optimal discharges from hospital to home.<br>In summary, the most frequently cited risk factors associated with adverse health outcomes after discharge were depression, poor cognition, comorbidities, length of hospital stay, prior hospital admission, functional status, patient age, multiple medications, and lack of social support. It is important to note that although these factors can be separated into discrete categories, many are interrelated.<br>Assessment Tools<br>Four discharge assessment tools could be located that were developed for use in general units in acute care settings; however, none of the tools contained items for all of the risk factors identified in this review.<br>Social Work Admission Assessment Tool (SWAAT): for use at admission to identify patients who may have complicated discharge needs that would require social work involvement to facilitate discharge planning.<br>Sensitivity (90%) of the SWAAT was good; however, there were concerns with specificity (30%).<br>SHERPA (Score Hospitalier d'Evalution du Risque de | assessment of external validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | Perte d'Autonomie; Cornette et al., 2005b): designed to identify older patients at risk for functional decline within three months post-discharge.<br>It has good sensitivity (67.9%) and specificity (70.8%); however, its brevity appears to neglect a number of important risks including medical, social support, and discharge factors.<br>The Blaylock Risk Assessment Screening Score (BRASS; Blaylock & Cason, 1992) was developed to ensure continuity of care by identifying patients in need of discharge planning.<br>BRASS has been reported to have high specificity (78% to 100%) but low sensitivity (19% to 56%) and is therefore questionable for clinical use (Mistiaen et al., 1997). This index appears to be comprehensive and easy to use; however, it may not capture all the important risk factors, such as depression.<br>The Uniform Needs Assessment Instrument (UNAI; Westra et al., 1998) was developed for hospital discharge with older patients. UNAI was found to be comprehensive and have high sensitivity and specificity (>85% respectively); however, there were concerns noted regarding the reliability of information gathered as part of the assessment. | |

Rennke S, Nguyen OK, Shoeb MH et al. (2013) Hospital-initiated transitional care interventions as a patient safety strategy. Annals of Internal Medicine 158: 433–40

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Study aim<br>• To review evidence in the international literature on the effect of Pharmacist led interventions on post discharge clinical adverse events (AE).<br>Source of funding<br>• Government<br>From the Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services<br>Clinical outcomes<br>•Adverse Events<br>Service outcomes<br>• Risk of unplanned readmissions in 30 days<br>• Emergency department visits | Population<br>• Older adults<br>The majority of studies (n = 27) targeted older adult populations, although definitions of 'elderly' varied widely<br>• Adults at high risk of readmission or AE<br>Again, the definition of 'at risk' varied widely<br>Countries<br>• Range (half of the studies took place in the US)<br>Intervention<br>• Transitional care strategies initiated before hospital discharge with the aim of ensuring the safe and effective transition of patients from the acute inpatient setting to home | • Narrative findings<br>Three studies in the review reported statistically significant reductions in post discharge AE rates:<br>1. One study found that a pharmacist-led intervention reduced medication related re-admissions within 12 months of hospital discharge. The intervention targeted elderly patients and involved inpatient monitoring, counselling, discharge teaching and medication reconciliation, and post discharge telephone follow-up.<br>2. A comprehensive pharmacist-led intervention reduced preventable drug adverse events and reduced a composite outcome of medication-related emergency department visits and hospital readmissions within 30 days of hospital discharge.<br>3. Another pharmacist-led study that included discharge medication counselling without post discharge follow-up reduced adverse drug events in a Saudi Arabian population.<br>Two additional studies reported reductions in post discharge AEs with pharmacist led medication safety interventions; findings were not statistically significant, but both studies were underpowered to detect important differences between intervention and control groups. | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

# Critical Appraisal Tables

## Tables Reporting Views Studies

## Review area 4 Improving Hospital Discharge

## Question 6

**What is the effectiveness of interventions and approaches designed to improve hospital discharge?**

**And views questions 1-4 and question 10 relating to transfer of care from hospital.**

Baumann M, Evans S, Perkins M et al. (2007) Organisation and features of hospital, intermediate care and social services in English sites with low rates of delayed discharge. Health & Social Care in the Community 15: 295–305

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear. The study's aim is clear at the outset. However, extenuating circumstances, such as the Government's introduction of the Community Care (Delayed Discharge) Act in 2003, and an unworkably low participation rate for interviewees in the form of elderly service users, meant that certain aspects of the study were difficult to maintain.<br>Study approved by ethics committee?<br>• Yes. Study was approved and monitored by the NHS Multisite Research Ethics Committee (MREC) and local ethics committees and research | How defensible/rigorous is the research design/methodology?<br>• Somewhat defensible<br>Researchers identified and selected 'high performing sites' with low levels of delayed discharge through a multi stage process which is outlined in detail. To maximise the chances of selecting sites that were all-round high performers, these results were cross-referenced with joint review reports by health and social care inspectorates. The authors ensured that selected sites represented a mix of geographical locations and local authority types. Authors interviewed key health and social services staff who had managerial or operational involvement in discharge arrangements at these sites. The remaining staff sample was recruited through a snowball approach.<br>How well was the data collection carried out?<br>• Somewhat appropriately. One researcher undertook the fieldwork and all interviews were tape-recorded and transcribed. A second researcher undertook the analysis. This is potentially problematic as some valuable insights may have been lost through this division of labour; much of the tacit knowledge gained in fieldwork did not contribute directly to the formulation and application of the approach to analysis. Relevant data were identified from verbatim transcripts of interviews, summarised and categorised into emergent themes. Data were classified as 'relevant' if they contained content about factors that were either supportive or unsupportive to the achievement of low rates of delay. Findings were then examined cross-sectionally in order to identify factors found in three or more sites, and those present in just one or two. This enabled the authors to discern the common themes that might underlie good | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate<br>Regardless of all the obstacles the authors give a detailed explanation of the study's limitations. The conclusions unsurprisingly contain a lot of information about the implications of the 2003 Care Act, however they are still convincing and largely relevant to the efficiency of hospital discharge processes. | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Highly relevant |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| governance groups for each site.<br>Is the role of the researcher clearly described?<br>• Unclear<br>How clear and coherent is the reporting of ethics?<br>• Yes | performance, as opposed to unique or circumstantial factors.<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Somewhat appropriate. The authors intended to undertake interviews with a random sample of 15 elderly people from each site, who had been referred to social services by hospital staff and subsequently discharged from hospital. This measure would provide a check on whether there was a cost tothe quality of care and outcomes of efficient discharge. The authors regretted that the extremely low participation rate - 12 people (7% of those invited to participate) - prevented them from including users' views in the study. Other attempts made by the authors to improve recruitment of elderly people post-discharge were not permitted by the Multicentre Research Ethics Committee. However, despite these obstacles the authors remain transparent about their processes.<br>Were the methods reliable?<br>• Somewhat reliable. Data collected by one method only - interview. Small amendments had to be made in light of the 2003 Community Care Delayed Discharge Act<br>Are the data ‘rich’?<br>• Rich<br>Is the analysis reliable?<br>• Somewhat reliable. Only one researcher coded data. | | |

Benten J, Spalding NJ (2008) Intermediate care: what are service users' experiences of rehabilitation? Quality in Ageing - Policy, Practice and Research 9: 4–14

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Appropriate. Interviews are considered to be the preferred method of gathering information about individuals' experiences of, and how they access and use, healthcare services.<br>Is the study clear in what it seeks to do?<br>• Clear. The study explored service users' experience of rehabilitation in an intermediate care setting. Findings were assessed in relation to the Department of Health's four principles that underpin the delivery of intermediate care.<br>Study approved by ethics committee?<br>• Yes. Consent to carry out the study was received from The Local NHS Research Ethics Committee and the Intermediate Care Services Manager. | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Appropriately. Interviews were undertaken in the second week following discharge to provide sufficient time for the participant to settle back into their home environment, to have time to reflect on their experiences and be aware of how they were managing at home. Participants were asked to read and discuss coded transcripts, in order to ensure the researcher's interpretation was a true reflection of their experiences. Further elaboration of the previous discussion took place as a consequence of the participants reading their transcript and further discussion took place as they wished to detail their more recent experiences.<br>Is the context clearly described?<br>• Clear. The participant's home was considered optimal given that service users can be reluctant to speak out about their experiences and fear exposure while in hospital. Participants could have chosen an alternative venue.<br>Was the sampling carried out in an appropriate way?<br>• Appropriate. An initial purposive sample was drawn from the population being discharged from the unit within the four-month defined data collection period. From this initial sample further selection was carried out by randomly pulling names from a hat.<br>Were the methods reliable?<br>• Somewhat reliable. Researchers kept a reflexive diary to increase self-awareness and reflect on any influences on data collected. Coded data | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• A bit relevant |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Is the role of the researcher clearly described?<br>• Clearly described<br>How clear and coherent is the reporting of ethics?<br>• Not stated. Confidentiality maintained and participants had the choice of another venue (aside from their house) to conduct the interview. Aside from this no more information is given. | was triangulated and themed by others.<br>Are the data 'rich'?<br>• Mixed. The context of the data is clear as all prompts and questions are provided. However, as the authors only provide a line or two of the participant's responses at a time it's not always possible to gain enough insight into the participants' own experiences.<br>Is the analysis reliable?<br>• Somewhat reliable. 'Member checks' of transcripts were carried out with participants. Researcher bias was reduced by the fact that the researcher was employed by a different NHS trust and not responsible for the rehabilitation on the study unit. There was no connection between the researcher and participants on the unit. However, the researcher is an occupational therapist with an interest and experience in rehabilitation. While this enhances the study by experience and understanding of the wider context, it could also create a bias of interest and presuppositions as to what is considered 'good' rehabilitation and so compromise validity of the study. | | |

Bryan K, Gage H, Gilbert K et al. (2006) Delayed transfers of older people from hospital: causes and policy implications. Health Policy 76: 194–201

| Methodology | Study Methods | Internal Validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study. Cross-sectional (anlaysis of hospital records) and qualitative data was collected through interviews with | Is the mixed-methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed-methods question?<br>• Unclear. No rationale given for using mixed methods. | Internal Validity<br>• − | Overall assessment of external validity |

| Methodology | Study Methods | Internal Validity | External Validity |
|---|---|---|---|
| key informants. | Is the integration of qualitative and quantitative data (or results) relevant to address the research question?<br>• Partly. Study seeks to determine if common causes for serious delays in transfer of care align with health and social care managers' own perceptions of problems.<br>Is appropriate consideration given to the limitations associated with this integration, such as the divergence of qualitative and quantitative data (or results)?<br>• N/A. Integration of results is not referenced.<br>Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question?<br>• Yes<br>Is the process for analysing qualitative data relevant to address the research question?<br>• Partly. The study sought to analyse local conditions to inform workplace planning and service development in such a way that the delayed transfer problem could be addressed. The study is relevant in its focus of looking at reasons for delayed transfer, however it is specific to just one area of the UK. Data analysis involved triangulation across all sources.<br>Is appropriate consideration given to how findings relate to the context, such as the setting, in which the data were collected?<br>• No. Problems exhibited in the study area may not be generalisable to other parts of England, or to health care systems in other countries. This consideration, however, validates the purpose and methodology of this study which was to use local analyses to inform service development and planning in the study area.<br>Is appropriate consideration given to how findings relate to researchers' |  | • + |

| Methodology | Study Methods | Internal Validity | External Validity |
|---|---|---|---|
|  | influence; for example, through their interactions with participants?<br>• No. The researchers do not make any reference to their influence or involvement in the study. |  |  |

Connolly M, Grimshaw J, Dodd M et al. (2009) Systems and people under pressure: The discharge process in an acute hospital. Journal of Clinical Nursing 18: 549–58

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study.<br>Is a qualitative approach appropriate?<br>• Appropriate. Although it's limited to focus groups.<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes. By South Manchester Local Research Ethics Committee<br>Is the role of the researcher clearly described?<br>• Clearly described<br>How clear and coherent is the reporting of ethics?<br>• Yes. Brief but clear "Written | How defensible/rigorous is the research design/methodology?<br>• Somewhat defensible. Time and resources appeared to constrain the choice of methodology.<br>How well was the data collection carried out?<br>• Somewhat appropriately. Limited to 3 focus groups, no interviews and no observation. People experiencing discharge were not involved. Focus groups comprised of a mix of professionals, which may have limited the extent to which people felt they could express honest opinions, especially where they related to others in the group. Focus groups were facilitated by senior practitioners within the hospital, which again may have skewed responses/ degree of openness.<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Somewhat appropriate. Respondents volunteered to participate so they were self selecting and may have had an agenda.<br>Were the methods reliable?<br>• Somewhat reliable<br>The only opportunity for triangulation was within the focus groups | Are the findings convincing?<br>• Convincing. The authors conclude with solutions to the problems identified. The solutions are echoed in the research and policy literature: "team working, leadership, training, simplification of systems and paperwork, collaboration between hospital and community and time to attend to the unique needs of each patient" (p.557). | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| informed consent was gained from all participants prior to the focus groups." | themselves but this relies on participants feeling they could agree or disagree with colleagues face to face. Apart from restricted time and resources (given by the authors) there is no justification for the limited methodology.<br>Are the data ‘rich’?<br>• Mixed. A good range of supporting quotes is provided and their contexts are given. However the professional identity of the person being quoted is not always stated and would have added to the richness of the data.<br>Is the analysis reliable?<br>• Reliable.<br>Researchers familiarised themselves with data from the group they ran. They then came together to draw up an indexing code, which each pair of researchers used to summarise into charts data they had collected. These summaries were shared with all members of the research team, who met for a whole day to interpret the entire data set and to collapse codes into main and sub-themes. | Are the conclusions adequate?<br>• Adequate | |

Connolly M, Deaton C, Dodd M et al. (2010) Discharge preparation: do healthcare professionals differ in their opinions? Journal of Interprofessional Care 24: 633–43

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Cross-sectional study; Survey<br>Is a survey methods approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes. Granted by South Manchester Local Research Ethics Committee<br>Is the role of the researcher clearly described?<br>• Not described<br>How clear and coherent is the reporting of ethics?<br>• Not stated | How defensible/rigorous is the research design/methodology?<br>• Somewhat defensible<br>How well was the data collection carried out?<br>• Appropriately. Detailed explanation of process. Authors explain which questionnaires were excluded because of their lack of relevance to question, how the results were collated.<br>Is the context clearly described?<br>• Unclear. Different professional groups (nurses and midwives, social workers and allied health professionals) were grouped together who may have contrasting roles in discharge planning.<br>Was the sampling carried out in an appropriate way?<br>• Somewhat appropriate. Authors applied an over inclusive sampling approach in order to ensure sufficient responses.<br>Were the methods reliable?<br>• Reliable<br>Are the data 'rich'?<br>• Mixed<br>Is the analysis reliable?<br>• Reliable | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

Huby G, Stewart J, Tierney A et al. (2004) Planning older people's discharge from acute hospital care: linking risk management and patient participation in decision-making. Health, Risk & Society 6: 115–132

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study. 5 months' ward-based observation and formal interviews with older patients and ward staff in a care of the elderly department of a district general hospital in Scotland<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Mixed. The paper is clear at the outset but it doesn't explicitly revisit the main purpose at the end of the paper e.g. to develop a methodology to explore a older patient's participation in discharge decision making.<br>Study approved by ethics committee?<br>• Yes. Ethical and managerial approval for the study was obtained from the Local Research Ethics Committee and the relevant Hospital Trust, respectively.<br>Is the role of the researcher clearly | How defensible/rigorous is the research design/methodology?<br>• Defensible. Mix of professionals and patients. Mix of observations and semi structured interviews.<br>How well was the data collection carried out?<br>• Appropriately<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Appropriate<br>Were the methods reliable?<br>• Reliable<br>Are the data 'rich'?<br>• Rich<br>Is the analysis reliable?<br>• Reliable. Data compared regularly and analysed collaboratively. | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• Highly relevant |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| described? • Clearly described<br>Clear and coherent is the reporting of ethics?<br>• Yes | | | |

Huby G, Brook JH, Thompson A et al. (2007) Capturing the concealed: Interprofessional practice and older patients' participation in decision-making about discharge after acute rehospitalisation. Journal of Interprofessional Care 21: 55–67

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Not stated<br>Is the role of the researcher clearly described?<br>• Clearly described<br>How clear and coherent is the reporting of ethics?<br>• Not stated | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Somewhat appropriately. Few details are given about the interview process<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Somewhat appropriate<br>Were the methods reliable?<br>• Somewhat reliable<br>Are the data 'rich'?<br>• Poor<br>Is the analysis reliable?<br>• Somewhat reliable | Are the findings convincing?<br>• Somewhat convincing<br>Are the conclusions adequate?<br>• Adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Highly relevant |

Mold F, Wolfe C, McKevitt C et al. (2006) Falling through the net of stroke care. Health & Social Care in the Community 14: 349–56

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes<br>Is the role of the researcher clearly described?<br>• Not described | How defensible/rigorous is the research design/methodology?<br>• Somewhat defensible<br>One-to-one focussed interviews were selected since the study aimed to explore providers' views of people thought to be at risk of not receiving stroke services.<br>How well was the data collection carried out?<br>• Somewhat appropriately<br>The topic guide was structured on the 'typical' stroke care pathway implicit in clinical guidelines and it included questions on processes of care, referral procedures, discharge arrangements, assessment practices, and perceived barriers to the provision of services.<br>Is the context clearly described?<br>• Clear. Professional were interviewed in their workplace and lasted from 1 to 2 hours.<br>Was the sampling carried out in an appropriate way?<br>• Not sure. Sampling process not revealed.<br>Were the methods reliable?<br>• Reliable. Data collected from a range of participants in community and hospital based stroke care provision.<br>Are the data 'rich'?<br>• Mixed<br>Is the analysis reliable?<br>• Somewhat reliable. Initial coding and generation of categories was undertaken by one researcher, with other members of the team verifying codes and categories and discussing interpretation. | Are the findings convincing?<br>•Convincing<br>Are the conclusions adequate?<br>• Somewhat adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

Nosbusch JM, Weiss ME, Bobay KL (2011) An integrated review of the literature on challenges confronting the acute care staff nurse in discharge planning. Journal of Clinical Nursing 20: 754–74

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Systematic Review (Integrative literature review)<br>Do all studies fulfil inclusion criteria?<br>• No.  22 out of 38 studies were pre-2003.<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Yes<br>Study quality assessed and reported?<br>• Partly reported.  Consistent with the study's aims (to synthesise findings from diverse primary sources). No studies were excluded from the review based on study design and methodology. Triangulation was evident in the majority of qualitative studies, either through the use of multiple | Adequate description of methodology?<br>• Partly adequate<br>Do conclusions match findings?<br>• Partly | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No. US | Overall assessment of internal validity<br>• +<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| data collection methods or through the diversity of respondents. Most qualitative data were analysed by two or more investigators. | | | |

Taylor B, Donnelly M (2006) Professional perspectives on decision making about the long-term care of older people. The British Journal of Social Work 36: 807–26

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study. Focus groups and semi structured interviews.<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes<br>Is the role of the researcher clearly described?<br>• Clearly described<br>How clear and coherent is the | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Appropriately<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Appropriate<br>Were the methods reliable?<br>• Reliable<br>Are the data 'rich'?<br>• Mixed<br>Is the analysis reliable?<br>• Reliable | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• Highly relevant |

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| reporting of ethics?<br>• Yes | | | |

Turner B, Ownsworth T, Cornwell P et al. (2009) Reengagement in meaningful occupations during the transition from hospital to home for people with acquired brain injury and their family caregivers. American Journal of Occupational Therapy 63: 609–20

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Prospective longitudinal design.<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics committee?<br>• Yes. Hospital and university ethics committees approved the study.<br>Is the role of the researcher clearly described?<br>• Unclear. Turner conducted interviews himself, but no more information given.<br>How clear and coherent is the | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Appropriately<br>Is the context clearly described?<br>• Clear. Pre-discharge interviews were conducted during the week before a participant’s discharge and were typically conducted in person at the hospital. The 1- and 3-month post-discharge interviews were conducted in person at the participant’s own home or at the hospital (32 of 76 interviews) or via telephone for participants living in regional or rural locations (44 of 76 interviews).<br>Was the sampling carried out in an appropriate way?<br>• Appropriate. Participants were recruited from an inpatient ABI rehabilitation unit at a major metropolitan hospital in Australia on a consecutive discharge basis until data saturation was reached. Participants were screened by their treating occupational therapist according to the following inclusion criteria:<br>(1) diagnosis of ABI as documented in a medical report,<br>(2) expectation of returning home after discharge from inpatient rehabilitation (i.e., not discharged to a care facility or other hospital), | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Somewhat adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Study aims and suitability of design | Qualitative methods | Conclusions | External Validity |
|---|---|---|---|
| reporting of ethics?<br>• Not stated | (3) ≥16 years old<br>(4) adequate English communication skills to participate in an interview<br>(5) capacity to provide informed consent..<br>Were the methods reliable?<br>• Reliable. Triangulation of data sources (2 participant groups)<br>Are the data ‘rich’?<br>• Mixed<br>Is the analysis reliable?<br>• Reliable.  Open, axial and selective coding techniques applied. (Details of which are provided). In-depth collaborative discussion between members of the research team, including two occupational therapists, a speech pathologist and a neuropsychologist. | | |

## Study Findings Tables

## Tables Reporting Views Studies

## Review area 4 Improving Hospital Discharge

## Question 6

**What is the effectiveness of interventions and approaches designed to improve hospital discharge?**

**And views questions 1-4 and question 10 relating to transfer of care from hospital.**

Baumann M, Evans S, Perkins M et al. (2007) Organisation and features of hospital, intermediate care and social services in English sites with low rates of delayed discharge. Health & Social Care in the Community 15: 295–305

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>- Qualitative study<br>Study aim<br>- To investigate discharge practice and the organisation of services at sites with consistently low rates of delay, in order to identify factors supporting such good performance. The study was commissioned by the Department of Health prior to the Government's introduction of the Community Care (Delayed Discharge) Act in 2003. The study was intended to fill an evidence vacuum regarding solutions to hospital delays. Whilst the Act would radically alter the phenomena to be investigated (i.e. discharge planning arrangements, inter-agency communication and relationships, and organisation of services), the study went ahead with a small amendment to include consideration of staff views of the Act. As a result, the study investigated: discharge planning and organisation of services prior to the Act; and progress with implementation, and the impact of the Act on local discharge planning and | Country<br>- UK. Four southern sites (including one unitary authority, two shire counties and one London borough) and Two northern metropolitan boroughs.<br>Interventions bridging the transition<br>- Efficiency of discharge planning. | Narrative findings<br>- Performance-enhancing factors<br>Strategic prioritisation: Impetus for this activity had been evident for years in some sites, but recent government initiatives, reviews and inspections had also been influential. Most notably, the Community Care (Delayed Discharge) Act was a key driver of further activity, since it required intensive joint work to develop protocols, implement new systems, train staff, and commission new or expand existing services.<br>Hospital Factors: medical assessment units (MAUs) had recently been established to provide short-stay beds prior to a patient’s admission to an acute ward. Whilst patients were in these units, health and social care needs were assessed, and where possible, community based services were arranged.<br>Discharge coordinators or teams supported ward nurses’ discharge planning by: (1) monitoring patients’ progress from admission to discharge; (2) assisting nurses’ identification of patients who might need post-discharge social or continuing care; and (3) monitoring nurses’ progress with arranging discharge. They provided additional support to nurses with complex cases or case-managed these cases on the nurses’ behalf.<br>Discharge teams used patient information systems involving ward-based whiteboards or ‘live bed-state’ databases to rigorously monitor nurses’ progress with discharge planning.<br>- Intermediate care factors<br>Access to Intermediate Care Services had been complicated in the | As far as can be ascertained from the paper, how well was the study conducted?<br>- +<br>Relevance to the Transitions guidance<br>- Highly relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| organisation of services.<br>Qualitative outcomes<br>• What works well: What affects the efficiency of discharge planning?<br>Source of funding<br>• Government. The research was funded and supported by the Department of Health. |  | past, since each service had its own eligibility criteria and assessment arrangements, but by the time of the study, all sites had established a single Intermediate Care Assessment Team, which would assess patients for all Intermediate Care Services, whether they were currently in A&E, in hospital or at home.<br>• Social Care Factors<br>Since the CCDDA, hospital ward staff commonly notified care managers at least 3 days in advance of a discharge, and in some sites, referrals were made at admission, sometimes with estimated discharge dates. Early notification (at, or soon after, admission) was most preferable to care managers, although there were reports that the status of the referral (i.e. whether it represented an ‘official’ notification, for reimbursement purposes) was sometimes contested. Three days’ notice was largely considered to be inadequate, particularly for complex cases in which care planning needed to be undertaken sensitively with patients and their families who needed to consider their options carefully, and for which patients and providers were often anxious to meet before making a decision about care.<br>In some sites, care managers were attached to specific wards and this was thought to help nurture the development of good relationships and communication between wards and social services.<br>Hospital-based teams had their own budgets for purchasing care, and dedicated ‘placement officers’ supported the teams by identifying vacancies in suitable residential homes and/or domiciliary care. These support staff enabled care managers to focus on care planning, while those with a detailed and current knowledge of local provision undertook the work of identifying and |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | arranging care provision with specific providers.<br>Issues limiting performance<br>A number of common difficulties were found across most sites; the two most important were the shortages of staff and services for patients with mental health problems, and the reportedly poor understanding of the CCDDA notification system by nurses (although note that the issue of the omission of interviews with nurses was listed as a limitation of this study). Because of a shortage both of psychiatrists (required to make an assessment of mental health needs), and community-based mental health and social care services, elderly people with mental health problems remained vulnerable to delays.<br>Two further problems were identified, but these had less far-reaching consequences for discharge practice. First, whilst both transport and pharmacy departments were very responsive, hospitals found it difficult to achieve same-day discharges because of the late specification of discharge drugs by doctors. Secondly, most sites experienced some difficulties with managing arrangements for cross-boundary service use, although smaller sites, and those with coterminous boundaries, had less difficulty.<br><br>• Qualitative Data<br>Strategic prioritisation<br>… When [reimbursement] was first going to become reality, we were having weekly meetings - it was the PCT, acute and social services. We had joint meetings every week. I had lots of conversations with the bed managers, the gatekeepers, and we had our own senior team within the Trust, who were made up of |  |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | matrons and ward managers, case managers to try and thrash out the way forward … but now it's become something that only comes to me if there's a problem now … (Deputy Director of Nursing, Acute Trust, Site 5; paragraph 308. p.299)<br>Hospital Factors<br>We've got a whiteboard system running across the wards […]. Whoever [from the clinical case management team] goes to a ward could see … which stage a patient is at in the journey, so it's preventing any issues that would potentially cause a delay. (Manager, Clinical Case Management Team, Acute Trust, Site 4; paragraph 37.p.299)<br>… It's forced the communication in terms of why people are here and what's going on … [The discharge coordinator] produces the list … with exactly which patients, why they're with us, what they're waiting for, and that's pretty useful, I see the figures every week, and I mean, it used to be pages and pages long, but now it's like three or four patients. (Director of Nursing, Acute Trust, Site 3; paragraph 223.p.300)<br>Social Care Factors<br>I think everybody went into panic mode … [with the 3-day time-scale, but] it's a minimum of 3 days … You know, 'How on earth are we ever going to be able to do this?' … You'd ring an agency, a domiciliary care provider, which I've got to say,[here] we don't really have a problem finding services for people, but one of the problems then was that [providers] were saying they wanted the care plan, and they wanted to do a health and safety visit with the client, and that they needed 72 hours to do that … So initially we had terrible problems, but we seem to have worked together with the bed managers now, and when the Section 2 notification comes |  |

| Research Aims | Population | Findings | Summary of Quality |
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| | | over now, there's no discharge date on, and it is purely as a trigger. It's a trigger to say that we think this person may need services. (Team Manager, Social Services Hospital Team, Site 5; paragraph 110. p.300)<br>Care Managers attached to specific wards<br>The ward staff like it a lot better … They used to complain that they might have six or seven social workers coming on the ward every day, they didn't know who was who … So now there are dedicated workers, the ward know exactly who the workers are. And a lot of wards are now having weekly MDTs to consider complex cases. (Team Manager, Social Services, Site 5; paragraph 31. p.301)<br>The broker role is quite important too because she frees up the worker from having to sit on the phone constantly ringing around … She has the authority to negotiate fees as well … That's fundamental for the residential and nursing and EMI. And very recently, we have got a broker for domiciliary packages… She became active, if you like, about a week and a half ago, and she is finding us care packages and phoning around all of the care agencies, she is the one person who they'll let know their availability … which is good, and it is obviously going to be useful because the workers are very busy trying to do the assessments … (Team Manager, Social Services Hospital Team, Site 1; paragraph 76. p.301).<br>Issues limiting performance<br>One site had managed to address the issue of mental health support at discharge as a result of successful joint commissioning supported by a relatively large allocation of cash from the government for CCDDA implementation: | |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | - It was very apparent that the big lack was for services for older people with mental health needs, and the vast proportion of the people on our list were waiting for older people's mental healthcare … and what we've been able to do is … use that money … to look at a whole range of alternative services for older people with mental illness. And that ranges from a very intensive domiciliary support team, who visit, I think, up to about seven times a day, and night sitting, through to an Admiral nurse, through to day care provision, through to nursing home care. So there's that whole range, and I think that seems to be the thing that's made the difference. (Director of Nursing, Acute Trust, Site 3; paragraph 29. p.302) |  |

Benten J, Spalding NJ (2008) Intermediate care: what are service users' experiences of rehabilitation? Quality in Ageing - Policy, Practice and Research 9: 4–14

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Qualitative study<br>Study aim<br>• To investigate the experiences of older people on moving from hospital to an alternative location providing intermediate care prior to going home. The research question being explored is: did the intermediate care unit provide rehabilitation that met the needs of service users? | Country<br>• UK<br>Population<br>• 8 older people (aged 65+)<br>Intervention<br>• Experiences of older people who had moved from an acute hospital | • Narrative findings<br>Users' experiences did not reflect the Department of Health's four principles that underpin the delivery of intermediate care: person-centred care; whole system working; timely access to specialist care; promoting health and an active life. It should be noted that all users expressed appreciation in respect of the friendly, kind staff and the quiet location compared to the acute ward. All the users expressed satisfaction in respect of their stay. However, given the users' lack of understanding of the purpose of the unit and the potential for their rehabilitation (as defined in the operational policy and external references to key characteristics of effective rehabilitation) this is perhaps unsurprising. | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance |

| Research Aims | Population | Findings | Summary of Quality |
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| Source of funding<br>• Not reported | ward to an intermediate care unit before returning to their own homes<br>• Interventions bridging the transition<br>Rehabilitation in an intermediate care unit<br>Setting<br>• The unit studied was a 22-bedded intermediate care service, which opened in January 2000 in the east of England. | • Qualitative data<br>Users' understanding<br>Of the eight participants interviewed, none had been provided with information about intermediate care on admission to hospital, and none were aware of the existence of the unit before it was suggested they were transferred there. Five considered they had been provided with little information on the nature of the unit and why they should be transferred there:<br>'They said: "We can let you go to the community ward" and I said "What is that?" and "Where is that?" and because I had a feeling at first that it was where the very, very old people were and perhaps there were some there… that weren't all there up top, I thought I don't want to go to a ward like that. Well, they didn't say too much about it, they simply said they had got this community ward,"It's very pleasant".' (Participant 1; p.7).<br>'They said: "You are going to the community centre." But I had no idea what it was' (Participant 6; p.7).<br>Interventions<br>Participants reported little evidence of purposeful activity or of an active rehabilitation culture on the unit.<br>'We walked around if we felt like it.' (Participant 1; p.8).<br>Those having contact with physiotherapy felt they needed more. One patient, who had undergone a lower limb amputation, described his experience on the unit purely in terms of waiting for adaptations to be completed at home. He felt he could have followed up his physiotherapy with healthcare assistants on the | • A bit relevant |

| Research Aims | Population | Findings | Summary of Quality |
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| | | ward but never liked to ask them.<br>When participants were asked what activities they had carried out on the unit, responses included:<br>'The physio came with a sheet of paper with a number of exercises to do. I did those until I got bored with them. After that I started to walk about by myself.' (Participant 5; p.8).<br>The nursing staff was seen as very busy fulfilling a 'nursing role', which did not necessarily encourage independence. Users explained their experiences during the day as mainly sedentary without an evident rehabilitation focus linking activities to needs relevant to their home situation:<br>Transfer home<br>Some participants described well-planned experiences in preparation for going home, in which they felt they and their families had been involved:<br>'I was given quite a bit of notice… I had the home assessment and then they (daughters) went on holiday. When they came back it was when I came home and one of them came and stayed with me for a couple of days.' (Participant 5; p.9).<br>Other participants reported some confusion over arrangements that they felt affected their families:<br>'The week before they said I could come home on the Tuesday or Friday. But on the Monday of that week, they said you can go home on the Wednesday.' (Participant 2; p.9).<br>Participants reflected on their needs once they had returned home. They were asked if they had felt confident prior to discharge and now they were at home whether there was anything they would have liked to have been addressed on the unit: | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | 'The only difficulty is because I was getting my meals brought to me in the hospital and here I have to stand and make my own meals.' (Participant 2; p.9).<br>'When I first came home, I only sat and went up the stairs at night. I used to shake at the bottom before I went and shake at the top when I got there. But I don't do that any more. I can get up and down without shaking, so my legs are getting stronger… I am getting more into the kitchen.' (Participant 8; p.9).<br>'Yes, I was definitely ready to come home. I had had the visit one afternoon with the occupational therapist, over the loo and the door and everything… It's been alright. It's been better than I thought it would be.' (Participant 7; p.9). | |

Bryan K, Gage H, Gilbert K et al. (2006) Delayed transfers of older people from hospital: causes and policy implications. Health Policy 76: 194–201

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Qualitative study. Cross-sectional (analysis of hospital records) and qualitative data was collected through interviews with key informants<br>Study aim<br>• To provide a detailed analysis of local conditions to inform workforce planning and service development in such a way that the delayed transfer problem could | Participants<br>• The records of 125 people experiencing delays in transfer from hospital.<br>• Six middle level managers, three from each of health and social | Narrative findings<br>• Stages incurring the most serious delays were identified as those where three or more clients experienced delays of 21 or more days in either study week. Five stages met this criteria and together accounted for 3170 of 4029 (78.7%) of all days of delay across 97 of the 125 clients (77.6%). These stages and the number of people affected (mean number of days delayed) were:<br>• awaiting decision about social service funding, 37 people (40.7 days);<br>• seeking of care home placement: by social services, 14 people | Internal validity<br>• -<br>Overall assessment of external validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
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| be addressed<br>Qualitative outcomes<br>• What can be improved: Operational issues and factors associated with delayed transfers<br>Service outcomes<br>• Length of hospital stay<br>Source of funding<br>• Not reported | services, were interviewed regarding operational issues.<br>• Service users' views were obtained by way of a local Age Concern officer.<br>Country<br>• UK. One district in England | (37.4 days) or privately, 15 people (20.1 days);<br>• family delays, 14 people (27.8 days);<br>• domiciliary care unavailable, 8 people (29.3 days);<br>• no sub-acute NHS bed, 9 people (23.7 days).<br>Reasons for delayed transfer as perceived by health and social care managers:<br>The reasons most frequently perceived related to the availability of adequately trained home care assistants. There was also agreement amongst managers that major barriers were: shortages of health and social care professionals, including lack of provision of round-the-clock professional and care worker support for people returning to their own homes; funding limitations, both inadequate resources at the disposal of social services to provide domiciliary care, and the high cost of residential placements; and confusion of responsibilities between health and social care agencies giving rise to poor co-ordination.<br>Family factors did not feature strongly in managers’ views about the causes of delayed transfers although they appeared important in the quantitative analysis. Aside from this, the subjective perceptions of health and social care managers about the factors contributing to delayed transfers were largely in agreement with the objective data collected from patients' records.<br>The main issues raised during the interview with Age Concern officer were the problems faced by older people in carer roles and the need to protect individuals’ rights to choose | |

Connolly M, Grimshaw J, Dodd M et al. (2009) Systems and people under pressure: The discharge process in an acute hospital. Journal of Clinical Nursing 18: 549–58

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Qualitative study.<br>3 focus groups with participants recruited from 1 university hospital. Six senior practitioners at the study site divided into pairs to run one of the three focus groups, prior to which they received training in this technique from a research fellow who also attended all group sessions.<br>Study aim<br>• To understand the perspective of hospital-based health professionals with regard to preparing patients for discharge from an acute hospital in England.<br>Source of funding<br>• Not reported<br>Qualitative outcomes<br>• What works well<br>• What can be improved<br>• Experiences described | Participants<br>• 11 nurses<br>• 15 allied health professionals<br>• five social workers<br>• one doctor<br><br>Country<br>• UK<br>Setting<br>• One university affiliated hospital in the north of England | Qualitative outcomes<br>• What works well<br>Relatives can help facilitate discharge, advising on arrangements that will need to be made - often providing care at home themselves (however, relatives sometimes present obstacles to discharge, especially where they are pre-occupied with the financial implications of the discharge - or they see the hospital as providing respite care.)<br>Discharge co-ordinator: (to overcome the problem of no-one assuming responsibility and no one being clear of their role in relation to discharge planning) On a unit where discharge was felt to run smoothly, a discharge coordinator was in place - a Stroke Co-ordinator, mentioned by one participant, collected information for people to take home with them about equipment that had been ordered, medication and its side effects and a list of useful phone numbers. This individual also checked on patients one week post-discharge.<br>Multidisciplinary teams: These were seen as a way of avoiding communication difficulties. One respondent working on a rehabilitation ward felt she was lucky because there were close working relationships between doctors, nurses, social workers and practitioners working in the community.<br><br>• What can be improved<br>Provision of intermediate care: The hospital often acts as a refuge for people with a range of complex social needs so practitioners often had to manage social difficulties that went beyond their | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Research Aims | Population | Findings | Summary of Quality |
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| | | professional remit. They felt that more facilities were needed to act as a buffer between hospital and home to assist with the recovery of medically stable individuals still in need of care and attention.<br>"It's between here and home isn't it. We need something in the middle" (p.553.<br>Training in discharge processes: The discharge process is often relegated to junior staff members who, in turn, teach incoming professionals, meaning "competency gets weaker and weaker" (p.553). Discharge is therefore not something people learn about formally. There's a general sense of people not taking it seriously and a lack of clarity among professionals about whose responsibility it is and what role the different professionals should take.<br>Follow up care was felt to be really important, especially in complex cases. Who should arrange this was a point of contention - nurses felt it would be an added pressure on their workload; they expressed concern about what to do if someone said they weren't coping. "You can't just phone up and say 'sorry you're not managing very well" (p.554).<br>Treating the whole person: Some of the current procedures associated with discharge were depicted as dehumanising. For example, people were given labels such as 'medically fit for discharge'... this oversimplifies cases and highlights that once the medical or 'acute' problem had been addressed, any remaining difficulties patients' experienced were not regarded as the hospital's concern. An emphasis on a swift discharge was felt to overlook people's unique circumstances and prevented the establishment of an individual discharge path.<br>Communication: Poor internal communication leads to confusion | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | about arranging tests or services. Key professionals are also left out of decisions about people's discharge "There have been occasions where patients who are confused and don’t have capacity are being discharged to residential or nursing homes without Social Services being informed" (p.554).<br>• Experiences described<br>Focus group members described feeling compelled to make discharge a swift procedure by managers and consultants, who were seen as striving to achieve government targets. Participants were keen for people to be allowed out of hospital as soon as they were ready; otherwise they risked acquiring an infection. However, they argued that this was not always possible when community services were required and that speed did not necessarily equate with an effective discharge: "…there’s lots of pressure on us from the government to get beds filled, to get the operation waiting list down etc. So the consultant asks ‘why is this patient here? We need to get them out as soon as we can.’…(p.552) and "…the focus at the moment and this is where I’m quite appalled at the moment with dragging people through the system and identifying who could go and I feel it’s quite sad because these are human beings..." (p.552). Professionals don't get time to think through how to address someone's range of needs and as a result patients come back again (re-admitted). A common source of delay is equipment for someone's home, where it hasn't been ordered. This is less of a problem if pre-operative assessments are conducted. | |

Connolly M, Deaton C, Dodd M et al. (2010) Discharge preparation: do healthcare professionals differ in their opinions? Journal of Interprofessional Care 24: 633–43

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<tr><th>Research Aims</th><th>Population</th><th>Findings</th><th>Summary of Quality</th></tr>
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<td>Methodology<br>• Survey<br>Study aim<br>• The specific aims of the study were to: (i) examine current discharge preparation within one large acute hospital; (ii) explore patient, process and system factors that affect the quality of discharge preparation; (iii) identify strategies and resources needed to improve discharge preparation; and (iv) compare the views and experiences of practitioners from different professional backgrounds.<br>Qualitative outcomes<br>• What can be improved<br>• Experiences described<br>Source of funding<br>• Not reported. The authors alone are responsible for the content and writing of the paper<br>Satisfaction<br>• Continuity of care</td>
<td>Participants<br>• 455 professionals Nurses and midwives, doctors, and Allied Health Practitioners, including therapists and social workers made up the final sample.<br>Country<br>• UK<br>Setting<br>• A large tertiary acute care hospital in northwest England.</td>
<td>• Effect sizes<br>In your clinical area, relating to discharge:<br>'It occurs without adequate arrangements for safety at home'
<table>
<tr><th></th><th>Nurses/MWs</th><th>AHP</th><th>Doctor</th><th>P-value</th></tr>
<tr><td>4: strongly agree</td><td>9</td><td>34</td><td>11.5</td><td><0.001</td></tr>
<tr><td>3: agree</td><td>20</td><td>31.5</td><td>23</td><td></td></tr>
<tr><td>2: disagree</td><td>30</td><td>19</td><td>27</td><td></td></tr>
<tr><td>1: strongly disagree</td><td>41</td><td>15</td><td>38.5</td><td></td></tr>
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• Narrative findings<br>Effective discharge preparation is important to hospital staff, but this is often a complex process that can be impeded, in part, by differing perspectives among staff involved and compounded by external factors, such as management targets, limited community services and from the different perspectives of patients and relatives. Different practitioners may have conflicting views of discharge preparation based on the norms and priorities of their profession.<br>Areas that did not show a difference based on professional background:<br>In terms of internal factors influencing discharge (i.e. related to the hospital), documentation was perceived to be satisfactory by 70% of respondents.<br>Almost half of respondents (44%) felt there was inadequate staff to prepare patients for discharge. Where staffing levels were</td>
<td>As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Somewhat relevant</td>
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| Research Aims | Population | Findings | Summary of Quality |
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| | | perceived to be adequate, discharge was noted to run relatively smoothly.<br>Most respondents (66%) agreed that discharge would be improved by further training of staff. In terms of external factors influencing discharge, 80% of respondents felt that hospital performance targets from government placed upon the hospital (e.g., the target to limit the length of time any patient spends in the emergency department to 4 hours) could cause this process to be hurried to accommodate new patients.<br>Most nurses and midwives, Allied Health Professionals and doctors (79%) believed that disagreements sometimes occurred between what patients and professionals thought about discharge, and 64% agreed with the statement that relatives could try to delay the process. There was a general sense that relatives could have an unrealistic expectation of services available, a statement with which 87% of participants agreed.<br>Areas that did show a difference based on professional background:<br>Allied health professionals were more likely to feel that post-discharge issues (arrangements for safety at home and pressure faced by relatives) were a problem compared to the other groups. Nurses and midwives seemed less content with the amount of training on discharge preparation than doctors. They were also more likely to agree with the statement that preparation starts on the day of admission than the two other groups involved. Doctors were less likely to feel that discharge could be improved by better communication between staff or with more beds, compared to other practitioners. | |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | • Qualitative data<br>On Social Workers:<br>Social workers won't assess patients without OT [occupational therapy] or physio[therapy] assessments. OT won't see patients without a physio assessment. When physios are short staffed it delays discharge. (Staff Nurse, ref 36. p.637)<br>Social workers' communication is very poor – sporadic phone messages. They leave no formal documentation in nursing medical notes once they have seen patients. The process is slow and frustrating for patients and families. If one social worker is off, all work on that particular case stops – no-one follows up. (Staff Nurse, ref 183. p.639)<br>From a doctor's point of view, we often find a distinct lack of communication between all staff members involved in discharge planning, especially social workers who at times can be destructive to the medical needs of the patient. (Doctor, ref 201. p.639)<br>We always seem to experience problems with social workers (e.g., lack of communication from them). Social workers don't always see the urgency in getting discharges sorted quickly. (Staff Nurse, ref 178. p.639)<br>Discharge generally is not planned sufficiently ahead of time. In general, there are not enough nurses, who have too many demands on their time for the process to be efficient. (Doctor, ref 42. p.639)<br>On adequate staffing levels -<br>Discharge planning is effective in my area . . . as we have the |  |

| Research Aims | Population | Findings | Summary of Quality |
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| | | luxury of a well staffed unit and can spare a member of staff (an assistant practitioner) to specifically deal with discharge planning. Also, because we are well staffed, we can take time to communicate discharge plans at handover. (Staff Nurse, ref 82. p.637)<br>On government performance targets -<br>4 hour targets have an impact!! Patients are rushed out to free up beds, often resulting in them returning to hospital within a couple of days. (Staff Nurse, ref 19. p.637)<br><br>On relatives' indecision -<br>Sometimes discharges are delayed by families taking too long to decide where they want the patient to go from hospital or finding a nursing home for them. Sometimes relatives keep changing their minds about where they want the patient to go from hospital. (Staff Nurse, ref 60. p.637) | |

Huby G, Stewart J, Tierney A et al. (2004) Planning older people's discharge from acute hospital care: linking risk management and patient participation in decision-making. Health, Risk & Society 6: 115–132

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Qualitative study. 5 months' ward-based observation and formal interviews with older patients and ward staff in a care of the elderly department of a | Participants<br>• 22 older people being discharged<br>• Professionals (not reported) | Narrative findings<br>• What can be improved<br>Team working/ information sharing:<br>During a ward round of a medical admission ward, there was confusion among the attending professionals because information | As far as can be ascertained from the paper, how well was the study |

| Research Aims | Population | Findings | Summary of Quality |
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| district general hospital in Scotland<br>Study aim<br>• To develop a methodology to explore older patients' participation in discharge decision-making<br>Source of funding<br>• Government<br>Qualitative outcomes<br>• What can be improved<br>• Experiences described<br>•Experiences described by the author (researcher) and supported with quotes. | Country<br>• UK<br>Setting<br>• One Scottish district general hospital | had clearly not been shared among them in advance. The consultant told the patient she could go home only to be corrected by the nurse who pointed out that the OT and physio assessment found the patient's poor mobility put her at risk of falling. Also that her home circumstance were not good. This exchange (and later making the patient walk around and eventually demonstrate she had problems balancing) was described by the researcher as very tense. The tension was then released when the patient fell because it proved the assessment was correct. The question was: what would they have done had she not fallen during the ward round? Send her home?<br>Treating the whole person<br>- considering their context/ circumstances<br>The focus of decision making narrowed to particular physical or cognitive functions, interpreted out of the context of patients' management of their lives.<br>- looking beyond formal test results and assessments<br>Assessments and tests are conducted and the results shared at a meeting of professionals (consultant, nurse, OT, physio, social worker) but the patient is not present to provide any context to the results.<br>"The patients did not take part in these meetings, and the context in which assessment results were presented never had the benefit of their own clarification." (p129) Also this "lack of patients' input in the contextualisation of assessment results had implications. Mrs A seemed to have views about her circumstances, which suggested both insight and competence, but she did not communicate these views to staff. As a result, staff had very limited information upon which to base an opinion about Mrs A's | conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• Highly relevant |

| Research Aims | Population | Findings | Summary of Quality |
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| | | competence to manage on her own, beyond a formal risk assessment of falls" (p.129). (Mrs A explained her decline in health and fall by her husband's sudden death, which she never explained to any of the hospital staff "if they asked me I would tell them you know" (p.122). The effect of her bereavement was never addressed despite the fact Mrs A felt this was her main source of risk).<br>Involving the patient in the decision making process<br>- making it clear that their opinions are valued<br>Both patients were withholding information and opinions from the hospital professionals because they felt that the doctors (especially) know best. Patients linked their lack of involvement in decision making to their declining physical and mental powers. Patients equated involvement in decisions with criticism of the staff and didn't want to be seen to complain.<br>- giving them an equal voice (case conferences)<br>It was clear that neither patients' views influenced decision making around their treatment (to have an operation or not) or their discharge. Also, at key points in the patient journey, there was no discussion with the patient (including around the lack of home care resources). A geriatric consultant described case conferences in which goals are set for the patient. The case conference is attended by a multidisciplinary team but not the patient. The patient is later told the outcome of the meeting by the consultant. The consultant explained that the resource implications of conducting ward case conferences with patients present are prohibitive.<br>Availability of services | |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | In both case studies a lack of available community services (home care) meant they could not be discharged from hospital. In the case of Mrs B, she had to wait "several weeks". The delay also meant she was moved from the geriatric ward (where the OT and physio are based) to a general ward "where long term patients are sent for 'boarding'" (p.125)<br>Hospital bed shortages were clearly on the minds of some of the patients interviewed who felt pressured into saying they felt well when they didn't. "As I say they used to go round every day and say ‘well, Mr. So-and-So’s not bad we’ll get him put out today and So-and-So can go tomorrow and that’ll give us two beds vacant for other people to come in’ (p.128).<br>Other Issues Raised<br>Balancing risk with listening to the person's views:<br>The researcher observed that the difficult nature of the decisions involved in both cases impinged on the policy of risk management. Mrs A clearly wanted to go home but staying in hospital and having her blood pressure controlled (to improve her balance) was clearly a good outcome. In Mrs B's case, staff clearly doubted her ability to make sound judgements about going home because of her evident confusion (results of MMS test results). |  |

Huby G, Brook JH, Thompson A et al. (2007) Capturing the concealed: Interprofessional practice and older patients' participation in decision-making about discharge after acute rehospitalisation. Journal of Interprofessional Care 21: 55–67

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Qualitative study<br>Study aim<br>• To investigate ways in which the dynamics of interprofessional work shaped older patients' "participation" in decision-making about discharge from acute hospital care<br>Source of funding<br>• Government. This study was funded by the Scottish Executive Chief Scientist Office in 2001<br>Qualitative outcomes<br>• What works well<br>• What can be improved<br>• Experiences described | Participants<br>• 22 older patients (all aged 60+)<br>Country<br>• UK. Scotland<br>Setting<br>• A medical directorate of a District General Hospital in Scotland. | Qualitative outcomes<br>• What works well<br>Consultants, junior doctors and to some extent nurses were mainly responsible for information provision, while physiotherapists and Occupational Therapists worked with patients to set rehabilitation goals to precede and facilitate discharge. This approach worked well for many patients. Nonetheless, participative goal setting was considered a difficult task by staff. Formal assessments were valued by staff for their objectivity.<br>• What can be improved<br>Formal assessments also broke down each patient's identity into a collection of graded physical and cognitive abilities and made it difficult to include patient-centred views.<br>• Experiences described<br>Participation was generally understood to mean being able to make complaints, or criticism. Patients commented on not having the language, skills and vocabulary to speak with "well educated people" as medical staff. Staff described participation as informing patients what was going to happen, or "giving them a warning that they're going to go home". Due to decline in physical and mental abilities, patients perceived themselves to be less eligible to have their say in decisions about post-discharge care. Increased reliance on family, particularly children, to make decisions for them was commonly reported.<br>Interviewer: And who speaks with social services? Is it your daughter or you? Mr E: Aye, my daughter does it.<br>Interviewer: How was it decided that she would be the one who | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Highly relevant |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | spoke with social services?<br>Mr E. She's all I've got. (Man, GMW. p.61)<br>Narrative findings<br>• Authors find the "extent to which care procedures, particularly assessments, structured interactions and prevented engagement and negotiations between staff and patients about discharge. This raises the issue of procedurally-driven care. Across all areas of practice, healthcare practitioners routinely initiate courses of action according to set procedures. These processes are not recognized as comprising decision-making, yet they trigger events in day-to-day practice that may not accommodate the more untidy and unpredictable task of identifying and responding to individual patients' and carers' priorities (Proctor et al., 2001). Assessment procedures are needed that uncover patients' and carers' main concerns, going beyond physical independence and risk (Mountain & Pighills, 2003; Pearson et al., 2004). For patients to be meaningfully involved in decision-making, these other concerns must be acknowledged and addressed. |  |

Mold F, Wolfe C, McKevitt C et al. (2006) Falling through the net of stroke care. Health & Social Care in the Community 14: 349–56

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Qualitative study<br>Study aim<br>• To investigate stroke providers' views of how and why patients' trajectories of care might not follow evidence-based guidelines, focusing on stroke unit admission, provision of hospital rehabilitation therapies, and community health and social services.<br>Source of funding<br>• Government<br>Department of Health | Participants<br>• 41 professionals. Clinical and social care professionals working on two stroke units (stroke consultants, nurses, unit managers, speech and language therapists, physiotherapists and occupational therapists), and social workers and community rehabilitation professionals (speech and language therapists, physiotherapists and occupational therapists), from three boroughs<br>Country | Qualitative outcomes<br>• Experiences described<br>"There are people who slip through the net as well, or who actually fall between a couple of services. There’s a black hole and one of those is for people with a very, very mild learning disability, who aren’t accepted by the learning disability team … they wouldn’t really fit our criteria because that isn’t rehabilitation.… So the learning disability team will not pick them up because they, they’re not, they’re not disabled enough. And we can’t pick them up because they don’t fit our criteria." (29, Community rehabilitation manager, Borough 3. p.353)<br>“I don’t think we would be very interested in supporting people in an alcoholic way of life, just because they were having a struggle to tidy up their room or get their dinner. Unless they were doing something about their alcohol problem.” (27, Borough 2. p.354)<br>“If a young stroke patient has children, access to support for the children as well as the mother trying to get back in the family setting is a real problem. [The] social services … teams here will only take above 65s, anything below 65 goes to Young Person’s Disability or Young Disability Team, and again that may take a few days, few weeks for them to come to assess. And quite often they can’t provide a real service that meets their need and we end up going back down the elderly care type route.” (15, Hospital 2. p.354)<br>• Narrative findings<br>Admission to a stroke unit<br>Deciding whether a person with stroke was suitable for admission | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Research Aims | Population | Findings | Summary of Quality |
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| | • UK | to the stroke unit entailed a complex process of assessing his or her ‘rehabilitation potential’, through consideration of the clinical psychological and social factors, and on implications for the management of work load.<br>Patients with cognitive impairments, whether stroke related or pre-existing, were thought not to have rehabilitation potential. As such they weren't admitted to the stroke unit.<br>Selection for stroke unit involved a judgement about the benefit an individual patient was likely to gain; it also required consideration of the wider impact of accepting that person. For example, the level of care they would require. Having a lot of dependent people would limit the time the staff could spend with each patient.<br>Services after discharge from hospital<br>Specific groups were identified as being at risk of not receiving appropriate community support: people with cognitive impairment, those with complex 'social' problems, younger people (<65years) and those with communication problems.<br>People with milder cognitive impairment were more likely to 'slip through then net' due to the way that services were organised.<br>People with addictions (such as alcohol) were identified as being incompatible with community services.<br>The needs of younger people with stroke were described as more difficult to meet, particularly in relation to assistance to return to work. Local schemes to facilitate return to the job market exist but have limited availability.<br>Patients’ communication problems, including those caused by stroke, pre-existing limited literacy skills and having English as a second language, were all thought to constitute barriers to | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | community service use.<br>Front-line service providers practice a kind of rationing when it comes to providing stroke care. While policy documents formalise 'ideal' patterns of care, service providers construct trajectories that match patients to available resources. The decision making process notions of clinical benefit; resource management amid competing claims; and moral evaluations of individual patients to assess their suitability for care, drawing on cultural notions of an appropriate or good service user. Some categories of service user were ruled out since they did not match what providers believed themselves able to offer. | |

Nosbusch JM, Weiss ME, Bobay KL (2011) An integrated review of the literature on challenges confronting the acute care staff nurse in discharge planning. Journal of Clinical Nursing 20: 754–74

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review:<br>Integrative literature review<br>Study aim<br>• To synthesise previous research focusing on the bedside/staff nurse role in preparing adult medical–surgical patients for the transition from hospital care to continuing recovery at home. Two key questions guided the review process: what are the convergent and divergent findings across studies related | Participants<br>•Adults<br>•Professionals<br>•Family Caregivers<br>Country<br>• Not reported<br>Intervention<br>• Reports were included if the focus of the research was | • Narrative Findings<br>Barriers that acute care bedside staff/nurses encounter when preparing patients and families for transition from hospital to home include: absent or ineffective verbal and written communication, lack of integrated systems and structures, insufficient time, lack of continuity in patient care responsibilities, knowledge that quickly needs updating, and role confusion.<br>Staff nurses and other direct care providers should strive to improve communication and working relationships by embracing a collaborative, team-based approach to patient centred discharge planning. One modest change that could potentially improve verbal communication among nurses is the modification of end-of-shift | Overall assessment of internal validity<br>• +<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| to the role of the bedside/staff nurse in discharge planning? What factors facilitate or impede the bedside/staff nurse role in effective discharge planning?<br>Qualitative outcomes<br>• What works well<br>• What can be improved<br>Source of funding<br>• Not reported | discharge planning for patients' transition from hospital to home and the role of bedside nurse working in adult medical–surgical, intermediate care, or critical care units. Data relative to the nurse could reflect the perspectives of registered nurses, other non-nursing health care professionals, patients and patients' family members. | reports to include a discharge preparation summary at each hand-off (Shendell- Falik et al. 2007). A second change designed to improve written and electronic communication is the use of critical pathways.<br>Effective interagency communication can be accomplished through timely and comprehensive completion of standardised referral forms and creation of formal feedback system (Anderson & Helms 1994, Buell 2008). Evidence also suggests that electronic decision support and discharge referral systems have the potential to facilitate effective communication among providers and agencies (Craig et al. 2007, Bowles et al. 2008). Staff nurses should actively participate in all organisational initiatives designed to enhance discharge-related communication.<br>One strategy likely to improve communication between bedside staff nurses, other direct care providers and patients is the use of a discharge checklist. This checklist, which focuses on the discharge needs and preferences of patients and family members and includes tasks that can begin during the inpatient stay, helps everyone prepare for a safe transition home (Buell 2008).<br>The findings revealed that bedside/staff nurse contributions to discharge planning are not highly visible in complex acute care environments dominated by technology and its related practices. Encouraging nurses to thoroughly document their discharge teaching and planning activities on interdisciplinary clinical pathways would immediately highlight and quantify nursing's role and contribution. Staff nurses should make every effort to organise patient care responsibilities, so they are able to actively participate in interdisciplinary rounds and discharge planning meetings (Halm et al. 2003). | |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | • Qualitative Data<br>The following facilitators/barriers were identified (which although presented separately, may interact in acute care environments.)<br>Communication<br>The findings of 27 studies identified that communication, verbal and/or written, facilitated or impeded the discharge planning process.<br>Watts and Gardner (2005) found that the quality of nurse-to-nurse communication was unit dependent. Some nurses rated measures of communication openness and problem-solving among nurses favourably (Hansen et al. 1998), while other nurse respondents perceived that discharge planning communication broke down during shift report (Atwal 2002a, Foust 2007).<br>Regarding inter-agency communication, some hospital based nurses expressed frustration with the lack of feedback on patient outcomes associated with their discharge planning efforts (Armitage & Kavanagh 1996, Cheek &Gibson 2003).<br>Acute care nurses reported little contact with nurses practising in the community (Armitage & Kavanagh 1996, McKenna et al. 2000), and community nurses perceived that they often lacked sufficient information about post-hospitalisation care requirements (Bjuresater et al. 2008).<br>Staff nurses did not consistently communicate the scope of their discharge teaching to other members of the interdisciplinary team (Foust 2007), and most health care professionals worked in an intra-disciplinary way (Pethybridge 2004). These findings are consistent with an earlier study that found that staff nurses did not take an active role on the multidisciplinary team (Lowenstein & |  |

| Research Aims | Population | Findings | Summary of Quality |
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| | | Hoff<br>1994).<br>The quality of staff nurses' communication skills during patient encounters addressing discharge learning needs was a significant predictor of the patient's perception of readiness to go home (Weiss et al. 2007).<br>Systems and structures<br>Reports of 10 studies contained findings that addressed systems and structures. Investigators reporting the findings of five studies concluded that lack of effective systems, structures, standardised processes or reliable assessment tools are impediments to the discharge planning process (Tierney et al. 1993, Armitage & Kavanagh 1996, McKenna et al. 2000, Bowles et al. 2003, 2008).<br>Positive outcomes associated with systems, structures and effective processes were identified in four studies. Based on the findings of a randomised controlled trial, Harrison et al. (2002) concluded that the modest reorganisation of existing processes and an evidence-based approach to patient education can result in significant gains in patient outcomes.<br>Haddock (1991) reported a significant relationship between the degree of structural formality in a discharge planning programme and positive outcomes among elders, and the use of a clinical pathway resulted in patients receiving more focused discharge instruction from staff nurses (Halloran 2001). Discharge planning experts, with electronic access to multidisciplinary perspectives and data synthesised from standardised instruments, were more likely to identify patients at risk for poor post-discharge outcomes and recommend referrals (Bowles et al. 2008). | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | Time<br>Reports from 10 different studies contained findings that identified lack of time among staff nurses as a barrier to effective discharge planning (Bull 1994, Armitage & Kavanagh 1996, Anthony & Hudson-Barr 1998, Rose et al. 2000, Atwal 2002a, Bowles et al. 2003, Cheek & Gibson 2003, Kalisch 2006, Bjuresater et al. 2008, Bowles et al. 2008).  Reduced length of hospital stay and rapid patient turnover were perceived as resulting in insufficient time to plan individualised and comprehensive discharges for all patients (Armitage & Kavanagh 1996, Rose et al. 2000, Connolly et al. 2009). Time constraints were identified as a significant barrier to interprofessional working (Atwal 2002b) and prevented staff nurses from attending multidisciplinary discharge planning rounds.<br>Role confusion<br>Eight different studies identified role confusion as a barrier to effective discharge planning (Lowenstein & Hoff 1994, McWilliam & Wong 1994, McKenna et al. 2000, Snelgrove & Hughes 2000, Atwal 2002b, Watts et al. 2005, Kalisch 2006, Connolly et al. 2009). Confusion about the staff nurse role in discharge planning coordination and leadership emerged as a subtheme in six studies (Congdon 1994, Lowenstein & Hoff 1994, McWilliam & Wong 1994, Rose et al. 2000, Atwal 2002b, Pethybridge 2004).<br>Lack of clarity about the discipline or department with primary responsibility for discharge planning in various hospitals was also identified (Lowenstein & Hoff 1994, McKenna et al. 2000, Snelgrove & Hughes 2000).<br>One facilitator of role clarity was identified. The introduction of an ICU discharge liaison nurse resulted in more nurses perceiving that hospital discharge planning was the responsibility of the | |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | bedside nurse (Chaboyer et al. 2004).<br>Knowledge<br>In addition to not always knowing the patient or family well, six studies found that developing and maintaining adequate knowledge of community resources and services was a challenge for acute care staff nurses (McWilliam & Wong 1994, Armitage & Kavanagh 1996, Bowles et al. 2003, Cheek & Gibson 2003, Robinson & Street 2004, Bjuresater et al. 2008).<br>Some acute care staff nurses may also lack sufficient knowledge of patient teaching principles (Barber-Parker 2002). Years of registered nurse experience emerged as a subtheme within knowledge. In a study investigating the responses of patients, nurses, physicians and social workers, Bull (1994) identified that experience, including prior contact with a particular patient and the professionals' exposure to working with discharge planning and elders, significantly influenced discharge planning communication. Consistent with Bull's findings, years of experience at the same hospital was associated with collaborative discharge planning (Tilus 2002), and experienced nurses are more effective coordinators of the discharge plan than novice nurses (Anthony & Hudson-Barr 1998).<br>Invisibility of Registered Nurse (RN) role in discharge planning<br>Reports from four studies contained findings that portrayed discharge planning as a daily but poorly defined or invisible component of the staff nurse role (McWilliam & Wong 1994, Barber-Parker 2002, Fielden et al. 2003, Foust 2007). |  |

Taylor B, Donnelly M (2006) Professional perspectives on decision making about the long-term care of older people. The British Journal of Social Work 36: 807–26

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Focus groups and semi structured interviews<br><br>Study aim<br>• To investigate the perspectives of a range of health and social services staff on risk and decision making regarding the long-term care of older people.<br><br>Source of funding<br>• Government and ESRC (research council) | Country<br>• UK. Northern Ireland<br><br>Participants<br>•Professionals/ practitioners<br>Care managers, social workers, consultant geriatricians, general medical practitioners, community nurses, home care managers, occupational therapists & hospital discharge support staff from 4 Trusts in NI<br>• Sample size<br>4 trusts, 99 staff in total<br>Sample characteristics<br>• The sampling | • Narrative findings<br>A key factor in institutional admission, especially for a person living alone, seemed to be loss of confidence as much as particular living skills. In contrast, the formal assessment of need to be recorded on forms seemed to be dominated by physical care needs.<br>Staff did not seem to conceive a level of functional or medical need at which point institutional care became necessary. Indeed, they were quick to point out the illogical premises of certain assessment scales that added somewhat dissimilar items to produce a score that purported to measure some more global condition.<br>Authors conclude that the results suggest a more meaningful model of admission tends to revolve around a crisis situation and the interplay between needs and:<br>- an individual's confidence to continue living at home (normally when alone);<br>- family carer(s) capacity or willingness to cope with the particular needs; and<br>- the availability of publicly funded primary and home care services.<br>Respondents in this study did not use thresholds relating to particular physical needs, or combinations of needs, as determinants that an individual should be admitted to institutional care. "Although assessment using validated tools promises benefits, an approach based exclusively on functional domains and diagnostic categories will fail to capture psychosocial aspects that are central to the decision-making process for professionals as well as for patients, clients and carers. It is not the level of physical needs per se but how these relate to the level of confidence, family | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• Highly relevant |

| Research Aims | Population | Findings | Summary of Quality |
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|  | frame comprised the 11 Trusts in NI, 4 were selected on the basis of:<br>- one Trust from each of the four Health and Social Services Board areas, so as to include the range of strategic planning and policy contexts;<br>- at least one ‘integrated’ Trust (i.e. providing both acute hospital and com- munity services) and at least one providing only community health and social services;<br>- at least one serving each of rural and urban areas. Participants | support and availability of publicly funded services, as perceived in the crisis’, that determines the need for in-institutional care." (p.821)<br>• Qualitative data<br>The main themes emerging regarding decisions about long-term care focused on:<br>• the crisis context of the decision;<br>• the fears of some older people, particularly when living alone;<br>• family carers and the limits to their capacity to cope; and<br>• the availability of services.<br>Crisis Context<br>A number of factors led to decisions being made in a crisis. Client factors' e.g. carers hanging on until a crisis point was reached (related to hospital admission).<br>Also 'societal factors', for instance a landlady not allowing an elderly person to return home after hospital. Plus lack of available public funding - only the most urgent cases received a publicly funded service, and hence decisions were more likely to be taken in an emergency situation. The crisis gives a professional a reason to act ("you have to be seen to be doing something", for example, referring the person to residential care from hospital). The crisis nature of the situation increased the chance if people being admitted to residential care because there was less time to stimulate family support or set up a home care package, especially in rural areas.<br>Older People's Fears and Risks<br>The client factors that were identified consistently by respondents as indicators of the need for admission to institutional care were dementia and falls. Reasons for admission: |  |

| Research Aims | Population | Findings | Summary of Quality |
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|  | were selected purposively in order to recruit professionals with insight and interest to engage in discussing the research questions. | • mental impairment including dementia<br>• falls and fractures<br>• physical limitations in activities of daily living<br>• inability to manage medication<br>• incontinence<br>• health-related need factors<br>• sleep problems<br>• nutrition<br>However, it wasn't the physical need per se that determined the need for institutional care but the person's loss of confidence which may or may not accompany the physical problem - for instance the fear of falling might completely change someone's lifestyle (they may become extremely anxious and lose confidence and therefore be much more vulnerable) whereas someone else may not be affected.<br>Also note that whereas someone might appear to be at risk of falling, very unsteady in a ward environment (and therefore a candidate for referral to res care), when they're home they can move around their small home easily, including 'furniture walking'.<br>Fear of burglary featured heavily in responses. Practitioners knew it couldn't be cited as a reason to refer to institutional care but when it was an issue they'd try and accommodate the person using 'social' criteria.<br>Family Carers, Their Capacity to Cope<br>Cognitive impairment and functional needs influenced the assessment of the need for institutional care. However, it seemed that these factors could not be considered in isolation, as their impact also hinged on the availability, ability and willingness of a family member to provide care in the circumstances. (p.817) There |  |

| Research Aims | Population | Findings | Summary of Quality |
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| | | was also an issue if the health of family members were to be put at risk by the illness or crisis of their ageing relative. "You cannot assume because they are about or living in the same house that they will do this [provide care]" (social worker, p.817) Sometimes it was not so much the time or physical strength of carers that was an issue. Perhaps families could meet a range of care needs, but not more intimate needs because of their family relationship.<br>Service Factors in the Decision about Long Term Care<br>The availability and adaptability of services to meet identified needs was a key factor in decisions about the need for admission to long-term care. Practitioners were frustrated that home care workers were not allowed to undertake certain tasks (giving medication, PEG feeds) even though family members do them with very little (if any) training. There was particular concern about meeting night care needs, and a perception that this could be critical in deciding on long-term care. "The one thing that drives them into nursing homes is because they can't be left alone at night". (p.817)<br>The availability of suitable staff to undertake home care work was an issue in some Trusts as well as limitations in public funding, "As has happened recently, the resources (public funding) have been there but the people haven't been there to do the work. In that situation they will end up in an institution." (GP,  p.819)<br>A GP also said they try to balance the needs of an individual with those of all his patients - the GP wouldn't be able to visit a patient every day (implying that a person had that level of need they would be referred for institutional care).<br>However, some of the social workers seemed determined that everyone should be able to return home: "We have the technology, ability and skills to support anyone". (Hospital Social Worker, p.819) | |

Turner B, Ownsworth T, Cornwell P et al. (2009) Reengagement in meaningful occupations during the transition from hospital to home for people with acquired brain injury and their family caregivers. American Journal of Occupational Therapy 63: 609–20

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Prospective longitudinal design.<br>Study aim<br>• To explore people’s lived experiences of reengagement in meaningful occupations during the hospital-to-home transition phase after acquired brain injury (ABI). A phenomenological approach was applied to address the following research questions:<br>• What occupations are most important to people with ABI and their family caregivers during the transition phase?<br>• How do people with ABI and their family caregivers perceive the process of reengagement in meaningful occupations during the transition from hospital to home? | Participants<br>• Adults<br>• Carers/family members<br>Sample characteristics<br>• Sample age<br>Participants with ABI:<br>17–63 years<br>Mean: 40.2 (SD=14.5)<br>Family Caregivers:<br>24–65years<br>Mean 46.63 (SD=10.9)<br>Sample size<br>• Sample size<br>Participants with ABI = 20<br>Family Caregivers = 18<br>Country<br>• Australia | Qualitative outcomes<br>• Trying to establish a routine<br>I: What have been the most difficult things about coming home?<br>P: Just finding stuff to do. Like there’s plenty of stuff to do like we’ve got a PS3 and we’ve got about 100 DVDs and the Internet and everything, so there’s plenty of things to do as such, but just, I just feel out of place. . . . I’ve just got to get back into a routine. (P11, 1 month interview. p.615)<br>I: How have things been?<br>C: Good I suppose yeah he’s, um, still having like his sleeps like during the day and stuff, and trying to keep him occupied I suppose is probably the hardest thing. (C20, 1-month interview, p.615)<br>Dealing with restrictions<br>I: What has been the most difficult thing about coming home? P: I’m not allowed to do too much, you know. I can’t get in the car, I’m not allowed to drive yet, I can’t get in the car and go and visit someone. (P9, 1-month interview, p.615)<br>C: He’s going a little stir crazy at times, but he is definitely still doing things so that’s good.<br>I: What’s been making him go “stir crazy”?<br>C: I think it’s more to do with just because he can’t do what he used to do. . . . He has certainly been getting frustrated at the fact that he isn’t able to drive at that point in time and he can’t get out there and grab the lawnmower, which is kind of ridiculous because the grass isn’t growing at the moment anyway. Just those sorts of things he would normally be able to get out there and do are still limitations for him, there are still things he’s not allowed to go and do. (C15, 3- | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | month interview, p.615)<br>I: Do you have any goals in your therapy at the moment?<br>P: Just to get back to work that is all I really care about. (P1,1-month interview, p.615)<br>I: What do you feel will be the focus for the next couple of months?<br>C: Probably doing everything we can do to get him back to work, and I know he might not go back to work for 6 months but just get him on the track where it feels like it's working towards a goal. Just trying to keep him happy and positive until he, if he can, get back to work. (C4, 3-month interview, p.615)<br>• Narrative findings<br>2 primary themes were identified that were most relevant to re-engagement in meaningful occupations during the transition from hospital to home for people with ABI :<br>-desired versus actual participation and<br>-the struggle for independence<br>There was a clear incongruity between participants' desired occupations and their actual ones during the transition. This discrepancy, along with other formal and informal restrictions that participants felt were imposed on them, presented the most significant challenge to the pursuit of independence during the transition phase. The findings indicated that resuming driving and working were the key occupations of importance to participants with ABI during transition. Despite this, few participants were able to return to these occupations. Key elements integral to early transition success were found to be: facilitating recovery through participation, fostering feelings of usefulness, enhancing people's use of time, | |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | and assisting people in managing perceived restrictions.<br>People with ABI and family caregivers highlighted that they lacked information or education on the following areas:<br>• The process of returning to work or education and driving<br>• Ways to establish routines and structure one's time<br>• Ways for managing stress and frustration, and<br>• Ways to cope with formal and informal restrictions<br>Implications for Occupational Therapy practice: OTs need to establish meaningful yet realistic client-centred goals. Therapists need to ensure they do not promote false hope by ensuring the client's desired occupations are validated and incorporated into the development of therapy plans. |  |

## Critical Appraisal Tables

## Tables Reporting Impact Studies

## Review area 5 Reducing Re-admissions

### Questions 7

**What is the effectiveness of interventions and approaches designed to reduce hospital re-admissions within 30 days of hospital discharge?**

Allen J, Hutchinson AM, Brown R et al. (2014) Quality care outcomes following transitional care interventions for older people from hospital to home: a systematic review. BMC Health Services Research 14:1–18

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes. To be included, an article was required to:<br>(1) be published in a peer reviewed journal,<br>(2) report on a transitional care intervention compared with standard hospital discharge,<br>(3) use a randomized control trial design,<br>(4) be published in English<br>(5) provide an analysis of outcomes that evaluated quality indicators related to older people. All studies included people 60 years of age or older.<br>Rigorous literature search?<br>• Partly rigorous.  8 databases were searched and only randomised trial designs were included. No grey literature included.<br>Study quality assessed and reported?<br>• Yes. The Cochrane Collaboration's tool for the assessment of bias in randomized controlled trials was used to assess for bias in all included studies | Adequate description of methodology?<br>• Partly adequate. Due to the heterogeneity in the transitional care interventions and outcomes, data were presented in tables and were not pooled.<br>Do conclusions match findings?<br>• Partly. Results from the included studies, with the exception of general practitioner and practice nurse interventions, transitional care delayed and prevented early re-hospitalization. The review raises the issue of important gaps which exist in the existing (English language) evidence base regarding the quality of transitional care interventions for older people. As the review covers all people aged 60 and over it is important to keep in mind that the results are potentially covering a wide range of ages and a group of people with different health needs. | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear<br>Does the review have a UK perspective?<br>• No. Australian | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

Hansen LO, Young RS, Hinami K et al. (2011) Interventions to reduce 30-day rehospitalization: a systematic review. Annals of Internal Medicine 155: 520–8

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Yes<br>Study quality assessed and reported?<br>• Yes. EPOC score | Adequate description of methodology?<br>• Partly adequate. Not always clear which study is being referred to in the findings and discussion sections. With the overlap of interventions, it wasn't always possible to work out which studies were being referred to.<br>Do conclusions match findings?<br>• Yes. Authors point out that few studies isolate the effect of only one intervention. Authors don't explore the implications of the negative effects (potentially harmful?) and the non significant/ no effects. | Is the setting similar to the UK?<br>• Yes<br>Is there clear focus on adults with social care needs?<br>• No<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

Hung WW, Ross JS, Farber J et al. (2013) Evaluation of the mobile acute care of the elderly (MACE) service. JAMA Intern Med. 173: 990-996

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Case-control study<br>Is a case-control approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Question appropriate and focused?<br>• Adequately addressed<br>Comparable populations?<br>• Adequately addressed<br>Same exclusion criteria?<br>• Well covered. Patients admitted to any non-medicine unit or specialty service, including surgery, telemetry and respiratory care, and patients transferred from an outside hospital, or <75 years old, were all excluded.<br>Participation rate for each group?<br>• Cases: 173 out of 639 eligible. 0.27<br>• Controls: 173 out of 1114 eligible. 0.15<br>Comparison of participants?<br>• Adequately addressed.<br>The groups had fairly similar characteristics. The only significant differences between groups were 'number of medications' and 'delirium on admission', both of which were greater in the MACE group.<br>Cases clearly defined?<br>• Well covered. Both Care as usual and MACE described in detail.<br>Distinguishing of cases from controls? | Measures to prevent knowledge of primary exposure?<br>• Poorly addressed. Clinician investigator who conducted interviews on admission was not blinded to treatment assignment as medical records clearly indicated whether a patient was managed by the MACE service.<br>Exposure status<br>• Adequately addressed. Patient satisfaction was measured using the 3-item Care Transition Measure (CTM-3) and the Hospital Consumer Assessment of Healthcare Providers and Systems survey (HCAHPS) which have been validated for hospitalized older adults to measure patient assessment of the quality of care transitions and satisfaction during hospitalization. Patient Reported Outcomes Measurement Information System (PROMIS) Global 10-item instrument is a standardized, validated measurement for reliable measurement of patient-reported health status. | Is the setting similar to the UK?<br>• Unclear<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Well covered | Confounding factors<br>• Adequately addressed<br>Statistical analysis<br>• CI provided<br>Do conclusions match findings?<br>• Yes | | |

Jacob L, Poletick EB (2008) Systematic review: Predictors of successful transition to community-based care for adults with chronic care needs. Care Management Journals 9: 154–65

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes. Review attempts to determine which specific populations are most likely to benefit from transitional care support.<br>Inclusion of relevant individual studies?<br>• Somewhat relevant. Inclusion criteria were availability of full-text, randomized, and quasi-randomized trials as well as retrospective reviews of clinical and administrative data and meta-analyses. Interpretive studies drawing on experiences of adults with recent hospitalization were also considered, as were designs such as phenomenology, grounded theory, and ethnography. Only studies describing adults who previously resided in the community, who were independent in self-care, and who experienced a recent acute hospitalization with transition back to their prior living arrangement were included.<br>Rigorous literature search?<br>• Partly rigorous. English-language only search of Ovid or CINAHL between 1997 and 2007. | Adequate description of methodology?<br>• Partly adequate<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear<br>Does the review have | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Study quality assessed and reported?<br>• Unclear | | a UK perspective?<br>• No | |

Leppin AL, Gionfriddo MR, Kessler M et al. (2014) Preventing 30-day hospital readmissions: A systematic review and meta-analysis of randomized trials. JAMA International Medicine 174: 1095–1107

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes. Randomised trials reported in English or Spanish, since 1990, that assessed the effectiveness of peri-discharge interventions versus any comparator on the risk of early (i.e within 30 days of discharge) all-cause or unplanned and readmissions.<br>Rigorous literature search?<br>• Yes. Six databases searched. Hand searching of bibliographies of included studies and recent reviews. Experts in the field were also consulted.<br>Study quality assessed and reported?<br>• Yes. Two raters worked independently and in duplicate to determine the extent to which each trial was at risk of bias using a standardized form based on the Cochrane Collaboration's tool. | Adequate description of methodology?<br>• Yes. Random-effects meta-analyses to estimate pooled risk ratios and 95% confidence intervals for early readmission. Tested for heterogeneity of effect on this outcome using the Cochran Q $x^2$ test and estimated between-trial inconsistency not due to chance using the $I^2$ statistic.<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

Linertová R, Garcia-Perez L, Vazquez-Diaz JR et al. (2011) Interventions to reduce hospital readmissions in the elderly: in-hospital or home care. A systematic review. Journal of Evaluation in Clinical Practice 17: 1167–75

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes. Clinical trials (randomized or controlled) evaluating the effectiveness of an intervention aimed at reducing readmissions in elderly patients. N.B As opposed to occurring at discharge, interventions are described as being carried out during admission and/or follow up.<br>Rigorous literature search?<br>• Yes. The following electronic databases were searched: MEDLINE, EMBASE, MEDLINE in process, CINAHL, CENTRAL (Cochrane Central Register of Controlled Trials), CRD (Centre for Reviews and Dissemination), Science Citation Index, Social Science Citation Index, Google Scholar, Índice Médico Español and LILACS up to October 2007; the search in MEDLINE was then further extended until October 2009.The references lists in the studies included were also reviewed. Included studies had to be published in English or Spanish.<br>Study quality assessed and reported?<br>• Yes. The methodological quality of the selected studies was independently assessed by two reviewers by means of the SIGN (Scottish Intercollegiate Guideline Network) tool for clinical trials, and disagreements were discussed. When a consensus was not reached, a third reviewer was consulted. | Adequate description of methodology?<br>• Yes. However the narrative synthesis was not a straightforward process: Owing to the complexity and variability of the interventions it was not possible to make direct comparisons between studies. There were differences in the treatment provided to the control groups. Although the majority of the studies compared the intervention with 'usual care', usual care is never described in any detail.<br>Do conclusions match findings?<br>• Yes.<br>Author conclusion: Results of this review indicate that reducing the risk of hospital readmissions in the elderly is not easy to achieve and they also reflect the heterogeneity of our current understanding of this issue. | Is the setting similar to the UK?<br>• Partly. 10 out of 32 trials were conducted in a UK context<br>Is there clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes. Hospital discharge and the prevention of readmissions<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear. We inferred that improved hospital discharge and reduced readmissions affect social care outcomes (at the individual and system level) although | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
|  |  | "social care outcomes" are not specifically measured or reported.<br>Does the review have a UK perspective?<br>• No. Spanish |  |

Naylor MD, Aiken LH, Kurtzman ET et al. (2011) The importance of transitional care in achieving health reform. Health Affairs 30: 746–54

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Partly rigorous.  Limited to two databases. No grey literature searching or other methods to identify relevant literature used.<br>Study quality assessed and reported?<br>• No | Adequate description of methodology?<br>• No. No flow of studies, limited searching, no reporting on quality appraisal, no reporting of quality assurance. no clear definition of outcomes<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK? • Partly.<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear<br>Does the review have a UK perspective?<br>• No.  US | Overall assessment of internal validity<br>• -<br>Overall assessment of external validity<br>• + |

Sadowski LS, Kee RA, VanderWeele TJ et al. (2009) Effect of a housing and case management program on emergency department visits and hospitalizations among chronically ill homeless adults: A randomized trial. JAMA: Journal of the American Medical Association 301: 1771–8

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Unclear. Authors do not report methods of randomization<br>Adequate concealment of allocation?<br>• Unclear. Possibly all eligible enrolled<br>Comparable groups at baseline?<br>• Partly - Baseline characteristics between the 2 study groups were similar, except that more intervention participants had been hospitalized at the primary study sites during the year preceding enrolment.<br>Was selection bias present?<br>• High risk of bias<br>Selection bias<br>• Direction of bias effect:  Towards intervention. Selection criteria not clear. Characteristics of those who refused to participate not clear (if there were any that refused). There were statistically significant difference between participants in the intervention arm and usual care on no medical insurance.<br>Did both groups receive equal treatment?<br>• Yes<br>Were the participants receiving care and support kept 'blind' to how the intervention was allocated?<br>• No<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• No | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Yes. Blind to data collection<br>Were investigators kept 'blind' to other important confounding factors?<br>• Unclear<br>Detection bias appraisal<br>• Low risk of bias<br>Do conclusions match findings?<br>• Partly. Very few significant differences, but author conclusions confident in its efficacy | Is the setting similar to the UK?<br>• No. US private insurance based health system, most likely would have impacted on access to services for homeless people<br>Is there a clear focus on adults with social care needs?<br>• Unclear.  Probably - a large number of participants had major depression symptoms (40% intervention and 45% usual care)<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Internal validity<br>• +<br>External validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Performance bias appraisal<br>• Unclear/unknown risk of bias<br>Follow-up<br>• Yes. 18 months follow up<br>Drop-out numbers<br>• Intervention drop-outs: Not reported<br>• Comparison drop-outs: Not reported<br>Groups comparable on intervention completion?<br>• Unclear<br>Missing outcome data<br>• Intervention missing outcome data: Not reported<br>• Comparison missing outcome data: Not reported<br>Groups comparable on available data?<br>• Unclear<br>Attrition bias appraisal<br>• Unclear/unknown risk of bias | | | |

Schwarz KA, Mion LC, Hudock D et al. (2008) Telemonitoring of heart failure patients and their caregivers: a pilot randomized controlled trial. Progress in Cardiovascular Nursing 23: 18–26

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Yes<br>Participants were randomized to usual post–hospital discharge care or to usual care by drawing from a pre-prepared, sealed envelope.<br>Adequate concealment of allocation?<br>• Yes<br>Comparable groups at baseline?<br>• Yes. The only 3 exceptions being: Education level was significantly higher for patients in the intervention group (P =.01). Significant differences existed for use of defibrillators between the intervention (n = 14) and usual care (n = 6) groups at baseline (P = .05). Differences existed between groups at baseline with regard to caregiver mastery (P =.05)<br>Was selection bias present?<br>• Low risk of bias<br>Did both groups receive equal treatment?<br>• Unclear. Usual care is not described<br>Were the participants receiving care and support kept 'blind' to how the intervention was allocated?<br>• No. Highly unlikely that the participants were blind to allocation since they had the study explained to them before their eligibility to join the study was assessed. They would therefore know that they were in the intervention or receiving usual care.<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation? | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes. Although unclear why questions about "sexual activity" was removed from the Quality of Life scale.<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• No. "On occasion the PI called patients soon after placement of the scales [part of the intervention] to inquire whether they had any difficulty understanding instructions for its use" (p20)<br>Were investigators kept 'blind' to other important confounding factors?<br>• Yes<br>Detection bias appraisal<br>• Low risk of bias<br>Do conclusions match findings?<br>• Partly. There is no supporting data for one of the authors' conclusions "EHM technological | Is the setting similar to the UK?<br>• Yes<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes. Especially hospital readmission, quality of life, caregiver mastery, Emergency Department visits, costs of care | Internal validity<br>• ++<br>External validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • No<br>Performance bias appraisal<br>• Unclear/unknown risk of bias<br>It's possible since allocation is unlikely to have been blinded. However it would be difficult to evidence.<br>Follow-up<br>• Yes. 3 months<br>Drop-out numbers<br>• Intervention drop-outs: 7<br>• Comparison drop-outs: 11<br>Groups comparable on intervention completion?<br>• Unclear. The difference between dyads that completed and did not complete the study are reported (physiologic health indicators, severity of illness, depressive symptomatology, quality of life, informal social support, caregiver mastery, or cognition although patients not completing the study were significantly (P=.001) more dependent on ADLs and IADLs). However, differences in the control and usual care groups completion/ drop out dyads are not reported.<br>Groups comparable on available data?<br>• Yes<br>Attrition bias appraisal<br>• Low risk of bias. Although the characteristics of the drop out dyads in control versus usual care is not given and since the ADLs/ IADLs differed significantly for all the drop out dyads there could have been important differences. | developments may enhance self-management of HF and eventually lead to improved clinical outcomes". (p25) | | |

Scott IA (2010) Preventing the rebound: Improving care transition in hospital discharge processes. Australian Health Review 34: 445–51

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Yes. Four databases searched from January 1990 and March 2009. Controlled trials or systematic reviews only.<br>Study quality assessed and reported?<br>• Partly reported.  The inclusion of non-randomised trials is listed as a limitation. However, they author provides a rationale (small sample sizes and paucity of existing data) for including them. | Adequate description of methodology?<br>• Yes. Formal meta-analysis was not applied in anticipation of considerable study heterogeneity in design and outcome measures. Emphasis was given to the extent to which study results were consistent and generalisable to general medical patients.<br>Do conclusions match findings?<br>• Partly | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No. Australian | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

Shepperd S, Lannin NA, Clemson LM et al. (2013) Discharge planning from hospital to home. Cochrane Database of Systematic Reviews issue 4: CD000313

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Somewhat relevant<br>Aside from two studies which tested interventions on patients in a psychiatric hospital the studies matched on setting, population and intervention. The review reported on a wider range of outcomes than just re-admission; the main outcome used to measure re-admission was within 3 months as opposed to 30 days.<br>Rigorous literature search?<br>• Yes. Very thorough. Reference lists of included studies and related systematic reviews were checked and, when necessary, individual trialists were contacted to clarify issues and to identify unpublished data.<br>Study quality assessed and reported?<br>• Yes. Quality of the selected trials was assessed using the criteria included in the ’Risk of bias’ table in the Cochrane Handbook. | Adequate description of methodology?<br>• Yes<br>The primary analysis was a comparison of discharge planning versus routine discharge care for each of the review questions. Risk ratios (RR) were calculated using a fixed-effect model, for the dichotomous outcomes mortality, unscheduled readmission and discharge destination, with 95% confidence intervals (CI) for all point estimates. Values < 1 indicate outcomes favouring discharge planning. Trials were excluded when discharge planning was part of a broader package of inpatient care; the decision to exclude a trial was dependent on the detail provided by the authors. Studies were also excluded that had major methodological weaknesses despite fulfilling the criteria for inclusion.<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Yes<br>Ten of the trials included in this review were based in the USA, five in the UK, three in Canada, two in France, one in Australia, one in Denmark, one in the Netherlands and one in Taipei.<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>d. Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| | | a UK perspective?<br>• Yes. Shepperd is UK-based, the rest are Australian. | |

## Critical Appraisal Tables

## Tables Reporting Impact Studies

## Review area 5 Reducing Re-admissions

## Questions 7

## What is the effectiveness of interventions and approaches designed to reduce hospital re-admissions within 30 days of hospital discharge?

Allen J, Hutchinson AM, Brown R et al. (2014) Quality care outcomes following transitional care interventions for older people from hospital to home: a systematic review. BMC Health Services Research 14:1–18

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes. To be included, an article was required to:<br>(1) be published in a peer reviewed journal,<br>(2) report on a transitional care intervention compared with standard hospital discharge,<br>(3) use a randomized control trial design,<br>(4) be published in English<br>(5) provide an analysis of outcomes that evaluated quality indicators related to older people. All studies included people 60 years of age or older.<br>Rigorous literature search?<br>• Partly rigorous. 8 databases were searched and only randomised trial designs were included. No grey literature included.<br>Study quality assessed and reported?<br>• Yes. The Cochrane Collaboration's tool for the assessment of bias in randomized controlled trials was used to assess for bias in all included studies | Adequate description of methodology?<br>• Partly adequate. Due to the heterogeneity in the transitional care interventions and outcomes, data were presented in tables and were not pooled.<br>Do conclusions match findings?<br>• Partly. Results from the included studies, with the exception of general practitioner and practice nurse interventions, transitional care delayed and prevented early re-hospitalization. The review raises the issue of important gaps which exist in the existing (English language) evidence base regarding the quality of transitional care interventions for older people. As the review covers all people aged 60 and over it is important to keep in mind that the results are potentially covering a wide range of ages and a group of people with different health needs. | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear<br>Does the review have a UK perspective?<br>• No. Australian | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

Hansen LO, Young RS, Hinami K et al. (2011) Interventions to reduce 30-day rehospitalization: a systematic review. Annals of Internal Medicine 155: 520–8

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Yes<br>Study quality assessed and reported?<br>• Yes. EPOC score | Adequate description of methodology?<br>• Partly adequate. Not always clear which study is being referred to in the findings and discussion sections. With the overlap of interventions, it wasn't always possible to work out which studies were being referred to.<br>Do conclusions match findings?<br>• Yes. Authors point out that few studies isolate the effect of only one intervention. Authors don’t explore the implications of the negative effects (potentially harmful?) and the non significant/ no effects. | Is the setting similar to the UK?<br>• Yes<br>Is there clear focus on adults with social care needs?<br>• No<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

Hung WW, Ross JS, Farber J et al. (2013) Evaluation of the mobile acute care of the elderly (MACE) service. JAMA Intern Med. 173: 990-996

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Case-control study<br>Is a case-control approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Question appropriate and focused?<br>• Adequately addressed<br>Comparable populations?<br>• Adequately addressed<br>Same exclusion criteria?<br>• Well covered. Patients admitted to any non-medicine unit or specialty service, including surgery, telemetry and respiratory care, and patients transferred from an outside hospital, or <75 years old, were all excluded.<br>Participation rate for each group?<br>• Cases: 173 out of 639 eligible. 0.27<br>• Controls: 173 out of 1114 eligible. 0.15<br>Comparison of participants?<br>• Adequately addressed.<br>The groups had fairly similar characteristics. The only significant differences between groups were 'number of medications' and 'delirium on admission', both of which were greater in the MACE group.<br>Cases clearly defined?<br>• Well covered. Both Care as usual and MACE described in detail.<br>Distinguishing of cases from controls? | Measures to prevent knowledge of primary exposure?<br>• Poorly addressed. Clinician investigator who conducted interviews on admission was not blinded to treatment assignment as medical records clearly indicated whether a patient was managed by the MACE service.<br>Exposure status<br>• Adequately addressed. Patient satisfaction was measured using the 3-item Care Transition Measure (CTM-3) and the Hospital Consumer Assessment of Healthcare Providers and Systems survey (HCAHPS) which have been validated for hospitalized older adults to measure patient assessment of the quality of care transitions and satisfaction during hospitalization. Patient Reported Outcomes Measurement Information System (PROMIS) Global 10-item instrument is a standardized, validated measurement for reliable measurement of patient-reported health status. | Is the setting similar to the UK?<br>• Unclear<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Well covered | Confounding factors<br>• Adequately addressed<br>Statistical analysis<br>• CI provided<br>Do conclusions match findings?<br>• Yes | | |

Jacob L, Poletick EB (2008) Systematic review: Predictors of successful transition to community-based care for adults with chronic care needs. Care Management Journals 9: 154–65

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes. Review attempts to determine which specific populations are most likely to benefit from transitional care support.<br>Inclusion of relevant individual studies?<br>• Somewhat relevant. Inclusion criteria were availability of full-text, randomized, and quasi-randomized trials as well as retrospective reviews of clinical and administrative data and meta-analyses. Interpretive studies drawing on experiences of adults with recent hospitalization were also considered, as were designs such as phenomenology, grounded theory, and ethnography. Only studies describing adults who previously resided in the community, who were independent in self-care, and who experienced a recent acute hospitalization with transition back to their prior living arrangement were included.<br>Rigorous literature search?<br>• Partly rigorous. English-language only search of Ovid or CINAHL | Adequate description of methodology?<br>• Partly adequate<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| between 1997 and 2007.<br>Study quality assessed and reported?<br>• Unclear |  | Does the review have a UK perspective?<br>• No |  |

Leppin AL, Gionfriddo MR, Kessler M et al. (2014) Preventing 30-day hospital readmissions: A systematic review and meta-analysis of randomized trials. JAMA International Medicine 174: 1095–1107

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes. Randomised trials reported in English or Spanish, since 1990, that assessed the effectiveness of peri-discharge interventions versus any comparator on the risk of early (i.e within 30 days of discharge) all-cause or unplanned and readmissions.<br>Rigorous literature search?<br>• Yes. Six databases searched. Hand searching of bibliographies of included studies and recent reviews. Experts in the field were also consulted.<br>Study quality assessed and reported?<br>• Yes. Two raters worked independently and in duplicate to determine the extent to which each trial was at risk of bias using a standardized form based on the Cochrane Collaboration’s tool. | Adequate description of methodology?<br>• Yes. Random-effects meta-analyses to estimate pooled risk ratios and 95% confidence intervals for early readmission. Tested for heterogeneity of effect on this outcome using the Cochran Q $x^2$ test and estimated between-trial inconsistency not due to chance using the $I^2$ statistic.<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

Linertová R, Garcia-Perez L, Vazquez-Diaz JR et al. (2011) Interventions to reduce hospital readmissions in the elderly: in-hospital or home care. A systematic review. Journal of Evaluation in Clinical Practice 17: 1167–75

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes. Clinical trials (randomized or controlled) evaluating the effectiveness of an intervention aimed at reducing readmissions in elderly patients. N.B As opposed to occurring at discharge, interventions are described as being carried out during admission and/or follow up.<br>Rigorous literature search?<br>• Yes. The following electronic databases were searched: MEDLINE, EMBASE, MEDLINE in process, CINAHL, CENTRAL (Cochrane Central Register of Controlled Trials), CRD (Centre for Reviews and Dissemination), Science Citation Index, Social Science Citation Index, Google Scholar, Índice Médico Español and LILACS up to October 2007; the search in MEDLINE was then further extended until October 2009.The references lists in the studies included were also reviewed. Included studies had to be published in English or Spanish.<br>Study quality assessed and reported?<br>• Yes. The methodological quality of the selected studies was independently assessed by two reviewers by means of the SIGN (Scottish Intercollegiate Guideline Network) tool for clinical trials, and disagreements were discussed. When a consensus was not reached, a third reviewer was consulted. | Adequate description of methodology?<br>• Yes. However the narrative synthesis was not a straightforward process: Owing to the complexity and variability of the interventions it was not possible to make direct comparisons between studies. There were differences in the treatment provided to the control groups. Although the majority of the studies compared the intervention with 'usual care', usual care is never described in any detail.<br>Do conclusions match findings?<br>• Yes.<br>Author conclusion: Results of this review indicate that reducing the risk of hospital readmissions in the elderly is not easy to achieve and they also reflect the heterogeneity of our current understanding of this issue. | Is the setting similar to the UK?<br>• Partly. 10 out of 32 trials were conducted in a UK context<br>Is there clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes. Hospital discharge and the prevention of readmissions<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear. We inferred that improved hospital discharge and reduced readmissions affect social care outcomes (at the individual and system level) although | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
|  |  | "social care outcomes" are not specifically measured or reported.<br>Does the review have a UK perspective?<br>• No. Spanish |  |

Naylor MD, Aiken LH, Kurtzman ET et al. (2011) The importance of transitional care in achieving health reform. Health Affairs 30: 746–54

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Partly rigorous. Limited to two databases. No grey literature searching or other methods to identify relevant literature used.<br>Study quality assessed and reported?<br>• No | Adequate description of methodology?<br>• No. No flow of studies, limited searching, no reporting on quality appraisal, no reporting of quality assurance. no clear definition of outcomes<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK? • Partly.<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Unclear<br>Does the review have a UK perspective?<br>• No. US | Overall assessment of internal validity<br>• -<br>Overall assessment of external validity<br>• + |

Sadowski LS, Kee RA, VanderWeele TJ et al. (2009) Effect of a housing and case management program on emergency department visits and hospitalizations among chronically ill homeless adults: A randomized trial. JAMA: Journal of the American Medical Association 301: 1771–8

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Unclear. Authors do not report methods of randomization<br>Adequate concealment of allocation?<br>• Unclear. Possibly all eligible enrolled<br>Comparable groups at baseline?<br>• Partly - Baseline characteristics between the 2 study groups were similar, except that more intervention participants had been hospitalized at the primary study sites during the year preceding enrolment.<br>Was selection bias present?<br>• High risk of bias<br>Selection bias<br>• Direction of bias effect:  Towards intervention. Selection criteria not clear. Characteristics of those who refused to participate not clear (if there were any that refused). There were statistically significant difference between participants in the intervention arm and usual care on no medical insurance.<br>Did both groups receive equal treatment?<br>• Yes<br>Were the participants receiving care and support kept 'blind' to how the intervention was allocated?<br>• No<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• No | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Yes. Blind to data collection<br>Were investigators kept 'blind' to other important confounding factors?<br>• Unclear<br>Detection bias appraisal<br>• Low risk of bias<br>Do conclusions match findings?<br>• Partly. Very few significant differences, but author conclusions confident in its efficacy | Is the setting similar to the UK?<br>• No. US private insurance based health system, most likely would have impacted on access to services for homeless people<br>Is there a clear focus on adults with social care needs?<br>• Unclear.  Probably - a large number of participants had major depression symptoms (40% intervention and 45% usual care)<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Internal validity<br>• +<br>External validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Performance bias appraisal<br>• Unclear/unknown risk of bias<br>Follow-up<br>• Yes. 18 months follow up<br>Drop-out numbers<br>• Intervention drop-outs: Not reported<br>• Comparison drop-outs: Not reported<br>Groups comparable on intervention completion?<br>• Unclear<br>Missing outcome data<br>• Intervention missing outcome data: Not reported<br>• Comparison missing outcome data: Not reported<br>Groups comparable on available data?<br>• Unclear<br>Attrition bias appraisal<br>• Unclear/unknown risk of bias | | | |

Schwarz KA, Mion LC, Hudock D et al. (2008) Telemonitoring of heart failure patients and their caregivers: a pilot randomized controlled trial. Progress in Cardiovascular Nursing 23: 18–26

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Yes<br>Participants were randomized to usual post–hospital discharge care or to usual care by drawing from a pre-prepared, sealed envelope.<br>Adequate concealment of allocation?<br>• Yes | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes. Although unclear why questions about "sexual activity" was removed from the Quality of | Is the setting similar to the UK?<br>• Yes<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken | Internal validity<br>• ++<br>External validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Comparable groups at baseline?<br>• Yes. The only 3 exceptions being: Education level was significantly higher for patients in the intervention group (P =.01). Significant differences existed for use of defibrillators between the intervention (n = 14) and usual care (n = 6) groups at baseline (P = .05). Differences existed between groups at baseline with regard to caregiver mastery (P =.05)<br>Was selection bias present?<br>• Low risk of bias<br>Did both groups receive equal treatment?<br>• Unclear. Usual care is not described<br>Were the participants receiving care and support kept 'blind' to how the intervention was allocated?<br>• No. Highly unlikely that the participants were blind to allocation since they had the study explained to them before their eligibility to join the study was assessed. They would therefore know that they were in the intervention or receiving usual care.<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• No<br>Performance bias appraisal<br>• Unclear/unknown risk of bias<br>It's possible since allocation is unlikely to have been blinded. However it would be difficult to evidence.<br>Follow-up<br>• Yes. 3 months<br>Drop-out numbers<br>• Intervention drop-outs: 7<br>• Comparison drop-outs: 11 | Life scale.<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• No. "On occasion the PI called patients soon after placement of the scales [part of the intervention] to inquire whether they had any difficulty understanding instructions for its use" (p20)<br>Were investigators kept 'blind' to other important confounding factors?<br>• Yes<br>Detection bias appraisal<br>• Low risk of bias<br>Do conclusions match findings?<br>• Partly. There is no supporting data for one of the authors' conclusions "EHM technological developments may enhance self-management of HF and eventually lead to improved clinical outcomes". (p25) | place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes. Especially hospital readmission, quality of life, caregiver mastery, Emergency Department visits, costs of care | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Groups comparable on intervention completion?<br>• Unclear. The difference between dyads that completed and did not complete the study are reported (physiologic health indicators, severity of illness, depressive symptomatology, quality of life, informal social support, caregiver mastery, or cognition although patients not completing the study were significantly (P=.001) more dependent on ADLs and IADLs). However, differences in the control and usual care groups completion/ drop out dyads are not reported.<br>Groups comparable on available data?<br>• Yes<br>Attrition bias appraisal<br>• Low risk of bias. Although the characteristics of the drop out dyads in control versus usual care is not given and since the ADLs/ IADLs differed significantly for all the drop out dyads there could have been important differences. | | | |

Scott IA (2010) Preventing the rebound: Improving care transition in hospital discharge processes. Australian Health Review 34: 445–51

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Yes<br>Rigorous literature search?<br>• Yes. Four databases searched from January 1990 and March 2009. Controlled trials or systematic reviews only.<br>Study quality assessed and reported? | Adequate description of methodology?<br>• Yes. Formal meta-analysis was not applied in anticipation of considerable study heterogeneity in design and outcome measures. Emphasis was given to the extent to which study results were consistent and generalisable to general medical patients. | Is the setting similar to the UK?<br>• Partly<br>Is there clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented? | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Partly reported. The inclusion of non-randomised trials is listed as a limitation. However, they author provides a rationale (small sample sizes and paucity of existing data) for including them. | Do conclusions match findings?<br>• Partly | • Yes<br>Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• No. Australian | |

Shepperd S, Lannin NA, Clemson LM et al. (2013) Discharge planning from hospital to home. Cochrane Database of Systematic Reviews issue 4: CD000313

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Appropriate and clearly focused question?<br>• Yes<br>Inclusion of relevant individual studies?<br>• Somewhat relevant<br>Aside from two studies which tested interventions on patients in a psychiatric hospital the studies matched on setting, population and intervention. The review reported on a wider range of outcomes than just re-admission; the main outcome used to measure re-admission was within 3 months as opposed to 30 days.<br>Rigorous literature search?<br>• Yes. Very thorough. Reference lists of included studies and related | Adequate description of methodology?<br>• Yes<br>The primary analysis was a comparison of discharge planning versus routine discharge care for each of the review questions. Risk ratios (RR) were calculated using a fixed-effect model, for the dichotomous outcomes mortality, unscheduled readmission and discharge destination, with 95% confidence intervals (CI) for all point estimates. Values < 1 indicate | Is the setting similar to the UK?<br>• Yes<br>Ten of the trials included in this review were based in the USA, five in the UK, three in Canada, two in France, one in Australia, one in Denmark, one in the Netherlands and one in Taipei.<br>Is there clear focus on | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| systematic reviews were checked and, when necessary, individual trialists were contacted to clarify issues and to identify unpublished data.<br>Study quality assessed and reported?<br>• Yes. Quality of the selected trials was assessed using the criteria included in the 'Risk of bias' table in the Cochrane Handbook. | outcomes favouring discharge planning. Trials were excluded when discharge planning was part of a broader package of inpatient care; the decision to exclude a trial was dependent on the detail provided by the authors. Studies were also excluded that had major methodological weaknesses despite fulfilling the criteria for inclusion.<br>Do conclusions match findings?<br>• Yes | adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>d. Relevant to health outcomes<br>• Yes<br>Relevant to social care outcomes?<br>• Yes<br>Does the review have a UK perspective?<br>• Yes. Shepperd is UK-based, the rest are Australian. | |

## Study Findings Tables

## Tables Reporting Impact Studies

## Review area 5 Reducing Re-admissions

## Questions 7

**What is the effectiveness of interventions and approaches designed to reduce hospital re-admissions within 30 days of hospital discharge?**

Allen J, Hutchinson AM, Brown R et al. (2014) Quality care outcomes following transitional care interventions for older people from hospital to home: a systematic review. BMC Health Services Research 14:1–18

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br>Study aim<br>• To: (1) Locate and synthesise research using randomised control trial designs on quality of outcomes following transitional care interventions compared with standard hospital discharge for older people with chronic illnesses. (2) Make recommendations for research and practice.<br>Source of funding<br>• Not reported. Authors declare no competing interests but they do not reveal source of funding<br>Clinical outcomes<br>• Caregiver burden/distress<br>Service outcomes<br>• Length of hospital stay<br>• Risk of hospital re admission | Participants<br>• Adults<br>Countries<br>• USA , Australia, Denmark and France<br>Post-discharge Interventions<br>• Each of the transitional care interventions tested in the 12 studies contained elements considered essential to high quality transitional care: discharge assessment and care planning, communication between providers, preparation of the person and carer for the care transition, reconciliation of medications at transition, community-based follow-up, and patient education about self-management. Interventions were conducted by a range of health and social care professionals, and by older people including advanced practice nurses, general practitioners and | • Narrative findings<br>In six studies (out of 11 with re-hospitalisation as an outcome), significant reductions in re-rehospitalisation rates were found for people in the intervention groups at up to six months following hospital discharge (and at up to three months following discharge in the study by Legrain et al.)<br>Three studies did not find any difference in rehospitalisation rates between treatment and control groups at up to six month follow up. One study by Weinberger et al. found the veterans in the intervention group had significantly higher rates of re-rehospitalisation than veterans in the control group. Weinberger et al. speculated that the veterans in their study were experiencing very poor health and that the transitional care intervention assisted in early identification of health difficulties requiring re-hospitalisation.<br>Results from the included studies indicate that, except for general practitioner and practice nurse interventions, transitional care delayed and prevented early re-rehospitalisation.<br>Two studies measured caregiver burden; neither of which found a change at one month follow-up.<br>N.B. Only six of the reviews 12 included studies were within the publication date range used for this | Internal validity<br>• ++<br>External validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | practice nurses, the older person and their carer with support from a transition coach, case managers and geriatricians. | guideline. These are reported in more detail below.<br>Discharge protocol & advanced practice nurse<br>Naylor (2004)<br>At 52 weeks, intervention patients had fewer re-hospitalisations and lower total mean costs.<br>There were short term improvements among intervention patients in quality of life (physical domain, up to 12 weeks post discharge) and satisfaction with discharge and transition care (up to 6 weeks post discharge) Enguidanos (2012)<br>No change in re-rehospitalisation rates at 6 months following enrolment in the study. The intervention group experienced significantly fewer visits to GPs. There were no changes between intervention and control groups in self-efficacy or satisfaction with service.<br>General practitioner and primary care nurse models<br>Preen (2005)<br>There were no differences in length of stay between groups<br>One week following discharge:<br>Patients in the intervention group reported improved satisfaction with discharge planning, access to health services, confidence with discharge, and mental quality of life |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | Self-management and transition coaching<br>Coleman (2006)<br>Intervention group had significantly lower re-rehospitalisation rates than the control group at 30, 90 and 180 days post discharge<br>Intervention group had significantly lower hospital costs than the control group at 30, 90 and 180 days post discharge<br>Discharge case management<br>Lim (2003)<br>Over 6 month follow-up period there were no differences in rates of unplanned re-hospitalisations. Intervention patients had significantly reduced length of stay (index hospitalisation). Costs (hospital utilisation) lower in intervention patients over 6 months following discharge<br>No differences in costs (utilisation of community services) between groups.<br>Significantly improved self-reported quality of life in intervention patients at one month follow-up. No difference in caregiver burden at 1 month follow-up.<br>Inpatient geriatric evaluation, co-management (with ward staff ) and transitional care<br>Legrain (2011) | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | Older people in the intervention group were significantly less likely to attend the emergency department or be re-admitted at 3 months following discharge<br>There were no differences between groups in ED attendances or re-hospitalisations at 6 months following discharge. | |

Hansen LO, Young RS, Hinami K et al. (2011) Interventions to reduce 30-day rehospitalization: a systematic review. Annals of Internal Medicine 155: 520–8

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review.<br>Study aim<br>• To provide an inventory of interventions studies to reduce rehospitalisation within 30 days and describe the best published evidence for the effectiveness of these interventions<br>Service outcomes<br>• Risk of hospital re-admission<br>Source of funding<br>• Other. This study received no external | Participants<br>• Older people<br>• Adults<br>• People with a particular condition - Heart failure, cardiac, COPD and Stroke,<br>Interventions<br>• Authors identify three types of interventions to reduce hospital admissions –<br>1. Pre-discharge Interventions, pre-discharge education and discharge planning were the most commonly evaluated | • Costs Resource use data: Three quarters of re-hospitalisations may be avoidable and account for $12 billion in excess health care costs (to Medicaid)<br>• Narrative findings<br>Few studies in the systematic review studied only one component of a discharge care plan, and were a collection of different components.<br>Ten RCTs did not find significant effects of isolated or bundled interventions overall, when negative effects were included.<br>There were five RCTs that documented statistically significant improvements in rehospitalisation outcomes within 30 days (studies 14, 17, 20, 21, 24) out of 16 RCTs in total. Study 17 compared early discharge planning compared to usual care with the treatment group experiencing an 11 percentage | Internal validity<br>• ++<br>External validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| funding. Authors are affiliated to the Northwestern University Feinberg school of medicine. Drs Williams and Hansen have received financial support from the John A Hartford foundation and the Society of hospital medicine for Project BOOST (Better outcomes for Older adults through safe transitions) | interventions in this review<br>2.Post discharge interventions, Follow-up telephone calls, patient-activated hotlines, home visits, timely outpatient follow up, timely communication of patient information to an outpatient provider. Follow up phone calls were the most frequently studied type of intervention in the post-discharge setting<br>3. Interventions bridging the transition patient centred-discharge instructions, a transitional coach, and same provider continuity between inpatient and outpatient care. | point reduction in 30 day readmissions.<br>The remainder of the studies looked at multi-component interventions. Interventions common in 4 studies (14, 20, 24 and 21) were the post-discharge telephone calls and patient-centred discharge instructions (PCDI), however two RCTs that included these interventions did not report significant effects, and two studies that looked at follow up calls in isolation did not find a significant effect. | |

Hung WW, Ross JS, Farber J et al. (2013) Evaluation of the mobile acute care of the elderly (MACE) service. JAMA Intern Med. 173: 990-996

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Study aim<br>• To evaluate the impact of the Mobile Acute Care of the Elderly (MACE) model, comparing care outcomes between patients admitted to the MACE team and patients admitted to the general medicine service.<br>Methodology<br>• Case-control study<br>Source of funding<br>• Voluntary/Charity<br>John A. Hartford Center of Excellence and in part by the Claude D. Pepper Older Americans Independence Center at Mount Sinai School of Medicine<br>Service outcomes<br>• Risk of hospital re-admission<br>Clinical outcomes<br>• Function<br>• Health related quality of life<br>• Activities of daily living<br>• Satisfaction with care<br>Patient satisfaction was measured using: the 3-item Care Transition Measure (CTM-3) and the Hospital Consumer Assessment of Healthcare Providers and Systems survey (HCAHPS) | Participants<br>• Older people<br>• Sample size<br>MACE: 173 Usual care: 173<br>Total = 346<br>Sample characteristics<br>• Sex<br>MACE: 76.3% female<br>Usual care: 72.8% female<br>• Sample age<br>MACE: 85.2 ± 5.3<br>Usual care: 84.7 ± 5.4<br>Country<br>• U.S<br>Intervention<br>• Pre-discharge<br>MACE service team consisted of an attending geriatrician-hospitalist, geriatric medicine fellow, social worker, and a clinical nurse specialist. The geriatrician hospitalist was the attending of record for the elderly patient admitted for acute care in the hospital. The interdisciplinary team met daily to discuss the care of all patients with the nurse | • Effect sizes<br>Outcomes of patients admitted to Mobile Acute Care of the Elderly (MACE) service and usual care (UC):<br>MACE (n=173) UC (n=173) P-value<br>Unadjusted hospital readmission rates at 30 days:<br>15.4% 22.4% 0.21<br>Unadjusted rates of acute care utilisation (hospital readmission, ER visit or observation unit stay at 30 days:<br>20.8% 25.6% 0.37<br>Adverse events (unadjusted)<br>9.5% 17.0% 0.02<br>Length of stay (days) ± SD<br>4.6 ± 3.3 6.8 ± 7.6 0.001<br>Function Independence Measure (FIM-Motor) at 30 days after discharge (adjusted):<br>60.9 ± 21.1 56.5 ± 27.0 0.24<br>Activities of daily living (OARS scale - adjusted):<br>5.2 ± 3.6 5.9 ± 4.4 0.98<br>Care Transition Measure Score (CTM-3)<br>72.5 ± 19.1 64.9 ± 16.5 0.01<br>Overall health status (EQ-5D - unadjusted):<br>0.64 0.64 0.58 | Overall assessment of internal validity<br>• +<br>Overall assessment of external validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | specialist acting as the “hospital coach” educating the patient or caregiver. The MACE service also adopted elements to improve care transitions including medication reconciliation prior to discharge and communication with the primary care physician within 24 hours of discharge. | Overall health status (Promis - Patient Reported Outcomes Measurement Information System - unadjusted):<br>3.5 3.5 0.47<br>Unadjusted 30 day mortality:<br>7.5% 5.8% 0.51<br>Patient satisfaction scores measured using the HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems survey) did not differ significantly by group (data not provided by authors).<br>• Narrative findings<br>MACE service was associated with better outcomes in several important areas when compared with usual care and was not associated with worse outcomes, although readmission rates at 30 days and other measured outcomes did not differ significantly between the two groups.<br>The MACE service was associated with lower rates of adverse events, shorter lengths of stay, and improved satisfaction on transitions of care. MACE is a readily adaptable model of inpatient care which may be associated with better outcomes for hospitalised older adults. |  |

Jacob L, Poletick EB (2008) Systematic review: Predictors of successful transition to community-based care for adults with chronic care needs. Care Management Journals 9: 154–65

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic Review<br><br>Study aim<br>• To determine predictors of successful transition to community-based care for adults with social care needs; aims are to help care managers identify patients susceptible to difficult transition and to understand strategies to reduce risk of unplanned hospital readmission.<br><br>Source of funding<br>•Not reported<br><br>Clinical outcomes<br>• Health related quality of life<br>• Physical health<br>• Mortality<br><br>Service outcomes<br>• Risk of hospital re-admission | Participants<br>• Adults<br><br>Country<br>• Not reported<br><br>Interventions<br>• All studies exploring patient experiences with the transition process and examining different diagnoses and transitional care interventions as well as patient characteristics and social circumstances as predictors of successful or failed transitions. Interventions included: Discharge planning support, patient management schemes, discharge co-ordinators, educational interventions, telephone follow-up, and rehabilitation services. | • Effect sizes (from p.159.)<br>Harrison et al. (2002) Statistically significant lower total score on Minnesota Living with Heart Failure Questionnaire among intervention group at 6 and 12 weeks post-discharge, indicating less disability.<br>Fewer intervention patients required emergency department visits than did the usual care group.<br>Kind, Smith, Frytak, and Finch (2007) (Retrospective analysis) 20% of stroke population studied had at least one complicated transition in first 30 days after discharge. Patients with at least one complication were more likely to be older; to be African American; to be on Medicaid; to have had longer hospital length of stay; to have Heart Failure, chronic obstructive pulmonary disease, diabetes mellitus, or anaemia; to have a gastric tube; or to have been admitted to a skilled nursing facility between hospitalization and home.<br>Mistiaen, Franckel, and Poot (2007) Hospital at home was not found to be statistically different from standard discharge care. Ten of the 15 studies were inconclusive about the effect of discharge interventions, while three showed a positive effect. Most studies had mixed outcomes with positive outcomes seen for specific diagnostic groups, specifically heart failure patients.<br>Naylor et al.(1994) At 6 weeks post-discharge, the | Internal validity<br>• +<br>External validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | medical patients in the intervention group (CHF, angina, MI) had fewer re-hospitalisations and lower health care expenditures, and this was statistically significant. This was not true for the surgical patients in the intervention group.<br>Sinclair, Conroy, Davies, and Bayer (2005) At 100 days post-discharge, there was no difference in mortality, quality of life or independent activities of daily living. But the intervention group expressed greater confidence in self-care ability and experienced fewer hospital readmissions.<br>Synthesized findings<br>Multidisciplinary post-discharge home-based intervention<br>Enhanced usual discharge planning and interventions:<br>The researchers note significantly fewer emergency department visits among the intervention group, but do not describe the method for measuring this outcome.  The number of hospital readmissions was not statistically different among the two groups. Again, details of how these were measured were not described.<br>Home-based intervention for a successful transition:<br>Among patients age 65 or greater discharged from an acute hospital after treatment for a myocardial infarction those receiving a HBI (n = 163) had fewer unplanned hospital readmissions than those | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | receiving usual care (n = 161) and in general experienced a more successful transition.<br>Low/no-impact home-based interventions<br>This systematic review of 15 studies of various discharge interventions, which were categorized as either discharge preparation or discharge support, concluded that there is no evidence base that discharge interventions have a positive effect on physical status after discharge. Nor is there evidence that educational interventions are effective in reducing hospital readmissions in any group except heart failure patients (p. 15/19). Additionally, heart failure patients seem to be the only group benefiting in any significant way from multidisciplinary management and post-discharge support. Some of the studies reviewed assessed outcomes as far out as 6 or 12 months post-discharge. The reviewers suggest that discharge interventions may have an effect but that this effect may not be as long-standing as 1 year. (p.164)<br>• Narrative findings<br>The review finds little evidence that enhanced discharge support is related to improved physical status at home, but there is support for its role in preventing or delaying hospital readmissions in the presence of certain discharge diagnoses, specifically heart failure and stroke. Additionally, those with adequate social support and confidence | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | in self-care ability tend to experience fewer readmissions than do those living alone and those who perceive themselves as not ready to return home.<br>Studies were grouped into two categories: studies or surveys of interventions and/or patient characteristics.<br>Five studies fell into the intervention category and described discharge strategies that were somewhat effective at increasing the odds of a successful transition, but identifying characteristics that would be helpful in patient selection criteria was somewhat elusive.<br>Heart failure emerged as a diagnosis for which discharge preparation and support may play a role in improving success of transition. Three of the five studies found improved outcomes specifically in patients with this diagnosis.<br>Kind et al. (2007) and Lough (1996) identified heart failure and stroke as diagnoses most susceptible to complicated transitions, making the finding that these diagnoses are also amenable to discharge interventions an important discovery with real-world implications.<br>One study explored patients' perceptions of readiness for discharge as predictive of successful transition (Weiss et al., 2007). This study observed that the subjective perception of readiness may be more predictive of successful transition than are | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | actual objective measures of readiness. Those expressing a low level of readiness were more likely to have poor post-discharge coping and in turn increased utilization of health care services in the 3 weeks following discharge. Although not specifically investigating the effect of discharge preparation, the researchers did identify an indirect relationship between discharge teaching and post-discharge coping with readiness for discharge as an important intermediary. This study reported that younger people, those experiencing their first hospitalization, those having longer hospital lengths of stay, and those living alone are most likely to experience difficult discharges. | |

Leppin AL, Gionfriddo MR, Kessler M et al. (2014) Preventing 30-day hospital readmissions: A systematic review and meta-analysis of randomized trials. JAMA International Medicine 174: 1095–1107

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic Review<br>Study aim<br>• To synthesize the evidence of the efficacy of interventions to reduce early hospital readmissions and identify intervention features - including their impact on treatment burden and on patients’ capacity to enact post- | Participants<br>• Adults<br>Countries<br>• US, Croatia, Hong Kong, Switzerland, Denmark, Israel, Australia, Sweden, Belgium, New Zealand, the Netherlands, | • Effect sizes<br>In the 42 trials reporting readmission rates, the overall pooled relative risk (RR) of re-admission within 30 days was 0.82 (95% confidence interval (CI), 0.73–0.91; P < .001).<br>Inconsistency across trials was low (I-squared = 31%).<br>The following intervention characteristics interacted | Internal validity<br>• ++<br>External validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
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| discharge self-care - that might explain their varying effects.<br>Source of funding<br>• Government. Clinical and Translational Science Award grant from the National Center for Advancing Translational Sciences, a component of the National Institutes of Health.<br>Service outcomes<br>• Risk of hospital re-admission | England, Taiwan, Germany, Canada<br>Interventions<br>• Discharge planning, case management, telephone follow-up, telemonitoring, patient education, self-management, medication intervention, home visits, follow-up scheduled, patient-centred discharge instructions, clinician continuity, timely follow up, timely primary care provider (PCP) communication, patient hotline, rehabilitation intervention, streamlining, increasing use or quality of services currently available but underutilised. | with measured effectiveness:<br>Studies testing interventions more recently were associated with reduced effectiveness (RR, 0.89 [95%CI, 0.81–0.97] when published in 2002 or later and RR, 0.56 [95% CI, 0.40–0.79] when published prior to 2002; interaction P = .01<br>When the intervention was rated to augment patient capacity for self-care relative risk = 0.68 [95%CI, 0.53–0.86] and the relative risk = 0.88 [95% CI, 0.80–0.97] when it was not; interaction P = .04<br>When the intervention had at least 5 unique, component activities (RR, 0.63 [95% CI, 0.53–0.76] when it did and RR, 0.91 [95% CI, 0.81–1.01] when it did not; interaction P = .001.<br>When the intervention had at least 2 individuals involved in delivery (RR, 0.69 [95% CI, 0.57–0.84] when it did and RR, 0.87 [95% CI, 0.77-0.98] when it did not; interaction P = .05.<br>• Narrative findings<br>The body of randomized trial evidence shows a consistent and beneficial effect of tested interventions on the risk of 30 day re-admissions.<br>Some features, however, may enhance the effect of these programs. In particular, the results implied there is value in interventions that supported patients' capacity for self-care in their transition from hospital to home. | |

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| | | Interventions that used a complex and supportive strategy to assess and address contextual issues and limitations in patient capacity were most effective at reducing early hospital readmissions. Many of these contacted the patient frequently, used home visits, and reported cost savings.<br>Findings showed that more recently tested interventions were less effective. The authors hypothesized that this may represent:<br>(1) a general improvement over time in the standard of care that was not fully appreciated in control descriptions<br>(2) an increased effort over time to test simpler and less comprehensive interventions<br>(3) a higher likelihood over time of more diverse interventions to measure and report 30-day readmission rates (e.g. including those less focused on reducing early readmissions), (4) a general shift away from interventions stressing human interaction toward those more high tech in nature.<br>Additional study is needed to determine the implications of this finding. | |

Linertová R, Garcia-Perez L, Vazquez-Diaz JR et al. (2011) Interventions to reduce hospital readmissions in the elderly: in-hospital or home care. A systematic review. Journal of Evaluation in Clinical Practice 17: 1167–75

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Systematic Review<br>Study aim<br>• To identify interventions that effectively reduce the risk of hospital readmissions in patients of 75 years and older, and to assess the role of home follow-up.<br>Source of funding<br>• Government<br>There is no explicit declaration of funding but the authors state: The work was carried out in Health Service of Canary Islands, Department of Planning and Evaluation, Spain<br>Service outcomes<br>• Risk of hospital re-admission | Participants<br>• Older People<br>Country<br>• UK, US, Sweden, Australia, UK, Norway, Germany, Belgium<br>Pre-Discharge Interventions<br>• In-hospital geriatric evaluation and discharge management. All 17 interventions used a geriatric assessment during the hospital stay and comprehensive discharge planning.<br>Interventions that Bridge the Transition<br>Ten interventions also included a care plan elaborated by a geriatric team following discharge and three included a pharmaceutical care review.<br>Post-Discharge Interventions<br>In 11 interventions, some kind of follow-up was carried out, either through collaboration with the patient’s general practitioner or | • Effect sizes<br>In-hospital Geriatric Assessment and Discharge Management<br>n.s., difference statistically not significant;<br>GI, group of intervention; GC, group of controls<br>Readmissions outcomes:<br>Patients readmitted [n (%)]:<br>• In 3 months after discharge: 61 (34) vs. 61 (28); n.s.; RR = 1.01 (0.81–1.26)<br>Patients readmitted [n (%)]:<br>• In 3 months after discharge: 30 (36.1) vs. 30 (36.1); n.s.<br>• In 6 months: 26 (31.3) vs. 21 (25.3); n.s.<br>Patients readmitted [n (%)]:<br>• In 3 months after discharge: 49 (26) vs. 40 (22); RR = 1.21 (0.93–1.38)<br>• In 12 months: 102 (55) vs. 90 (49); RR = 1.13 (0.93–1.38)<br>Patients readmitted for the same disease [n (%)]:<br>• In 6 months after discharge: 14 (19.4) vs. 25 (35.7); P<0.05 | Internal validity<br>• ++<br>External validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
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|  | the intermediate care services, or through follow-up phone calls or outpatient geriatric consultations. Geriatric assessment with home follow-up. Beside home visits, some of the interventions also implemented a care plan after discharge, home rehabilitation, cooperation with patients' general practitioners, phone calls, coordination of post-discharge care services, or patient education (about self-care, correct utilization of medication, home service possibilities, etc.) | Patients with at least one readmission (%):<br>• In 12 months after discharge 56 vs. 50.4 vs. 37 n.s. (GI vs. GC)<br>• $P < 0.05$ (GI vs. external comparison group)<br><br>Patients readmitted (%):<br>• In 1 month after discharge: 10 vs. 38.1; $P < 0.05$<br>• In 2 months after discharge: 30 vs. 42.9; n.s.<br><br>Patients readmitted for the same disease [n (%)]:<br>• In 3 months after discharge: 104 (34) vs. 109 (36); n.s.<br><br>Patients readmitted [n (%)]:<br>• In 6 months after discharge: 75 (25) vs. 79 (28); n.s.<br>• In 12 months: 80 (26) vs. 74 (26); n.s.<br><br>Patients with at least one readmission (%):<br>• In 6 months after discharge: 30 vs. 25; OR = 1.34 (0.83–2.17); n.s.<br>Patients readmitted [n (%)]:<br>• In 6 months after discharge: 220 (27.8) vs. 225 (30.2); n.s.<br>Patients readmitted (%): |  |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | • In 1 month after discharge: 17.7 vs. 19.4; n.s.<br>Patients readmitted (n):<br>• In 3 months after discharge: 341 vs. 278; RR = 1.00 (0.71–1.43)<br>Patients readmitted (%):<br>• In 12 months after discharge: 32.6 vs. 33.7; n.s.<br>Patients readmitted [n (%)]:<br>• In 15 days after discharge: 10 (2.8) vs. 24 (5.1); n.s.<br>• In 3 months: 47 (13.2) vs. 76 (16.2); n.s.<br>Readmissions per patient [mean (SD)]:<br>• In 6 months after discharge: 0.3 (0.6) vs. 0.6 (1.0); P<0.05<br>Patients readmitted [n (%)]:<br>• In 12 months after discharge: 36 (38.0) vs. 48 (42.9); n.s.<br>Readmissions per patient [mean (SD)]:<br>• In 6 months after discharge: 1.0 (1.3) vs. 1.2 (1.7); n.s. |  |

| Research Aims | Population | Findings | Summary of Quality |
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| | | Geriatric with Home Follow-Up<br>Readmission Outcomes:<br>Patients readmitted (n):<br>• In 3 months after discharge: 3 vs. 15; P < 0.05<br><br>Patients readmitted [n (%)]:<br>• In 1 month after discharge: 61 (16.5) vs. 82 (22.2); P<0.05<br><br>Patients readmitted (%):<br>• In 1 month after discharge: 8.3 vs. 11.9; P < 0.05<br>• In 3 months: 16.7 vs. 22.5; P < 0.05<br>• In 6 months: 25.6 vs. 30.7; n.s.<br><br>Patients readmitted (%):<br>• In 6 months after discharge: 22 vs. 46.7; P < 0.01<br><br>Patients readmitted [n (%)]:<br>• In 3 month after discharge: 22 (28) vs. 32 (38); n.s.<br>• In 12 months: 41 (51) vs. 46 (55); n.s.<br><br>Patients with x readmissions in 12 months after discharge (%): | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | • 0 readmissions: 54 vs. 54<br>• 1 readmission: 29 vs. 26<br>• 2 readmissions: 8 vs. 14<br>• 3 readmissions: 4 vs. 4<br>• 4+ readmissions 5 vs. 2 ns.<br><br>Patients readmitted [n (%)]:<br>• 1st readmission in 1–10th day: 18 (12.6) vs. 9 (6.3); n.s.<br>• 1st readmission in 11–30th day: 12 (8.4) vs. 9 (6.3); n.s.<br>• 1st readmission in 31–90th day: 14 (9.8) vs. 15 (10.6); n.s.<br><br>Readmissions (n):<br>• In 6 months after discharge: 234 vs. 178; RR = 1.30 (1.07–1.58); P < 0.01 (against the intervention)<br><br>Patients readmitted [n (%)]:<br>• In 6 weeks: 4 (14) vs. 9 (38); P < 0.01<br>• In 12 weeks: 9 (31) vs. 14 (40); P < 0.05<br>Readmissions (n):<br>• In 6 months after discharge: 49 vs. 107; P < 0.001<br>Patients readmitted [n (%)]:<br>• In 3 months after discharge: 64 (39.0) vs. 69 | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | (39.2); n.s.<br>• In 6 months: 38 (27.9) vs. 43 (28.4); n.s.<br><br>Patients readmitted [n (%)]:<br>• In 12 months after discharge: 43 (30.7) vs. 43 (30.9) vs. 45 (31.9); n.s.<br><br>Patients readmitted [n (%)]:<br>• In 4 weeks after discharge: 27 (11.6) vs. 18 (9.3); n.s.<br><br>Patients readmitted [n (%)]:<br>• In 3 months after discharge: 105 (23) vs. 102 (23); n.s.<br>• In 18 months: 176 (52) vs. 173 (56); P < 0.05<br><br>Readmissions per patient [media (SD)]:<br>• In 3 months: 0.26 (0.56) vs. 0.28 (0.66); n.s.<br>• In 6 months: 0.44 (0.85) vs. 0.41 (0.79); n.s.<br>• In 12 months: 0.98 (1.45) vs. 0.81 (1.12); n.s.<br><br>• Narrative findings<br>In-hospital Geriatric Assessment and Discharge Management<br>In three (out of 17 studies) in-hospital treatment | |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | studies the intervention produced statistically significant differences to the control group in terms of reduced readmissions. In one of these it was only partial and depended on the time period measured. A negative effect was observed in one in-patient study and the remaining 13 did not show any intervention effect on hospital readmissions.<br>Geriatric Assessment with Home Follow Up<br>The effectiveness of home follow-up interventions was demonstrated in seven clinical trials (out of 15), two of them only partially depending on the follow up period, while in one study a negative effect on readmission rate was described. The remainder of the studies did not show any effect of the intervention on readmissions.<br>Among the studies reporting positive effects, a comprehensive geriatric assessment followed by home care provided by a hospital-based multidisciplinary outreach team was evaluated. This study showed that patients in the intervention group had a lower rate of hospital readmissions during the first 30 days, together with a lower rate of emergency admissions and a longer time to the first emergency admission.<br>Interventions that incorporate geriatric management supported with home care post discharge, more likely to reduce or prevent hospital readmissions in elderly patients. The services are complex requiring a high degree of collaboration and communication |  |

| Research Aims | Population | Findings | Summary of Quality |
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| | | between patients, caregivers, geriatricians, general practitioners, social community services and other agents. Specific features of the interventions are patient education on specific issues, close follow-up, home monitoring, adjustment of medication and regular communication with clinical experts. Therapeutic success in many instances rests more on effective patient targeting than on setting, intensity or duration of the interventions. | |

Naylor MD, Aiken LH, Kurtzman ET et al. (2011) The importance of transitional care in achieving health reform. Health Affairs 30: 746–54

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Systematic Review<br>Study aim<br>• To identify and synthesize available evidence regarding transitional care for adult, chronically ill populations. To recommend strategies to guide the implementation of transitional care under the Affordable Care Act.<br>Service outcomes<br>• Risk of hospital re-admission<br>Source of funding<br>• Voluntary/Charity<br>Robert Wood Johnson Foundation | Participants<br>• Adults<br>Country<br>• Not reported<br>Interventions<br>• The twenty-one interventions varied considerably in terms of their nature, point of initiation, intensity, and duration. The largest group could be characterized as comprehensive discharge planning and follow-up | • Costs<br>Resource Use Data: The majority of these studies presented findings from economic analyses. However, the measures varied and typically did not incorporate additional costs of the intervention. If such costs were reported, often they did not include all relevant health services costs (for example, outpatient, home, and specialty care). Only two studies accounted for costs of hospital readmissions, emergency department visits, unscheduled physician visits, visiting nurses and other health care personnel, and intervention costs. These two studies estimated a mean total cost savings of nearly $3,000 per Medicare beneficiary at six months and $5,000 at twelve months, | Internal validity<br>• -<br>External validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
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|  | with (four studies) or without (three studies) home visits. The remainder dealt with disease or case management (four studies), coaching (two studies), education or psychoeducation (two studies), peer support (two studies), telehealth facilitation (one study), mobile crisis (one study), postdischarge geriatric assessment (one study), or intensive primary care (one study). Fourteen of the twenty-one interventions were initiated in advance of patients' hospital discharges, although the time was specified in only six studies (range: within 24 hours of admission to 24 hours prior to discharge). Twelve interventions included at least one postdischarge home visit as part of the protocol, and three studies incorporated in-person contact but not in patients' homes (for example, during physician office or clinic visits). | respectively.<br>• Narrative findings<br>Studies of nine interventions demonstrated a positive effect on at least one measure of readmission; eight of the nine reduced all cause readmissions through at least thirty days after discharge. Among these nine interventions, the average length of the post-discharge portion was six and a half weeks. However, three more effective interventions, which demonstrated reductions in readmissions through six or twelve months, averaged more than nine weeks post-discharge in length.<br>All nine interventions that showed any positive impact on readmissions relied on nurses as the clinical leader or manager of care.<br>Six of the nine studies that demonstrated a positive effect on at least one measure of readmissions included in-person home visits. Two types of multi-component interventions have proved more effective in reducing all-cause readmissions: comprehensive discharge planning with follow-up interventions that incorporate patient and caregiver goal setting, individualized care planning, educational and behavioural strategies, and clinical management; and a telehealth-facilitated intervention emphasizing daily home videophone or telephone monitoring and transmission of |  |

| Research Aims | Population | Findings | Summary of Quality |
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| | . | physiologic measurements, self-care instruction, and symptom management.<br>Each of the three studies that effectively reduced readmissions through at least six or twelve months after discharge included a focus on patient self-management. | |

Sadowski LS, Kee RA, VanderWeele TJ et al. (2009) Effect of a housing and case management program on emergency department visits and hospitalizations among chronically ill homeless adults: A randomized trial. JAMA: Journal of the American Medical Association 301: 1771–8

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Randomised Control Trial<br>Study aim<br>• To assess the effectiveness of a case management and housing program in reducing use of urgent medical services among homeless adults with chronic medical illnesses.<br>Source of funding<br>•Voluntary/Charity<br>The trial was funded by The Michael Reese health trust, The AIDS foundation of Chicago, and the Polk Bros | Participants<br>• Adults<br>Country<br>• US<br>Post-discharge Intervention<br>• Housing offered as transitional housing after hospitalization discharge, followed by placement in long-term housing; case management offered onsite at primary study sites, transitional housing, and stable housing sites | Findings<br>• Effect sizes<br>Unadjusted outcomes at 18 months.<br>Hospitalizations: Mean (25th, 50th, 75th percentiles)<br>Intervention 2.9 (0,1,3)<br>Usual care 3.6 (0,2,5)<br>Mean difference (95% CI) −0.7 (−1.8 to 0.3)<br>12 month annualized −0.5 (−1.2 to 0.2) P = 0.16.<br>Hospital days: mean (25th, 50th, 75th percentiles)<br>Intervention 13.1 (0,6,16)<br>Usual care 17.2 (0,7.5,24)<br>Mean difference (95% CI) −4.1 (−8.4 to 0.3)<br>12 month annualized −2.7 (−5.6 to 0.2) P = 0.07<br>Emergency department visits: mean (25th, 50th, | Internal validity<br>• +<br>External validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
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| Foundations<br><br>Clinical outcomes<br>• Mortality<br>• Health related quality of life<br>Service outcomes<br>• Length of hospital stay<br>• Number of hospitalizations<br>• Total hospital days<br>• Emergency department visits | | 75th percentiles)<br>Intervention 3.9 (0,1,4)<br>Usual care 5.7(0,2,6).<br>Mean difference (95% CI) −1.7 (−3.5 to 0.04)<br>12 month annualized −1.2 (−2.4 to 0.03) P = 0.06.<br>Rate reduction of study outcomes in the intervention group compared to usual care, adjusting for baseline characteristics:<br>Hospitalisations rate reduction (95% CI) 29 (10 to 44) P = 0.005<br>Hospital days rate reduction (95% CI) 29 (8 to 45)<br>P = 0.01<br>Emergency department visits rate reduction (95% CI) 24 (3 to 40) P = 0.03.<br><br>Quality of life at 18 month interview (unadjusted): The mean physical functioning score was 53.6 (95% CI, 49.2 to 60.0) in the intervention group and 52.2 (95% CI,<br>46.9 to 57.4) in the usual care group; P=.68. The mean mental health score was 57.0 (95% CI, 52.8 to 61.3) in the intervention group and 54.0 (95% CI, 49.1 to 58.9) in the usual care group; P=.35.<br>There were no significant differences in mortality between groups. (Data not provided by authors).<br><br>• Narrative findings<br>Adjusted for baseline characteristics, the | |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | intervention groups had lower rates of hospitalisations, hospital days and emergency department visits. After adjusting for differential follow up, the rate reductions became 34% for hospitalisations P = 0.003, 42% for hospital days P = 0.001 and 18% emergency department visits P = 0.13 (N.S). On the basis of unadjusted data the authors comment that for every 100 homeless adults offered the intervention, the expected benefits over the year would be 49 fewer hospitalizations, 270 fewer hospital days and 116 fewer emergency department visits |  |

Schwarz KA, Mion LC, Hudock D et al. (2008) Telemonitoring of heart failure patients and their caregivers: a pilot randomized controlled trial. Progress in Cardiovascular Nursing 23: 18–26

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Pilot Randomised Control Trial<br>Study aim<br>• A pilot study to examine whether telemonitoring by an advanced practice nurse reduced subsequent hospital readmissions, emergency department visits, costs, and risk of hospital readmission for patients with heart failure (HF) | Participants<br>• Adults<br>Country<br>• US<br>Intervention<br>• Intervention group received Cardiocom EHM system (Cardiocom,LLC, Chanhassen, MN) at the first interview, and the | • Effect sizes<br>Days to Readmission<br>For those readmitted to the hospital, days to readmission were similar between the intervention and usual care group (40.6 ± 31.3; 41.2 ± 24.0, respectively; P = .96).<br>Quality of Life<br>For the entire sample, quality of life improved significantly from baseline to the 90day follow-up visit (t = 3.9; P<.0001). | Internal validity<br>• ++<br>External validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
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| Source of funding<br>• Government<br>Social care outcomes<br>• Social support: Modified Inventory of Socially Supportive Behaviors Scale (MISSB, measured at baseline only.)<br>Clinical outcomes<br>• Function: Activities of daily living (-measured at baseline only).<br>• Health related quality of life.<br>• Physical health (measured at baseline only).<br>• Depression: Center for Epidemiological Studies Depression Scale (CES-D, measured at baseline only.)<br>• Caregiver burden/distress 'Caregiver mastery' measured by Philadelphia Geriatric Center Caregiving Appraisal Scale (PGCCAS)<br>Service outcomes<br>• Risk of hospital re-admission<br>• Risk of unplanned admissions<br>• Community service use (not reported by authors). | nurse removed the equipment 90 days later, at the second interview. (p.20)<br>The RN data collector placed a weight scale in the participants' homes and connected via the telephone line to a computer system in the collaborating hospital. The data-receiving computer was positioned in an office on the telemetry unit of the study hospital. The EHM system was programmed to measure weight on a daily basis. The display on the device asked the participants to answer "yes" or "no" to questions about shortness of breath, cough, fatigue, swelling, chest discomfort, urination, exercise, dizziness, medication use, and sodium intake. The computer stored each patient's electronic health file and automatically displayed clinical variances when prescribed parameters exceeded predetermined ranges.<br>Variances included failure to call daily, changes in symptoms, and | At 90 days, intervention 27.4 + or − 21.7 SD and usual care 27.3 ± 21.6 SD (P = .98)<br>Depressive Symptoms<br>At 90 days, intervention 8.2 + or − 11.2 SD and usual care 6.6 ± 6.7 SD (P=.44)<br>Caregiver Mastery<br>At 90 days,<br>intervention 25.2 ± 3.8 SD and<br>usual care 25.8 ± 3.0 SD (P = .38)<br>Emergency department visits<br>Intervention 0.34 ± 0.6 SD and usual care 0.38 ± 0.5 SD (P= .73)<br>• Narrative findings<br>Hospital Readmissions, Emergency Department Visits, Costs of Care between Groups<br>There was no difference in hospital readmission between the intervention (n = 12) and usual care (n = 13) groups (x2 = 0.27; P= .60). Hospital charges alone did not differ significantly between intervention and usual care groups ($10,996.86 ± $29,230.05; $5,462.58 ± $9,825.00, respectively; P= .26).<br>In addition, out-of-pocket costs for medications, physician office visits, and laboratory testing were |  |

| Research Aims | Population | Findings | Summary of Quality |
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| | weight outside prescribed parameters. When participants had measurements outside of prescribed parameters, the monitoring nurse called the caregiver in the dyad to further assess the situation, provide education, and update the medication regimen. In addition, the APN notified the primary physician or cardiologist about the patient's status as needed. (p21) | similar between groups.<br>Depressive Symptoms, Days to Readmission, Quality of Life, Caregiver Mastery Between Groups<br>While differences existed between groups at baseline with regard to caregiver mastery, there were no differences between groups for any outcome at the 90-day follow-up visit.<br>Caregiver Mastery, Informal Social Support and Telemonitoring as Predictors of Reduced Hospital Admission<br>Cox proportional hazards regression modeling was used to identify independent predictors of risk for hospital readmission in days. Independent variables included caregiver mastery, informal social support, and telemonitoring (yes/ no). None of these predicted risk of hospital readmission. | |

Scott IA (2010) Preventing the rebound: Improving care transition in hospital discharge processes. Australian Health Review 34: 445–51

| Research Aims | Population | Findings | Summary of Quality |
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| Methodology<br>• Systematic Metareview of controlled trials.<br>Study aim<br>• To determine the relative efficacy of | Participants<br>• Adults<br>• Older People<br>Country<br>• Not reported (Authors are | Costs<br>• Resource use data. In the first study of its type, involving 363 patients aged 65 years and above, Naylor and colleagues described a program comprising specialist nurse-led assessment, discharge planning, and patient-carer education; written care plans and medication lists; discharge | Internal validity<br>• ++<br>External validity<br>• + |

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| peridischarge interventions categorised into two groups:<br>(1) single component interventions (sole or predominant) implemented either before or after discharge; and<br>(2) integrated multi-component interventions which have pre- and post-discharge elements.<br><br>Source of funding<br>•Not reported<br>Service outcomes<br>• Risk of hospital re-admission | Australian)<br><br>Interventions<br>• Single component Interventions: Intense self-management, transition coaching of high-risk patients, nurse home visits, and telephone support of patients with heart failure<br>Multi-component Interventions: Early assessment of discharge needs, enhanced patient (and caregiver) education and counselling, and early post-discharge follow-up of high-risk patients. | summaries; coordination of post-discharge services; and home visits (at 24h and 7–10 days) with telephonic follow-up. At 6 months, readmissions were significantly reduced from 37 to 20% ($P < 0.001$) with a reduction in total care costs of US$600,000.<br><br>• Effect sizes<br>Single component Interventions<br>Educational interventions and self-management approaches<br>A randomised trial involving 750 elderly patients compared transition coaching, self management tuition in medication use, personal health record, timely follow-up with GPs and specialists, and knowledge of complications and how to respond with usual care. This resulted in lower readmission rates, which were non-significant at 30 days (8 v. 12%; $P = 0.05$) but significant at 90 days (17 v. 23%; $P = 0.04$).<br>Similarly, in a review of 6 trials involving 857 patients with heart failure, self-management teaching resulted in significant decreases in both all-cause readmission rates (41% decrease; $P = 0.001$) and heart failure-related readmissions (56% decrease; $P = 0.001$).<br>Post Discharge home visits or telephonic follow-up<br>Two trials involving 334 patients with chronic lung disease failed to show any impact of nurse home | |

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| | | visits on readmissions, in contrast to two trials involving 878 patients with cardiac disease that demonstrated a significant (P < 0.05) one-third decrease in readmissions.<br>In a Cochrane review of 33 studies involving 5110 patients, telephone calls initiated by hospital staff to patients shortly after discharge failed to reduce readmissions. In contrast, the use of sophisticated telephonic support that included tele-monitoring in patients with chronic heart failure reduced readmissions by 21% overall in a recent review of 14 trials involving 4264 patients.<br>Multi-component Interventions<br>Naylor and colleagues described a program comprising specialist nurse-led assessment, discharge planning, and patient–carer education; written care plans and medication lists; discharge summaries; coordination of post-discharge services; and home visits (at 24 h and 7–10 days) with telephonic follow-up. At 6 months, readmissions were significantly reduced from 37 to 20% (P < 0.001).<br>In a meta-analysis of 18 trials involving 3304 older patients (mean age ≥ 70 years) with heart failure, the same multi-component intervention used by Naylor et al. supplemented by early clinic follow-up and enhanced communication between providers, led to a significant reduction in readmissions from 43 to 35% (P = 0.001). | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | Similar results were noted in more recent trials evaluating comprehensive discharge planning and immediate outpatient reinforcement in heart-failure patients.<br>Another trial evaluated a re-engineered hospital discharge program which centred on a nurse advocate who closely liaised with patients and carers during hospital stay, arranged follow-up appointments, undertook medication reconciliation, conducted patient education with an individualised instruction booklet (that was also sent to their primary care provider), and provided a written discharge plan combined with a telephone call from a clinical pharmacist 2–4 days after discharge to reinforce the discharge plan and review medications. This resulted in a significant 30% decrease in hospital utilisation (ED visits and readmissions) at 30 days after discharge (P = 0.009), with a non-significant trend towards lower readmissions (28% decrease, P = 0.09).<br>An Australian trial evaluated the effects of a comprehensive nursing and physiotherapy assessment, nurse-led education and self-management strategies, individualised program of exercise strategies, written guidelines for post-discharge care, arrangement of community services and social support, and nurse-conducted home visit and telephone follow-up commencing in hospital and continuing for 24 weeks after discharge. At 6 | |

| Research Aims | Population | Findings | Summary of Quality |
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| | | months this intervention within a cohort of 128 frail older patients resulted in significantly fewer readmissions (22 v. 47%; P = 0.007) and emergency visits to GPs (25 v. 67%; P < 0.001).<br>• Narrative findings<br>Intense self-management and transition coaching of patients at high risk of readmission, and the use of home visits or telephone support for patients with heart failure appear to be the only single-component strategies that demonstrated consistent evidence of efficacy in reducing readmissions.<br>The number of trials involving integrated multi-component strategies that span the pre-discharge–post-discharge continuum are limited in number but appear, in general, to show positive outcomes in reducing readmissions.<br>The evidence suggests that discharge processes are effective in reducing readmissions if they include the following components:<br>Early and complete assessment of discharge needs and medication reconciliation.<br>Enhanced patient (and care-giver) education and counselling specifically focussed on gaining an understanding of the patient’s condition and its self-management.<br>Timely and complete communication of management plan between clinicians at discharge | |

| Research Aims | Population | Findings | Summary of Quality |
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|  |  | when patient care is transferred from hospital staff to primary care teams.<br>Early post-acute follow-up within 24–72 h for high-risk patients with either doctor or nurse.<br>Early post-discharge nurse (or pharmacist) phone calls or home visits to confirm understanding of management and follow-up plans in high-risk patients.<br>Appropriate referral for home care and community support services when needed. |  |

Shepperd S, Lannin NA, Clemson LM et al. (2013) Discharge planning from hospital to home. Cochrane Database of Systematic Reviews issue 4: CD000313

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Systematic review<br><br>Study aim<br>• To determine the effectiveness of planning the discharge of patients from hospital to home.<br><br>Source of funding<br>• Government<br>NHS R&D Anglia and Oxford contributed | Participants<br>• All patients in hospital (acute, rehabilitation or community) irrespective<br><br>Country<br>• Ten of the trials included in this review were based in the USA, five in the UK, three in Canada, two in France, one in Australia, one in Denmark, one in the | Costs<br>• Resource use data: Does discharge planning reduce overall costs of health care? One study (Jack 2009) showed that the difference between study groups in total cost (combining actual hospital utilisation cost and estimated outpatient cost) for 738 participants was $149,995, an average of $412 per person who received the intervention; this represents a 33.9% lower observed cost for the intervention group. In Legrain (2011) the cost savings balanced against the cost of the intervention were reported to be 519 euros per | Overall assessment of internal validity<br>• ++<br>Overall assessment of external validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| to the funding for the original review in 1995, and an NIHR Evidence Synthesis Award and an NIHR Cochrane Programme Grant for funding the previous and current update of this review<br>Clinical outcomes<br>• Health related quality of life<br>• Mortality<br>Satisfaction<br>• Satisfaction with care<br>• Caregiver satisfaction<br>Service outcomes<br>• Length of hospital stay<br>• Risk of hospital re-admission | Netherlands and one in Taipei.<br>Participants<br>• All patients in hospital (acute, rehabilitation or community) irrespectiveof age, gender or condition.<br>Intervention<br>• We defined discharge planning as the development of an individualised discharge plan for a patient prior to them leaving hospital for home. Where possible the process of discharge planning is divided according to the following steps: a) Pre-admission assessment (where possible). b) Case finding on admission. c) Inpatient assessment and preparation of a discharge plan based on individual patient needs, for example a multidisciplinary assessment involving the patient and their family and communication between relevant professionals within the hospital | participant.<br>• Effect sizes<br>Readmission rates<br>For elderly patients with a medical condition there was a statistically significant reduction in unplanned readmission rates within three months of discharge (RR 0.82, 95% CI 0.73 to 0.92; 12 trials, total of 3327 participants).<br>Mortality<br>For elderly patients with a medical condition there was no statistically significant difference between groups for mortality (RR 0.99, 95% CI 0.78 to 1.25, five trials)<br>*All data below is from studies which are pre-2003*<br>One trial, recruiting a mix of patients, reported a statistically significant decrease in readmissions for those receiving discharge planning (difference −11%, 95% CI −17% to −4%) at four weeks follow up, but not at nine months follow up (difference significant decrease in readmissions for those receiving discharge planning −6%, 95% CI −12.5% to 0.84%; P > 0.08).<br>One trial reported a significant reduction in readmission days for patients allocated to discharge planning (mean difference −33 days at two to six weeks follow up, 95% CI −53 to −13) (Naylor 1994); however, this difference was not detected at longer- | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | term follow up. These findings were not replicated in another trial measuring readmission days at one year follow up (difference +2 days, P > 0.05) (Hendriksen 1990).<br>No significant reduction in readmission rates (difference +3%, 95% CI −7% to 13%) or days in hospital due to readmission (difference +26 days, 95% CI −8 to +60 at six to 12 weeks) was reported for patients recovering from surgery (Naylor 1994).<br>Effect of discharge planning on patient health outcomes compared to usual care: One trial, recruiting patients with heart failure, reported a significant improvement on the total score for the Chronic Heart Failure Questionnaire (mean difference 22.1 (20.8); P < 0.01) (Rich 1995). Another trial, recruiting patients recovering from a stroke, reported a statistically significant functional improvement between weeks four and 12 for those allocated to the control group, who received conventional multidisciplinary care, on the Barthel score (median within-group change of 6 points for the control group versus 2 points for the treatment group P < 0.01).<br>• Narrative findings<br>It was not possible to pool all of the data owing to the different outcomes which were reported. However, it was possible to pool data from the trials recruiting older patients with a medical condition |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | and the results showed a reduction in readmission rates within 3 months and a reduction in length of hospital stay for those allocated to discharge planning. There is some evidence to suggest that patients receiving discharge planning experience increased levels of satisfaction with their hospital and discharge care (Moher 1992; Weinberger 1996; Laramee 2003) | |

## Critical Appraisal Tables

## Tables reporting impact studies

## Review area 6 Support for carers and families

## Questions 11a and 11b

**How should services work with families and unpaid carers of adults with social care needs during transition from inpatient hospital settings to community or care home settings?**

**How should services work with families and unpaid carers of adults with social care needs during admission to inpatient hospital settings from community or care home settings?**

Bakas T, Farran CJ, Austin JK et al. (2009) Stroke caregiver outcomes from the telephone assessment and skill-building kit (TASK). Top Stroke Rehabilitation 2: 105–21

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Yes<br>Adequate concealment of allocation?<br>• Unclear<br>Comparable groups at baseline?<br>• Yes<br>Selection bias appraisal<br>• Low risk of bias<br>Did both groups receive equal treatment (aside from the intervention)?<br>• Yes. Experimental condition compared to alternative intervention rather than usual care. Both groups received a brochure form the ASA, phone calls, intervention group received tailored phone call responses and workbook and tip sheet, control got active listening and paraphrasing phone calls (no further advice given). There was a significant difference in time spent on the telephone between the groups. These differences are statistically controlled for to account for differences in dose-response effects<br>Were the participants receiving care kept 'blind' to how the intervention was allocated?<br>• Yes<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• No | Did the study use a precise definition of outcome?<br>• Yes. Validated scales<br>Was the method used to determine the outcome valid and reliable?<br>• Yes<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Unclear<br>Were investigators kept 'blind' to other important confounding factors?<br>• Unclear<br>Detection bias appraisal<br>• Unclear/unknown risk of bias<br>Do conclusions match findings?<br>• Partly | Is the setting similar to the UK?<br>• No<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Internal validity<br>• ++<br>External validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Performance bias appraisal<br>• Low risk of bias<br>Follow-up<br>• Yes. 4, 8 and 12 weeks<br>Drop-out numbers<br>• Intervention drop-outs: 1<br>• Comparison drop-outs: 2<br>Groups comparable on intervention completion?<br>• Unclear<br>Groups comparable on available data?<br>• Unclear | | | |

Forster A, Dickerson J, Young J et al. (2013) A cluster randomised controlled trial and economic evaluation of a structured training programme for caregivers of inpatients after stroke: the TRACS trial. Health Technology Assessment 17 (46)

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Is the study clear in what it seeks to do?<br>• Clear<br>Appropriate randomisation?<br>• Yes. Cluster randomised<br>Adequate concealment of allocation?<br>• Yes<br>Comparable groups at baseline?<br>• Yes<br>Selection bias appraisal<br>• Low risk of bias<br>Was selection bias present?<br>• Low risk of bias<br>Did both groups receive equal treatment (aside from the intervention)?<br>• Yes<br>Treatment as usual for the control condition<br>Allocation - participants<br>• Yes<br>Allocation - practitioners<br>• Yes<br>Performance bias appraisal<br>• Low risk of bias<br>Follow-up | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Yes<br>Were investigators kept 'blind' to other important confounding factors?<br>• Yes<br>Detection bias appraisal<br>• Low risk of bias<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Yes<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• No<br>Are the outcomes relevant?<br>• Yes | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Yes<br>At 6 and 12 months<br>Drop-out numbers<br>• Intervention drop-outs<br>Not clear, but additional recruitment of centres was undertaken to increase the statistical power<br>Groups comparable on intervention completion?<br>• Yes<br>Groups comparable on available data?<br>• Yes<br>Attrition bias appraisal<br>• Unclear/unknown risk of bias | | | |

Forster A, Dickerson J, Young J et al. (2013) A cluster randomised controlled trial and economic evaluation of a structured training programme for caregivers of inpatients after stroke: the TRACS trial. Health Technology Assessment 17 (46)

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Is the study clear in what it seeks to do?<br>• Clear<br>Appropriate randomisation?<br>• Yes. Cluster randomised<br>Adequate concealment of allocation?<br>• Yes<br>Comparable groups at baseline?<br>• Yes<br>Selection bias appraisal<br>• Low risk of bias<br>Was selection bias present?<br>• Low risk of bias<br>Did both groups receive equal treatment (aside from the intervention)?<br>• Yes<br>Treatment as usual for the control condition<br>Allocation - participants<br>• Yes<br>Allocation - practitioners<br>• Yes<br>Performance bias appraisal<br>• Low risk of bias<br>Follow-up | Did the study use a precise definition of outcome?<br>• Yes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• Yes<br>Were investigators kept 'blind' to other important confounding factors?<br>• Yes<br>Detection bias appraisal<br>• Low risk of bias<br>Do conclusions match findings?<br>• Yes | Is the setting similar to the UK?<br>• Yes<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented?<br>• No<br>Are the outcomes relevant?<br>• Yes | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Yes<br>At 6 and 12 months<br>Drop-out numbers<br>• Intervention drop-outs<br>Not clear, but additional recruitment of centres was undertaken to increase the statistical power<br>Groups comparable on intervention completion?<br>• Yes<br>Groups comparable on available data?<br>• Yes<br>Attrition bias appraisal<br>• Unclear/unknown risk of bias | | | |

Kalra L, Evans A, Perez I et al. (2004) Training care givers of stroke patients: Randomised controlled trial. British Medical Journal 328: 1099–101

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Appropriate randomisation?<br>• Yes. Block randomisation; each block included 10 subjects<br>Adequate concealment of allocation?<br>• Yes<br>Comparable groups at baseline?<br>• Yes. Baseline characteristics were similar between patients randomised to caregiver training and control groups. | Did the study use a precise definition of outcome?<br>• Yes. Robust, well validated, and objective outcomes<br>Was the method used to determine the outcome valid and reliable?<br>• Yes. Those collecting data were not involved with allocation, interventions, or patients' care. As well as using objective outcome | Is the setting similar to the UK?<br>• Yes<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented? | Internal validity<br>• ++<br>External validity<br>• ++ |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Selection bias appraisal<br>• Low risk of bias<br>Did both groups receive equal treatment (aside from the intervention)?<br>• Yes. All patients were managed on a stroke rehabilitation unit with established multidisciplinary practice and received conventional care in accordance with existing guidelines.<br>Were the participants receiving care kept 'blind' to how the intervention was allocated?<br>• Unclear<br>Were individuals who administered the care and support kept 'blind' to the intervention allocation?<br>• Unclear<br>Performance bias appraisal<br>• Low risk of bias<br>Follow-up<br>• Yes. Both groups were followed up at 3 months and one year.<br>Drop-out numbers<br>• Intervention drop-outs: at 12 months: 17 deaths<br>• Comparison drop-outs: at 12 months: 16 deaths<br>Groups comparable on intervention completion?<br>• Yes. Sensitivity analyses for different assumptions of carer burden and quality of life outcomes showed a relatively small effect on median caregiver burden and EuroQol scores, but the difference between the training and non-training groups remained significant.<br>Missing outcome data<br>• Intervention missing outcome data: | measures, self-completion of various subjective assessments was encouraged.<br>Were investigators kept 'blind' to participants' exposure to the intervention?<br>• N/A. It's not possible to blind observers fully because interactions during assessment with patients or caregivers, who are aware of the training received, may disclose allocation. However, steps were taken to minimise bias.<br>Were investigators kept 'blind' to other important confounding factors?<br>• Yes<br>Detection bias appraisal<br>• Low risk of bias<br>Do conclusions match findings?<br>• Yes | • Yes<br>Are the outcomes relevant?<br>• Yes | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| At 12 months (out of 151)<br>Missing data Patient Caregiver<br>Frenchay activities index 0 1<br>Hospital anxiety and depression scale 13 10<br>EuroQol 22 22<br>Caregiver burden scale 0 11<br>• Comparison missing outcome data:<br>At 12 months, missing data (out of 149):<br>Missing data Patient Caregiver<br>Frenchay activities index 1 1<br>Hospital anxiety and depression scale 13 6<br>EuroQol 22 14<br>Caregiver burden scale 0 6<br>Groups comparable on available data?<br>• Yes<br>Attrition bias appraisal<br>• Unclear/unknown risk of bias | | | |

## Study Findings Tables

## Tables reporting impact studies

## Review area 6 Support for carers and families

## Questions 11a and 11b

**How should services work with families and unpaid carers of adults with social care needs during transition from inpatient hospital settings to community or care home settings?**

**How should services work with families and unpaid carers of adults with social care needs during admission to inpatient hospital settings from community or care home settings?**

Bakas T, Farran CJ, Austin JK et al. (2009) Stroke caregiver outcomes from the telephone assessment and skill-building kit (TASK). Top Stroke Rehabilitation 2: 105–21

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br><br>Study aim<br>• The Telephone Assessment and Skill-Building Kit (TASK) is an 8-week program that addresses caregiver needs. This study explored the efficacy of the TASK program in improving stroke caregiver outcomes. The conceptual model for the study was derived from Lazarus's transactional theory of stress.<br><br>Clinical outcomes<br>• Physical health<br>General health perceptions = SF-36 Health Survey General Health Subscale.<br>• Depression | Number of participants<br>• Comparison group = 24<br>• Intervention group = 26<br>• Total = 50 caregivers<br><br>Country<br>• USA<br><br>Intervention<br>• Telephone Assessment and Skill-Building Kit (TASK) vs. attention control group. TASK - written tip sheets were developed for each of the 32 items in the Caregiver Needs and Concerns Checklist (CNCC) addressing 5 areas of skill building needs: a) finding information about stroke b)managing survivor emotions c) providing physical care d)providing instrumental care e)dealing with personal responses to providing care In addition 5 | • Effect sizes<br>Caregiver general health perceptions = Non significant differences at 4, 8 and 12 weeks.<br>Caregiver depressive symptoms = moderate but not significant decreases in depressive symptoms reported at 4 weeks.<br>F(1,36) = 3.35, p = 0.08, n2 = 0.09. Findings were not significantly different at 8 and 12 weeks.<br>Perceived difficulty with tasks = significant decreases in task difficulties<br>at 4 weeks F(1,36) = 5.30, P=0.03, n2 =0.13 findings were not significantly different at 8 and 12 weeks.<br>Threat appraisal. There were no significant improvements in threat appraisal at 4 weeks, however threat appraisal improved at 8 weeks F(1,36) = 5.67, P = 0.02 n2 = 0.14, and 12 weeks F(1,36) = 8.50 P = 0.01 n2 = 0.19.<br>Caregiver life changes = no significant differences.<br>Significant increases in caregiver optimism at 4 weeks F(1,36) = 5.95, P = 0.02, N2 = .14<br>at 8 weeks F(1,36) = 6.13, P = 0.02, n2 = 0.15<br>at 12 weeks F(1,36) = 6.40, P = 0.02, n2 = 0.15<br>Stroke survivor impairment = small insignificant differences<br><br>• Narrative findings<br>The TASK programme was hypothesized to improve stroke caregiver outcomes based on the Lararus conceptual model.<br>The Task Intervention was found to be most efficacious at improving | Internal validity<br>• ++<br>External validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Caregiver depressive symptoms - The Patient Health Questionnaire Depression Scale (PHQ-9)<br>• Caregiver burden/distress (perceived difficulty with tasks, threat appraisal, caregiver life changes, caregiver optimism).<br>Satisfaction<br>• Caregiver satisfaction<br>• Stroke survivor impairment measured by the Stroke Specific Quality of Life Scale Proxy (SSQOL-Pr) quality of life from the perspective of the caregiver. | process tip sheets were provided on screening for strengthening existing skills, depressive symptoms, maintaining realistic expectations, problem solving, and communicating with health professionals. The attention control group received a brochure on family caregiving and 8 weekly calls from the nurse. During calls, the nurse only provided active listening and paraphrasing, they provided no advice or information to the caregivers other than telling them to contact their health care provider or to contact the ASA for additional materials. | caregiver optimism. Caregiver optimism was negatively correlated with threat appraisal and depressive symptoms.<br>These findings suggest that interventions designed to enhance optimism through stress management techniques might have the potential to reduce threat appraisal and decrease caregiver depressive symptoms.<br>The TASK program was efficacious in reducing caregiver threat appraisal at 8 and 12 weeks. Although not statistically significant in this small sample, it revealed a medium effect size in decreasing depressive symptoms at 4 weeks.<br>The TASK intervention was efficacious at reducing task difficulties at 4 weeks relative to the control group.<br>Caregiver needs were met earlier in the intervention groups than in the control group when needs are greatest. | |

Forster A, Dickerson J, Young J et al. (2013) A cluster randomised controlled trial and economic evaluation of a structured training programme for caregivers of inpatients after stroke: the TRACS trial. Health Technology Assessment 17 (46)

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br><br>Study aim<br>• To evaluate whether or not a structured, competency-based training programme for caregivers [the London Stroke Carer Training Course (LSCTC) See Kalra 2004)] improved physical and psychological outcomes for patients and their caregivers after disabling stroke, and to determine if such a training programme is cost-effective.<br>Source of funding<br>• Government<br>HTA<br>Clinical outcomes<br>• Function<br>Nottingham Extended | Participants<br>• 930 patients and their caregivers<br>Sample characteristics<br>• Sex<br>5967 (47.7%) male<br>• Ethnicity<br>The majority of patients were white (11,628; 92.9%)<br>• Sample age<br>The mean age of screened patients was 74.4 (SD 13.39) years<br>• Level of need<br>Average length of hospital stay was 27.9 (SD 33.07) days<br>• Socioeconomic position<br>Retired:<br>INT 311 (69.1)<br>CTL 337 (70.5)<br>Working full time (≥30 hours per week)<br>INT 80 (17.8)<br>CTL 77 (16.1)<br>Working part time (<30 hours per week) | Qualitative outcomes<br>• What can be improved<br>Process: Preparatory cascade training on delivery of the LSCTC did not reach all staff and did not lead to multidisciplinary team (MDT) wide understanding of, engagement with or commitment to the LSCTC. Caregivers were often invited to observe therapy or care being provided by professionals but had few opportunities to make sense of, or to develop knowledge and stroke-specific skills provided by the LSCTC. Where provided, caregiver training came very late in the inpatient stay. Assessment and development of caregiver competence was not commonly observed. While much written information had been provided, it was repetitive, generic and not focused on their individual needs. Service improvement pressures and staff perceptions of the necessity for and work required in caregiver training impacted negatively on implementation of the caregiver training intervention. Structured caregiver training programmes such as the LSCTC are unlikely to be practical in settings with short inpatient stays as training often came late in the inpatient stay.<br><br>• Qualitative Data<br>Training and support are subject to change over time. Therefore, training limited to inpatient or community settings alone may not address needs arising at differing time points.<br>Some caregivers wanted more training, although a small number resisted specific skills training where it conflicted with established kinship roles.<br>Despite preparing intervention unit staff through workshops and cascade training, TRACS could not replicate the motivation, commitment and control over delivery of LSCTC evident in the Kalra et al. 2004 study where | Internal validity<br>• ++<br>External validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Activities of Daily Living (NEADL) scale -ADLs (Barthel Index) health state (EQ-5D) SIS physical domain<br>• Depression<br>• Caregiver burden/distress Caregiver Burden Scale | INT 18 (4.0)<br>CTL 21 (4.4)<br>Unable to work (for medical and other reasons)<br>INT 17 (3.8)<br>CTL 16 (3.3)<br>• Other<br>4922 (39.3%) patients lived alone(49.8%) patients co-habited 691 (5.5%) were nursing or residential care home residents. The caregiver resided with 5015 (40.1%) patients. In most cases, the caregiver was the patient's family member: partner in 5047 (40.3%) and offspring in 3587 (28.7%) cases.<br>Geographical region, n (%)<br>North West<br>INT 6 (33.3) CTL 6 (33.3)<br>London and the South East<br>INT 4 (22.2) CTL 4 (22.2)<br>South West Peninsula INT 3 (16.7) CTL 3 (16.7)<br>Yorkshire INT 5 (27.8) CTL 5 (27.8) | the same staff were responsible for delivery and where intervention fidelity was assured.<br>Wherever caregiver training is provided, more consideration needs to be given to processes of skills training and competency assessment which are not simple matters of demonstration and repetition.<br>• Effect Sizes<br>Patient Outcomes at six months<br>Nottingham Extended Activities of Daily Living (NEADL) scale: adjusted mean score in intervention 27.4, in control 27.6, difference −0.2 points, 95% confidence interval (CI) −3.0 to 2.5 points; P-value = 0.866; adjusted intracluster correlation coefficient (ICC)=0.027.<br>Health state (EQ-5D): adjusted mean score in intervention 0.441, in control 0.443, difference −0.002 points; 95% CI -0.048 to 0.045 points P-value=0.946; adjusted ICC = 0.<br>SIS physical domain: adjusted mean score in intervention 52.7, in control 52.0, difference 0.7 points (95% CI −2.3 to 3.7 points; P-value = 0.641; adjusted ICC = 0.001).<br>Anxiety (HADS): adjusted mean score in intervention 6.7, in control 6.6, difference 0.1 points (95% CI −0.5 to 0.7 points; P-value = 0.629, adjusted ICC=0.<br>Depression (HADS): adjusted mean score in intervention 7.3, in control 7.2, difference 0.1 points (95% CI −0.5 to 0.7 points; P-value = 0.759; adjusted ICC = 0.<br>ADLs (Barthel Index): adjusted mean score in intervention 14.2, in control 14.1, difference 0.1 points (95% CI −0.6 to 0.7 points; P-value = 0.825; adjusted ICC=0.<br>At 12 months, no differences between patient groups were found in | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | Country<br>• UK<br>Intervention<br>• London Stroke Carer Training Course (the LSCTC), a training programme for caregivers, which included training on knowledge and skills essential for the day-to-day care of disabled stroke survivors. The LSCTC was delivered to caregivers while the patient was an inpatient in the SRU, A key component of the LSCTC was the requirement for the multidisciplinary team (MDT) to check the caregiver's competency on each of the training components delivered and to 'sign off' the competency as achieved. Training would continue until the caregiver was deemed competent (or until it was agreed by the MDT that the caregiver was unable to become competent). This permitted the level of | extended ADLs (NEADL), anxiety (HADS), depression (HADS), ADLs (Barthel Index), health state (EQ-5D) or SIS physical domain.<br>NEADL scale: Adjusted mean score in intervention 29.6, in control 29.1, difference 0.5 points, 95% CI -2.2 to 3.2 points; P-value = 0.696; adjusted ICC 0.015).<br>EQ-5D: Adjusted mean score in intervention 0.487; in control 0.458; difference points 0.028; 95% CI -0.022; P-value 0.252; adjusted ICC 0.006.<br>SIS physical domain: Adjusted mean score in intervention 54.5; in control 52.0; difference points 2.4; 95% CI -0.8 to 5.6; P-value 0.121; adjusted ICC 0.<br>Anxiety (HADS): Adjusted mean score in intervention 6.4; in control 6.6; difference points -0.2; 95% CI -0.9 to 0.3; P-value 0.355; adjusted ICC 0.<br>Depression (HADS): Adjusted mean score in intervention 6.9; in control 7.3; difference points -0.4; 95% CI -1.1 to 0.3; P-value 0.191; adjusted ICC 0.014.<br>ADLs (Barthel Index): Adjusted mean score in intervention 14.6; in control 14.4; difference points 0.2; 95% CI -0.5 to 0.8; P-value 0.595; adjusted ICC 0. |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | training to be both individualised to the caregiver and standardised across the SRUs.<br>• Postdischarge Interventions<br>Intervention included one recommended ‘follow through’ session provided in person or by telephone after hospital discharge. | Caregiver outcomes at six months<br>Caregiver Burden Scale (CBS): Adjusted total mean score in intervention 45.5, in control 45.0, difference 0.5 points, (95% CI -1.7 to 2.7 points; P-value = 0.660; adjusted ICC 0.013.<br>Comparison of caregiver self-reported outcomes at 6 months detected no differences between the groups in Anxiety (HADS): adjusted mean score in intervention 7.0, in control 7.5, difference −0.5 points, (95% CI −1.2 to 0.1 points; P-value = 0.084; adjusted ICC = 0.016)<br>Depression (HADS): adjusted mean score in intervention 5.2, in control 5.5, difference −0.3 points, 95% (CI −0.9 to 0.3 points; P-value = 0.308;adjusted ICC = 0.013<br>Social restriction (FAI): adjusted mean score in intervention 31.4, in control 32.2, difference −0.8 points (95% CI −1.82 to 0.26 points; P-value = 0.136; adjusted ICC = 0.<br>Health state (EQ-5D): adjusted mean score in intervention 0.777, in control 0.790, difference −0.014 points; P-value = 0.358; adjusted ICC = 0.<br>At 12 months there were no differences between groups in caregiver burden (CBS), anxiety (HADS), depression (HADS), social restriction (FAI) or health state (EQ-5D).<br>Caregiver Burden Scale (CBS): Adjusted mean score in intervention 44.8; in control 43.8; difference points 1.0; 95% CI -1.6 to 3.6; P-value 0.435; adjusted ICC 0.032.<br>Anxiety (HADS): Adjusted mean score in intervention 6.9; in control 7.0; difference points -0.1; 95% CI -0.9 to 0.5; P-value 0.636; adjusted ICC 0.024. |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | Depression (HADS): Adjusted mean score in intervention 5.2; in control 5.2; difference points -0.0; 95% CI -0.6 to 0.5; P-value 0.889; adjusted ICC 0.<br>Social restriction (FAI): Adjusted mean score in intervention 31.9; in control 32.6; difference points -0.7; 95% CI -1.7 to 0.4; P-value 0.217; adjusted ICC 0.<br>Health state (EQ-5D): Adjusted mean score in intervention 0.806; in control 0.787; difference points 0.019; 95% CI -0.013 to 0.050; P-value 0.240; adjusted ICC 0.<br>• Experiences described<br>“You think ‘it’s not real this, is it? It’s a dream, isn’t it, we haven’t woken up from it yet’, this isn’t really happening to us, is it?” [Caregiver, control unit A]<br>• Narrative Findings<br>It is possible that the immediate post-stroke period may not be the ideal time for the delivery of structured training. The intervention approach might be more relevant if delivered after discharge by community-based teams.<br>Thus, overall there is no evidence that the LSCTC improves patients' physical or psychological outcomes following stroke at 6 and 12 months, and there is no evidence that it reduces caregivers' burden or improves their physical or psychological outcomes. Some caregivers reported that visiting time should be for conversation and not for learning how to care for their relative. Willingness to participate in training was partly influenced by |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | pre-existing relationships between patients and caregivers and partly by perceptions of social obligations. Risk management concerns also strongly influenced content and timing of caregiver training. Therapists frequently stated it was important to delay training until patients' likely functional recovery potential was known and caregiver skills required postdischarge could be determined- for this reason training was often delayed until late in inpatient stay. | |

Kalra L, Evans A, Perez I et al. (2004) Training care givers of stroke patients: Randomised controlled trial. British Medical Journal 328: 1099–101

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Randomised Control Trial<br>Study aim<br>• To evaluate the effectiveness of training care givers in reducing burden of stroke in patients and their care givers<br>Source of funding<br>• Government<br>NHS R&D Executive's Primary Secondary | Participants<br>• Adults<br>• Sample size<br>Intervention = 151 carer/patient dyads<br>Control = 149 carer/patient dyads<br>Total = 300 carer/patient dyads<br>Sample characteristics<br>• Sample age<br>Median age 76 in both groups | • Narrative findings<br>Training care givers during patients' rehabilitation reduced costs and caregiver burden while improving psychosocial outcomes in care givers and patients at one year.<br>There were no significant differences in mortality, institutionalisation, or functional abilities between the training and control group. Patients whose care givers had received training reported significantly improved quality of life and mood outcomes, both at three and at 12 months. Burden of care was reduced significantly and quality of life and mood in care givers improved significantly at three and 12 months.<br>Caregiver training was associated with significant cost reductions over one | Internal validity<br>• ++<br>External validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Interface Priority Programme<br>Clinical outcomes<br>• Function<br>(Caregiver and patient)<br>Barthel index, Frenchay activities index<br>• Health related quality of life:<br>EuroQol visual analogue scale<br>• Depression<br>Hospital anxiety and depression score<br>• Mortality<br>At one year<br>• Caregiver burden/distress | • Level of need<br>Environment and support (No of patients)<br>Intervention Control<br>Social services:<br>6/151 8/149<br>Main caregiver (spouse):<br>98/151 97/149<br>Additional family support:<br>143/151 142/149<br>• Socioeconomic Position<br>Intervention Control<br>Home owner:<br>116/151 122/149<br>Country<br>• UK<br>• Pre-discharge Interventions<br>Caregivers allocated to caregiver training received: - Instruction by appropriate professionals on common stroke related problems and their prevention, | year (£10,133 (SD £8,676) v £13,794 (SD £10 510); P = 0.001), mainly because of lower hospital costs (£8,987 (SD £7,368) v £12 383 (SD £9,104)).<br>• Effect sizes<br>Health outcomes for patients included in the study.<br>Outcome Training (n = 151) No training (n = 149) P-value<br>Mortality:<br>3 months 9 9 0.98<br>12 months 16 16 0.88<br>Institutionalisation:<br>3 months 4 9 0.076<br>12 months 2 6 0.071<br>Mortality or institutionalisation:<br>3 months 13 18 0.21<br>12 months 18 22 0.38<br>Modified Rankin score 0-2:<br>3 months 80 63 0.054<br>12 months 100 87 0.18<br>Barthel index >18:<br>3 months 77 52 0.007<br>12 months 93 75 0.074 | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | management of pressure areas and prevention of bed sores, continence, nutrition, positioning, gait facilitation, and advice on benefits and local services - “Hands-on” training in lifting and handling techniques, facilitation of mobility and transfers, continence, assistance with personal activities of daily living and communication, tailored to the needs of individual patients. Care givers received three to five sessions depending on need; each session lasted 30-45 minutes. In addition the hospital team conducted a “follow through” session at home to adapt skills learnt to the home environment. | Median Frenchay activities index at 1 year<br>(interquartile range) 15 (9–23) 16 (8–22)<br>Median hospital and anxiety and depression score at 1 year (interquartile range)<br>Anxiety 3 (2–4) 4.5 (4–6) 0.0001<br>Depression 3 (2–4) 4 (2–5.5) 0.0001<br>Median score on EuroQol visual analogue scale (interquartile range):<br>3 months 60 (42–70) 50 (40–90) 0.019<br>1 year 65 (55–80) 60 (41–80) 0.009<br>Outcomes for care givers<br>Outcome Training (n = 151) No training (n = 149) P-value<br>Caregiver burden scale:<br>3 months 43 (36–54) 51 (41–62) 0.0001<br>12 months 32 (27–41) 41 (36–50) 0.0001<br>Median Frenchay activities index at 1 year (interquartile range)<br>27 (23–30) 26 (24–30) 0.43<br>Median hospital anxiety and depression score at 1 year |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | (interquartile range)<br>Anxiety 3 (2–4) 4 (3–6) 0.0001<br>Depression 2 (1–3) 3 (2–5) 0.0001<br><br>Median EuroQol visual analogue score (interquartile range):<br>3 months 80 (71–90) 70 (60–80) 0.0001<br>1 year 80 (70–90) 70 (60–80) 0.0001 |  |

## Critical Appraisal Tables

## Tables reporting view studies

## Review area 6 Support for carers and families

### Question 11a and 11b

**How should services work with families and unpaid carers of adults with social care needs during transition from inpatient hospital settings to community or care home settings?**

**How should services work with families and unpaid carers of adults with social care needs during admission to inpatient hospital settings from community or care home settings?**

**And views questions 1-4 and question 10 relating to support for carers.**

**Armes P, Addington-Hall JM (2003) Perspectives on symptom control in patients receiving community palliative care. Palliative Medicine 17: 608–15**

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Somewhat appropriate<br>A qualitative case study approach was adopted in order to elucidate the complex nature of the decision-making process.<br>Is the study clear in what it seeks to do?<br>• Clear. It states that its aims are: to explore the influence of informal carers on symptom control and vice versa to explore the reasons why patients receiving a specialist palliative care service were admitted for inpatient care.<br>Study approved by ethics committee?<br>• Yes. Local Research Ethics Committee approval was granted for both interview and observation parts of the study.<br>Is the role of the researcher clearly | How defensible/rigorous is the research design/methodology?<br>• Somewhat defensible<br>The unit of interest was the informal carers and health care providers of 10 systematically selected patients who died between mid-January and mid-February 1998. Patient selection was stratified by place of death and district in which care took place, in recognition that differences may have occurred as a result of these two factors. Therefore, one patient who died at home and one who died in the SPCS inpatient unit were systematically selected for each of the five districts.<br>How well was the data collection carried out?<br>• Somewhat appropriately<br>The views of informal carers and health care providers were obtained through semi-structured individual or group audiotape-recorded interviews, according to individual preference.<br>Is the context clearly described?<br>• Unclear.<br>It is not clear where the interviews took place. Interviews took place both in groups and individually depending on individual preference. Carers were interviewed 6 months after the death of their relatives. Service providers were approached 6 weeks after the death of the selected patient.<br>Was the sampling carried out in an appropriate way?<br>• Somewhat appropriate.<br>4 cases lacked any information from their informal carer, and several GPs were reluctant to participate. Without a complete dataset it's not possible to ascertain whether those who refused to participate did so on | Are the findings convincing?<br>• Somewhat convincing<br>Are the conclusions adequate?<br>• Somewhat adequate.<br>Clear referencing of cases and the role of the people whose data is presented. Extracts from original data are included. | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• A bit relevant |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| described?<br>• Clearly described.<br>The researcher appears to be a non-health professional and undertook a 2 week period observing homecare meetings and visits in order to understand context. | the grounds that they were unhappy with the care that their relative received.<br>Were the methods reliable?<br>• Somewhat reliable<br>Just one method of data collection. Not all stated aims are reported, although it is unclear whether they were investigated or not.<br>Are the data 'rich'?<br>• Poor. Some of the issues surrounding symptom control and management are discussed across a few perspectives. However, there is no information on admission (as stated in the aims). The carers are said to be asked the question: were there any gaps in the care/services that may have enabled the person to stay at home? However, no answers to this question are presented.<br>Is the analysis reliable?<br>• Somewhat reliable. The number of researcher(s) which coded and transcribed data is not stated. Results presented are based on the between case analysis. | | |

Bakas T, Farran C, Austin JK et al. (2009) Content validity and satisfaction with a stroke caregiver intervention program. Journal of Nursing Scholarship 41: 368–75

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Mixed Methods<br>Are the sources of qualitative data relevant to address the research | Is the mixed-methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed-methods question?<br>• Partly. The views are not compared to the satisfaction survey. Quotes | Is the setting similar to the UK?<br>• No | Internal validity<br>• + |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| question?<br>• Partly. Only selected, representative quotes were used.<br>Is the process for analysing qualitative data relevant to address the research question?<br>• Unclear. Only selected quotes were used.<br>Is appropriate consideration given to how findings relate to the context in which the data were collected?<br>• Yes. Authors list limitations to generalisability owing to small sample size.<br>Is appropriate consideration given to how findings relate to researchers' influence; for example, though their interactions with participants?<br>• Unclear<br>Are participants recruited in a way that minimises selection bias?<br>• Yes<br>Are measurements appropriate regarding the exposure/intervention and outcomes? | are cherry-picked to illustrate what is said in the satisfaction survey. It's not clear how representative they are, or if any views were expressed that diverged from the findings of the survey.<br>Is the integration of qualitative and quantitative data relevant to address the research question?<br>• Partly. There are two parts to the study, practitioner views on content validity and participant satisfaction.<br>Is appropriate consideration given to the limitations associated with this integration, such as the divergence of qualitative and quantitative data (or results)?<br>• Partly. No comparison is made between the quantitative data and the qualitative. it is not known if there is any divergence | Is there a clear focus on adults with social care needs?<br>• Yes<br>Is the intervention clearly related to Transitions from hospital to home<br>• Yes<br>Are the outcomes relevant?<br>• Yes | Overall assessment of external validity<br>• ++ |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| • Yes<br>In the groups being compared are the participants comparable, or do researchers take into account the difference between these groups?<br>• Partly<br>Are there complete outcome data (80% or above), and, when applicable, an acceptable response rate (60% or above)?<br>• Yes | | | |

Cobley C, Fisher  R, Chouliara N et al. (2012) A qualitative study exploring patients' and carers' experiences of Early Supported Discharge services after stroke. Clinical Rehabilitation 27: 750–7

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Appropriate<br>Is the study clear in what it seeks to do?<br>• Mixed.  Authors also interviewed (or recruited) patients and carers who were not receiving Early | How defensible/rigorous is the research design/methodology?<br>• Defensible<br>How well was the data collection carried out?<br>• Appropriately. Topic guided open ended interviews of 30-45 minutes<br>Is the context clearly described?<br>• Clear<br>Was the sampling carried out in an appropriate way?<br>• Appropriate<br>Were the methods reliable? | Are the findings convincing?<br>• Convincing<br>Are the conclusions adequate?<br>• Adequate | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| supported discharge, but there is no comparison made between the groups in the paper.<br>Study approved by ethics committee?<br>• Not stated<br>Is the role of the researcher clearly described?<br>• Unclear<br>How clear and coherent is the reporting of ethics?<br>• Not stated | • Reliable<br>Are the data 'rich'?<br>• Rich. Voices of different participants are quoted to illustrate each theme<br>Is the analysis reliable?<br>• Reliable. More than one research coding for themes | | the Transitions guidance<br>• Somewhat relevant |

Pearson P, Procter S, Wilcockson J et al. (2004) The process of hospital discharge for medical patients: a model. Journal of Advanced Nursing 46: 496–505

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Is a qualitative approach appropriate?<br>• Somewhat appropriate<br>Is the study clear in what it seeks to do?<br>• Clear<br>Study approved by ethics | How defensible/rigorous is the research design/methodology?<br>• Defensible.<br>2nd phase of a study which reports the qualitative findings on decision-making processes and outcomes related to discharge. A model is outlined which draws together the analysis of the qualitative data and indicates some key areas for change in considering patient discharge.<br>How well was the data collection carried out?<br>• Somewhat appropriately. Interviews were themed and unstructured. Patient and carer interviews are described as 'unfocused', and 'not to | Are the findings convincing?<br>• Somewhat convincing.<br>Data is clearly presented, however the sequence which led to building the proposed model is | As far as can be ascertained from the paper, how well was the study conducted?<br>• + |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| committee?<br>• Yes. Ethical approval for the study was granted by all three Local Research Ethics Committees.<br>Is the role of the researcher clearly described?<br>• Unclear. A team of researchers are alluded to, but with little information given on their roles. | present a coherent picture of events'. In contrast professional staff interviews were very brief and more factual. The majority of patient/ carer interviews were tape recorded and transcribed. Staff interviews were conducted by telephone and were not tape recorded.<br>Is the context clearly described?<br>• Unclear.<br>The three hospitals where the samples were sourced are described; they were selected on account of having divergent discharge arrangements. Researchers' roles are not described. Interviews with professionals took place over the phone, but no information on location or time period of other interviews.<br>Was the sampling carried out in an appropriate way?<br>• Appropriate.<br>Sampling was purposive. All patients were from 3 of the selected study sites and were at risk of unsuccessful discharge as quantified by stage 1 of the study.<br>Were the methods reliable?<br>• Somewhat reliable. Only one method of data collection.<br>Are the data 'rich'?<br>• Mixed<br>Is the analysis reliable?<br>• Somewhat reliable. One researcher initially coded the transcripts. Then each member of the wider research team worked through a sample of raw transcripts to establish validity of the coding system being developed. The analytic process was thematic and researchers ensured the inclusion of every case in the development of the final model. | less clear.<br>Are the conclusions adequate?<br>• Somewhat adequate. Conclusions are logical progression of qualitative data, yet not necessarily easy to implement, or clearly defined. | Relevance to the Transitions guidance<br>• Somewhat relevant |

## Study Findings Tables

## Tables reporting view studies

## Review area 6 Support for carers and families

### Questions 11a and 11b

**How should services work with families and unpaid carers of adults with social care needs during transition from inpatient hospital settings to community or care home settings?**

**How should services work with families and unpaid carers of adults with social care needs during admission to inpatient hospital settings from community or care home settings?**

**And views questions 1-4 and question 10 relating to support for carers.**

Armes P, Addington-Hall JM (2003) Perspectives on symptom control in patients receiving community palliative care. Palliative Medicine 17: 608–15

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study<br><br>Study aim<br>• To explore the reasons why people were admitted to a specialist palliative care service in South London, and in particular the interactions between them and their influence on how decisions were made. To report on assessment and management of symptoms in the community and the role that informal carers play.<br><br>Source of funding<br>• Not reported | Participants<br>• Adults<br>•Practitioners<br>• Carers/family members<br>Sample size<br>•52 interviews were conducted, in which 47 people took part:<br>Carers (n=6); GPs (n=3); District nurses (n=9); Homecare nurses (n=10); Inpatient nurses (n=9); Palliative care Doctors (n=7) ; Palliative care social workers (n=2)<br><br>Country<br>• UK | What can be improved<br>Symptom Assessment<br>Problems were more likely to occur when patients, carers and professionals had different interpretations of the meaning of certain symptoms: "So what you were getting was very much from [his carer] and it's quite hard to deal with some of the symptoms on the end of someone else's perception. If he's in awful pain you must come. But that might not necessarily mean the same thing as it did for him." (p.610).<br>This seemed to be particularly pertinent in the latter stages of life, as one of the district nurses pointed out, when not knowing what a symptom might mean can be related to carer's lack of understanding about what are 'normal' symptoms when a person is dying:<br>"The symptoms, they don't recognize these symptoms as normal symptoms when it comes down to it. They don't really understand how events are going to go and, obviously, that needs to be talked through with them. . . . So people understand these symptoms are normal. And this is what you do and it's . . . you know. Like a lot of his wife's anxieties were to do with symptoms that were quite normal for somebody who is going to die in the next week or two." (p.611)<br>In the case of E2 the carer recognized that E2 'did get a bit agitated.' She said, "But I didn't realize that he was going to be unconscious, or semi-unconscious [as a result of being sedated]' (E2Carer). One of the reasons why the carer found this difficult was, she explained, because 'I didn't expect it. I didn't know that he was going to die on the **** morning. I'm aware that everyone else knew: the nurses all knew" (p.611). This was important information for the carer, as she wanted to be with E2 as he was | As far as can be ascertained from the paper, how well was the study conducted?<br>• +<br>Relevance to the Transitions guidance<br>• A bit relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | dying.<br>Monitoring a symptom not only requires that carers are aware of what to report but also that they are able to decide when to report it. This seemed to cause some difficulty for patients and carers:<br>"[The carer] said that it was so hard to know when to encourage him to take his painkillers and when to phone up for advice. C2 never wants to make a fuss so C2's [carer] often feels that she doesn't know what to do."(p.611)<br>The issue of the sense of responsibility that fulfilling this role can induce in patients and carers is a pertinent one, as it can be anxiety provoking for them.<br>• Experiences described<br>Symptom Management<br>One of the participants felt that cultural issues also affect how symptoms are managed:<br>'She was a [middle eastern] woman, and there were huge issues of contact around the role of women in the family, anyway, and the right of women to make decisions for themselves, even in that as her body was being eaten by cancer. And her eldest son would say things to us like ''Don't worry about the pain, she will tolerate the pain''. And they didn't like the use of morphine very much. And that was quite an issue on the ward around how one deals with those very difficult conflicts, which are cultural ones. Where it is our patient who we have to care for but a relative who clearly has very strong views . . .' (p.612)<br>'She said ''I think she ought to have a whotsname on a pump.'' Well I don't like anything like that really… because I always think that once they start pumping stuff into them, they lose their senses and then they can't communicate with you.' (p.613) | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | 'But I don't know what degree of agitation merits that terrible sedation, I don't know.' (p.613).<br>Sedation as a management technique for confusion and agitation may be less acceptable to carers than to health professionals and so may need to be discussed in detail with carers if it is to be adopted.<br>• Narrative findings<br>Health professionals involved in providing palliative care in a community setting reported that they relied on carers' assessments of the patients' condition and used these as cues for action. There were times when health professionals were not provided with accurate and reliable information and this often resulted in crisis management.<br>Knowing what to monitor, how to interpret the signs and when to inform a health professional were all issues of concern for carers as they recognized that these were important for the achievement of symptom control at home. This would seem to suggest that more information and education needs to be given to carers if they are to fulfil this role successfully. Carers' perceptions and interpretations seemed to be influenced by the patients' and carers personality and coping style, the relationship between the patient and the carer, attitudes/beliefs and cultural factors. The onus, therefore, is on health professionals to take such factors into account when making assessments of, and suggestions for, the management of symptoms. |  |

Bakas T, Farran CJ, Austin JK et al. (2009) Content validity and satisfaction with a stroke caregiver intervention program. Journal of Nursing Scholarship 41: 368–75

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Mixed methods<br>Study aim<br>• The purpose of this article is to describe the content validity and satisfaction relative to the Telephone Assessment and Skill-Building (TASK) an 8 week programme based on individualized assessment of stroke caregiver needs<br>Source of funding<br>• Government<br>National Institute for Nursing Research, the Center for Enhancing Quality of Life in Chronic Illness, The Indiana School of Nursing<br>Outcomes<br>• Caregiver satisfaction (likert scales 1 = strongly disagree, 5 = strongly agree) | Participants<br>• 50 caregivers<br>Country<br>• USA<br>• Intervention<br>Telephone Assessment and Skill-Building Kit (TASK) vs. attention control group. TASK - written tip sheets were developed for each of the 32 items in the Caregiver Needs and Concerns Checklist (CNCC) addressing 5 areas of skill building needs. a) finding information about stroke, b)managing survivor emotions c) providing physical care, d)providing instrumental care e)dealing with personal responses to providing care | Qualitative outcomes<br>• What works well<br>Authors report selected, representative views.<br>A male adult caregiver said: "I'd never been in this situation before and I had absolutely no clue of what to do or how to go about anything, so I think the information that you provided was just what I needed." (p.372)<br>An adult child caregiver said:<br>"I was kind of down in the dumps and that [tip sheet on depression] helped me a lot... I want to thank you for entering me into the program because honestly, I cried a bunch on those nurse's shoulder and I really appreciate it." (p.372)<br>"[The TASK program] opened my eyes up, made my mind up, showed I had to take care of me, I was neglecting myself. I think I'm beginning to take care of myself now." (p.372) Female spouse caregiver.<br>"When you called me I didn't realize I needed help because I was superwoman and I was going to do it if it killed me…and it almost killed me... What I like about it is that you not only deal with the issues of the person with the stroke but you also deal with the health issues and things of the carer"." (p.372) Female adult caregiver.<br>Comments from the attention control group: most of the caregivers in the attention control group said that the program helped them (17 out of 19; 89%).<br>“"It was just a real comfort to me to have that call and for somebody to just | Internal validity<br>• +<br>Overall assessment of external validity<br>• ++ |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | listen to what I was going through...this has helped me, it really has"." (p.373) Female spouse caregiver.<br>• Narrative findings<br>In this study, an intervention aimed at caregivers of stroke survivors demonstrated evidence of content validity and user satisfaction. | |

Cobley C, Fisher R, Chouliara N et al. (2012) ESD Services: Patient and carer experiences and perspectives. Clinical rehabilitation 27: 750–7

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study<br>Study aim<br>• The aim of the study was to fill the gap in patient and carer's perceptions for Early supported discharge (for stroke patients) during the early post-discharge phase in the UK and informing future Early supported discharge service development and provision | Country<br>• UK<br>Intervention<br>• Early Supported Discharge<br>Participants<br>• Adults<br>Sample characteristics<br>• Sex<br>n = 13 (87%) carers were women<br>• Sample age<br>Mean age of patients after stroke 69.85 +/- 13.42, mean age of carers 72.79 +/- 10<br>Sample size<br>• 27 stroke patients and 15 | • What works well<br>Time Not Being a Carer<br>Respite time for the carer emerged as a significant and prominent theme carers reported that the therapeutic sessions between the patient and the Early supported discharge team enabled them to engage in their own activities.<br>"I could get on with the little jobs that wanted doing, or I could just put my feet up and have a rest, so it made life a darn sight easier for me." (Carer, p.753)<br>Speed Of Response<br>The majority of patients reported feeling positively surprised with the seamless transition between hospital and home.<br>The intensity of therapy was well received. The consistency and regularity of visits provided a sense of security during such a life changing transitional period: "It was fantastic because every day I got at least two nurses or helpers to come..so you feel more secure then." (p.753)<br>Satisfaction with Provision and Delivery of Equipment | As far as can be ascertained from the paper, how well was the study conducted?<br>• ++<br>Relevance to the Transitions guidance<br>• Somewhat relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | informal carers (all spouses) | There was a general consensus that the equipment provided was useful and delivered in a timely manner.<br>• What can be improved<br>One participant reported having to wait several days for the Early Supported Discharge team to make their initial visit - "It was a few days of me coming out of hospital. I was left without any help at all from the Thursday to the Monday. I sort of had to fend for myself…I wished it could have started earlier than it did." (Patient, p.753)<br>Satisfaction With Provision and Delivery of Equipment<br>1 person found the equipment unsuitable and 1 person was disappointed in being promised aids that never materialized.<br>Need To Improve Provision and Delivery of Information<br>In several interviews, both patients (15 of 26) and carers (10 of 14) expressed their concerns about their limited understanding of stroke and its causes, secondary preventative measures, and lifestyle changes: ‘I wouldn’t have a clue what was normal, what wasn’t normal ... who to ask for help and advice. I mean the internet’s okay, but it only takes it so far. Sometimes you need a person to put it into terms that you understand. Because it’s stressful when you don’t know what’s going on’ (Patient, p.754)<br>• Experiences described<br>Disjointed Transition Between Early Supported Discharge and Future Services<br>Some patients felt that the six-week cut off from Early supported discharge was 'abrupt' and not 'continuous enough'.<br>Limited Support in Dealing With Carer Strain | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | Carers are left exhausted and physically strained.<br>"I'm tired; I've lost such a lot of weight; it's very demanding" (Carer, p.754).<br>Most carers described a reduction in time for leisure and social activities that in turn limited their opportunities for much needed social support: "since he's come home I've not really gone out very much. Normally I would just go out and do whatever, but I haven't been able to do that since he's come home from hospital" (Carer, p.754).<br>Carers had to adapt to a new relationship with the stroke survivor. "I think my wife's become more the carer than my wife, and she shouldn't be" (Patient, p.754).<br>Many respondents indicated that they were thrown into the caring role without receiving enough support from the community stroke teams.<br>"I'm very disappointed that they didn't offer to help me, because obviously he would have had to go into a home or somewhere if I wasn't doing it. So I mean, I'm saving them a lot of money and time" (Carer, p.754).<br>Lack Of Education and Training of Carers<br>Several (12 out of 15) carers reported being poorly informed regarding the extent of support available after discharge.<br>"I don't think they told me anything. I was just left out in the cold...I didn't have a clue what was going on"(Carer, p.754).<br>The training of carers in how best to physically support the patient was described as inadequate. "I wasn't shown the best way to support him...it was all trial and error" (Carer, p.754).<br>Carers also described their difficulties in dealing with the emotional and psychological needs "His depression...I just don't know what to do. I can't cope because I don't know what to do to stop it. When he's continuously crying, it can be really wearing because you're helpless" (Carer, p.754). | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | Both patients and carers spoke of the difficulties they had encountered in accessing information concerning welfare benefits, carer allowance, statutory and informal support: “I thought it’d be good to talk about if you were entitled to any benefits because I’ve never been on the sick ever. I didn’t understand any of it, we had to figure it out for ourselves” (Patient, p.755).<br>Many participants felt that the information was delivered in an inappropriate format: “It would have been nice to have somebody sit down with me and say this is what’s happened, this is why it’s happened, this is what you can expect. Okay, so it is there in the leaflets but you just kind of flick through the leaflets” (Carer, p.755).<br>• Narrative findings<br>Accelerated hospital discharge and home-based rehabilitation were perceived positively and results stress the importance of exploring methods to address the information and support needs of service users. Findings also emphasize the need for current services to monitor their impact on carers and patients using standardized outcome measures. A greater understanding of the barriers to the smooth transfer of care between Early Supported Discharge and other services is also required.<br>Carers reported feeling isolated, neglected, and excluded from the decision and discharge planning process.<br>Both patients and carers spoke of role changes and the impact of these changes on family and social relationships. Carers evidently require increased emotional support and may benefit from goal setting targeted towards their own specific needs.<br>Authors argue the need for support and training for carers in skills essential for the day to day management of the stroke patient. Whether carer needs should be addressed by Early Supported Discharge or other |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | community-based services remains to be investigated. It is argued that the ethos of Early Supported Discharge needs to consider shifting from a patient-focused approach to a combined patient and caregiver-focused approach.<br><br>• Qualitative data<br>Early supported discharge specific themes:<br>Satisfaction with rehabilitation exercises; Home as a better arena for rehabilitation.; Time not being a carer.; Speed of response.; Intensity of therapy.; Satisfaction with provision and delivery of equipment.; Disjointed transition between Early Supported Discharge and future services.<br>Common themes in both cohorts of interviews--<br>Limited support in dealing with carer strain; Lack of education and training of carers; Inadequate provision and delivery of information. | |

Pearson P, Procter S, Wilcockson J et al. (2004) The process of hospital discharge for medical patients: a model. Journal of Advanced Nursing 46: 496–505

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Qualitative study<br><br>Study aim<br>• To track decisions about hospital discharge in relation to outcomes for a sample of medical patients and their carers, | Participants<br>• Adults<br>• Practitioners<br>• Carers/family members<br><br>Sample characteristics<br>• Sample age<br>Range from 18 to 89, majority in 70s. | • Narrative findings<br>The findings from this study reinforce the need for active involvement of patients and carers in discharge planning. The model proposes a shift to an emancipatory focus (as opposed to the dominant, traditional focus on curative medicine). An emancipatory approach requires a realistic appraisal of the strengths and limitations of care systems in addressing the complex needs of patients.<br>Intervening factors such as an exacerbation of chronic disease, withdrawal of some resource, or the experience of additional stressors – not | As far as can be ascertained from the paper, how well was the study conducted?<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| identified as at risk of experiencing unsuccessful discharge processes.<br>Source of funding<br>• Government<br>NHSE Primary/Secondary Interface Programme | • Level of need<br>All patients included in the study were at risk of unsuccessful discharge (defined as unplanned readmission within 6 months of discharge, or delayed discharge).<br>• Sample size<br>30 medical patients and nominated carers; Hospital Doctors 26; Hospital Nurses 26; Physiotherapists 18; Occupational Therapists 7; Dieticians 4; General Practitioners 25; District Nurses 9; Social Workers 4; Day Care Officer 1; Home Help 1<br>Country<br>• UK | necessarily health-related – can cause the patient or main carer or both to seek a way out (for e.g. respite care, symptom control) and this may result in hospital admission.<br>A model for planning the admission and discharge of these patients should focus on negotiation of quality of life, resources, and capacities that seek to promote health for all parties, rather than the current functional focus on symptom management.<br>Patients<br>The analysis of patient interviews fell into three main themes: responses to illness, role performance and levels of available resource.<br>Loss of identity, or fear of its loss, was an issue for 14 patients, and 10 commented that their illness prevented them from fulfilling previous roles.<br>Carers<br>Carers perceived themselves as forming a ‘barrier’ in assessing patients’ needs: if they were ‘there’, then they could cope. For example, one carer said that although she had a job and a young family, hospital staff increasingly assumed that she would take on support for her mother when she was discharged. Another described a feeling of being ‘taken for granted’ in her attempts to initiate a move into sheltered housing for her parent.<br>Carers also described the process of juggling their own needs, their family’s needs and those of the patient. There was constant pressure to prioritise, with carers seeking to find a balance between different demands and drawing on what resources they could find. They identified a great deal of anxiety in caring, which was made worse by lack of information and by the perceived contradictory behaviour of professionals.<br>Several carers felt unsupported in their role, increasing their anxiety, and | Relevance to the Transitions guidance<br>• Somewhat relevant |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | some experienced financial constraints adding to anxiety. They also highlighted the inadequacy of the environment in which patients were expected to recuperate after hospitalization – a setting which they saw as purposeful, compared with the isolation of the environment to which they were discharged.<br>The evidence suggests that in day-to-day life, patients and carers negotiate their social roles, seeking to juggle socially-appropriate identities and limited resources to maintain their own and each others' dignity and to secure an acceptable quality of life. Each undertakes this negotiation from a position defined by their knowledge and experience – of the illness, and available resources.<br>Hospital staff<br>Nurses described preparation for discharge was mainly in terms of ordering drugs and arranging transport. Letters to GPs were mentioned by 10 nurses and information to relatives by seven. Four nurses mentioned some consideration of the patient's home circumstances.<br>Community Staff<br>GPs described 'picking up the pieces' following discharge. In two cases the patient did not appear to be fit for discharge when sent home. Communication was often poor and GPs receive inadequate discharge notes<br>• Qualitative data<br>Patients<br>Maintaining Identity and Role Performance<br>For many patients the opportunity to sustain their previous values and identity while maintaining an appropriate social role was an important component of their ability to manage their health problem(s) successfully. |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | The loss of social roles was mourned:<br>Did you used to cook? (Interviewer)<br>Yes. (Patient B2)<br>He makes lovely Yorkshire puddings and gravy and makes a lovely dinner. (Daughter B2)<br>Not now. (Patient B2)<br>There's no way he could cook for himself now. (Daughter B2)<br>Whilst I'm of no help to J, at least I'm company to her.(Patient A2) (p.500)<br>Hospital Staff<br>Although in nine cases nurses picked out information about the patient's situation which indicated a high level of understanding, some indicated their problems in achieving this:<br>"Because we are short-staffed we can only have a basic knowledge about each patient, and I suppose this kind of defeats the object of primary nursing"(p502).<br>Community Staff<br>Communication was often poor between hospitals and GPs, as the following extract indicates:<br>"The hospital hadn't told him [GP] the diagnosis of the patient, GP didn't know whether the patient had a benign tumour or a malignancy. The relative had been told to ask the GP to fill out a form…GP said he received only a short discharge letter, he didn't know which hospital it came from, he didn't know what ward number and he said that he had asked for something more detailed and that he had rung up and weeks gone by and he's received nothing. The patient's been out of hospital for six weeks to two months and with so little information, yet he's expected to fill out this form." (Transcript notes GP about Patient C10 (p.502)) | |

## Critical Appraisal Tables

## Tables reporting impact studies

## Review area 7 The Impact of Training

## Question 12

## What is the impact of training to support transitions between inpatient hospital settings and community or care home settings?

Eskildsen MA, Chakkalakal R, Flacker JM et al. (2012) Use of a virtual classroom in training fourth-year medical students on care transitions. Journal of Hospital Medicine 7: 14–21

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Survey<br>References made to original work if existing tool used?<br>• Partly. Study used survey instruments that were developed in consultation with experts in transitions education but had not been previously validated. Questions on students' confidence were adapted from the questionnaire developed by Lai et al<br>Reliability and validity of new tool reported?<br>• Yes. Tools were not previously validated.<br>Clear description of context?<br>• Yes<br>Research design clearly specified and appropriate?<br>• Yes<br>Objectives of the study clearly stated?<br>• Yes. Questionnaire measuring the impact of the Emory Care Transitions Curriculum.<br>Are the measurements reliable?<br>• Partly. Pre and post-test questionnaires completed by students. A dichotomous, criteria-based system to rate students' discharge summaries and reports of post-discharge phone call.<br>Results presented clearly, objectively & in enough detail for readers to make personal judgements?<br>• Yes<br>Measurements reproducible?<br>• Yes<br>Measurements valid? | Representativeness of sample is described?<br>Partly. Medical students - no more info given about how they compare with other schools. Recipients of care described as varying across three different hospital sites. GMH - largely uninsured; AVAMC - more elderly patients; and EUH - more affluent. However, students rotating at AVAMC and EUH were comparatively too small to attempt to draw any conclusions about how rotation site affected student experiences.<br>Response rate calculation provided?<br>• All students responded<br>Difference between non-respondents and respondents described?<br>• N/A<br>Methods for handling missing data described?<br>• N/A<br>Statistics correctly performed and interpreted? | Is the setting similar to the UK?<br>• Unclear<br>Is there a clear focus on adults with social care needs?<br>• Unclear<br>Has a transition taken place or been prevented?<br>• Yes<br>Are the questions relevant?<br>• Yes | Internal validity<br>• +<br>Overall assessment of external validity<br>• - |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Unclear. Tools used were developed by experts in transitions education but were not subjected to validation<br>All subjects accounted for?<br>• Yes. All students who participated in the rotation were able to complete their surveys.<br>Describes what was measured, how it was measured and the outcomes?<br>• Yes<br>All appropriate outcomes considered?<br>• Yes<br>Ethical approval obtained?<br>• Unclear<br>Study large enough to achieve its objectives, sample size estimates performed?<br>• Unclear<br>Subject of study represents full spectrum of population of interest?<br>• Partly | • Yes<br>Clear description of data collection methods and analysis?<br>• Yes<br>Statistics correctly performed and interpreted?<br>• Yes<br>Methods appropriate for the data?<br>• Yes<br>Data suitable for analysis?<br>• Yes<br>Survey population and sample frame clearly described?<br>• Yes. 4th year medical students<br>Appropriate attempts made to establish 'reliability' and 'validity' of analysis?<br>• Yes<br>Results can be generalised?<br>• Partly. Caution should be applied as the study only focuses on one academic year’s intake of medical students in the US.<br>Limitations of the study stated?<br>• Yes<br>Results discussed in relation to existing knowledge on subject and study objectives? | | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
|  | • Yes<br>Basic data adequately described?<br>• Yes |  |  |

Lai CJ, Nye HE, Bookwalter T et al. (2008) Post-discharge follow-up visits for medical and pharmacy students on an inpatient medicine clerkship. Journal of hospital medicine: an official publication of the Society of Hospital Medicine 3: 20–27

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Survey<br>References made to original work if existing tool used?<br>• Yes. The researchers created an original survey, based on reviews of surveys used in home care and chronic illness, which are reported in two cited studies.<br>Reliability and validity of new tool reported?<br>• Yes -"the survey questions were not validated" (p26)<br>Clear description of context?<br>• Yes<br>Research design clearly specified and appropriate?<br>• Yes<br>Objectives of the study clearly stated?<br>• Yes<br>Measurements reliable?<br>• Yes<br>Results presented clearly, objectively & in enough detail for readers to make personal judgements? | All subjects accounted for?<br>• Yes<br>Describes what was measured, how it was measured and the outcomes?<br>• Yes<br>All appropriate outcomes considered?<br>• Yes<br>Ethical approval obtained?<br>• Yes. The Institutional Review Board of the University of California at San Francisco approved the study.<br>Study large enough to achieve it's objectives, sample size estimates performed?<br>• Unclear. Authors did not perform sample size estimates. | Is the setting similar to the UK?<br>• Yes<br>Is there a clear focus on adults with social care needs?<br>• No. They had a chronic illness, were 65+ and had been hospitalised at least once before.<br>Has a transition taken place or been prevented??<br>• Yes<br>Are the questions relevant?<br>• Yes<br>Overall assessment of | Internal validity<br>• +<br>Overall assessment of external validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| • Partly. Would have benefitted from presenting more qualitative data<br>Measurements reproducible?<br>• Yes<br>Measurements valid?<br>• Yes, although they had not been formally validated | Subject of study represents full spectrum of population of interest?<br>• Unclear. Although it can be assumed so because almost all the population was recruited.<br>Representativeness of sample is described?<br>• Partly. Proportions are given but characteristics are not.<br>Response rate calculation provided?<br>• Yes. For pre and post survey responses.<br>Difference between non-respondents and respondents described?<br>• No. Except that we know the response rates by medical versus pharmacy students<br>Methods for handling missing data described?<br>• No. There is no mention of action taken to handle missing data.<br>Statistics correctly performed and interpreted?<br>• Yes<br>Clear description of data collection methods and analysis?<br>• Yes. For both quantitative and | external validity<br>• + | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
|  | qualitative data.<br>Statistics correctly performed and interpreted?<br>• Yes<br>Methods appropriate for the data?<br>• Yes<br>Data suitable for analysis?<br>• Yes<br>Survey population and sample frame clearly described?<br>• Yes<br>Appropriate attempts made to establish 'reliability' and 'validity' of analysis?<br>• Partly. The authors attempted to clarify whether the effect was due to the curriculum or to other aspects of the rotation by asking students if the curriculum added to their learning beyond other clerkship experiences.<br>Results can be generalised?<br>• Partly. With the caveats cited by the authors (limited to one hospital site, patients selected by the students)<br>Limitations of the study stated?<br>• Yes<br>Results discussed in relation to |  |  |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| | existing knowledge on subject and study objectives?<br>• Yes<br>Basic data adequately described?<br>• Yes | | |

Ouchida K, LoFaso VM, Capello CF et al. (2009) Fast forward rounds: An effective method for teaching medical students to transition patients safely across care settings. Journal of the American Geriatrics Society 57: 910–17

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Methodology<br>• Survey. Pre-post survey assessments<br>References made to original work if existing tool used?<br>• No<br>Reliability and validity of new tool reported?<br>• No<br>Clear description of context?<br>• Yes<br>Research design clearly specified and appropriate?<br>• Yes<br>Objectives of the study clearly stated?<br>• Yes<br>Measurements reliable?<br>• Unclear<br>Results presented clearly, objectively & in enough detail for readers to make personal judgements?<br>• Yes | All subjects accounted for?<br>• Yes<br>Describes what was measured, how it was measured and the outcomes?<br>• Yes<br>All appropriate outcomes considered?<br>• Yes<br>Ethical approval obtained?<br>• Yes<br>Study large enough to achieve its objectives, sample size estimates performed?<br>• Yes<br>Subject of study represents full spectrum of population of interest?<br>• No | Is the setting similar to the UK?<br>• No<br>Is there a clear focus on adults with social care needs?<br>• Yes<br>Has a transition taken place or been prevented??<br>• Yes. Students report on applying transition skills to behaviours<br>Are the questions relevant?<br>• Yes | Internal validity<br>• +<br>Overall assessment of external validity<br>• + |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
| Measurements reproducible?<br>• Yes<br>Measurements valid?<br>• Partly. Behaviour measures dependant on recall | Representativeness of sample is described?<br>• Yes<br>Response rate calculation provided?<br>• No<br>Difference between non-respondents and respondents described?<br>• No<br>Methods for handling missing data described?<br>• No<br>Statistics correctly performed and interpreted?<br>• Partly<br>Clear description of data collection methods and analysis?<br>• Yes<br>Statistics correctly performed and interpreted?<br>• Partly<br>Methods appropriate for the data?<br>• Unclear<br>Data suitable for analysis?<br>• Yes<br>Survey population and sample frame clearly described? | | |

| Internal Validity: Approach and Sample | Internal Validity: Clarity of Reporting | Relevance | Validity scores |
|---|---|---|---|
|  | • Yes<br>Appropriate attempts made to establish 'reliability' and 'validity' of analysis?<br>• No<br>Results can be generalised?<br>• Partly. Part of the course was concerned with issues around medical insurance and entitlement, and how this related to transition decisions.<br>Limitations of the study stated?<br>• Yes<br>Results discussed in relation to existing knowledge on subject and study objectives?<br>• Yes<br>Basic data adequately described?<br>• Yes |  |  |

## Study Findings Tables

## Tables reporting impact studies

## Review area 7 The Impact of Training

### Question 12

### What is the impact of training to support transitions between inpatient hospital settings and community or care home settings?

Eskildsen MA, Chakkalakal R, Flacker JM et al. (2012) Use of a virtual classroom in training fourth-year medical students on care transitions. Journal of Hospital Medicine 7: 14–21

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Survey<br><br>Study aim<br>• To assess the changes in skills, knowledge and attitudes of 4th year medical students who received a new care transitions curriculum - 'Emory Care Transitions Curriculum'.<br><br>Source of funding<br>• Not reported<br><br>Service outcomes<br>• Training outcomes<br>Skills confidence score<br>Attitude score<br>Knowledge score<br>Satisfaction Score (with course)<br>Students' performance in the preparation of discharge summaries and the post-discharge phone interview. | Participants<br>• 4th Year Medical Students (Emory University School of Medicine)<br><br>Sample size<br>• 121 students<br><br>Intervention<br>• Outcomes were evaluated based on the results of pre and post-test questionnaires, in addition to the satisfactoriness of discharge summaries and post-discharge phone call reports<br>Country<br>• US | • Narrative findings<br>Students' confidence in their ability to perform discharge tasks improved from 16.5 to 20.8 on a 25point scale (P < 0.001). Knowledge quiz scores improved from 68 to 82 out of 100 (P < 0.001); 90.1% (109/121) of discharge summaries and 90.1% (109/121) of post-discharge call reports met all quality criteria. Students did not show a statistically significant change in attitude score.<br><br>• Qualitative data<br>Pre- and Post-Course Scores of Confidence Questionnaire Items:<br>Mean Likert Scores pre-test post-test P-value<br>Total confidence score (out of 25)<br>16.7 20.7 <0.001<br>Pre- and Post-Course Scores of Attitude Questionnaire Items:<br>Mean Likert Scores<br>pre-test post-test P-value<br>Total attitude score (out of 25)<br>20.8 21.3 0.07<br>Pre- and Post-Course Scores of Questionnaire Knowledge Items:<br>Mean Likert Scores<br>pre-test post-test P-value | Internal validity<br>• +<br>Overall assessment of external validity<br>• - |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | Percentage of total questions correct<br>68 82 <0.001<br>Satisfaction Scores<br>Mean Likert Rating (Out of 5; 1= poor; 5=excellent)<br>Overall curriculum rating: 3.9<br>Percentage Rated ‘‘Good’’ or Above: 97.5% |  |

Lai CJ, Nye HE, Bookwalter T et al. (2008) Post-discharge follow-up visits for medical and pharmacy students on an inpatient medicine clerkship. Journal of hospital medicine: an official publication of the Society of Hospital Medicine 3: 20–27

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Survey (Views and Impact)<br>Study aim<br>• To determine whether a discharge curriculum would improve students' attitudes and self-assessed skills in interdisciplinary collaboration and transitional care for chronically ill patients<br>Source of funding<br>• Other. Supported by a grant from the university. | Participants<br>• Third-year medical students on an 8-week internal medicine (IM) clerkship and fourth-year pharmacy students on a 6 week pharmacy practice clerkship at a tertiary-care university-based hospital<br>• Sample size<br>37 medical students (out of 39 eligible) and 22 pharmacy students (out of 22 eligible) completed the curriculum.<br>Country<br>• US | • Effect sizes<br>Authors highlighted the following:<br>Satisfaction with Curriculum:<br>Students were satisfied with the curriculum (satisfaction of medical and pharmacy students with overall programme)<br>Mean score [scale 1–5]: SD: % rated v.good or excellent<br>4.1: SD 1.14: 86%<br>Both the medical and the pharmacy students perceived the 2 most valuable components to be the interdisciplinary collaboration on patient care (4.5: SD 1.04: 94),<br>and the post-discharge visit (4.3: SD 0.68: 91), | Internal validity<br>• +<br>Overall assessment of external validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| • Training outcomes<br>Pre-survey: 10-item pre-survey. Students rated each item on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree).<br>Post-survey: The 22-item post-survey included the same 10 items and additional Likert-scaled questions on satisfaction with the curriculum. Two open-ended questions solicited opinions about the value of the program and lessons learned for future patient encounters.<br>To summarize:<br>Quantitative: self rated knowledge (on interdisciplinary care, chronic care and follow-up visits) (before and after)<br>Qualitative: the value of the program and lessons learned for future practice encounters. | Intervention<br>• A 3-part pilot interdisciplinary discharge curriculum. During the first 2 weeks of the IM (Internal Medicine) clerkship, interdisciplinary faculty, including 3 pharmacists, 2 hospitalists, and occasionally a social worker and geriatric clinical nurse specialist, led a 1-hour interactive workshop on transitional care.<br>The 3 workshop topics were: roles that various disciplines such as social work and pharmacy play in discharge care; the challenges a patient faces around the time of discharge, using a typical case; and discussion of elements of a post-discharge visit. Partners (“student partners” consisting of 1 or 2 medical student and 1 pharmacy student) selected a patient for 1 post-discharge visit. It was suggested they select patients most vulnerable to readmissions (e.g. with chronic illness, with prior hospitalization, 65+) The student partners | followed by the debriefing session (3.9: SD 1.04: 74).<br>Least useful were the initial workshop on interdisciplinary roles (3.6: SD 1.18: 54) and the write up to the PCP (3.4: SD 0.81: 48).<br>Student Assessment of Impact of Discharge Curriculum<br>91% of students agreed that they learned skills valuable for future patient care (medical students 4.4, SD 0.61; pharmacy students 4.1, SD 0.62)<br>Most students agreed that the program enhanced their learning about interdisciplinary care (4.3, SD 0.72), discharge planning (4.4, SD 0.70), and humanism (4.4 SD 0.63). Ninety-three percent agreed that this curriculum was valuable to their education.<br>• Narrative findings<br>"A discharge curriculum that included a post-discharge visit to a recently hospitalized patient improved the attitudes and self-assessed skills of third-year medical students and fourth-year pharmacy students about interdisciplinary collaboration and transitions in care. It also deepened their appreciation of the impact of chronic illness on individual patients." (p.25)<br>"...although pharmacy students reported improvement in their attitudes and skills with transitional care, the trend toward significance was | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | scheduled a post-discharge visit by the end of the rotation to the patient's home, nursing home, or sub-acute care facility.<br>During the post-discharge visit, student partners assessed medication discrepancies, environmental safety, and clinical status using structured data collection protocols. After the visit, students reported back to the ward teams on the patient's status and wrote a visit summary letter to the patient's PCP describing the patient's clinical status and home environment, any medication discrepancies, and follow-up plans and included a reflection piece. Reflection questions included, "How did the visit change your perspective of patient discharge? What were the most critical aspects of this or any discharge? How do you think this experience will affect your future practice? What was the best thing about this experience?" During the last 2 weeks of the rotation, all student participants met with faculty | less than that for medical students." (p26)<br>"At the end of the curriculum, the pharmacy students expressed more comfort with medication review than did medical students, although the latter were better able to conduct transitional care including post-discharge visits and identification of barriers or facilitators to a safe discharge." (p26)<br>Also the pharmacy students started the curriculum with a clearer idea of the role of physicians whereas the medical students did not have a clear idea about the role of pharmacists (this may be because the pharmacy curriculum places greater emphasis on interdisciplinary collaboration).<br>• Qualitative data<br>Educational Value<br>29 medical and 15 pharmacy students responded to open-ended questions. According to students, the most valuable component of the curriculum was seeing patients at home in their social context (30 total comments).<br>"I was unaware of the types of living conditions many patients face, especially in the setting of chronic disease. In the future I will try to gain a more detailed understanding of my patients' social situations in order to help identify and anticipate problems in the management of their medical issues." (p.23)<br>13 students commented that working as an interdisciplinary team was a valuable experience. 8 |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | preceptors for an hour-long group debriefing session on the post-discharge visits. | students appreciated learning about transitional care and the components of discharge planning. "I was a little surprised during this home visit to find how much Ms. Chad altered her medication regimen. She didn’t like how she was feeling on the higher blood pressure medications, so she halved them. She doesn’t really like taking pills, in general, so she stopped taking the aspirin, Senna, and Colace. I suppose something that might have made this discharge more successful would have been if we had really elicited her preferences regarding medications while she was in the hospital, such that we could have been more selective in what we prescribed and very clear with her with respect to what exactly we were hoping to accomplish with each." (p.23)<br>From Group Debriefing: Students observed a shift in dynamics between patient and student provider; the patients appeared more comfortable in familiar settings. Students were also surprised that many of their patients did not have a clear understanding of medication regimens at home. In addition, they discussed the importance of communicating with patients’ PCPs about the hospital course and follow-up. Students valued the post-discharge visit and interdisciplinary collaboration. Medical students appreciated seeing how the pharmacy students reviewed medications and taught patients how to use their medications. |  |

Ouchida K, LoFaso VM, Capello CF et al. (2009) Fast forward rounds: An effective method for teaching medical students to transition patients safely across care settings. Journal of the American Geriatrics Society 57: 910–17

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Methodology<br>• Survey. Pre-post survey assessments.<br>Study aim<br>• This study sought to assess the effect of FFR (Fast Forward Rounds) on participants' knowledge, attitudes, and self-reported behaviours in [the domains of transitional care, functional assessment, interdisciplinary team, community resources, reimbursement (Medicare/ medicaid).<br>Hypothesis 1. that a curriculum combining an interdisciplinary team approach and diverse teaching modalities would improve participants' transitional care knowledge, perceived competence in managing the discharge process, and frequency of transitional care behaviours such as patient education and medication reconciliation.<br>Hypothesis 2. That participants would respond positively to an interactive, multimodal learning climate.<br>Service outcomes | Participants<br>• Third year medical students completing their required internal medicine rotations.<br>Sample characteristics<br>• Sex 52% female<br>• Ethnicity 60% Caucasian, 17% Asian, 10% Black, 7% Hispanic<br>• Average age 27 (range 23-37).<br>Sample size<br>• 103<br>Country<br>• USA<br>Intervention<br>• Fast Forward Rounds training curriculum as part of a mandatory component of the 12 week internal medicine clerkship. Two 90 minute sessions that incorporate interdisciplinary lectures, and educational digital video, small group discussions and team based learning | • Training outcomes<br>Functional assessment domain<br>Participants scored significantly better on the items requiring them to distinguish activities of daily living (ADL) from instrumental activities of daily living (IADL) 83.1% labelled shopping as an IADL compared to 46.5% before (P=<0.01), 86.2% identified transferring as an ADL compared to 55% after.<br>The proportion of students feeling competent, proficient or expert in performing functional assessment increased from 6.9% to 49.9% (P = <.0001).<br>The percentage of students reporting performance of functional assessment increased from 12.5% to 45% (P = <0.001).<br>Interdisciplinary team items (knowledge of home health care and familiarity of role of different team members)<br>Proportion of students who can correctly identify which individuals can initiate home care referrals increased from 81.2% to 93.7% P = <0.02.<br>The proportion of students rating their understanding of the professional roles:<br>Occupational therapy 13.9% to 70.5 , Physical therapy 27.5% to 75.8%, Social work 34.7% to | Internal validity<br>• +<br>Overall assessment of external validity<br>• + |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| • Training outcomes<br>Knowledge, attitude and behaviours were assessed in the following domains:<br>Transitional care<br>Functional assessment<br>Interdisciplinary team<br>Community resources<br>Reimbursement | exercise. | 73.7%, Nursing 40.6% to 81.1% (P = <0.001).<br>Transitional care domain (knowledge, attitudes and behaviour)<br>Correctly identify medical errors as most common cause of adverse events after discharge:<br>14.9% to 56.0% P = <0.001,<br>Confidence in managing discharge with chronic conditions:<br>confident or expert 9.8% to 66.3 % P = <0.001,<br>Feels skilled in educating patients and their caregivers about discharge medications 28.4% to 75.8% P = <0.001,<br>Greater frequency of key transitional behaviours: reviewing discharge medications 42.3% to 50% P = <0.001,<br>Increase in performing medicine reconciliation 56.3% to 73.1% (not significantly different)<br>• Qualitative data<br>Qualitative feedback demonstrates that the interactive, multimodal nature of FFR was well received by medical students and can positively influence their attitudes and behaviours toward managing the discharge process even in the face of a ‘‘hidden curriculum’’ that discourages attentiveness to the discharge summary, the most common means of provider–provider communication. The not-so-hidden curriculum promulgated on the inpatient wards directly | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  |  | counteracts the transitional care attitudes and behaviours promoted by FFR, but the students' comments suggest that the course helped them disregard the examples set by certain residents.<br>• Qualitative outcomes<br>What works well<br>All quotations from p.915<br>Responses reflecting changes in transitional care knowledge: ''[I am] more aware of functional status on presentation. Learned importance of good discharge summary.''<br>''[The course] reminded me [of] the importance of discharge summaries when so often they are considered formalities. Started educating me about the importance of insurance status of a patient and how it can influence care and services.''<br>''I think the course armed me with valuable resources I can use to better care for my patients by making their transitions smoother and easier.''<br>''[I have a] more detailed understanding of integration of everyone involved in patient care [SW, nurses, PT/OT].''<br>''I am more aware of the services that exist for patients once they leave the hospital.''<br>''[I am] better prepared to discharge patients with proper knowledge of meds and side effects as well as pertinent follow-up information.''<br>''I will be better able to think about my patients' |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | post-discharge care and know what to do to help them at home.’’<br>Responses reflecting changes in transitional care attitudes: ‘‘[The course] made its point. Discharges are important, and ensuring a good transition home and proper care equals better health, and that’s what we’re all here for.’’<br>‘‘[The course] made me think about what the patient’s life is like when they leave so as to make it easier and prevent re-admission.’’<br>‘‘I feel more confident in planning for discharge and am more aware of issues that can arise.’’<br>‘‘[I have a] desire to be more personal with the patient and really emphasize patient education to improve compliance.’’<br>‘‘[I am] more thoughtful about post-hospital planning. More communication with patients about meds/plans.’’<br>‘‘I think more about how to give [patients] a smooth transition and I know more about the terms used in discharge planning.’’<br>‘‘[The course] made me more attentive to discharge issues.’’<br>Responses reflecting changes in transitional care behaviours:<br>‘‘Will write more effective, comprehensive discharge plans.’’<br>‘‘I will spend more time explaining the discharge | |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | plan to patients.''<br>''[The course] helped me with understanding the patient's perspective from discharge and realize how little they know. I take more time now in explaining to patients what is going on, tell them test results, etc.''<br>''It encouraged me to spend more time on discharge summaries and to communicate with PMDs before discharge.''<br>''[I] definitely appreciate more how important the discharge summary is. Although there is no designated space for it, I will start including more specific instructions for patients and offer them/family members a copy. I will also start forwarding to next care provider.'' (p.915)<br>• What can be improved<br>"Schedule earlier in the course so we can use the skills during clerkship right away" (p.914) | |

## Critical Appraisal Tables

## Studies Reporting Views

## Review area 7 The Impact of Training

### Question 12

**What is the impact of training to support transitions between inpatient hospital settings and community or care home settings?**

**And views questions 1-4 and question 10 relating to training.**

Northrup-Snyder K, Van Son CR, McDaniel C (2011) Thinking beyond "the wheelchair to the car": RN-to-BSN student understanding of community and public health nursing. Journal of Nursing Education 50: 226–9

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
| Methodology<br>• Qualitative study. Retrospective content analysis of online course discussion comments<br>Addresses a clearly focused issue?<br>• Yes<br>Good case made for chosen approach?<br>• No<br>Direct comparison provided for additional frame of reference?<br>• Unclear<br>Were those involved in data collection also providing a service to the user group?<br>• Yes<br>Appropriate methods used to select users and clearly described?<br>• No. Users were self selecting, being contributors to online discussions | Reliable data collection instrument/method?<br>• Partly. Study was exploratory, so would be an adequate starting point for discussion and further research<br>Results complete and analysis easy to interpret?<br>• Unclear<br>Limitations in methodology identified and discussed?<br>• Partly. In a convenience sample<br>Conclusions based on honest & objective interpretation?<br>• Partly. Inductive content analysis - not clear whether codes were double coded for inter-rater reliability checks.<br>Results can be applied to other service users?<br>• N/A | Is the setting similar to the UK?<br>• No<br>Is there a clear focus on population?<br>• Unclear. The social care element is implied by reference to community services, and nursing in the community but not explicit<br>Is there a clear focus on adults with social care needs?<br>• Mixed. The main aim of the study is to explore how changes in knowledge can improve on transitions from hospital to home, but this link was not always explicitly made aside from the other topics the nurses spoke about | Internal validity<br>• -<br>Overall assessment of external validity<br>• - |

| Study aims and suitability of design | Qualitative methods | Internal validity | External Validity |
|---|---|---|---|
|  |  | in their online discussions<br>Are the questions relevant?<br>• Yes |  |

## Study Findings Tables

## Studies Reporting Views

## Review area 7 The Impact of Training

## Question 12

**What is the impact of training to support transitions between inpatient hospital settings and community or care home settings?**

**And views questions 1-4 and question 10 relating to training.**

Northrup-Snyder K, Van Son CR, McDaniel C (2011) Thinking beyond "the wheelchair to the car": RN-to-BSN student understanding of community and public health nursing. Journal of Nursing Education 50: 226–9

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| Study aim<br>• The purpose of this study was to describe the nursing students' online discussions about their perceptions and understandings of the public and community health nursing role and practice after participating in a community health clinical course within an RN-to-BSN program<br>Methodology<br>• Qualitative study: Retrospective content analysis of online course discussion comments<br>Source of funding<br>• Not reported | Participants<br>•Professionals/practitioners<br>Sample size<br>• 145<br>Sample characteristics<br>• Sex 85.5% were women<br>• Ethnicity Most of the student population was Caucasian (87.5%), Asian (3.5%), Latino (2.2%), and African American (1.3%)<br>• Sample age The age of students ranged from 22 to 60 years (mean:38.7; mode:34.4),<br>• Other Students reported from 0 to 31 years of practice post-associate's degree, with less than one third practicing 2 years or less (28.3%). The majority had been in nursing for 2 to 10 years (41.4%), and approximately one quarter had practiced more than 10 years (15.8% = 11 to 20 years; 5.5% = more than 20 years). Nurses either were new to nursing and had little | Qualitative outcomes<br>• What works well<br>The narratives from RN-to-BSN students in this study provide a snapshot of how acute care nurses benefit from knowledge of community-based care and services.<br>• What can be improved<br>Nurses, patients, and their families will all benefit from nurses in acute care having an understanding of community services and resources. This knowledge and understanding enables the acute care nurse to facilitate a smoother transition for patients returning home. Authors suggest that more research is needed to explore the acute care nurses' awareness of the public and community health nurses' role.<br>• Narrative findings<br>Two overarching themes, Awareness: Community and Context of Public and Community Health Nursing Role and Understanding: Home–Hospital–Home Patient Transitions<br>Changing Perspectives of Public and Community Health Nurses<br>As the students discussed their understanding of the roles of the public and community health nurse, they frequently commented on the awareness of the nurse's role as critical to population health and the | Internal validity<br>• -<br>Overall assessment of external validity<br>• - |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
|  | experience (3.5%) or had worked only in the hospital (49.6%); thus, most students entered the course sharing they had little familiarity with public health nursing<br>Intervention<br>• Training from registered nurse status to bachelor degree<br>Country<br>• US | larger health care system.<br>“I was amazed at how many different agencies and opportunities exist for nurses in the community.”<br>Public and Community Health Nurses’ Roles and Characteristics<br>The training from registered nurse to bachelor widened the nurses' career horizons<br>"I no longer see nursing as a profession that is forced to operate within the confines of a hospital. We can truly impact the health of our neighbourhoods, our churches, our cities, our nation, and our world.”<br>Exploring the Lack of Knowledge of the Public and Community Health Nurses’ Role in the Profession<br>Although interested in community health nursing, nurses were concerned about the lower salary and longer hours of many of the public and community health nurse positions.<br>Understanding: Home–Hospital–Home Patient Transitions<br>Context of Care<br>Nurses reported their changing attitudes towards the needs of the patient beyond the boundaries of the hospital.<br>"I will think beyond “from the wheelchair to the car” as I discharge patients. I will...have the big picture of the client’s home environment, neighbourhood, |  |

| Research Aims | Population | Findings | Summary of Quality |
|---|---|---|---|
| | | state, nation and world."<br>"While assessing, [I'm] always thinking about the community they live in and how that affects their health, [and this] will be taken into consideration. Discharge planning will be looked at dramatically different due [to] my experiences in this course."<br>Nurses were also growing to be aware of the challenges that this might create:<br>"I think discharge planners are a link between the entities. But, as an acute care nurse, or as a community nurse, how could you create a line of communication with each other?"<br>Patient-Centered Approach<br>Nurses discussed the challenges of how to apply patient-centered care to their acute care practice: "I really envied them [the public and community health nurses] their ability really know, see, and care for the patient." | |