**Table 1: Health and social care interventions systematic reviews-aims, outcomes, and conclusions**

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| **HEALTH CARE**  |  |  |  |  |
| **CARE IN THE COMMUNITY** | **Aim/Objective**  | **Intervention definition**  | **Outcomes measured** ● admissions● QoL ● Timely discharge ● Patient exp  | **Authors’ conclusions** |
| **Composite** **reviews** |  |  |  |  |
| **Review 1**Gravelholt et al.(2014)16 | To summarise the effects of interventions to reduce acute hospitalisations from nursing homes. | Any type of intervention with a geriatric nursing home aiming at reducing hospitalisation. | ● | ‘Overall, eleven interventions to reduce hospital admissions from nursing homes were identified. None of them were tested more than once and the quality of the evidence was low for every comparison. Still, several interventions had effects on reducing hospital admissions and may represent important aspects of nursing home care to reduce hospital admissions.’ |
| **Review 2**Philip et al.(2013)17 | To review interventions designed to reduce hospital admissions or length of stay amongst frail older people. | Interventions which are effective in reducing avoidable hospital admissions and in reducing the length of stay amongst frail older people. | ● | ‘Reducing unnecessary use of acute hospital beds by older people requires an integrated approach across hospital and community settings. A stronger evidence base has emerged in recent years about a broad range of interventions which may be effective. Local agencies need to work together to implement these interventions to create a sustainable health care system for older people.’ |
| **Self****management** |  |  |  |  |
|  General older population |  |  |  |  |
| **Review 3**Wong et al. (2018)18 | To review systematically their effectiveness on both positive and negative aspects of self-management. | Self-care has been defined as an activity that individuals undertake on their own behalf in staying fit, maintaining good health and functioning, and preventing illness, with or without assistance. Complex interventions, described as containing a combination of several interacting components, can support self-care through identification of physical, psychosocial and environmental problems, development of individual care plans, and provision of information and education. | ● | ‘Based on current evidence, supporting self-care in community-dwelling older adults using complex interventions effectively increases self-rated health, reduces the occurrence of falls and improves the mental subscale of quality of life.’ |
| **Review 4** Jonkman et al.(2016)19 | To quantify the diversity of components of self-management interventions and explore through meta-regression which individual components affect improvement in HRQoL across CHF, COPD, T2DM.  | Self-management intervention defined as (1) stimulation of sign/symptom monitoring, (2) education in problem solving skills (i.e. managing acute exacerbations or symptoms, resource utilisation), and enhancement of (3) medication adherence, (4) physical activity, (5) dietary intake, and/or (6) smoking cessation. | ● | *‘*Self-management interventions improve HRQoL at 6 and 12 months, but interventions evaluated are highly heterogeneous. No components were identified that favorably affected HRQoL. Standardized training and peer interaction negatively influenced HRQoL, but the underlying mechanism remains unclear. Future research should address process evaluations and study response to self-management on the level of individual patients.’ |
| COPD |  |  |  |  |
| **Review 5** Majothi et al. (2015)20 | To assess the clinical effectiveness of interventions to support self-management among patients with COPD who have recently been discharged from hospital following an acute exacerbation. | Self-management interventions including one or more components such as action plans, exercise, education, inhaler technique, bronchial hygiene and breathing techniques, stress management and relaxation, nutritional programs, patient empowerment, support groups and telecare. | ●● | ‘General heterogeneity between interventions limits conclusions for many of the outcomes. Self-management support delivered shortly after an acute exacerbation shows an apparent benefit to patients’ HRQoL, although this may be overestimated due to high loss-to-follow-up, but there is no evidence of effect on all-cause hospital re-admissions, insufficient information on the effect on respiratory re-admissions, no effect on all-cause mortality, and limited information about the effect on behaviour change. The evidence is not currently adequate to support self-management interventions for COPD patients recently after hospital discharge.’ |
| **Review 6**Jordan et al.(2015)21 | a systematic review of the evidence for the effectiveness of SM interventions commencing within 6 weeks of hospital discharge for an exacerbation for COPD and of the qualitative evidence about patient satisfaction, acceptance and barriers to SM interventions.  | Self-management defined as including disease education, medication management, smoking cessationadvice, action planning, breathing management, bronchial hygiene techniques, respiratory muscle training, exercise, correct inhaler technique, advice about nutrition, stress management, relaxation and attendance at patient support groups. | ●● | ‘There was little evidence of benefit of providing SM support to patients shortly after discharge from hospital, although effects observed were consistent with possible improvement in HRQoL and reduction in hospital admissions. Future work should include qualitative studies to explore barriers and facilitators to SM post exacerbation and novel approaches to affect behaviour change, tailored to the individual and their circumstances.’ |
| **Review 7**Baker et al.(2017)22 | To evaluate the clinical and cost-effectiveness of muse -led self-management of patients with COPD in primary care.  | Nurse-led self-management approach including at least two of the following components as part of the intervention: smoking cessation, self-recognition and self-treatment of exacerbations, an exercise or physical activity component, advice about diet, advice about medication or coping with breathlessness. | ● | ‘Some nurse-led evaluations in the is systematic review produced beneficial effects in terms of reducing unscheduled physician visits, lowering patient anxiety and increasing self-efficacy but there is insufficient evidence to reach firm conclusions on the clinical or cost-effective interventions’  |
| **Review 8** Newham et al. (2017)23 | To review the evidence about hospital discharge communication practices and identify which practices were preferred by patients and healthcare providers, improved patient and provider satisfaction, and increased patients’ understanding of their medical condition. | Behaviour change techniques defined as “an observable, replicable, and irreducible component of an intervention designed to alter or redirect causal processes that regulate behaviour” Intervention descriptions were separately coded for self-management behaviours that targeted 1) symptoms, 2) physical activity, and 3) mental health. For instance, the description “patients were instructed to set themselves a walking goal each day” would be coded as “goal setting (behaviour)” only for “physical activity” and not “mental health self-management” or “symptoms self-management.” | ●● | ‘Well-designed IT solutions may improve communication, coordination and retention of information, and lead to improved outcomes for patients, their families, caregivers and primary healthcare providers as well as expediting the task for hospital staff.’ |
| Heart failure |  |  |  |  |
| **Review 9** Harkness et al.(2014)24 | The purpose of this systematic review was to highlight strategies that HF patients use to accommodate self-care recommendations into the reality of their daily lives. | Strategies patients use to self-care for heart failure -focused around types of tasks or domains (including weight monitoring, taking multiple medications, symptom management, physical activity, smoking cessation, and diet restriction. | ● | ‘Healthcare providers must appreciate that patients view self-care as an ‘‘adaptation’’ that they undertake to maintain their independence and quality of life. In addition, HCPs must recognize that because self-care is a process of learning over time from experience, an individualized approach that emphasizes how to self-care must be adopted for patients to develop the necessary HF self-care skills.’ |
| Stroke |  |  |  |  |
| **Review 10** Lennon et al.(2013)25 | To examine the evidence base underlying self-management programmes specific to stroke survivors. | Self-management interventions designed to enable people to take an active part in managing their own condition, including the psychosocial consequences and lifestyle adjustments required to enhance quality of life. | ● | *‘*This review provides some preliminary support for the potential importance of self- management interventions after stroke. The most appropriate content and best approach for delivery of these interventions remains to be determined. Further high-quality randomized controlled trials are needed to test the feasibility, acceptability, and efficacy of stroke self-management programmes.’ |
| **Review 11** Pearce et al.(2015)26 | To synthesis evidence of qualitative studies in an overarching meta-review to inform the delivery and development of self-management supporting interventions. | Self-management defined as the tasks that individuals must undertake to live with one or more chronic conditions. These tasks include having the confidence to deal with medical management, role management and emotional management of their conditions. | ● | *‘*The observed data saturation suggests that, currently, no further qualitative research simply describing the lived experience of stroke is needed. Our findings demonstrate both the on-going importance of self-management support and the evolving priorities throughout the stages of recovery following a stroke. The challenge now is to ensure these findings inform routine practice and the development of interventions to support self-management amongst stroke survivors.’ |
| **Rehab** **/Exercise** |  |  |  |  |
| COPD |  |  |  |  |
| **Review 12** Moore et al.(2016)27 | To find studies that might help determine using a metanalysis of the impact of pulmonary rehabilitation on an acute exacerbation of COPD defied as unscheduled or emergency hospitalisations and ED visits.  | Pulmonary rehabilitation defined as a comprehensive intervention based on a thorough patient assessment followed by patient-tailored therapies, which include, but are not limited to, exercise training, education, and behaviour change. | ● | *‘*This review provides some evidence to suggest that providing rehabilitation is beneficial for reducing hospitalizations and therefore health-care consumption. Evidence has shown that hospital admissions after a course of PR are lower than before therapy. Also, when compared with usual care, admissions can be reduced with rehabilitation. However, pooled results from the cohort studies did not favour PR and suggest that for some patients, it may not reduce the risk of future hospitalizations. Because of the heterogeneous nature of the studies and methodological limitations, further research is needed, particularly for detecting if admissions were specific for AECOPD as well as the subsequent cost savings for health-care services. Given that all patients with moderate to severe COPD should be referred for PR, and overall results from this systematic review suggest that PR has an impact on reducing hospitalizations, this work should help to convince potential patients and health-care providers of its importance.’ |
| **Review 13**Pinto et al.(2013)28 | To give an in-depth consideration of the chronic obstructive pulmonary disease patients’ subjective view of the impact of pulmonary rehabilitation on their lives. | Pulmonary rehabilitation programme is a multidisciplinary and structured intervention to optimize the physical and social functioning of patients with chronic respiratory impairment. | ● | ‘Our systematic review has some implications for further research and clinical care in COPD patients. Assessing patients’ ‘treatment-perceptions’ will contribute significantly to a better understanding of the effects of intervention on the illness behaviour and of the adjustments of the negative points identified by the patients. We would encourage PR health professional teams to try to subjectively evaluate their patients in order to know their treatment expectations, their necessities during the intervention and, more importantly, the results achieved with a health intervention, which in this case is PR, although a more tailored approach, need further elaboration in busy clinical settings.’ |
| **Review 14** Jenkins et al.(2018)29 | To synthesize the evidence on the efficacy of supervised maintenance exercise programs compared to usual care following pulmonary rehabilitation completion on health care use and mortality. | Pulmonary rehabilitation defined as a comprehensive intervention based on a thorough patient assessment followed by patient-tailored therapies that include, but are not limited to, exercise training, education, and behaviour change, designed to improve the physical and psychological condition of people with chronic respiratory disease and to promote the long-term adherence to health-enhancing behaviours. | ● | ‘In the first systematic review of the area, current evidence demonstrates that continued supervised maintenance exercise compared to usual care following pulmonary rehabilitation reduces health care use in COPD. The variance in the quality of the evidence included in this review highlights the need for this evidence to be followed up with further high-quality randomized trials.’ |
| **Review 15** Beauchamp et al. (2013)30 | To determine the effect of supervised exercise programs after primary Pulmonary rehabilitation (PR) on exercise capacity and health-related quality of life (HRQL) in COPD. | Outpatient-, community-, or home-based maintenance that included directly supervised exercise after pulmonary rehabilitation (PR) with or without education and psychologic support.  | ● | ‘Supervised exercise programs after primary PR appear to be more effective than usual care for preserving exercise capacity in the medium term but not in the long term. In this review, there was no effect on HRQL. The small number of studies precludes a definitive conclusion as to the impact of post-rehabilitation exercise maintenance on longer-term benefits in individuals with COPD.’ |
| **Review 16** Borge et al.(2014)31 | To examine evidence on the effects of breathing control exercises and respiratory muscle training on breathlessness /dyspnoea and other symptoms and Qol for individuals with COPD. | Various breathing control exercises and respiratory muscle training are being used to improve breathlessness: diaphragmatic breathing, pursed-lip breathing, relaxation techniques and body position exercises. | ● | ‘Based on three high-quality systematic reviews performing pooled data analyses, there is evidence that RMT has effect on breathlessness, fatigue and disease-specific QOL and pursed-lip breathing on breathlessness. There is also evidence that single studies on diaphragmatic breathing and YB has effect on disease specific QOL. Few RCTs are available and the variable quality of the single RCTs in the systematic reviews, seem to require more RCTs in particular for CBEs, but also RMT before conclusions regarding effects and high-quality systematic reviews can be written’ |
| **Review 17**Wu et al. (2014)32 | To assess the effects of Tai Chi on exercise capacity and health-related quality of life (HRQoL) in COPD patients. | Tai Chi as the activity of the intervention group, used non-exercising patients as the control group, and used patients engaging in exercise (aerobics, strength training, or breathing exercises) as the comparison group. | ● | ‘Preliminary evidence suggests that Tai Chi has beneficial effects on exercise capacity and HRQoL in COPD patients. This exercise can be recommended as an effective alternative training modality in pulmonary rehabilitation programs. Further studies are required to support the preliminary evidence and to observe the long-term effects of Tai Chi.’ |
| Heart Failure |  |  |  |  |
| **Review 18**Chen et al.(2013)33 | To systematically analyse the completed trials assessing the safety and efﬁcacy of exercise training in elderly patients with heart failure. | Exercise Interventions e.g. exercise, training, rehabilitation, physiotherapy, physical therapy, physical performance. | ●● | ‘Compared with usual care, in elderly CHF patients with low-to-moderate risk NYHA class II and III systolic heart failure, exercise training do not increase all-cause mortality and hospitalisations, results in statistically significant improvements in 6MWD. The effects of exercise training on peak-VO2 and HRQoL in elderly heart failure patients still needed to be determined.’ |
| **Review 19** Younge et al. (2014)34 | A systematic review and meta-analysis of the available evidence on the effectiveness of mind– body practices for patients with diagnosed cardiac disease. | Mind- body practices considered included: (transcendental) meditation, mindfulness meditation, autogenic training and relaxation methods. | ● | ‘In our review we showed that mind–body practices have encouraging results for patients with cardiac disease on selected QoL outcomes, anxiety, depression and blood pressure. Due to an overall low quality of studies, no firm conclusions can be drawn.’ |
| Mixed chronic conditions |  |  |  |  |
| **Review 20**Li et al.(2014)35 | To determine the effects of Tai Chi practice on the health-related quality of life in patients with various medical conditions.  | Tai Chi as the main intervention. | ● | ‘Overall, our findings suggest that Tai Chi may improve quality of life in patients with chronic conditions. Tai Chi as a safe, simple and easy to learn approach may enhance self-reported physiological and psychological functions. However, as the delivery mood of Tai Chi provides multiply benefits, which part of the group provides the most benefit is unclear.’ |
| **Review 21** Stevens et al.(2014)36 | To review the effectiveness of physical activity interventions for adults aged 50 and above, delivered through general practice. | Tailored physical activity interventions including aerobic, strength and balance exercises that recruited participants (aged 50 and over) from and/or were provided in general practice. ‘Tailoring’ in this review means baseline assessment of current physical activity and functional limitations, and individualised recommendations to increase physical activity. | ● | ‘The evidence for the effectiveness of general practice-based physical activity promotion aimed at older adults is too limited to support widespread commissioning of such interventions.’ |
| Osteoporotic vertebral fractures |  |  |  |  |
| **Review 22** Svensson et al.(2017)37 | To summarize evidence of person-centered/non-medical interventions supporting women with Vertebral Compression fracture (VCF). | Person-centred interventions or equivalent supporting interventions aiming to support and strengthen the women in their everyday lives. These included the ability to maintain physical activity, experiences of pain, and quality of life. | ● | ‘Because the experience of incurring a VCF is such a complex and diverse event, it needs equally complex interventions to identify new ways forward in the treatment pathway. However, the interventions to date struggle with a risk of selection bias in that only the needs of the healthiest of the population are addressed and the voices of the remaining majority of the people affected by VCF are unheard. To be able to reach this frail and vulnerable population, healthcare providers need to incorporate the person’s needs, preferences, ambitions, and resources, despite their infirmities, to attain a successful rehabilitation and a healthy transition towards a phase of stability and acceptance.’ |
| **Case** **management** |  |  |  |  |
|  General older population |  |  |  |  |
| **Review 23**Morilla Herrera et al. (2016)38 | To identify, assess and summarise the evidence for the effect of intervention deployed by advanced practice nurses in different care settings.  | Advanced practice nursing (APN) defined as ‘‘an advanced level of nursing practice that maximizes the use of specialized skills and nursing knowledge in order to respond to the customers’ needs in the health sphere’’. | ● | ‘Positive results have been found in older people in long-term care settings although it is difficult to discern the specific effects attributable to them because they are inserted into multidisciplinary teams. Further investigations are needed to evaluate the cost effectiveness of the two modalities detected and to compare internationally the interventions developed by detected and to compare internationally the interventions developed by advance practice nurses.’ |
| **Review 24** Huntley et al.(2013)39 | To systematically review evidence from RCTs regarding the effectiveness of case management in reducing the risk of unplanned hospital admissions in older people. | Case management is the process of planning, coordinating and reviewing the care of an individual. A collaborative process of assessment, planning, facilitation, care coordination, evaluation, and advocacy for options and services to meet an individual’s and family’s comprehensive health needs through communication and available resources to promote quality cost-effective outcomes. | ● | *‘*The identified trials included a range of case management interventions. Nine of the 11 trials showed no reduction of unplanned hospital admissions with case management compared with the same with usual care.’ |
| Heart failure |  |  |  |  |
| **Review 25** Gallagher et al.(2016)40 | To evaluate the impact of integrated care approaches to care delivery in the atrial fibrillation (AF) population on outcomes including mortality, hospitalisations, emergency department visits, cerebrovascular events and patient-reported outcomes. | Integrated care defined as ‘the provision of multidisciplinary care at different stages of the care process in different institutional areas. | ● | ‘The use of the integrated care approach in AF is associated with reduced cardiovascular hospitalizations and all-cause mortality. Further research is needed to identify optimal settings, methods and components of delivering integrated care to the burgeoning AF population.’ |
| **Review 26** Huntley et al.(2016)41 | The aim of this systematic review of RCTs and controlled trials (is to investigate the effectiveness and related costs of case management for patients with heart failure predominantly based in the community in reducing unplanned readmissions and length of stay. | As for Huntley 2013  | ● | ‘Hospital-initiated CM can be successful in reducing unplanned hospital readmissions for HF and length of hospital stay for people with HF. Nine trials described cost data; no clear difference emerged between CM and usual care. There was limited evidence for community-initiated CM which suggested it does not reduce admission.’ |
| **Review 27** King et al.(2018)42 | To describe case management as experienced by patients with heart failure and their health professionals with the aim of understanding why case management might contribute in reducing hospital admissions. | As for Huntley 2013 | ● | ‘This synthesis emphasizes the importance of the quality of being cared for as a patient and caring as a health professional. Case management enhances communication between patients and health professionals, supports patient self-care and self-management and can be an important contributing factor in reducing unplanned admissions for patients with heart failure.’ |
| Parkinson’s |  |  |  |  |
| **Review 28**Tan et al. (2014)43 | To critically evaluate the evidence of the effect of multidisciplinary interventions to improve quality of life of people with Parkinson’s. | Multidisciplinary interventions to improve the quality of life for people with Parkinson’s. | ● | ‘The evidence quantifying positive and sustained effects of multi-disciplinary interventions to improve for people with Parkinson’s disease is inconclusive. There has been a relative lack of controlled experimentation in quantifying retention of the intervention. It is recommended that interventions to improve quality of life are tested in RCTs using standardized outcome measure adequately powered samples and longer follow-up periods to assess intervention sustainability.’ |
| Dementia |  |  |  |  |
| **Review 29** Phelan et al.(2015)44 | To determine if there were any intervention strategies that had any measurable effect on acute-care hospitalizations among community-dwelling adults with dementia. | Community interventions that focus on keeping persons with dementia out of the hospital e.g. face to-face assessments of the persons living with dementia, their caregivers, and the development and implementation of a care plan. | ● | ‘The majority of studies included hospitalizations as a secondary outcome. Only one intervention was found to have an effect on hospitalizations. Future work would benefit from strategies specifically designed to reduce and prevent acute hospitalizations in persons with dementia.’ |
| **Medication** **Review** |  |  |  |  |
|  General older population |  |  |  |  |
| **Review 30**Loh et al.(2016)45 | To evaluate the effects of medication review on health-related quality of life (HRQoL)and healthcare costs in the elderly. | Medication review, defined as ‘a structured, critical examination of a patient’s medicines with the objective of reaching an agreement with the patient about treatment, optimizing the impact of medicines, minimizing the number of medication-related problems and reducing waste’. | ● | ‘Humanistic and economic outcomes of pharmacist-provided medication review were largely similar to those of usual care. Further research using more robust methodology is needed to determine whether improved medication management can improve HRQoL and reduce healthcare costs. Careful thought should be given to capturing relevant outcomes that reflect the potential benefits of this intervention.’ |
| **Review 31** Thomas et al.(2014)46 | To evaluate the effectiveness of interventions led by hospital or community pharmacists in reducing unplanned hospital admissions for older people. | Intervention that were pharmacist-led or where pharmacist had a key role and were focused on admission avoidance. | ● | ‘Evidence from three randomised controlled trials suggests that interventions led by hospital pharmacists reduce unplanned hospital admissions in older patients with heart failure, although these trials were heterogeneous. Data from 16 trials do not support the concept that interventions led by hospital or community pharmacists for the general older population reduces unplanned admissions.’ |
| **Review 32** Wallerstedt et al. (2014)47 | To assess whether medication reviews by a third party have been introduced as a method to improve drug treatment in older people reduces mortality and hospitalization for nursing home residents. | Medication review was defined as any kind of systematic assessment of a patient’s medications with the aim to evaluate and optimize his or her drug treatment. | ● | *‘*Our findings indicate that medication reviews for nursing home residents do not reduce mortality or hospitalization. More research in the setting of controlled trials remains to be done in order to clarify how drug treatment can be optimized for these patients.’ |
| **Review 33** Cooper et al.(2015)48 | To summarise the findings of an updated Cochrane review of interventions aimed at improving the appropriate use of polypharmacy in older people. | Any type of intervention that aimed to improve appropriate polypharmacy in any healthcare setting was eligible for inclusion. | ● | ‘The included interventions demonstrated improvements in appropriate polypharmacy based on reductions in inappropriate prescribing. However, it remains unclear if interventions resulted in clinically significantimprovements (e.g.: in terms of hospital admissions). Future intervention studies would benefit from available guidance on intervention development, evaluation and reporting to facilitate replication in clinical practice.’ |
| **Review 34** Taylor et al.(2016)49 | To update 2013 systematic review that showed limited evidence of impact, using new evidence from randomized controlled trials assessing clinical, humanistic and economic outcomes in older adults. | STOPP/START (Screening Tool of Older Persons’ potentially inappropriate Prescriptions/Screening Tool to Alert doctors to the Right Treatment) criteria assist in the systematic identification of potentially inappropriate prescribing. | ●● | ‘STOPP/START may be effective in improving prescribing quality, clinical, humanistic and economic outcomes. Additional research investigating these tools is needed, especially in frail elderly and community-living patients receiving primary care.’ |
| **Vaccination** |  |  |  |  |
|  General older population |  |  |  |  |
| **Review 35** Bekkat-Berkani et al.(2017)50 | To summarise the current evidence from randomised controlled trials and observational studies on the immunogenicity, safety efficacy and effectiveness of seasonal influenza vaccination in patients with COPD.  | Seasonal influenza vaccination programme. | ● | ‘Additional large and well-designed observational studies would contribute to understanding the impact of disease severity and patient characteristics on the response to influenza vaccination. Overall, the evidence supports a positive benefit-risk ratio for seasonal influenza vaccination in patients with COPD and supports current vaccination recommendations in this population.’ |
| **URGENT** **CARE**  |  |  |  |  |
| **Composite** **Reviews** |  |  |  |  |
| **Review 36** Huntley et al.(2017)51 | This systematic review sought to explore this issue with the following objective: what admission alternatives are there for older patients and are they safe, effective and cost-effective? | Community-based interventions aimed at reducing secondary care use in older patients with acute medical problems potentially requiring unscheduled hospital admission. | ● | ‘This systematic review describes and assesses evidence on alternatives to acute care for older patients and shows that many of the options available are safe and appear to reduce resource use. However, cost analyses and patient preference data are lacking.’ |
|  **General older population**  |  |  |  |  |
| **Review 37**Malik et al.(2018)52 | To review the impact of geriatric focused nurse assessment and intervention in the ED on hospital utilisation in terms of admission rate, ED revisits and length of hospital stay. | Geriatric focused nurse assessment and interventions defined as independent nurse led assessments and interventions or nurse interventions and assessments that were performed within the scope of nursing practice as part of a multi-disciplinary team geriatric case model. | ● | ‘The SR revealed that nursing focused geriatric assessment and interventions did not have a significant statistical impact on rates of hospitalisation, readmission, LOHS and ED revisits’ This SR is unique focusing specifically on ED based geriatric nurse assessment and/or multi-disciplinary assessment while examining effects on hospital utilisation using meta-analyses not previously performed. Results herein are contrary to prior literature where CGA in ED’s with community follow-up showed a reduction in hospitalisation and ED revisits and effective in decreasing service use.’ |
| **Review 38** Karam et al.(2015)53 | To review and update existing literature on interventions within emergency departments (ED) targeted towards reducing ED re-visits, hospitalizations, nursing home admissions and deaths in older patients after initial ED discharge. | ED-based interventions focused on reductions in ED re-visits, hospitalizations, nursing home admissions and deaths among older adults. | ● | ‘Of the few studies that met the inclusion criteria, there was a lack of consistency and clarity in study designs and evaluative outcomes. Despite this, more intensive interventions that followed patients beyond a referral and the use of a clinical risk prediction tool appeared to be associated with improved outcomes. The dearth of rigorous evaluations with standardized methodologies precludes further recommendations.’ |
| **Review 39**Jay et al.(2017)54 | To assess the extent to which performing comprehensive geriatric assessment (CGA) in the ED can reduce admission rates. | Comprehensive Geriatric Assessment (CGA) performed by an Emergency Department team that included a Consultant Geriatrician. | ● | ‘Consultant geriatrician led teams performing CGA within the ED can reduce admissions rates among older patients. It is unclear as to what impact such interventions have upon readmission rates or inpatient length of stay. Future research is needed to assess the clinical outcomes and financial viability of such admissions avoidance teams.’ |
| **DISCHARGE & TRANSITIONAL** **CARE** |  |  |  |  |
| **Composite** **Reviews** |  |  |  |  |
| **Review 40** Leppin et al.(2014)55 | To synthesize the evidence of the efficacy of interventions to reduce early hospital readmissions and identify intervention features. | Meaningful patient interactions defined as those that were the proposed sources of the intervention’s effectiveness (e.g., a nurse visiting a patient only to deliver educational materials, but not to engage in educational activity, would not be considered a meaningful interaction). | ● | *‘*Tested interventions are effective at reducing readmissions, but more effective interventions are complex and support patient capacity for self-care. Interventions tested more recently are less effective.’ |
| **Review 41** Damery et al.(2016)56 | To summarise the evidence regarding the effectiveness of integrated care interventions in reducing hospital activity. | Interventions could be implemented in any health or social care setting (primary, secondary or community care), as long as they crossed the boundary between two or more settings. The community setting encompassed care given in the community, in patient homes or by social care professionals. | ● | ‘Although all outcomes showed some significant reductions, and a number of potentially effective interventions were found, interventions rarely demonstrated unequivocally positive effects. Despite the centrality of integrated care to current policy, questions remain about whether the magnitude of potentially achievable gains is enough to satisfy national targets for reductions in hospital activity.’ |
| **Review 42** Gonzalez et al.(2014)57 | To review systematic reviews and meta-analyses of integrated care programmes in chronically ill patients, with a focus on methodological quality, elements of integration assessed, and effects reported. | Integration of healthcare was pragmatically as the provision of multidisciplinary interventions at different stages of the care process in two or more different institutional areas. | ● | ‘Beneficial effects of integration of care on several outcomes, including reduced mortality, reduced hospital admissions and re-admissions, improved adherence to treatment guidelines and quality of life’ |
|  **Specific discharge & and transitional care** |  |  |  |  |
|  General older population |  |  |  |  |
| **Review 43**Zhu et al.(2015)58 | To compare the effectiveness of nurse-led early discharge planning programmes to standard care for inpatients with chronic disease or rehabilitation needs. | Nurse led early discharge planning programme was defined as delivery of a structured discharge planning programmes by trained nurses to patients after the early initial visit of hospital admission (usually within 48 hours), either with additional support from physicians, multidisciplinary teams of medical experts, or family members. | ●●● | ‘Compared to standard care, nurse-led early discharge planning programmes have a positive impact on several aspects of care for inpatients with chronic disease and rehabilitation requirements, including reducing readmission, readmission length of stay and mortality and improving quality of life.’ |
| **Review 44** Lowthian et al.(2015)59 | To examine ED community transition strategies (ED-CTS) and evaluated their effectiveness. | Interventions were described as community transition strategies from the ED. | ●● | ‘There is limited high-quality data to guide confident recommendations about optimal ED community transition strategies, highlighting a need to encourage better integration of researchers and clinicians in the design and evaluation process, and increased reporting, including appropriate robust evaluation of efficacy and effectiveness of these innovative models of care.’ |
| **Review 45**Allen et al.(2017)60 |  To improve understanding of user experience of older people, carers, and health providers; and care integration in the care of older people transitioning from hospital to home. | User experience of older people, carers, and health providers and care integration in the care of older people transitioning from hospital to home. | ● | ‘The themes that emerged from the studies reflected users’ experience of discharge and transitional care as a social process of ‘negotiation and navigation of independence (older people/carers), or dependence (health providers).’ Users engaged in negotiation and navigation through the interrogative strategies of questioning, discussion, information provision, information seeking, assessment, and translation. The derived themes reflected care integration that facilitated, or a lack of care integration that constrained, users’ experiences of negotiation and navigation of independence/dependence.’ |
| **Review 46** Blakey et al.(2017)61 | To explore the experience of readmissions to hospital from the perspective of older adults. | Experience of readmissions to hospital from the perspective of older adults. | ● | ‘A cycle of exclusion exists during the initial hospital stay and beyond. The experience of being readmitted to hospital is challenging, mostly perceived as negative, and, existential, emotional and psychological well-being is not satisfactorily addressed by healthcare professionals.’ |
| COPD |  |  |  |  |
| **Review 47** Ospinia et al.(2016)62 | A systematic review on the effectiveness of COPD discharge bundles and summarised their individual care elements. | Care bundles as defined by the Institute for Healthcare Improvement ‘a structured way of improving the processes of care and patient outcomes: a small, straightforward set of evidence-based practices— generally three to five—that, when performed collectively and reliably, have been proven to improve patient outcomes” | ● | ‘Discharge bundles for patients with ‘COPD led to fewer readmissions but did not significantly improve mortality or QoL. Future studies should employ higher quality research methods, fully report care bundle elements, implementation strategies and intervention fidelity to better evaluate the effectiveness of packaging evidence-based interventions together to improve outcomes of patients with COPD discharged from acute care settings.’ |
| **Review 48** Echevarnia et al.(2016)63 | To assess the safety, efficacy and cost of Early Supported Discharge (ESD) and Hospital at Home (HAH) compared to Usual Care (UC) for patients with acute exacerbation of COPD (AECOPD). | Treatment of AECOPD by Early Supported Discharge (ESD) scheme or Hospital at Home (HAH) scheme.  | ●●● | ‘The optimal selection criteria and structure of care for ESD/HAH services is unclear. We recommend that future RCTs of ESD/HAH clearly define readmission and provide data on patients who return to hospital during ESD/HAH and whether these same patients are readmitted during the follow-up period.’  |
| Heart Failure |  |  |  |  |
| **Review 49** Pandor et al.(2013)64 | To determine whether remote monitoring strategies improve outcomes for adults who have been recently discharged (<28 days) following an unplanned admission due to heart failure. | Early patient remote monitoring including structured telephone support and home telemonitoring. | ● | ‘Structured telephone support (STS) human to machine (HMand telephone monitoring (TM) with medical support provided during office hours showed beneficial trends, particularly in reducing all-cause mortality for recently discharged patients with heart failure. Where ‘usual’ care is less good, the impact of TM is likely to be greater.’ |
| **Review 50** Feltner et al.(2014)65 | To assess the efficacy, comparative effectiveness, and harms of transitional care interventions to reduce readmission and mortality rates for adults hospitalized with heart failure.  | Eligible interventions include one or more of: education of pt/caregiver pre or post discharge; planned or scheduled primary care or MDT HF clinic; home visit; telemonitoring; structured telephone support; transition coaching/case management; interventions to increase provider continuity. | ● | ‘HV programs and MDC-HF clinics reduced all-cause readmission and mortality; STS reduced HF-specific readmission and mortality. These interventions should receive the greatest consideration by systems or providers seeking to implement transitional care interventions for persons with HF.’  |
| **Review 51**Van spall et al.(2017)66 | To compare the effectiveness of transitional care services in decreasing all-cause death and all-cause readmissions following hospitalization for heart failure. | Transitional care, defined as actions that promote the coordination and continuity of care as patients transfer between healthcare settings or providers. intervention (a health service intervention that aimed to prepare patients for the transition from hospital to home: the intervention could involve educating, monitoring, clinically following, or supporting the patient in the post-discharge phase, and could be offered in the hospital, the home, or in a clinic) | ● | ‘Nurse home visits and DMCs decrease all-cause mortality after hospitalization for HF. Along with NCM, they also reduce all-cause readmissions, with no significant difference in comparative effectiveness. These services reduce healthcare system costs to varying degrees.’ |
| **Case** **management** |  |  |  |  |
| Heart Failure |  |  |  |  |
| **Review 52**Qaddora et al.(2015)67 | Review to determine the he efficacy of hospital at home (HaH) in HF is unknown. | Hospital at home is the delivery of hospital ward-level care in the patient’s home as a substitute for routine hospitalization. | ● | ‘In the context of a limited number of modest-quality studies, Hospital at home appears to increase time to readmission, reduce index costs, and improve HrQOL among patients requiring hospital-level care for heart failure. Larger RCTs are necessary to assess the effect of HaH on readmissions, mortality, and long-term costs.’ |

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| **SOCIAL** **CARE**  |  |  |  |  |
| **FORMAL** **SOCIAL CARE**  |  |  |  |  |
|  General older population |  |  |  |  |
| **Review 53**Dickson et al.(2017)68 | To analyse and summarise systematic review-level evidence on the impact of interventions on the four outcomes set out in the Adult Social Care Outcomes Framework (ASCOF). | The impact of social care interventions on the four outcomes: quality of life, delaying and reducing the need for services, satisfaction with services and safeguarding of vulnerable adults. | ●● | ‘The greatest portion of evidence included in this meta-review is about physical activity: evidence suggests that these types of interventions can be effective for people with long-term conditions and non-frail older people and may address both quality of life and prevention outcomes. Moreover, although physical activity interventions may typically be regarded as not within the remit of social care, they may be relatively cheap and easy to implement, and therefore worth considering. More complex, and perhaps more recognisably social care interventions need to be subject to evaluation, review and synthesis. The key message from this meta-review is the need to recognise the inﬂuence of contextual factors on the success of social care interventions, in particular the need for safety measures when implementing social care interventions with particularly vulnerable groups.’ |
| **Review 54**De sao Jose et al.(2016)69 | a systematic review of relevant qualitative research-based evidence on the older persons’ experiences and perspectives of receiving social care published between 1990 and Sep 2014. | Older persons’ experiences and perspectives of receiving social care. | ● | ‘We conclude that both positive and negative experiences of receiving social care relate, mostly, to the relational dimension of care. Receiving social care per se does not automatically imply a negative or a positive experience. Rather, it is the concrete form of social care provision, primarily the attitudes and behaviour of the carers, which determine whether the care is experienced as positive or negative.’And ‘This review also conﬁrms that the research on the older persons’ experiences and perspectives of receiving social care, although important, is still limited, as it identiﬁes some questions that have not received adequate attention and that could be addressed in future studies.’ |
| **Reablement** |  |  |  |  |
|  General older population |  |  |  |  |
| **Review 55**Petterson et al. (2017)70 | To obtain an overview of the scientific literature in this evolving research area and investigate whether there is scientific evidence for positive effects of re-ablement services for older community-living people. | Various terms for re-ablement include ‘‘restorative home care’’ programs (Ryburn et al., 2009) or, in Scandinavian countries, ‘‘every-day rehabilitation’’. The term is not consistently defined and there appear to be differences in what constitutes ‘‘everyday rehabilitation’’ between different nationalcontexts, and different models for such services. | ●● | ‘More high-quality research is needed to strengthen the evidence-base regarding reablement services. The specific roles of various professional and staff groups are often insufficiently described, as are the interventions as such and there is a lack of attention to person-centred aspects such as the meaningfulness of the specific activities.’  |
| **Review 56**Tessier et al.(2016)71 | To examine the effectiveness of reablement, and to identify factors that might contribute to successful implementation for Canadian policy makers.  | Reablement is defined as services for seniors with physical or mental disabilities that help them adapt to their condition by learning or re-learning the skills needed to function in everyday life (Social Care Institute for Excellence 2013). | ●● | ‘Considering its effectiveness and positive impact observed in several countries, the implementation of reablement is a promising avenue to be pursued by policy makers.’  |
| **Review 57**Boniface et al.(2013)72 | Evidence on the effectiveness and cost effectiveness of occupational therapy interventions for older people in social care services. | Occupational therapy interventions for older people in social care services. | ● | ‘Overall, occupational therapy in social care is perceived as effective in improving quality of life for older people and their carers and cost effective in making savings for other social and healthcare services. However, the complex nature of social care services makes it difficult to disaggregate the effectiveness of occupational therapy from other services.’ |
| **SYNTHETIC SOCIAL SUPPORT** |  |  |  |  |
|  General older population |  |  |  |  |
| **Review 58**Coll-Planas(2016)73 | To assess the currently unclear health impact of social capital interventions targeting older adults. | Interventions that promote social capital or one of its components. In multicomponent trials, the inclusion was restricted to those studies in which social capital was the focus of the intervention. Professional support was not considered social support, and thus was not social capital either. | ● | ‘Our review highlights the lack of evidence and the diversity among trials, while supporting the potential of social capital interventions to reach comprehensive health effects in older adults.’ |
| Dementia |  |  |  |  |
| **Review 59**Leung et al.(2014)74 | To evaluate the effectiveness of social support group interventions for people with dementia and mild cognitive impairment. | Social support group interventions for people with dementia often take the form of group discussions or ‘social clubs’ and focus on enhancing friendships and socialisation by incorporating elements such as interactive education seminars. | ● | *‘*Limited data from two studies suggest that support groups may be of psychological benefit to people with dementia by reducing depression and improving quality of life and self-esteem. These findings need to be viewed in light of the small number, small sample size and heterogeneous characteristics of current trials, indicating that it is difficult to draw any conclusions. More multicentre randomised controlled trials in social support group interventions for people with dementia are needed.’ |
| **Review 60**Cabrera et al.(2015)75 | To identify current best practices of non-pharmacological interventions in nursing facilities  | The concept of best practice (BP) is defined as ‘‘a program, activity or strategy that has the highest degree of proven effectiveness supported by objective, comprehensive research and evaluation’’. BP can improve quality of care and quality of life. We considered nonpharmacological interventions as treatment modalities to decrease pain, improve mobility and quality of life, enable the patient to lead a normal social life and prevent health problems.  | ● |  ‘Psychosocial interventions have been shown to have the potential to improve the QoL and QoC (quality of carers) of people with dementia in nursing homes. Before implementation of the intervention, it is recommended that activities are adjusted according to residents’ characteristics and external factors controlled to achieve effectiveness and to structure a well-designed intervention. However, there is not enough evidence to support the effectiveness of non-pharmacological interventions in general. Further well-designed research is needed on non-pharmacological interventions in nursing facilities.’ |
| **Review 61**Folkerts et al.(2017)76 | To analyse the eﬃcacy of cognitive interventions in institutionalised individuals with dementia. | Any type of cognitive intervention held in groups or provided to individuals was included in this review, if cognition was the main target of the intervention, and cognitive functions were primarily trained and stimulated, respectively. such as cognitive stimulation, cognitive training, or reminiscence. | ● | ‘Cognitive interventions are safe and effective for residents with dementia in LTC (long term care). However, while it seems clear that cognitive benefits can specifically be assigned to these forms of intervention, further research is necessary to clarify whether the effects on BPSD (behavioural and psychological symptoms in dementia) and QoL reflect unspecific changes due to additional attention. Furthermore, future studies will have to determine which intervention type yields the largest benefits.’ |
|  **General older population**  |  |  |  |  |
| **Review 62**Gardiner et al.(2018)77 | to conduct an integrative review to identify the range and scope of interventions that target social isolation and loneliness among older people. | Interventions that target social isolation and/or loneliness in older people. | ● | ‘A wide range of interventions have been developed to tackle social isolation and loneliness among older people. However, the quality of the evidence base is weak and further research is required to provide more robust data on the effectiveness of interventions. Furthermore, there is an urgent need to further develop theoretical understandings of how successful interventions mediate social isolation and loneliness.’ |
| **Review 63** Cohen-Mansfield et al. (2016)78  | To examine the utility of loneliness interventions among older persons. | Interventions that can potentially affect loneliness in older adults by improving the quality and quantity of social networks, appropriateness of the environment to an individual’s cognitive and functional capabilities, mobility, living arrangements, and the availability of resources (e.g., financial, entertainment, transportation). | ● | ‘Multiple approaches show promise, although flawed design often prevents proper evaluation of efficacy. The value of specific therapy techniques in reducing loneliness is highlighted and warrants a wider investigation. Studies of special populations, such as the cognitively impaired, are also needed.’ |
| **Review 64** Poscia et al.(2018)79 | To summarize and update the current knowledge on the eﬀectiveness of the existing interventions for alleviating loneliness and social isolation among older persons. | Interventions for alleviating loneliness and social isolation among older persons. E.g. technologies and community engaged arts. | ● | ‘Our review suggested that new technologies and community engaged arts might be seen as a promising tool for tackling social isolation and loneliness among the older individuals. Future studies need to work on methodological quality and take into consideration the suggestions of the present literature in order to provide firm evidence.’ |
| **Review 65** Van Malderen et al.(2013)80  | A review to identify interventions to improve the quality of life of long-term care residents.  | Both psychological and physical interventions that attempt to enhance the QoL of residents of long-term care facilities.  | ● | ‘Currently, studies aimed at enhancing the QoL of older LTC-resident are limited and often directed to physical and psychological interventions. The lack of a systematic effect on QoL is possibly related to the fact that these interventions were often not multidimensional, whereas QoL is a multidimensional concept.’ |
| **Review 66**Hagan et al.(2014)81  | To investigate the effectiveness of recent social therapeutic interventions to reduce loneliness in older people. | Group interventions that aimed to enhance social support or tackle loneliness. | ● | ‘One structured group work intervention was found to be effective. The highlight of this review, however, was that three of the four interventions demonstrating measurable effect on reducing loneliness amongst older people involved introducing new technologies. Whilst these studies reported relatively small numbers and may not be generalizable to a larger population, these investigations do highlight the need for further research to be conducted in this particular area.’ |
| **Review 67**Franck et al.(2016)82 | A systematic review of studies reporting interventions for reducing social isolation and depression in older people receiving aged care services (community or residential). | Interventions that addressed the outcomes of social isolation or loneliness or a combination of depression with social isolation or loneliness: - group based activities, individual activities, reminiscence, indoor gardening; Wii, radio programmes. | ● | *‘*Only one intervention, group-based reminiscencetherapy, was reported as successful in reducingboth social isolation and depression in older people withinan urban aged care setting. More research is needed toexplore transferability of interventions across differentaged care settings and into rural areas.’ |
| **Review 68** Shvedko et al. (2018)83 | To review the eﬀects of physical activity (PA) interventions on social isolation, loneliness or low social support in older adults. | The following physical activity interventions were included: gym based, home-based, community-based, web- or telephone-based. | ● | ‘This review shows, for social functioning, the specific aspects of PA interventions can successfully influence social health. PA did not appear to be effective for loneliness, social support and social networks.’ |
| **Review 69** Chen et al.(2016)84 | A review to explore the effects of ICT interventions on reducing social isolation of the elderly. | Interventions using smart technologies to synthesize the effect of interventions on social connectedness of the elderly living at home. | ● | *‘*More well-designed studies that contain a minimum risk of research bias are needed to draw conclusions on theeffectiveness of ICT interventions for elderly people in reducing their perceived social isolation as a multidimensional concept.The results of this review suggest that ICT could be an effective tool to tackle social isolation among the elderly. However, it is not suitable for every senior alike. Future research should identify who among elderly people can most benefit from ICT use in reducing social isolation. Research on other types of ICT (e.g., mobile phone–based instant messaging apps) should be conducted to promote understanding and practice of ICT-based social-isolation interventions for elderly people’ |
| **Review 70**Kachouie et al.(2014)85 | A mixed-method systematic review of Social Assistant Robots (SAR) in elderly care and recognizes its impact on elderly well-being, integrating evidence from qualitative and quantitative studies. | Socially assistive robotics as the meeting point of assistive robotics and socially interactive robotics -this kind of robot has the purpose of aiding humans by emphasizing the importance of social interaction in the process of providing specific assistance. | ● | ‘This review showed that SAR could potentially enhance well-being of the elderly and decrease the workload for nurses. For future research, we suggest that person-centred care needs to be embedded in the design of SAR. Moreover, for improving personalization of care, different needs, expectations, and preferences of individuals should be considered. The results show that the robots that are capable of enhancing broader aspects of well-being of elderly people are more acceptable than the ones with less coverage. Therefore, future studies should address well-being from different viewpoints.’ |
| **Review 71** Chipps et al. (2017)86 | A systematic review of e-Interventions to reduce loneliness in older people on the effectiveness of e-Interventions to decrease social isolation/ loneliness for older people living in community/residential care. | E-Interventions defined as interventions that are delivered via Internet-supported, information communication technology or other electronic technologies, with or without human support. | ● | *‘*Despite the limitations of the reviewed studies, there is inconsistent and weak evidence on using e-Interventions for loneliness in older people.’ |