Identifying the potential value of sustained participation in community activities arising from referral through social prescribing

David McDaid, Jacqueline Damant and A-La Park

Personal Social Services Research Unit

London School of Economics and Political Science

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Corresponding author:

David McDaid, Associate Professorial Research Fellow, PSSRU, Department of Health Policy, London School of Economics and Political Science.

E-mail: d.mcdaid@lse.ac.uk

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Summary

There is considerable interest in the use of social prescribing as a way of improving health, wellbeing and other outcomes in the population. Social prescribing is a key element of NHS England's Long Term Plan, where Primary Care Networks as part of the GP contract in 2019 will receive funding to employ one social prescriber.

There has been much debate about the effectiveness of social prescribing as a mechanism, but it is vital to move beyond any direct and immediate benefits that can arise from effective social prescribing practice. Too often the focus on these direct and often very immediate impacts of social prescribing is at the expense of exploring the longer-term benefits of sustained engagement in activities or sustained behaviour change to which individuals have been referred through social prescribing mechanisms. These arguments may not be used by commissioners and voluntary or community organisations to inform models, evaluations, grant applications and business cases. To address this, a rapid mapping review has been undertaken to identify evidence on the relative strength of selected activities that typically have been used as part of social prescribing, such as referral to group based social activities, community volunteering and development activities, life-long learning and use of welfare / debt advice services.

131 systematic reviews of interventions in the last 5 years were identified; 26 examples of empirical studies published in the UK and Ireland since 2017 were also found. While the review is only intended to provide a snapshot of the evidence base it does highlight some of the dilemmas to be faced by social prescribers and their funders in respect of the long term evidence base. While there is a reasonably robust evidence on the benefits of sustained participation in a range of sports and other physical health related activities, including dance, the evidence base for group based social interaction activities is more mixed, while that for some of the creative arts is largely qualitative in nature and generally considered insufficient for investment by the health care system. The evidence on befriending appears particularly weak.

Much of the literature we identified is focused on health related activities. Social prescribing potentially can refer individuals to other types of activities. There is a small albeit encouraging evidence base exists for some non-health focused interventions, and we highlight UK specific evidence base on welfare and financial advice services.

Another challenge is that few systematic reviews we identified looked at the economic benefits or even the relative costs of interventions. This may be because many of these interventions have not been traditionally funded by health care systems, and thus there has been less incentive to look at their cost effectiveness. This represents a potential gap that might be addressed rapidly by retrospectively taking areas where evidence on effectiveness is most promising and then considering the economic return on investment and cost effectiveness from different perspectives, including the NHS, local authorities and society.

Return on investment models might also be created to look at the potential case for action where there is more uncertainty about the strength of evidence; this can help identify the level of benefits that would need to be achieved in order for the action to be considered a sound investment. The added value of effective social prescribing practices in encouraging and sustaining uptake of effective interventions could also be embedded into this approach. Such evidence would help ensure that resources are allocated to those activities that are more likely to benefit their target populations. These models could be designed in such a way that the impact of actions on social and health inequalities can also be made.

1. Introduction

There is considerable interest in the use of social prescribing as a way of improving health, wellbeing and other outcomes in the population. Social prescribing is a key element of NHS England's Long Term Plan, where each Primary Care Network as part of the GP contract in 2019 will receive funding to employ one social prescriber. Even before this announcement more than 69,000 people in England had an NHS-related social prescribing referral in 2018 and the ambition is now to rapidly scale up to reach 0.9 million people with long-term conditions and complex needs by 2023/24 (1). To do this and sustain social prescribing it will also be essential to work with many different organisations in the public, private, voluntary and community sectors who will deliver a wide range of activities.

This commitment by NHS England to social prescribing comes with an expectation that the use of social prescribing may also reduce contact with primary and secondary care services. However, the robustness of the evidence on the effectiveness (and cost effectiveness) of social prescribing remains contested, with calls for longer term and larger scale studies to strengthen the evidence base (2, 3).

One of the challenges in doing this is that social prescribing can be used to refer to a range of different mechanisms, and not just the link worker model put forward by NHS England. Regardless however of debates on what mechanisms are used for social prescribing it is vital to go beyond considering whether there are direct and immediate benefits from effective social prescribing practices. Too often the focus on potential short term impacts is at the expense of exploring the longer-term benefits of sustained engagement in activities or sustained behaviour change *to which individuals have been referred through social prescribing mechanisms*. These arguments appear to be seldom used by commissioners and voluntary or community organisations to inform models, evaluations, grant applications and business cases.

This means that when assessing the case for social prescribing it is important to assess the strength of the evidence base around the different activities to which clients may be referred. A challenge here is the potential myriad of different activities, but some of the more typical activities include community volunteering and development activities, sports participation, physical activity and other social engagement, life-long learning, various intergenerational activities and use of welfare / debt advice services.

In order to address this gap, we have undertaken a rapid mapping review to identify evidence on the relative strength of selected activities that typically can be associated with social prescribing. This has included documenting whether there is evidence on effectiveness, cost effectiveness and return on investment for these activities. The focus in the review has not just been on impacts on health and wellbeing, but has also sought to identify impacts and value that go beyond health and wellbeing such as impacts on levels of independence, and participation in volunteering, employment or education. Where social prescribing is used as a referral mechanism to these activities we have also sought to identify whether any additional impacts of social prescribing on the rate of uptake and sustained engagement have been documented.

Our aim is therefore to collate an evidence base to support commissioners in making the case for social prescribing and its importance in increasing participation in activities that are known to have benefits for individuals and society. In making the case for social prescribing it is also helpful to look at evidence on the economic case. Many health promoting activities, including participation in social activities have been associated with a positive return on investment (ROI) to the public purse and/or society (4). This can be due not only through improved health and wellbeing, but also through increased participation in volunteering, employment and education, as well as through a reduction in the need for social services and in the need for informal and residential care. As part of our review we have also looked at the extent to which economic arguments have been incorporated into evaluation, and in the discussion section at the end of this report we suggest ways in which this evidence base may be strengthened further.

2. Methods

A rapid systematic mapping review of reviews has been conducted. This has been restricted to published systematic reviews (both narrative and quantitative) published in the last 5 years (January 1 2014 to January 31 2019) on effectiveness, impact and return on investment of selected activities to which individuals may be referred by GPs or others through a social prescribing mechanism.

In addition to systematic reviews we also mapped evidence from additional relevant UK or Ireland based empirical studies published in 2017 and 2018, as well as from studies and reports in governmental, academic and third-sector reports over this two year time period. We have also separately collated some new interventions delivered outside the UK/Ireland that potentially may be helpful because of a similar delivery context.

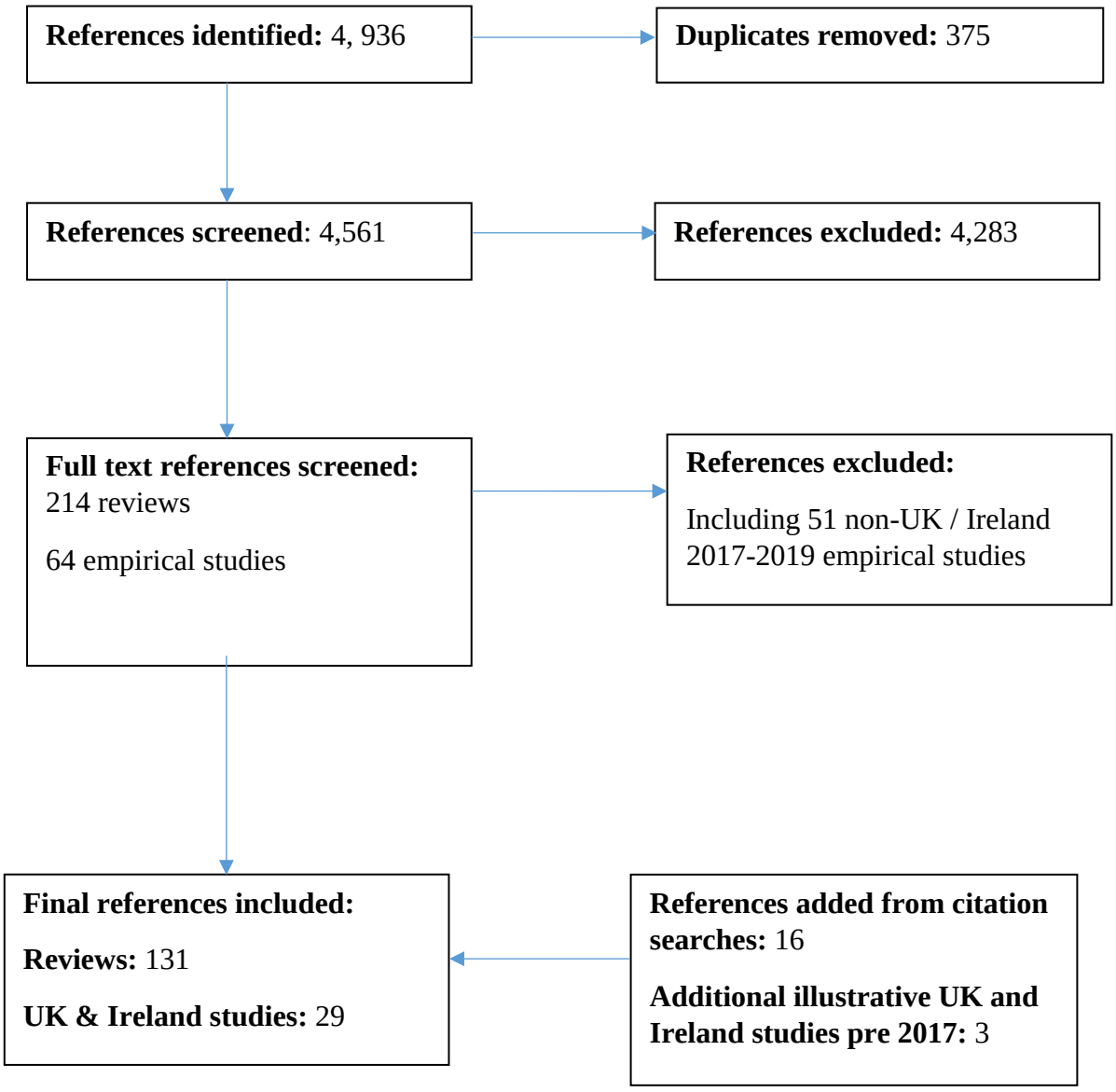
For both the search for systematic reviews and empirical studies we have restricted the search to the Medline and CINAHL databases, plus a structured search of Google Scholar for relevant additional literature, as well as identifying other materials from reference lists of published papers. To keep this task manageable we excluded reviews specifically focused on children, as well as any reviews of interventions delivered by health care professionals, including allied health professionals such as music, dance or physio therapists. We have also excluded studies that focused solely on online / web-based interventions as a way of fostering behavioural change. In addition, we excluded studies looking at interventions being delivered in hospitals, long-term care or nursing homes.

The detailed search strategies are provided in the Appendix to this report. Two systematic maps of evidence have been prepared and these in turn used in more in-depth analysis for selected topics. This has included reference to material on challenges and success in the uptake and sustained engagement with these activities. We have aimed to set out key strengths and gaps in this evidence, as well as reflecting on the extent to which social prescribing is noted as a mechanism to foster greater rates of engagement and participation in these activities.

3. Review Results

2,696 Records were identified in Medline and 2,228 in CINAHL. 294 Duplicate records were identified electronically and a further 81 records manually. This left 4,561 records to examine. We initially identified 214 systematic reviews that potentially look at the effectiveness of community interventions. These records were then further screened and separated into different types of activity that potentially be activated via social prescribing and two matrices (Matrices 1 and 2). Figure 1 shows the literature flow chart, indicating that 131 systematic reviews and 26 recent empirical studies were included in the analysis. A further 3 UK & Ireland empirical studies pre 2017 were included for illustrative purposes. Overall the review included 19 relevant studies were added from citation searches.

Figure 1: Literature Search Flow Chart



Our final list of included literature is provided in Appendix 2. As Matrix 1 indicates 131 reviews were finally included in the matrix; we broke this up into 9 categories of types of activity[1], including a general activity grouping and a group for reviews not focused on health. Around one third of all reviews include some cost / resource information and half contain at least one study from a UK context. Very few explicitly mention social prescribing as a concept.

The most common focus of reviews included were physical activity related programmes and also actions to tackle / prevent social isolation and loneliness (particularly in older people). We also found reviews focused on participation in music/singing or dancing, non-professional support groups, befriending, as well as a range of complementary movement / exercise regimens such as Tai Chi, Yoga and Qi-Gong. We only identified one review focused on a non-health related outcome (prevention of tenancy evictions), perhaps reflecting our use of health-related databases in this rapid scoping review.

Matrix 2 has 29 further empirical controlled studies from the UK or Ireland; 18 of these included some cost / resource information and seven included social prescribing delivery mechanisms. We also have collated a further 51 intervention studies from outside the UK which also fall into these categories, including some studies that use social prescribing mechanisms.

[1] (Note: individual reviews could appear in more than one category so the columns will not add up)

Matrix 1: Systematic reviews and meta-analyses (2014 – 2019)

Theme	Number of reviews	Reviews containing cost / resource info	Mentions social prescribing	Includes UK studies
Befriending	2	2	1	2
Creative Arts	8	6	2	5
Dance	22	7	0	5
General	29	17	1	12
Social Activity / Loneliness Alleviation	29	13	3	15
Music Participation & Singing	13	4	0	6
Other Non Health	3	2	0	2
Physical Activity	37	13	0	23
Support Groups	7	3	1	3
Yoga, Tai Chi and similar complementary medicine approaches	17	6	0	4
Total*	**131**	**45**	**7**	**61**

*Individual reviews could appear in more than one category, so totals are not the sums of columns

Matrix 2: UK & Ireland Intervention Studies (2017 – 2019)

Theme	**Number of studies**	**Contains cost / resource info**	**Mentions social prescribing**
Befriending	5	2	0
Creative Arts	2	0	0
Dance	3	2	0
General	6	4	4
Social Activity / Loneliness Alleviation	6	1	1
Music Participation & Singing	2	0	0
Other	3	0	0
Physical Activity	3	1	0
Support Groups	0	0	0
Welfare and Financial Advice	7	7	1
Yoga, Tai Chi and similar complementary medicine approaches	0	0	0
Total*	29	18	5

*Individual reviews could appear in more than one category, so totals are not the sums of columns

3.1 Brief overview of review findings

We look in more detail at welfare and financial advice, group-based activities to promote physical and mental health, as well as reduce loneliness and social isolation in the next section of this report. Here we briefly summarise the direction of evidence for some of the other thematic areas covered in the review. There are overlaps between some of these themes and it is also important to stress that this scoping review will only represent a very partial view of the evidence base and will not capture all economic evaluations; our aim however by referring to recent reviews is to indicate potential effective (and ineffective) areas that are promising to link to social prescribing, rather than provide a comprehensive mapping of all literature.

3.1.1 Befriending

Evidence on the effectiveness of befriending interventions remains limited. Two systematic reviews of befriending interventions were identified. One focused on 14 studies of individuals identified to have physical or mental health difficulties (5), while the other focused on four studies of volunteer mentoring provided to informal carers (6). Examples of UK based evaluations and some analysis of costs were identified in both reviews, but in both cases only weak positive associations between befriending and improvements in health outcomes for participants were identified, and interventions did not appear cost effective. In both cases the need for further evaluations to better quantify impacts was noted. It is also possible that there may be additional non-health related outcomes that arise from befriending, but evaluations have not covered these.

We also identified several recent UK evaluations on befriending as well as peer support. Two of these were largely qualitative in nature (7, 8) focusing more on the process of being a volunteer befriender rather than on outcomes. One study drawing on data from four unspecified London boroughs and three counties in southern England, looked at impact of carers becoming volunteer peer supporters to other carers of people with dementia (9). The study found some small improvements in the personal growth, mental wellbeing and self-efficacy of volunteers; but these results were based on data from just 21 of the 87 volunteers originally enrolled in the study. More promisingly an uncontrolled observational study of a combined home help / befriending service delivered by volunteers to more than 700 older people in Shropshire did suggest mean potential savings to local government over one year of than £1500 (10). Participants in the evaluation were asked to indicate whether they believed institutionalisation had been prevented by participant in the home help / befriending scheme; these cases of possible prevented institutionalisation account for the costs savings in the programme, but this still needs to be confirmed empirically.

Another uncontrolled evaluation of an English programme which involved volunteer runners befriending older people, suggested that there was a reduction in social isolation and improvement in life satisfaction for older people; the intervention would be considered cost effective from an NHS perspective when looking at the benefits for the runners – the impacts on older people were not considered in the economic analysis (11).

Although out of scope (because it was published in 2016), a social return on investment analysis of befriending services in Derbyshire calculated an annual benefit of 9:1; this was

based largely on survey responses from 26 befriending organisations in Derbyshire rather than observed evidence of effect (12). This estimate of benefits is problematic. It involved major assumptions on impacts of the use of health care services that are not obviously supported by empirical data and probably lead to an overestimate of any potential benefits. There is a need for empirical evidence on the actual economic impacts of services, such as those in Derbyshire and their consequences for health, social care and other sectors.

3.1.2 Arts, Dance and Music Participation

Arts on prescription as an approach has been implemented in many different ways in different UK and other contexts (13). We identified eight reviews on the use of the creative arts. These included a review of reviews of arts interventions for people with dementia highlighted randomised controlled trials in different country contexts pointing to both music and general arts interventions having positive impacts on depression and mood (14); many of these interventions were delivered however by allied health professionals rather than by artists. Other reviews, for instance looking at arts based interventions as a way of promoting mental wellbeing in young people, have largely collated findings from qualitative studies without also being linked to quantitative analyses (15). Again, while individual qualitative findings in this review, for instance on improvements in self-esteem or confidence, as well as lower levels of stress are encouraging, no assumptions can be made about their effectiveness in London. Another scoping review on arts interventions for older people in acknowledging the limitations of the existing evidence base stated that "*there is a need for programs of research (instead of teams conducting only one study), the development and application of conceptual frameworks, and multiple perspectives in order to build knowledge about how the arts contribute to health and quality of life for older adults*" (16).

We identified 22 reviews looking at the role of dance. While some of these reviews primarily were focused on dance as part of a therapeutic rehabilitation programme after illness or injury, such as for people living with Parkinson's Disease, cancer or fibromyalgia, a number of reviews focused more on the role of dance as a medium for promoting health and wellbeing. For example, a meta-analysis of the physical health benefits of 23 experimental and randomised controlled trials of structured dance classes of at least 4 weeks duration found dance to be at least, if not more effective compared to other structured physical activity interventions (17). Only one of these studies was undertaken in the UK, but the types of dance classes provided are all available in the UK. Moreover, adherence and attrition rates

favoured dance or were no different to other structured exercise interventions. In saying this some of the studies were solely for women and dance may not have as much appeal to men. Another meta-analysis of six dance studies in the review also concluded that dance was equally effective compared to other types of exercise in promoting cardiovascular health (18), whilst a narrative systematic review of 18 dance interventions all conducted outside of the UK reported that all but one had some positive impacts on physical health (19).

Participation in dance in the UK has also been argued to reduce both the fear of falling and its consequences. However, evidence on the impact of participation in dance on fall related injuries still remains limited; we identified two systematic reviews specifically on this issue. One was of 6 trials, none of which were conducted in the UK (20). Of these, only one from Brazil was demonstrated to reduce the incidence of falls (21), while two others in the United States and Taiwan had significant positive impacts on the fear of falling but no impact on falls incidence (22, 23). A second review looking at dance and fall-risk related factors, with seven studies all outside the UK, concluded that "*there were some aspects of the studies that do not enable us to confirm that dance has significant benefits on these factors based on the scientific evidence. These aspects include the methodological quality, the small sample size, the lack of homogeneity in relation to the variables and the measurement tools, and the existing diversity regarding the study design and the type of dance*" (24). Two recent very small UK evaluations of ballroom/Latin dancing for people with Parkinson's disease were cautiously suggestive of positive impacts but recommended large scale evaluation (25, 26), while another feasibility study in Ireland suggests that Irish dancing may also have quality of life benefits that should be explored in a larger scale study (27).

Evidence on the cost effectiveness of arts-based interventions is very limited (28) and there have been calls to strengthen this evidence base (29). Some examples of modelling and trial-based interventions can be found; creative arts on prescription programmes that can achieve only a modest effect been shown to be potentially cost effective initial alternative to psychological therapies for people with moderate to severe levels of depression (28), but robust evaluation on effect size in such programmes is a gap in the literature.

3.1.3 Multi-focused reviews

Several wide ranging and broad reviews of interventions, including dance, arts, intergenerational activities, training in the use of computers, volunteering and mentoring and have indicated many different examples of interventions that have been shown to have some

positive impacts on physical and mental health, wellbeing and independence (30, 31) . Some of these interventions have been evaluated through randomised controlled trials and others through quasi experimental studies. The challenge however is that most of these studies are very small scale in size and highly context specific; findings from any one individual study may not easily translate to different settings in London and elsewhere.

We also identified return on investment analyses of social prescribing schemes in Rotherham (32, 33). This scheme targeted individuals living with long term conditions and their carers, linking them with voluntary and community sector services. This included organisations providing befriending and reablement services, peer advocacy and a range of group activities, as well as opportunities to volunteer in the community. 87% of participants in the scheme were over the age of 60, with almost half (47%) over the age of 80. Qualitative information was explicitly collected on impacts on social isolation and loneliness from interviews with service providers and participants but there was no formal measure of changes in loneliness. Hospital Episode Statistics were used to identify changes in use of health services in the 12 months following participation in the social prescribing scheme; NHS tariffs were attached to service use in order to estimate changes in costs to the health service. Overall there was a reduction of £265 per person in health system costs for the 12 months post intervention compared to the 12 months before intervention. Compared to the costs associated with implementing the programme there was a ROI of £0.50 for each £1 invested. Extrapolation was used to estimate a potential long term ROI of £3.38 if benefits could be sustained for five years; estimates under different scenarios with a gradual reduction in long term benefits were also calculated. Further monetary benefits were attached to wellbeing gains to generate a SROI, but the method for valuing benefits is not well described. After 12 months the SROI would be £0.84.

4. Selected thematic areas for further analysis

Following this literature review we focused on the evidence for some specific selected types of action in a UK / Ireland context since 2014. This involved some additional searches for further evidence from evaluations in the grey literature that meet our inclusion criteria, and from references from relevant UK/Ireland studies included in our review of reviews. Our aim here is again to look in more detail as to whether there is also an economic case for action.

Specifically we decided to focus on:

- Welfare / financial advice / financial literacy services
- Group based activities (including sports) specifically intended to tackle loneliness and social isolation
- Face to face life long and continuing education courses (including courses on how to use the internet and computers)

These sub-themes reflect different areas of interest and different adult population groups. They also cover activities whose primary purpose may not be to improve health, but rather to tackle other goals that can have an impact on health such as loneliness and financial insecurity. Our aim was to provide exemplars of evidence, including assessment of its strengths and weakness, outcomes and impacts recorded (including effect size where feasible), resource and cost impacts (including economic evaluations and return on investment where this is feasible).

4.1 Welfare /financial advice services

There has been growing attention in the UK placed on the links between financial debt and insecurity, not only with poor physical (34) and mental health (35-37), but also with an increased risk of suicidal behaviours (38).

There are various financial and welfare advice services that are available across the UK and Ireland; the impacts of some of these services on health and poverty alleviation has been undertaken. Much of this evaluation has been for quasi-experimental or before and after intervention evaluation rather than controlled experimental studies so caution must be exercised when interpreting results. Nonetheless this evidence base supports referral to such services and indicates that they have both short and mid-term positive impacts. Unlike some other potential activities to which referrals may be made by social prescribers, these services

do not necessarily require long standing contacts in order to make a difference. Indeed, if advice and other supports available are successful then contact with these services may be limited.

Our scoping review identified a systematic review of interventions to reduce the risk of eviction of tenants from rental properties (39). This review included a UK evaluation of the provision of debt advice services to tenants (40).This study reported that debt arrears reduced by 37% for tenants who made use of the advice service over 12 months compared with a 14% increase in debt arrears for tenants who did not make use of the service. The analysis did not consider whether these results were statistically different, but it included a simple financial analysis which indicated that after taking account of the cost of debts advice services there was a net benefit of £239 per client in debt arrears averted.

A quasi-experimental study looked at the co-location of Citizens Advice Bureau (CAB) welfare benefits and debt advice services in GP surgeries in London (41). It also included an economic analysis comparing the costs of the service with financial gains to clients who made use of the service. Use of the service was associated with reduced financial stress, as well as reduced use of credit cards if clients were unable to make payments. From the perspective of the client there were average financial gains of nearly £2,700 over the eight month study period, with financial benefits to clients overall outweighing the costs of running the programme by 15:1. There was also some association between receipt of advice and better mental health, where advice was perceived to have positive outcomes. The authors concluded that such welfare advice services potentially can help reduce the workload on GP primary care practices.

As part of work to estimate the economic case for investing in measures to protect and or improve mental health commissioned by Public Health England, a return on investment model looking at increased access to not-for-profit debt advice services was created (42). This brought together evidence on the effectiveness of debt management services from a previous English randomised controlled trial, together with the benefits to the health care and legal systems, as well as to society as a result of a reduction in debt-related depression. Using very conservative assumptions on costs and benefits a return on investment of £2.60 for every £1 would be achieved over five years. This excludes other benefits such as improved quality of life and physical health. An earlier analysis, using the much less conservative social return on investment methodology which relied heavily on clients perceptions of potential problems

avoided rather than empirical observation of outcomes, estimated that the return on investment of supporting Citizens Advice Bureau (CAB) debt advice services in Bath and North East Somerset could be in excess of £33 per £1 investment (43). The CAB nationally also produce their own annual modelled estimates of the return on investment suggesting a return of £1.96 in fiscal savings related to health, housing and out of work benefits, with another £11.98 in what they term wider economic value and £13.06 in improved incomes of people in debt (44). A largely qualitative review in Manchester also highlighted the potential economic as well as personal health benefits of debt alleviation of debt counselling and other CAB advice (45).

Another example concerns a referral programme from GP practices to a warm homes services for older people in Wiltshire (46). The service Warm and Safe Wiltshire (WSW) was offered by Dorset & Wiltshire Fire and Rescue Service and Wiltshire Council to reduce fuel poverty in the county and make its residents' homes warmer, healthier and safer places to live. The service provided advice and support in keeping a warm home. Individuals on GP practice lists could be flagged up as those who would potentially benefit from the service through a computer algorithm. While the experiences of individuals supported by WSW were positive, referrals through GP practices were much lower than anticipated – only 71 from a target of 750 individuals were actually referred to the service. This suggested that despite the low cost (from the GP perspective) of this service, a lack of time and a lack of recognition of the importance of this type of service hampered uptake; the service was most effective where additional individuals e.g. care coordinators and practice nurses were also involved in the referral process.

4.2 Group-based loneliness alleviation

Another area that we have explored in more depth concerns the use of group-based activities as a way of reducing loneliness in the population. This is another area of considerable policy interest in the UK with the government's strategy on tackling loneliness published in October 2018 and there is a growing evidence base on a range of group-based social activities for loneliness alleviation, as well as physical and mental health promotion.

Group-based social participation interventions were recommended by NICE in their guidance on promoting the mental wellbeing and independence of older people (47); this guidance was supported by an evidence review which included a number of interventions that had been delivered in a UK context (30); moreover a further mapping review indicated that a range of

group-based activities to which individuals could be referred were available all over the country (48), although one problem is that many programmes are operated in specific localities and therefore are very small in scale. This has meant that evaluations that have taken place have tended to be very limited in scope because of resource constraints. Appendix 3 provides detailed summary information from systematic reviews that in part looked at interventions to tackle loneliness. Nearly all of these take the form of narrative reviews rather than meta-analysis, in part because of the heterogeneity of interventions; very few included any mention of the economic costs or cost effectiveness of programmes. Social prescribing (or social prescribing-like mechanisms were mentioned in a small minority of these reviews.

To building on our review of reviews and identify more on the economic case for action, we extended our search for UK or Ireland empirical based studies to go back to 2014. We focused on evaluations that included a formal economic evaluation or return on investment analysis. The process meant that we were able to identify a number of relevant studies to illustrate that from a cost effectiveness perspective actions to tackle isolation or loneliness may be suitable programmes to refer individuals to via social prescribing mechanisms. However, as the discussion below indicates these studies were generally small in scope and size and there are inconsistencies in approaches used to measure economic outcomes. Table X summarises the evaluations that we use in these illustrations.

Table 1: Illustrative example of UK evaluations of group-based loneliness alleviation interventions alongside economic analysis

Intervention	Target Population	Sample Size	Methods	Results
Lifestyle Matters: multi-component community facilitator led group session on how to improve mental well-being.	People aged 65+	262	Economic evaluation alongside RCT	No significant impacts on mental health but loneliness significantly decreased at 6 and 24 month follow ups. Health and social care costs lower in intervention group but not significant
Participation in Silver Song Clubs – musician led community group singing programmes. Groups met for 90 minutes for 14 weeks to sing songs from different eras and in different styles.	Community dwelling women over the age of 60.	258	Economic evaluation alongside pilot RCT	Significant improvement in quality of life in singing groups. Costs, including health service use, in singing groups higher but not significant. 60% chance of being cost effective at cost per QALY of £20,000.
Craft Cafés, open from 10am to 4pm, 3 days per week and offering a range of creative activities supported by a professional artist.	Community dwelling people age 50+	32 participants	Social Return on Investment Analysis	Social return on investment of £8.27 per £1 invested. But only 9% of benefits accrue to NHS, 5% to housing associations, 16% to family members and 70% to older people.

Static community based signposting service to match people who self identify as lonely with community based activities	Community dwelling people aged 65+	N/A – model draws on data from different sources	Economic modelling study	Over five years a positive return on investment of £1.26 for every £1 invested. Very conservative assumption as model limited solely to benefits related to better mental health.
Signposting and information service from Village Agents who can refer individuals to advice and welfare services and also match them up with activity groups and other things.	Community dwelling older people age not specified	Not evaluation but did look at 13,000 contacts with service	Partial return on investment analysis	ROI for all aspects of Village Agent scheme is £1.90: £1 from a health and social care perspective increasing to £3.10 when benefits to clients included.

These include an economic evaluation, carried out alongside a multi-centre RCT of a lifestyle support programme (Lifestyle Matters), designed to improve the mental wellbeing of people aged 65 years and above in England and Wales (49, 50). Outcomes were measured at baseline, 6 and 24 months. Loneliness at 24 months, measured with the de Jong Gierveld Loneliness Scale, showed a significant decrease compared to standard care. The economic evaluation collected information about health and social care use covering each three month period prior to data collection. The average cost of the intervention per person was: £430 (North England) and £575 (North Wales). The intervention was also less costly than usual support, although this difference was not statistically significant.

Another recent randomised controlled trial focused on group singing activities as a way of reducing loneliness and improving the mental health and wellbeing of older people (51). This trial evaluated the impact of active engagement in a 14-week professionally led community choir group on mental wellbeing. 131 people with divided into 5 singing groups delivered in community venues in east Kent. A waiting-list control group of 127 people received no active intervention. The study found a significant improvement in SF-12 (a quality of life instrument) mental health component scores for the intervention at six months compared to the control group. Participants in the singing group also had small but significant gains in quality of life expressed as Quality Adjusted Life Years (QALYs) gained. These better outcomes were achieved without any significant difference in overall health and social care service utilisation. The economic case for investing in singing groups is promising; while the intervention was likely to have at least a 60% chance of costing less than £20 000 per QALY gained. This may be a conservative estimate if mental wellbeing benefits are in fact sustained beyond six months. Other recent analysis in Wales also indicate that group participation in

choirs can also help to promote the mental health and wellbeing both of people living with cancer and participating family members (52).

Another example concerns a social return on investment (SROI) study focused on the impact of two 'Craft Cafés' in Glasgow; a pilot programme from Impact Arts that 'sought to reduce the isolation and loneliness experienced by older people, to enable them to make positive lifestyle changes associated with ageing and, ultimately, to bring about a better quality of life' (53). The analysis captured in-contributions to the delivery of Craft Café service and generated a very positive return on investment of £8.27 per £1 invested, although the methods for placing a value on some of these benefits, such as the monetary value of being less lonely are partly value judgements; this study was not able to measure potentially more tangible impacts such as changes in the use of health or social care services.

Services that help 'signpost' or facilitate links to community and voluntary organisations that can help individuals address issues such as poor health, loneliness and social isolation have also been evaluated. The evidence on the economic case for signposting is encouraging, although it should be stressed that effectiveness data are taken mainly from a few very small observational studies (42).

An intervention to address loneliness in older people was one of eight interventions included in a return on investment (ROI) tool developed for Public Health England (42). The intervention modelled examined the provision of a signposting service for people aged 65 and older who were not in paid work and who perceived themselves to be lonely. Such signposting services have been put in place in different areas of England; they might be located in GP surgeries, others in local focal points such as shopping centres or libraries.

Drawing on observed experience in small scale studies in England the model estimated the likelihood that individuals would self-refer themselves to a community-based service that would seek to match them with suitable local social activities to reduce the risk of social isolation and loneliness. The impacts of subsequent participation in regular group activities on mental health and loneliness over the next five years were then considered. Costs averted included GP and GP nurse contacts, risk of hospital presenting self-harm, and avoidance of psychological therapy to treat depression. The benefits to society of an increase in the number of individuals contributing their time as volunteers as a result of coming into contact with signposting and navigation services were also considered.

The model estimated that over a five year period there is a ROI of at least £1.26 from every £1 invested in this service. This however is a highly conservative estimate as the model explicitly was limited to looking at mental health benefits alone. It did not take account of broader additional health benefits, such as improved physical health, as well as potential benefits if cognitive health is protected. Any avoidance or delay in physical health decline would mean that local authority social services can avoid substantive costs linked with both community and residential care. Nor does it include any estimate of wider benefits associated with social participation and more healthy ageing. Another analysis using the same approach but including these wider benefits increases the ROI substantially.

Another ROI analysis of a signposting service operating in Gloucestershire was estimated to have a return of £1.90 for every £1 invested. This ROI however covers more than actions to address loneliness or isolation, such aa fuel poverty and fall prevention (54). Gloucestershire Village and Community Agents provided a wide range of information and refer individuals to services and supports in the local area. A very simple economic analysis was undertaken. This reported the overall return on investment from the scheme, which not only were thought to include reducing loneliness and social isolation, but also reducing falls, increasing independence, tackling fuel poverty and supporting people living with cancer. The analysis assumed that every one of the 291 contacts either with befriending services or community activities as a result of agent signposting would have a cost offset of £270. This figure is based on the economic benefits gained per individual as a result of avoiding depression in a previous economic modelling study. An estimate of the value of volunteer time (including volunteer time provided by clients) was also included in the analysis. Overall, while the results are positive, the analysis is very limited as it did not measure actual outcomes related to loneliness or depression, simply assuming that these would follow on from contact with the service.

4.3 Education and training activities

There is evidence from outside the UK and Ireland of the benefits of participating in life-long learning programmes (30). Some of these programmes are fully focused on pursuing academic goals, in Spain, for instance, specific university courses aimed at older people have been associated with improvements in health and wellbeing (55, 56), whereas others are more about the enjoyment to be gained from learning. While lifelong education is popular across the UK we found few examples of evaluation of its impact, none of which considered the

economic benefits of supporting programmes. One institution which has been subject to some evaluation is the University of the Third Age (U3A). U3As exist all across the UK; they rely on volunteers to guide and co-ordinate learning efforts. The emphasis is on social interaction and help in guiding on a range of activities varying from language and computer classes to theatre visits, knitting, tai chi and yoga. It has been the subject of mainly qualitative evaluation in the UK. A survey for U3A of 801 participants indicated that 91% ad made new friendships, 59% were more confident and 55% felt healthier (57).

We also identified studies that look at the benefits of developing computer and other IT skills, for all population groups. Previous systematic reviews of different types of training for older people, including group-based training, produce mixed results, with some health and wellbeing improvements where recorded with more inconclusive results when looking at impacts on social isolation and loneliness (58-60). In the UK we mainly identified qualitative studies, and while results therefore need to be interpreted with great caution as they do not include comparative evaluation, these studies suggest that there is a positive impact from widening digital inclusion in society. For instance, providing training and support for individuals so as to make more use of digital health tools, is associated with reduced use of primary care health services but no assessment was made of the impact on the health of survey participants (61). A later evaluation of general (rather than health specific) digital skill development for people who were either homeless, were caring or had poor mental health, produced by the same organisation stated that 84% of respondents had indicated an improvement in wellbeing following training. It was not clear what measure of wellbeing was used. No economic analysis was included but they study also indicated some positive economic benefits including that 6% of respondent moved into employment, 7% became volunteers and 18% were subsequently seeking employment (62).

5. Discussion

131 systematic reviews of interventions in the last 5 years were identified; 22 examples of empirical studies published in the UK and Ireland since 2017 were also found and a further 7 studies added subsequently between 2014 and 2017. While the review is only intended to provide a snapshot of the evidence base it does highlight some of the dilemmas to be faced by social prescribers and their funders in respect of the long term evidence base. While there reasonably robust evidence that sustained participation in a range of sport and other physical health related activities including dance, the evidence base for group based social interaction activities is more mixed, while that for some of the creative arts is largely qualitative in nature. The evidence on befriending appears particularly weak. Much of the literature we identified focused on health related activities, which in part reflects our concentration on health dominated bibliographic databases but a small but encouraging evidence base exists for some interventions focused on other outcomes, and we highlight the UK specific evidence base on welfare and financial advice services.

5.1 Strengthening the economic evidence base

In all cases few systematic reviews focused on economic benefits or even the relative costs of interventions; this represents a potential gap that might be addressed rapidly by retrospectively taking areas where evidence is most promising and also considering the return on investment and cost effectiveness from different perspectives, the NHS, local authorities and society. Cost effectiveness and/or return on investment analyses were however more evident in recent empirical UK studies that we have included. This included the recent Connected Communities evaluation which was able to generate useful information on health and non-health related benefits of group social activities for a small scale but valuable social activity programme targeted at single mothers in the north of England (63).

Our review also identified a number of different examples of modelling approaches to return on investment. Return on investment models might also be created to look at the potential case for action where evidence is less robust; this can help identify the level of benefits that would need to be achieved in order for the action to be considered a sound investment. The added value of effective social prescribing practices in encouraging and sustaining uptake of effective interventions could also be embedded into this approach. Such evidence is needed to help ensure that resources are allocated to those activities that are most likely to benefit their

target populations. Such models could also consider the impact of actions on social and health inequalities.

One example of this is the publicly available tool recently developed for Public Health England which allows local government to calculate the short and mid-term return on investment associated with various mental health promotion activities including referrals to group-based social activities to tackle loneliness and referrals to financial/debt management advice (McDaid et al 2017). This general approach might also be applied to social prescribing mechanisms and the activities to which individuals are linked.

6. Recommendations

In concluding this brief report we set out four recommendations:

1. It is important not just to look at the effectiveness and appropriateness of social prescribing mechanisms, but crucially the activities to which individuals are being referred via social prescribing.

2. The evidence base on activities to which individuals potentially may be referred by social prescribing mechanisms is very varied; commissioners need to be mindful of strength of this evidence when looking at activities to which individuals referred by social prescribing

3. It is important to also look at cost effectiveness, budgetary impact and return on investment not just of social prescribing mechanisms, but also the interventions to which individuals are referred through prescribing. In doing this it is also critical to recognise that there are many potential impacts outside as well as within health care systems, e.g. poverty alleviation, strengthening civil society, increased volunteering and employment.

4. Economic modelling techniques might be used to synthesis information on the effective of social prescribing plus activities to which individuals referred, with the costs and potential costs averted of these activities. Economic models can also be used to look at what level of engagement and behaviour change needs to be achieved by social prescribing in order for investment in social prescribing to be considered cost effective.

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Appendix 1: Search strategies

A 1.2 MEDLINE

1. Social Participation /

2. Self-Help Groups /

3. Health Promotion

4. Befriending. ti, ab

5. Debt. ti, ab

6. Loneliness /

7. Dance. ti, ab

8. Music. Ti, ab

9. 1-8/OR

10. Review.pt

11. 9 AND 10

12. Clinical trial.pt

13. Observational study.pt

14. 12 OR 13

15. 9 AND 14

16. 11 OR 15.

17. Limit 16 abstracts, dates 01/01/14 – 31/12/19, English Language

A 1.2 CINAHL

1. Social Participation/

2. Support Groups/

3. Health Promotion (Major Concept)

4. Befriending. ti, ab

5. Debt. ti, ab

6. Loneliness/

7. Dance. ti, ab

8. Music. Ti, ab

9. 1-8/OR

10. Systematic Review/

11. 9 AND 10

12. Randomised Controlled Trials /

13. Nonexperimental Studies /

14. 12 OR 13

15. 9 AND 14

16. 11 OR 15.

17. Limit 16 abstracts, dates 01/01/14 – 31/12/19, English Language

Appendix 2: List of studies included in the review

A2.1 Reviews included

1. Willems M, Waninge A, Hilgenkamp TIM, van Empelen P, Krijnen WP, van der Schans CP, et al. Effects of lifestyle change interventions for people with intellectual disabilities: Systematic review and meta-analysis of randomized controlled trials. Journal Of Applied Research In Intellectual Disabilities: JARID. 2018;31(6):949-61.

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A2.2 UK & Ireland empirical studies

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Appendix 3: Detailed extraction tables on reviews re social isolation and loneliness

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Baker et al (64) Combatting social isolation and increasing social participation of older adults through the use of technology: A systematic review of existing evidence. 2018 36 studies 2000 – 2016 Narrative Review Age Range: 65+ ; UK/Ireland ?					
The aim of the SR was to investigate how technology is being used to combat social isolation and increase social participation for older adults	**Inclusion criteria:** - smaller design studies and prototype evaluations from human-computer interaction (HCI) - Technology referred to ICTs and include devices (hardware), applications (software) and websites - Adults 65+ - social participation and social isolation (search terms) **Exclusion criteria:** - theoretical and descriptive studies - Medical Information systems - telemedicine - information management	Papers included use of any technology targeted at older people aimed at supporting social participation and/or reducing social isolation. Social network services: - Social network services (SNS) (e.g. Facebook, LinkedIN and bespoke SNS e.g. web portals, newsgroups) - touch-screen-based interventions (e.g. bespoke interfaces for older people) - novel technologies (other than above) e.g. tech platforms such as ideoconferencing, ambient assisted living devices, exergames, immersive music and art experience, etc. - evaluations of the impact of ICT-based training ans support on older adults' social lives: internet and ICT usage	1. Redressing social isolation 2. Increasing social participation But social concepts often poorly defined. Sometimes vague: e.g. "increasing communication" or "improving access to information" or "fun and pleaasure" or "intergenerational interaction" Sometimes used standardised measure: e.g.psychometric scales, personality types, QOL factors	C: N SP: N	"1.Dominance of research focussed on 2 categories of ICT interventions: - SNS and touchscreens - sharp increase in usage of smartphones and Facebook amongst older populations (although still lag behind other age groups) - gap in knowledge relating to new technologies 2. Use of social concepts in this body of evidence - many studies fail to clearly define the social outcomes, whether it related to redressing social isolation or increasing social participation - some make an assuption relating to improved social outcomes - others do not discuss concepts being incorporated into their study - inadequacy attention to social concepts 3. Broad and varied methodologies in the review - most studies on touch-screens are short, small-scale - inadequate methodologies for studying this topic"

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Beauchamp (65) Do Exercise Interventions Improve Participation in Life Roles in Older Adults? A Systematic Review and Meta-Analysis. 2017. 18 studies To 2015. Meta-Analysis Age Range: 60+, UK: yes					
To evaluate the effect of physical exercise interventions on participation in life roles in older adults. To explore possible parameters of successful programs and the impact of the measurement method on results.	Inclusion criteria: In this review we focused broadly on any type of physical exercise intervention given to adults over the age of 60 that included an explicit measure of participation. - RCT - 60+ years - any non-pharmacological intervention that included exercise or physical activity (def: any planned activity or series of movements undertaken to increase fitness or health) either alone or as a component of a multifaceted intervention, compared with usual care - Explicit measure of participation participation Outcomes: --aspect of participation (e.g. ICF or Nagi) --measurement instruments need to have more than 1/2 of the items devoted to participation Exclusion criteria: - conference abstracts	Most programmes: - mainly lower-extremity exercise targeting 1 or 2 impairments or activities (e.g. balance, strength, walking) Some interventions: - education and behavioural support - multi-faceted interventions including project-based activities to promote social engagement as well as exercise sessions - stroke rehabilitation intervention - modified tai-chi programme - Agentine tango class - Wii Fit programme	Generic patient-reported instruments designed to measure some aspect of participation based on an existing conceptual framework (ie, ICF or Nagi). In this study, we operationalized participation as involvement in life situations involving complex behaviours that can be accomplished using a variety of tasks or component actions (rather than activities that require only basic physical tasks). Measured used in order of frequency: - Late-Life Disability Instrument (LLDI) - Frenchay Activities Index (FAI) - Reintegration to Mornal Living Index (RNLI) - Adelaide Activities Profile (AAP) - Activity Card Sort (ACS) - London Handicap Scale (LHS)	C: No SP: Yes	Random-effects meta-analysis of 16 studies (2,132 participants) showed no over-all effect of the exercise interventions on participation Sub analysis of 6 studies (894 participants) showed favourable effect of long-duration programmes on participation. - Benefits of exercise do not necessarily extend to participation in life roles for older adults presenting with a wide range of chronic disease and mobility limitations. - small positive effect on long-term exercise programme (>=12months) on participation

	- non-English language publications - measures of QOL, ADL and physical activity				

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Chen (60) The Effect of Information Communication Technology Interventions on Reducing Social Isolation in the Elderly: A Systematic Review. 2016. 25 studies Narrative review UK: Yes					
To gain a synthesis of the evident effects of ICT interventions on social isolation in the elderly.	Inclusion criteria: - publications in English - studies must empirically investigate the effects of ICT on one or more attributes of social isolation among the elderly - study participants much be 55 years or older	Most research: - Internet or web-based apps on a computer (e.g. search, email, online chat rooms, videoconferencing, social networking apps, and web-based telehealth systems) 1 study: - telephone befriending intervention 1 study: - mobile phone/smartphone 1 study: - iPad 1 study: - Nintendo Wii 1 study: - visual pet companion app (pet avatar in real time via a tablet)	Outcomes of ICT use: - 4 studies: effect on social isolation (in general) - remaining studies: specific aspects of social isolation only Social isolation: Cotton et al self-developed scale: - not having a close companion - not having enough friends - not seeing enough people they feel close to 3 studies did not quality term - but social isolation and loneliness interrelated/interchageable Catton et al: - being forgotten and not belonging Kahbaough et al; Karimi and Neustaedter: - not being connected to family, friends and existing contact 7 single attributes of social isolation: - loneliness (most tested) - social support -social contact - number of confidants	C: No SP: No	Relationship between ICT usage and social isolation in general: 4 demonstrated a positive result: the use of telephone befriending programs, computer and Internet, and ICT in general lessened social isolation. The reported effect of ICT use on the individual dimensions of social isolation was consistent across studies, except for that on loneliness. ICT interventions significantly fostered social support, social contacts, social connectedness/social connectivity, and social networks among the participants, but no effect was found on number of confidants or social well-being. Of the studies examining loneliness, 15 of 18 revealed a significant reduction of loneliness among the elderly using ICT. Studies using communication programs (using landline phones, smartphones, iPads, emailing, and online chat rooms or forums) and high-technology apps (Wii, the TV gaming system, and

			- social connectedness/social connectivity - social networks - social wellbeing		Gerijoy, a virtual pet companion) consistently reported a positive effect on alleviating loneliness. ICT use consistently affected social isolation in general, social support, and social connectedness positively, but the positive ICT effect on social connectedness and social support rarely lasted for more than 6 months after the intervention. The results for loneliness were inconclusive. The results for self-esteem and control over life were consistently nonsignificant. After triangulating the quantitative and qualitative data of the included studies: elderly's employment of ICT reduces their social isolation through the following mechanisms: - connecting to the outside world, - gaining social support, - engaging in activities of interest, and - boosting self-confidence. ICT helps the elderly stay connected with their family members (especially grandchildren), friends, former colleagues, acquaintances, and new contacts of shared interests or needs across temporal and geographical boundaries via digital interactions. Connections lead to social inclusion and foster social support. ICT also allows elderly people to renew their hobbies or competence and participate in enjoyable activities without the time

					constraint. Most importantly, ICT use boosts self-confidence among the elderly by making them "connected to information," "feel young," "become one of the modern generation," "overcome challenges," "equip themselves with new skills," "stay socially active," and "help others online." The results reveal the interplay between the ICT-mediated activity and the effect of such behavior on particular types of loneliness and social support.

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Chipps (66) The effectiveness of e-interventions on reducing social isolation in older persons: systematic review of systematic reviews. 2017 12 reviews Narrative synthesis. UK/Ireland: No					
What is the level of evidence on the effectiveness of e-Interventions to reduce social isolation and loneliness in older people living in community/residential care?	Inclusion criteria: - adults >= 60 years - living in community or residential settings - no major neurocognitive impairments - e-interventions (employ any ICT or internet-supported delivery mode with/without human support) Exclusion criteria: living in frail care settings - sight and hearing impaired	Online activities: computer/internet training and usage Interpersonal communication - VC (Videoconferencing studies) - Skype Internet-operated therapeutics - Robotics - Computer-generated exercise - Videogames - Wii	Loneliness: - UCLA Loneliness Scale - de Jong Gierveld Loneliness Scale	C: No SP: No	Hetterogeneity of the publications in this field evidenced by varying definitions of older people, social isolation/loneliness and e-Interventions/ICTs/Internet-supported interventions. Training and use of Internet/computer e-Interventions were not supported with conclusive evidence on the impact on loneliness. In examining the underlying studies, there appeared to be no definitive evidence of the effectiveness and sustainability of effectiveness.

	- smart devices for home or telehealth - physical health outcomes/functional capabilities/lifestyle changes - no impact on social isolation/loneliness - case series, post-test or pre-test/post-test or surveys only - Non-English publications - - Not a systematic review - No outcome measure social isolation/loneliness				The evidence for Internet-supported communication showed a significant reduction in loneliness, though this was mediated by self-efficacy and frequency of use. - The emergence of the field of robotics showed some evidence of potential for decreasing loneliness, though the studies were small and biased.

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Cohen-Mansfield (67) Interventions for Alleviating Loneliness Among Older Persons: A critical review 2015. 34 Studies. Narrative review. UK: Yes					
The purpose to evaluate the effectiveness of loneliness interventions: (1) to review the utility of interventions for loneliness for older adults and pinpoint their strengths and weaknesses; (2) to identify which interventions are efficacious for which specific subpopulations; and	Inclusion criteria: - published between 1996 and 2011 - older adults >=55 - study implemented and examined an intervention's impact on loneliness or identified a situation that directly affected loneliness - study outcome measures included effects of the intervention or situation on loneliness levels or on loneliness-related measures (e.g. social interaction, social initiative	Community samples Group interventions - Educational Intervention with psychosocial element included: social skills practice, facilitation of social interactions, social networks development - Shared Activity an activity that takes place among several persons without an educational or therapeutic context:visual arts discussions, aerobic activities, chorale participation, foster-grandparenting	Effectiveness rating by population type, intervention type, format, intervention duration	C: No SP: No	Of the interventions studied - 12 studies were effective in reducing loneliness - 15 evaluated as potentially effective - Group interventions were somewhat less often evaluated as effective compared with one-on-one interventions - Group interventions were more commonly evaluated as potentially effective and less commonly evaluated as ineffective - therefore group activities are viable candidates for alleviating loneliness

(3) to clarify what knowledge relating to loneliness interventions is lacking.	- pretest-posttest comparisons were made Exclusions criteria: - studies that did not report inferential statistics unless they employed an innovative intervention tactic	One-on-one interventions: - Educational with psychosocial element: focused on caregiving relationships, personal mentoring, telephone crisis programme without psychosocial element: computer training, computerised relational agent, visits from OT - Sensory Technological Aids use of perosnal, sensory technological aids (e.g. hearing aids) Institutionalised samples Group interventions: - Educational cognitive enhancement programme - Shared Activity gardening programme, participation in a ladies' or gentlemen's club - Specific Therapy Techniques humour-therapy programme One-on-One Interventions: - Educational videoconference interactions with family, email contact with relatives, friends, empathic volunteer - Specific Therapy Techniques animal assisted therapy Institutional + Community samples:			- this review suggests that there is no solid evidence of efficacy of any current intervention for older community-dwelling persons, highlighting the preliminary state of the art of this research and the dire need for rigorous studies. - methodological limitations, difficulty to recruit lonely participants to an RCT. - Use of technology in interventions to alleviate loneliness was effective in both group and 1on1 formats, in community, institutionalised and both - Educational programmes appear to be effective in reducing loneliness in both 1on1 and group formats - Educational group interventions with psychosocial element were largely rated as potentially effective - Shared activities interventions rated effective - Specific theary technique were rated as effective in both groups and 1on1 formats

		Educational: computer training, listening to a nostalgic radio program			

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Coll-Planas et al (68) Social Capital interventions targeting older people and their impact on health: a systematic review. 2017. 36 studies. Narrative synthesis UK: yes					
Assessing the impact on health outcomes and use of health-related resources of interventions that promote social capital or its components among older people	Inclusion criteria: randomised controlled trial design; participants over the age of 60 (or alternatively with a mean age over 64). Intervention promoted social capital or one of its components. Exclusion criteria: Professional support was not considered social support and thus was not social capital either.	Interventions discussed: Social support: - support groups - peer support Social activities Befriending schemes Engaging participants in activities Group interventions - seal robot in nursing home Individual interventions - cognitive stimulation via computer - interventions with existing support network Group+ individual intervention Setting approach - intergenerational activities (with schools) - humour therapy in care home	Outcomes: - QOL subjective measure - Wellbeing subjective measure - Self-perceived health subjective measure - Mood (most frequent outcome) - Loneliness subjective measure - Depression and anxiety subjective measure - Mortality objective measure	C: No SP: No	Positive effects were reported in community-dwelling older adults and nursing home residents in all sufficiently reported outcomes except for mortality. Findings indicate the potential of social capital interventions to impact these outcomes. The narrative synthesis detected a signal that for certain populations and outcomes these interventions could be effective.

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Cotterell (69) Preventing social isolation in older people. 2018 ? Studies. Narrative Review UK: Yes					

The review of literature on social isolation covers 4 main areas: 1: identifying those at risk of isolation in middle and later life; 2: methods for assessing isolation; 3: developing interventions aimed at preventing isolation; and, 4: future directions for research.	Not clear	6 types of interventions: 1. Working with individuals (1to1) - pairing an individual with a professional or volunteer - Befriending schemes - Psychological interventions (not specified) 2. Group interventions - gather individiuals around a common interest and can include social, educational or physical activity sessions, group discussions or group therapies - Groups for ethnic minority groups (language, cultural) - Mindfulness and stress reduction - Reminiscence group therapy - cognitive and social support interventions - discussion groups (e.g. for women living alone, bereavement support, adult children carers) 3. Services provision interventions - community navigator services (volunteers) - Fit for the Future (Age UK): older people with LT health conditions to existing local services and activities such as group exercise - students providing free computer training in retirement villages and care homes 4. Technologies - Email, Skype, social networkings sites, internet - smartphones and virtual assistants	Social isolation - feelings of loneliness or isolation - size, closeness and frequency of contact with social networks - interacting/connections with the community - subjective health and wellbeing - depressive symptoms	C: No SP: Yes	Importance of adopting a holistic approach - a shift from cure to prevention - a shift to how social isolation is perceived - no one-size-fits-all solution for preventing social isolation - promoting the creation and maintenance of high quality social relationships throughout the life course - national, regional and local authorities work together with communities

		5. Neighbourhoods - age-friendly cities - public amenities (benches, public transport, etc) 6. Structural interventions - applying preventative strategies at the population level (policy and attitudinal change) - positive ageing - supporting older workers - family-friendly workplaces - flexible work hours			

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Dam (70) A systematic review of social support interventions for caregivers of people with dementia: Are they doing what they promise? 2016. 39 studies. Narrative UK: Yes					
Research questions: 1. How effective are social support interventions on caregiver measures of social support and well-being? 2. What is the methodological quality of the paper included in the present review? 3. How well are the process characteristics of	Inclusion criteria: 1. Intervention studies targeting informal caregivers of community-dwelling people with dementia - no limits on dementia type or caregiver relationship 2. Studies reporting on caregiver outcomes 3. Interventions explicitly enhancing social support	Interventions: Befriending and peer support interventions - 1to1 peer support or trainer volunteer befrienders for former dementia caregivers Family support and social network interventions - mobilising caregiver help - spousal caregiver interventions: group counselling sessions Support Group interventions	Individual wellbeing: - self-esteem - QOL - depressive symptoms - social and emotional wellbeing - burden - anxiety subjective satisfaction - feelings of discomfort and embarrassment - sharing and companionship - quality of relationship with person with dementia - relationship strain, emotional strain - activity restrictions	C: Yes SP: No	Social support findings - studies with a lower level of evidence demonstrated more positive results on social support variables - qual. studies found beneficial results on social support outcomes compared to quant studies - insufficient evidence to draw strong conclusions about which type of interventions works best in improving social support outcomes - befriending and peer support interventions showed improvements on qualitative measures of social isolation and emotional support (no quant benefits identified)

the interventions described? 4. How does the methodological quality of the papers related to intervention effectiveness across the intervention categories?	4. Interventions facilitated by peers and/or professionals 5. No limits for methodological design Exclusion criteria: - mixed samples of people with dementia and people with dementia - studies only reporting outcomes related to the person with dementia - studies only reporting outcomes related to intervention cost-effectiveness	Remote interventions - online networks, chat forums, video-phone, telephone	- distress - self-efficacy Social network variables: - assistance from informal social network - satisfaction with social support - having closer network members - seeing family and friends more frequently - receiving emotional support Social inclusion and isolation - loneliness		- support groups showed qualitative improvements on social inclusions and new social contacts (no quant improvements) - family interventions found both quant and qual effects on support satisfaction and objective network variables - remote interventions had +ve but inconsistent effects on subjective and objective support measures Wellbeing findings - +ve but inconsistent effects for caregiver wellbeing in terms of depression, burden and QOL - multicomponent interventions more effective than single social support interventions

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Damant (58) Effects of digital engagement on the quality of life of older people. 2016 91 studies. Narrative review. UK: Yes					
The impact of ICT-use on QOL of older people with respect to their day-to-day lives in general and their health and social care needs.	Inclusion criteria: - broad range of ICT used by adults described as "older", "elderly" or "senior citizen" Exclusions criteria: - no reference to ICT usage - no analysis of older adults - studies in tertiary care settings	Mainstream ICT: technology devices, services, applications and internet platforms including internet networks, mobile phones, smartphones, computers and tablet computers Remote care: telecare, telehealth, telemedicine, smarthome	Combined ASCOT and WHOQOL model domains: - Control over one's life - Personal safety and security - Social participation and involvement - Occupation - Psychological wellbeing -Physical capability	C: No SP: No	"Older people's use of ICT brings many benefits to their QOL: - improved sense of control and independence over daily life - reinforces social networks - gain a sense of safety - pursue passtimes and other meaningful activities - improve overall psychologicla wellbeing Social involvement:

	- studies primary outcomes focused only on technical feasibility - studies primary outcomes focused only on vital signs - studies primary outcomes focused only on changes in use of health and social care services - use of ICT by care staff				- quali studies show +ve impacts on family contacts and intergenerational relationships BUT quant effects showed weak, negative or insignificant on loneliness, visitng and genral social functioning - also some -ve effects on QOL by exasperating feelings on loneliness - can be said that ICT positively reinforces existing social networks but generally has no effect on building new ones. Personal safety and security: - benefits uncertain - moblie phone improved perceptions of personal safety and security but also several issues around privacy, intrusiveness and data protection for the internet and video equipment Psychological well-being - mixed evidence - mainstrean ICT: overall +ve effect - care context ICT: more negative. This may be related to link between health status and use of ICT-based care, where disability or limiting illness influences access to and use of ICT and this is reflected in person's psychological wellbeing - about illness and not ICT-use itself."

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Flores (71) Mental Health impact of social capital interventions: a systematic review. 2018. 7 studies Narrative UK: Yes					
To conduct a systematic review of the literature of controlled, quasi-experimental or pilot studies that attempted to build or strengthen social capital (SC) components with an intervention that will also improve mental health outcomes in adults, to review and assess their nature and effectivity.	All selected studies had to include a social capital based intervention. Included controlled studies: quasi-experimental and pilot trials which assessed the effects of SC intervention on mental health outcomes - adult populations - any setting - no language restrictions Exclusion criteria: Mutual aid or support groups which were not delivered as an intervention The assessments only relied on retrospective self-report surveys	Cognitive processing therapy g4H programme: 5-mobile pilot Well London Programme: multi-component, community engagement Group-based educational, cognitive and social support programme Community development strategy, followed by social activities Voices United for Harmony: community-based singing activity conducted and coordinated by local aboriginal Community Sociotherapy programme	Social Capital outcomes: Cognitive (perceived) social cpaital: values, norms, beliefs, civic responsibility, altruism, reciprocity within a community Structural (participatory) SC: relationships, networks, membership, organisations, associations, institutions that link groups or individuals together Mental Health outcomes: Depression, Anxiety, PTSD, Mental well-being, Resilience Quality of Life : SF-36 -	C: No SP: Yes	This review cannot provide enough evidence that SC interventions for adult populations should be recommended as a preventive measure for mental disorders at the individual or ecological level, despite promising results obtained in most of the included studies. In cases where the intervention was delivered as a stand-alone procedure, there is not enough evidence that the positive effects on mental health outcomes are sustained in the medium or long term. However: - four studies obtained statistically significant results for both SC and mental health outcomes measured at the individual level SC-based interventions show promising beneficial results on mental health

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Galbraith et al (72) Intergenerational Programs for Persons with Dementia: A scoping review. 2015. 27 studies. Narrative. UK: ?					

To undertake a scoping review on intergenerational programmes for people with dementia and children / young people. Documenting and synthesising the characteristics, goals, experiences, and outcomes of intergenerational programs that include PWD and children or youth, with the intention of contributing to the evidence-base in the area.	Organised intergenerational programs that included both people with dementia and people under 19 years old. Articles on program design, goals, outcomes, or client perceptions. Qualitative and quantitative studies were eligible. Exclusion criteria: (1) programs that were not dementia specific, even if people with dementia or cognitive impairment were included in the sample; (2) intergenerational relationships between family members; or (3) informal programs. (4) Peer-reviewed articles not available in English (5) Newspaper articles	Art: crafts, collage, drawing, dance, movement, pen-pal programme. Music: music therapy, music and movement, rhythm band, singing groups, music programmes Montessori: "involving task breakdown, provision of materials to manipulate, use of external cuing, and matching tasks to the capabilities of the individual" to provide them with meaningful occupations Education: students learning about dementia and older adults through a volunteer partnerships; education through community service; intergenerational school; creating opportunities for discussion Mentorship: people with dementia mentoring children. Narrative-based activities: - reminiscence; reading; creative storytelling; oral histories Recreation: gardening; board games; brain games; baking; woodworking; nature walks; table ball games; bingo	Meaningful dialogue between PWD and children; improved QOL & wellbeing for all. Benefits for people with dementia: sense of self: sense of purpose and usefulness; role continuation; self-confidence and self-esteem; - meaning making; feelings of acceptance and reciprocity mood: joy, wellbeing, anxiety, affect, pleasure, distress, behaviour change; Social engagement with others, engagement in activity Outcomes for children: perceptions of older adults and dementia; skill development and character building; increased self-esteem and confidence. Impact on children's behaviour Benefits to greater community: - reinventing approaches to caring for people with dementia while developing a further commitment to childhood education	C: No SP: No	Best practices: The type of activity selected is less important than ensuring that it is meaningful for the participants and occurs in an environment that fosters relationship building and shared growth between participants. Eligibility criteria for inclusion in an intergenerational program must consider whether the presence of certain responsive behaviours in participants can be managed to ensure a safe and supportive environment for all. Knowledge-building and training for participants and facilitators is a necessary precursor to program implementation

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Gardiner (73) Interventions to reduce social isolation and loneliness among older people: an integrative review. 2018. 39 articles Narrative. UK: ?					

The aim of this study was to conduct an integrative review of literature on interventions that target social isolation and/or loneliness in older people.	- Literature relating to interventions with a primary or secondary outcome of reducing or preventing social isolation and/or - loneliness - Literature relating to older adults - Empirical research articles reporting primary research, published in full, including all research methodologies (but excluding reviews) - English language articles - Published since 2003 - all methodologies were included. - As the term 'older adult' is inconsistently defined in the literature, the term was determined by the criteria set out in the identified studies. Methodological quality was evaluated by examining the quality of each study using the hierarchy of evidence as a guide (Evans 2003), and its execution thereof. Methodological relevance was evaluated by assessing the appropriateness of each study's design for addressing its research question. Topic relevance	Social facilitation interventions - facilitating social interaction with peers or other who may be lonely - group-based activities - charity-funded friendship clubs - shared interest topic groups - day centres - friendship enrichment programmes - cultural identity - ICT solutions: videoconferencing and social networking Psychological therapies - delivered by trained therapists or health professionals - humour therapy - mindfulness - stress reduction - reminiscence group therapy - cognitive and social support interventions Health and social care provision - interventions involving health, allied health and/or social care professionals - involvement of health and social care professionals and enrolment in a formal programme of care (e.g. care home, community care) - community network of trained gatekeepers - CARELINK (university-community partnerships) nursing students visited older people to aid socialisation - Eden alternative model (residential care)	- Reducing social isolation or loneliness - Supportive environment - Sense of companionship - keeping occupied - creating a Sense of belonging - number of friendships - boredom - helplessness - maintaining social contacts - spending time constructively - having interaction with others	C: No SP: No	Significant diversity and heterogeneity were evident in intervention design and implementation, with evidence suggesting the scope and purpose of interventions varies widely. - majority of activities are at least moderately successful in reducing social isolation and/or loneliness - approaches to measuring social isolation vary but often involve recording levels of social contact, enumerating social participation and quantifying social networks. The nature of person's social network has been identified as key to the level of social isolation that they experience - This study did not report group interventions as being more effective than solitary or one-to-one interventions - Solitary pet interventions and solitary interventions involving technology such as videoconference and computer/internet use were successful in reducing the experience of loneliness - effective interventions ar not restricted to those offered in group settings.

	assessed how well matched each study was to the focus of our review in terms of topic (Gough et al. 2012). A score out of three was given for each domain (1 = poor, 2 = acceptable, 3 = good) and a combined total score out of nine was generated, any study with a score of ≤3 was excluded due to insufficient quality.	Animal interventions - evaluated canine or feline animal interventions - animal-assisted therapy - pet-owning - real vs. robot pets Befriending interventions - social facilitation with aim for formulating new friendships - Senior companion programme - telephone befriending Leisure/skill development - gardening programme - computer/internet use -- training -- loan scheme - voluntary work - holidays and sports			

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Hagan (74) Reducing loneliness amongst older people: a systematic search and narrative review. 2014 17 studies. Narrative. UK: Yes					
To identify studies that report on the effectiveness of interventions to reduce loneliness or social isolation and to make recommendations as to the choice of interventions for practice.	Inclusion criteria - Articles in the English language - Articles with human participants - broad terms to capture relevant articles addressing studies about loneliness in older people	- Community Connections: older people and international students - Mindfulness Based Stress Reductions programme (MBSR) - Gender-based social groups - Attendance at adult day centres - LUSTRE (group programme) - Friendship enrichment - psychosocial group work (nurse-led) - cognitive enhancement group work	Loneliness Scales: - UCLA - De Jong Gierveld Social support or provision (internally developed) - MOS Social Support Survey - Social identity Scale - Satisfaction survey - Social Provisions Scale Australian Well-being Index	C: No SP: Yes	4 studies found that their interventions were successful in reporting significant reductions in loneliness: - MBSR group programme - one-to-one Nintendo Wii intervention - living with a real or robotic dog - videoconferencing - 4 distinctly different interventions, 3 involve new technologies - 3 out of 4 time limited group work interventions did not reduce loneliness.

		- senior companion programme befriending scheme - community-based mentoring service - community activities - animal-assisted therapy - Nintendo Wii group/partner activities - Webcam conversations with family and friends - Internet usage - Video-conferencing with family members			- mixed method study (Butler, 2006) showed UCLA score: low on loneliness but qualitative findings demonstrated significant isolation and loneliness - sensitivity of the UCLA score questioned

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Hitch (75) The Impact of Leisure Participation on Mental Health for Older People with Depression: A Systematic Review. 2015. 12 Studies. Narrative. UK: No					
"Does participation in individually chosen leisure activities improves mental health for people aged over 65 who have depression?"	Inclusion criteria: - English language texts - All forms of quantitative evidence - articles reporting findings from people with depression or the majority of the sample of people with depression - measured depression at the time of the study - both residential care and community settings Exclusion criteria: - co-morbid psychiatric diagnosis with depression	Leisure is defined as: "Non-obligatory activity that is intrinsically motivated and engaged in/during discretionary time, that is, time not committed to oblicatory occupations such as work, self-care or sleep (American Occupational Theary Association, 2002) Only search term used was "leisure"	Search terms used for depression: - Mental health - Mental Illness - Depression - Mood Disorder	C: No SP: No	There is insufficient evidence available to determine whether participation in individually chosen leisure activities improved mental health for people 65+ - body of evidence on this topic is currently: "weak" - Evidence base is largely exploratory - preponderance of descriptive studies that suggest a link between depression and leisure participation - Studies either directed participants to choose from limited list of activities or provided a pre-designed programme, therefore did not allow for individual choice

					- Amount of variability in the inclusion criteria adopted for depression - Many of studies reviewed cite a lack of leisure participation as being associated with increased depression because of lack of leisure activity reperatoire - several aspects of leisure were identified as exerting a particularly protective influence - type of leisure associated with less depression included: -- social engagement -- physical activity - occupations associated with decreased depression: -- reading newspapers/books -- outdoor building projects -- studying at the U3A (Brazil) -- maintenance exercise -- mandcrafts --computing -- art

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Howarth (76) Health and social care interventions which promote social participation for adults with learning disabilities: a review. 2014. 11 studies. Narrative. UK: Yes					
The aim of this review is to identify and appraise evidence of health and social care interventions that aim to support people with learning disabilities to develop and	Inclusions criteria: - social interventions - adults with a learning disability - evaluated outcomes of evaluations which aimed to increase social participation	Social participation therefore involves two key aspects: social contacts with others such as friends, relatives and neighbours and involvement in social activities. - Housing, residential care, long-term care settings	Level of social participation and loneliness Measures used: - total number of social contacts - Social network Analysis form (social network mapping tool)	C: No SP: No	Significant gap in the research evidence base of inteventions aimed at promoting social participation for adults with learning disabilities - social participation not uniformly defined or operationalised - few studies conducted; even fewer measuring social participation

enhance their social networks and participation.	- provided evidence on the experience of social participation for individuals - English language - No restriction on study design Exclusion criteria: - pharmacological or physical interventions - intervention measured community or society level changes only - people under age of 18 years	- Individual and group interventions - Befriending - Local community-based mental handicap service - Australian Supported Living Programme (ASLP)(with LD) meeting, talking and learning together - Friendships and Dating programme	- Tilden Interpersonal Relationships Inventory (IPRI): -- self-report of perceived social support - Resident Lifestyle Inventory -- person's activity levels - Use of Community Facilities Scale (UCFS) - category of contacts - qualitative perceptions of changes in social life		- methodological limitations: difficult to reach firm conclusions -- small sample sizes -- absence of randomisation -- lack of control groups - 6 studies found +ve outcomes for social participation for adults with LD, the most effective were -- person-centred planning -- alteration of activity patterns -- supported learning programmes -- semi-structured group sessions: exercises that incorporate learning objectives and taught skills -- some positive effects on family contact - some deliberate approaches to developing social relationships may not always be the most effective method of enhancing social participation and networks of individuals with LD. -- befriending did not increase social participation -- pre-existing relationships should not be jeopardised when looking to form new ones

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Kelly (77) The impact of social activities, social networks, social support and social relationships on the cognitive functioning of healthy older adults: a systematic review. 2017. 39 studies. Narrative. UK: ?					
The aim of the current review was to evaluate the association between different aspects of social	Inclusion criteria: - peer-reviewed and academically published	Social relationships - Berkman et al: - social activity - social networks - social support	Primary outcome: - cognitive function -- memory: episodic, semantic, overall memory ability	C: No SP: No	Across the four distinct aspects of social relationships evidence suggests a relationship between: 1. Social activity

relationships; specifically social activity, social networks, and social support, with the cognitive functioning of healthy older adults with no known cognitive impairment.	observational, RCT or twin studies - investigated impact of engagement in social activities, social networks or social support on cognitive function - sample of community-dwelling older adults (>50 years) with no cognitive impairment	- composite measures of social relationships Social activity: - engagement in facilitator led group discussions - social interactions - field trips, travel or outings - visiting or receiving visitors - participation in voluntary activities, religious activities - membership in community groups or associations - attending social groups Social Networks: - living arrangements - marital status - number of social ties - frequency of contact with friends and family Social support: - emotional support - satisfactions with support - positive or negative interactions - instrumental support - informational support - someone to share personal experiences and feeling with - help with decision making - support with daily tasks - general ratings of social support	-- executive function: working memory, verbal fluency, reasoning, attention, processing speed, visuospatial abilities, overall executive function		- improved global cognition and increased brain volume but did not impact domains of memomry, attention, verbal fluency, processing speed or overall executive functioning. - Longitudinal associations were reported between social activity and global memory, overall executive function, working memory, visuospatial abilities, processing speed and global cognition but not episodic memory - Genetic studies showed associations between social activity and memory and global cognition but not overall executive functioning, verbal fluency or processing speed. - most consistently associated with improvements on global cognition 2. Social networks, support and composite scores - larger social networks and greater levels of social support were associated with improved global cognition - social support associated with benefits to episodic memoery but social activity and social networks were not. - social networks and activity are related concepts: individuals who take part in more social activities tend to have larger social networks whereas social support have a functional dimensions that provides both emotional and instrumental support - scores on CMSR were associated with verbal fluency but not global cognition. - findings regarding CMSR and episodic memory inconsistent.

					3. Cognitive decline and social relationships - Social relationships benefits older adults' cognitive functioning - episodic and semantic memory decline are related to a subsequent decline in social activity - Contradictory research has reported that cognitive decline and decline in perceptual speed does not predict decline in social relationships or function and episodic and semantic memomry do not predict social activity - complex association between social relationships and older adults' cognitive function: most likely dual effect where higher level of engagement promoted +ve cognitive outcomes and higher levels of functioning is related to living more engaged lifestyle.

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Lindsay-Smith (78) The association between social support and physical activity in older adults: a systematic review. 2017 27 Studies. Narrative review. UK: Yes					
This review has three aims: 1) systematically review and summarise the studies examining the association between SS, including loneliness	Inclusion criteria: - generally healthy, community-dwelling older adults (mean age 60) - a validated measure of SS with at least 2 items or a validated measure of loneliness - PA measured objectively or subjectively using	Physical activity (PA): - Leisure time PA (LTPA) - PA Scale for the Elderly - Strength training - PAQ-50 - accelerometer - Active transport (TPA) - Household PA (HPA) - Occupational PA (OPA) - Moderate PA (MVPA)	Social support measures: - Social environment scale - SS for ex. Scale - Friends, family - Perceived SS -- someone to confide in -- someone they can count on -- someone who gives them advice -- someone who makes them feel loved	C: No SP: No	Relationship between different types and sources of social support, loneliness and physical activity: - No clear consensus about differences in associations between types of SS and PA - Moderate support that higher SS specific to PA from all sources combined, family especially, is

as per the WHO definition, and PA in older adults; 2) clarify if any potential associations differ between types (e.g. task specific support, general support) or sources of support (e.g., support from family, friends or exercise group); and 3) investigate whether the association between SS and PA in older adults differs between specific PA domains (LTPA, transport, household, occupational).	measured with established validity as reported in the individual papers or with clear face validity - PA data needed to be analysed appropriately - peer reviewed, quantitative studies regardless of study design - English, Germany, French or Dutch articles Exclusion criteria: - mean age or age range unclear - ordinal PA data as a continuous variable	- vigorous PA - number of times doing various PA - attendance at classes, exercise log - Frequency of participation in PA	- Lubben Social Networks Scale Loneliness measures: - how often do they feel lonely - item from CES-D: lonely/not lonely - living alone - loneliness scale - UCLA SSPA:		associated with hiigher levels of PA or meeting PA guidelines - oldeer people with greater support to undertake PA, from family especially, will be more physically active in general - unclear association for SSPA from friends and PA levels - No clear overall association for general support or loneliness -- after excluding low quality studies: significant negative association between loneliness and PA levels. Association between SS, loneliness and specific PA domains: - general SS in females and SSPA from friends and family were consistently positively associated with LTPA, rather than just family, as was evident with all studies combined. - LTPA consistently negatively associated with loneliness in females - In adults, emotional support from others has been found to be positively associated with intrinsic motivation for PA and in turn, participation in moderate to vigorous PA and walking. -- emotional support from others encourages greater enjoyment in physical activity, and increases motivation to do leisure exercise. - less likely that greater support will likely have any impact on transport, occupational or household PA Other general findings of the review:

					- PA levels of women are more likely than men to be influenced by general SS or loneliness, but not by SSPA - Most studies used generic definition of older people, did not stratify by age in the analysis. - All studies rated as weak or moderate quality

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Mann (78) A life less lonely: the state of the art in interventions to reduce loneliness in people with mental health problems. 2017. ? Studies. Narrative UK:Yes					
We aim to present an overview of the current 'state of the art' in interventions to address loneliness (and closely related constructs) in people with mental health problems. This has been achieved through a scoping review of the literature as well as discussions with relevant experts, including academics, clinicians, service users, and social entrepreneurs.	Scoping review of published and grey literature and interviews with key informants	Proposed classification system: 1. Direct interventions - changing cognitions - social skills and psychoeducation - supported socialisation - wider community approaches vs. 2. indirect interventions - broader approaches to health and wellbeing that do not specifically aim to address loneliness but may have important impacts on loneliness Modes of delivery - mental health services - school-based individual sessions - group sessions - digital interventions - individuals and families - using peer support	Primary outcome: - alleviate loneliness Also: - loneliness - social isolation - social networks - social support	C: No SP: Yes	Changing cognitions: - aim to shift maladaptive cognitions in people experiencing loneliness - people who feel lonely have particular cognitive biases and attributional styles - e.g. change the way they think of themselves in relationships, assumptions about other peoples' views, expectsions of success at overcoming loneliness - these changes can in turn lead to changes social behaviours and a reduction in individual loneliness over time - all in all, evidence for cognitive interventions for loneliness is in its infancy - 10 RCTs on cognitive approaches -- online cognitive behavioural therapy plus motivational interviewing: --- reduced loneliness -- cognitive reframing of loneliness --- found no significant impact

		- individual support (mental health services) - charity and 3rd sector organisations - local community - peer support - working with primary care - groups facilitated by local community organisations - charity and third sector organisations - working with primary care			- post partum depression: -- specialised CBT, internet-based behaviour activation: no significant impact on perceived social support - approaches to reducing loneliness and social isolation in OP -- psychological therapies most robust evidence to date - younger people -- mindfulness could reduce loneliness Social Skills training and psychoeducation - practical training, education or improving awareness of social skills, to reduce loneliness or improve social support - skills include a broad range e.g. conversational ability and reflecting on body language - Aimed at individuals, groups, families, some are diagnosis-focused - RCT with people with bipolar and schizophrenia -- online self-help, psychoeducation, group discussion boards -- significant improvement in social support -- 4 other RCT showed no significant changes in social support after psychoeducation - Older people with depression -- social skills psychoeducation and physical health group -- no impact on social support - social skills group for high-functioning autism -- tentative evidence

					Support socialisation or having a socially focused supporter - support and guidance to select and attend activities - supporting person to make their own decisions - RCT supported socialisation -- social network improvement, but no improvement for most unwell participants - RCT with people with severe mental health problems -- matching with volunteer + stipend to only stipend -- both arms led to improvement in social loneliness - Befriending programmes -- most benefits only after 1 year - Formal peer support for people with mental health problems -- no impact on loneliness Wider Community Groups - Social prescribing -- e.g. Rotherham Social Prescribing Service - Asset-based community development (ABCD) --involvement of various groups within communities in identifying and mobilising individual and community "assets" as opposed to only focusing on deficits -- encourages people to develop their own community project

					-Promoting city-wide loneliness initiatives -- improvements in self-reported health and wellbeing Indirect interventions - Bringing people together for other purposes could be valid approaches to reducing loneliness Pirmary prevention - placing loneliness higher on public mental health agenda - Policy planning e.g. improve inequalities, employement opportunities, education, housing.

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Menichetti (79) Engaging older people in healthy and active lifestyles: a systematic review. 2016. 20 studies. Narrative. UK: No					
A systematic review of interventions aimed at promoting healthy and active lifestyles among older citizens. The main focus was to collect evidence related to health promotion interventions, scoping activities, programmes and services that focused on encouraging lifestyle	Inclusion criteria: - Interventions involved in full or in part older people - interventions intended to promote healthy and active lifestyles in older participants in full or in part - articles had at least 2 measures (e.g. pre and post test) - clear and explicit intention to apply the	Interventions for: Physical activity - e.g. web-based health education sessions - community-based study (e.g. volunteer activity) - training app Social functioning - group intervention (marital and sexual functioning)	Physical activity: - physical ability (e.g. balance, walking speed) Psychological factors: - anxiety - self-esteem - cognitive measures: word recall and problem solving - psychological wellbeing - depression rates - Life Satisfaction Scale	C: No SP: No	Studies focusing on engaging older citizens in long-term active and healthy behaviours are lacking. - active ageing is composed of different health domains, but only a few are promoted by interventions that foster active ageing -- many partial attempts to activate older citizens in their health management

changes among older people (e.g. risk factor prevention, promotion of physical activity and healthy eating, social inclusion programmes, enhancement of psychological functioning and wellbeing).	intervention to older people in the title or abstract - Any language - Any age range Exclusion criteria: - studies not about intervention measurements (e.g. lit reviews, need assessment, descriptive studies) - ongoing studies or studies with preliminary results only	- participation in community centres - volunteer activities Health status - health promotion vehicle - peer-to-peer health education and low-intensity exercise Psychological factors - therapy interventions - theatre course - relaxation techniques - cognitive training - group intervention Multi-objective interventions - active ageing programme in community and institutional contexts - - multi-media, e-learning, educational course - university programme for older adults	Health Status: - confidence in health screening, monitoring and awareness of health status - improvement in health values, knowledge and physical activity levels Social Functioning: - self-perceptions in relationships - self-rated health - life satisfaction - community attachment Multi-objectives interventions: - lifestyle changes (diet, physical activity, social activities) - affect levels - information seeking - productive and social activities - health levels - social networks - cognitive functioning		-- strategies and interventions that address all health domains and personal motivation are lacking. - different interventions that promote active ageing have demonstrated effectiveness in improving specific health lifestyle behaviours -- no study has directly focusing on the holistic process of engagement - initiative aimed at promoting healthy ageing have resulted in partial success: one or 2 components of older people's health experience

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
McDaid et al (30) Review 1: What are the most effective ways to improve or protect the mental wellbeing and/or independence of older people? 2015. 86 Studies. Narrative Review UK & Ireland: Yes					
To determine what are the most effective ways to improve or protect the mental wellbeing and/or independence of older people?	Retired community dwelling and healthy people aged 65 and older. Individuals with substantial care needs excluded.	Wide range of interventions including actions to promote and maintain the social networks of older people and measures to specifically facilitate access to education, leisure, community activities and transportation services/mobility support for older people	Impacts on measures of mental wellbeing in study populations or changes in measures of independence	C: Yes SP: Yes	Promising evidence, albeit often from weak study designs, that various forms of social resources are beneficial for maintaining the mental well-being and independence of healthy older people. These include improving access to social contacts and networks and participation in social

					activities, including various arts and cultural activities, initiatives to sign post individuals to activities and friendship building programmes. Participation in university and other education beyond retirement age is another potential intervention. Some of these educational activities can be delivered remotely, for instance over the internet. More generally there is also an evidence base looking at the potential role that can be played by information communication technologies in enhancing mental wellbeing and independence

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Obembe (80) Rehabilitation interventions for improving social participation after stroke: a systematic review and meta-analysis. 2016. 21 studies. Meta-analysis UK:?					
We performed a systematic review and meta-analysis to determine if rehabilitation interventions improve social participation among stroke survivors based on the evidence from randomized controlled trials (RCTs).	Inclusion Criteria: - RCTs on non-pharmacological and non-surgical community-based interventions for community-based stroke survivors - social participation was an outcome - baseline data point and post-intervention data point or follow-up assessing social	Support services: - Telephone calls - Home visits - Educational courses - Mailed educational information - Group discussions Support services as an intervention or in combination with other interventions Exercise - treadmill training	Social participation measured by one or more of following: -- social contact -- contributing to society (e.g. volunteer work) -- receiving from society (e.g. visit from a friend)	Cost: No SP: No	Findings in our study: - showed that is it possible to improve social participation with certain rehabilitation interventions, in particular interventions that involved exercise. - All but 2 studies involving exercise, the intervention was carried out in a community centre or rehab centre: -- settings different from home therefore provide a form of social participation

	participation using a validated scale - intervention and control group treatments clearly defined - intervention carried out for at least 4 weeks to have sufficient duration for benefits to accrue - studies that included other populations if data for the stroke group was available Exclusiuon Criteria: - full research document not located - type of intervention could not be identified or detail of intervention not provided - data was derived from a conference proceeding or abstract - interventions involving electrotherapeutics or electro-mechanics	- cycling - group exercise Neither support services or exercise: - passive and ankle range of motion - yoga - horseback riding			-- social support provided by exercise instructors identified as a facilitator in participating in exercise. - Exercise appeared to have been beneficial in stroke, but the effects were not retained after the intervention ended. Being physically active on a regular basis is recommended by all exercise guidelines - some studies which utlised attention controls had the largest effect sizes, suggesting that it is the exercise itself which is effective. - meta-analysis showed that the effect of support services on social participation is questionable. - not possible to disentagle the effects of attention versus support - meta-aanalysis showed that strongest effects demonstrated at the end of intervention and at follow-up (vs. mid-intervention): gains in participation take time. - Duration and intensity (frequency of intervention) are important factors in the effectiveness of rehabilitation - Horseback riding and yoga had no effect on social participation despite additional attention provided over the usual care control group.

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Parker – Oliver (81) The effect of internet group support for caregivers on social support, self-efficacy and caregiver burden: a meta-analysis. 2017. 10 studies. Meta analysis. UK:?					
(1)What is the effect of Internet group support interventions on caregivers' social support? (2) What is the effect of Internet group support interventions on caregivers' self-efficacy? (3) What is the effect of Internet group support interventions on caregiver burden?; and (4) What are the most tested Internet-based interventions?	Identifying systematic reviews Inclusion criteria: (1) original studies of online group support interventions for adult family caregivers of adult patients published in English during or after 2013; Studies were not required to be of any specific design Exclusion: focused on caregivers of people with mental illness and/or - those that evaluated interventions focused exclusively on monitoring of physical or functional status	**Intervention Components:** *Synchronous support* - text-based chat - video chat - online classes - coach/help *Asynchronous support* - message board - email - education - educational video - report to clinician	Outcomes measures: - self efficacy - caregiver burden - social support	C: No SP: No	Social Support: - overall pooled effect was statistically significant SMD of 0.464. 1/5 studies did not show improvement in social support with internet group support. Self-efficacy: -overall pooled effect of internet-based group support on self-efficacy was statistically significant with a SMD of 0.44 Caregiver burden: not possible because of measures chosen and study designs Overall: internet group support improves social support and self-efficacy among caregivers of adult patients with chronic health conditions, including cancer, stroke, and dementia.

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Pinto-Bruno (82) ICT-based applications to improve social health and social participation in older adults with dementia: A systematic literature review. 2016. 6 studies. Narrative. UK:Yes					
This systematic literature review aims to assess the effects of ICT-based interventions evaluating their utility to promote 'active ageing' and 'social	Inclusion criteria: (1) Qualitative and quantitative research which analyses	ICT interventions whose aim is to maintain, facilitate and improve social participation, inclusion and networks of people living with dementia.	Social health Social participation: - social interaction - social inclusion	Cost: No SP: No	Emerging evidence to support the use of ICT to fostoer social participation in older adults with dementia and cognitive impairment

health' in people with dementia.	the effect of ICT-based interventions to facilitate social participation and social health among people living with Dementia. (2) Studies whose participants are aged 55 years old or older with a diagnosis of dementia (both, living in the community or in residential care facilities). (3) Publications written in English. Exclusion criteria: (1) Results coming from mixed interventions (both, technology-based and non-technology-based interventions) that did not specify the effect of ICT-based interventions on social outcomes. (2) Studies that do not report data about social outcomes. (3) Articles whose population differ from our target population (older adults in general, Parkinson disease, schizophrenia, Huntington, HIV, smokers,…).	Hardware: - Computers - laptops - mobile phones - monitoring devices - tablets - television - radio - telephone - sensors - web interface - a hub - cognitive assistant Cognitive training, physical training, reality orientation Reminiscence therapy Leisure intervention	"Social variables" - social networks - participation in society - social behaviour - verbal vs non-verbal measures		- evidence has not been tested in methodologically robust clinical trials - the variability in ICTs themselves makes it difficulty to classify the interventions into homogenous groups to compare them. - there is a wide range of interventions for people with dementia using technologies - the interventions show how different approaches and technologies can contribute positively to tackling the problems face by people with dementia and could improve their social wellbeing

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Shvedko (83) Physical activity interventions for treatment of social isolation, loneliness or low social support in older adults: A systematic review and meta-analysis of randomised controlled trials. 2018. 23 studies. Meta analysis. UK:Yes					
This systematic review was aimed to examine physical activity intervention effects on loneliness, social isolation or low social support in community-dwelling older adults.	Inclusion criteria: - only RCT with a minimum of 2 comparison arms - Healthy or with a comorbidity but mobile population - Without dementia or moderate to severe cognitive dysfunction. Excluded criteria: - Individuals with cognitive disabilities were excluded as this might confound the measurement of loneliness and social functioning.	The following physical activity interventions were included: - gym based, - home-based, - community-based, - web- or telephone-based. - Health education - Social support - sleep hygiene - recreational activity (craft activity, cooking classes, etc) - social facilitation by trained ambassadors - mixed aerobic and resistance exercises	The main outcomes for this review were: 1) loneliness; 2) social isolation; 3) social support; 4) social (support) networks; and 5) social functioning as a sub-domain of health-related quality of life (HRQL). Assessment measures: - bespoke question on loneliness - UCLA loneliness scale - Dr Jong Gierveld loneliness scale - Nottingham Health Profile q're - Sf-36 - WHOQOL - SF-12 - Multidimensional Scale of Perceived Social Support - Medical Outcomes Study Social Support Survey - Inventory of Social Supportive Behaviours - Lubben's Social Network Scale	C: No SP:No	Meta-Analysis: - Positive effects of physical activity interventions for social functioning - Insufficient evidence of successful PA intervention effects on some social health outcomes in older adults (loneliness, social isolation) Effective PA interventions for social functioning: - those delivered by medical healthcare professionals among diseased vs. healthy older people Intervention settings: - beneficial social health effects of group settings - overall significant small and positive effect for social functioning was obtained for PA interventions vs. those with PA and social interactions Components of physical activity interventions: - 5/13 PA interventions with significant effects on psychosocial outcomes has an aerobic component - Other beneficial PA interventions were resistance exercise training - facilitation of intense social contact between participants was either through health education classes, recreational activity, cognitive

					behavioural therapy, social support and sleep hygiene

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Smallfield and Lucas-Molitor (84) Occupational Therapy Interventions supporting social participation and leisure engagement for community dwelling older adults: a systematic review. 2018. 14 studies. Narrative. UK: ?					
To identify and examine the evidence supporting the role of occupational therapy in promoting social participation and leisure engagement for community-dwelling older adults.	Peer-reviewed scientific literature published in English between 1995 and 2015. Approaches examined were within the scope of practice of occupational therapy for older adults with an average age 65 living in the community, a retirement home, or an assisted living facility or in a rehabilitation, subacute, or hospital setting if they were being discharged to home.	Community-based group interventions: - group sessions run by OT, art or other creative activities, group exercise, - discussions, therapeutic writing, - group therapy, stress reduction programme, intensive multidisciplinary group rehabilitation Community mentoring, electronic Gaming (Nintendo Wii); Leisure education; Self-management of chronic disease:	Social participation: - self-report measures of social and activity participation, health, loneliness and depression -- SF-12, SF36 -- UCLA Loneliness Scale -- Geriatric Depression Scale Leisure Engagement: - self-reports of frequency of activity, participation, performance of occupations including leisure activities, leisure competence and engagement, and life satisfaction	C: No SP: Yes	Community-Based Group Interventions: increased social and community participation; non-significant differences in loneliness or social networking. Community Mentoring: no improvements in social activity or social support; moderate evidence against the use of a mentorship approach to promote social activity. Electronic Gaming: decreased social isolation and loneliness (compared to watching TV). Leisure education: significant increases of leisure on Quality of Life

Main study question	Inclusion / Exclusion Criteria	Main Interventions	Principal Outcome Measures	Cost SP	Summary of Findings
Steigen (85) Green Care services in the Nordic countries: an integrative literature review. 2016. 25 studies. Narrative. UK: No					
What kinds of models are described related to Green Care services, for example, animal-assisted interventions, horticulture therapy,	Inclusion criteria: - literature published as reports, evaluations, scientific articles, theses, books and book chapters.	Green Care is a well-established international concept using animals, plants and nature in an active process to offer health- promoting activities for people.	7 main categories: 1. Mastery and coping - new experiences of mastery/personal competence	C: No SP: No	Main finding: - Green Care services provide positive activities for the target group. - Green Care services also stimulate functional recovery

farm work and forestry, for persons with mental health- and drug-related problems? What are the reasons given for sing these models?	- people who had been marginalised or were in danger of marginalisation from school and work life, and with mental and/or drug-related problems. - Green Care services are often associated with farm work, but Green Care and nature-based activities are also offered independently of a farm setting (Nordh, Grahn, & Währborg, 2009; Souza & Lexander, 2007). We chose to include literature that described services offered, with a focus on plants, nature and animals, both on farms and in farm-independent settings. Exclusion criteria: - studies that only dealt with the physical benefits of Green Care or nature, or general pedagogical services such as farm kindergartens. - Both green services for elderly and people with dementia and green services for people with physical impairments were also excluded. The reason for this is that the project is restricted to the field of mental health	4 groups: - farms where working with animals and traditional farm work represent the core activities - services that could be situated at a farm, but one where the activities were restricted to animal-assisted interventions - services connected to gardens and gardening: focus on plants and horticulture - activities that took place in nature, primarily in the forest	2. Positive effects on mental health - mental wellbeing - new positive attitude - self-acceptance - self-insight 3. Physical activity - improved physical health/strength 4. Structure and meaningfulness - out of passivity/structure of the day - meaningfulness 5. Feeling of dignity produced by performing a decent ordinary job - real work experience 6. Social gains - farmer as a significant important other - social support - a tendency towards increased social activity after intervention 7. Animals and nature - nature experienced as a rewarding and supportive environment - unique experience of acceptance in the company of animals		1. Mastery and coping: - participants could master different tasks and gain a stronger belief in their own coping abilities - experiencing a supportive leader and group fellowship described as important factors in gaining confidence in one's own coping abilities 2. +ve effects on mental health - decline in depression and anxiety - positive connections between supporting dialogues with the service leader and improved mental health - stress levels declined during participation in Green Care services - quant studies did NOT report significant findings but qual studies reported decline in symptoms - +ve effects were difficult to derive 3. Physical activity - opportunity of PA emphasised in several studies - +ve health and wellbeing experiences due to PA - +ve effects on mood and sleep patterns - +ve effects on mental conditions 4. Structure and meaningfulness - having a place to go and meeting expectations - made everyday more meaningful - gave new joy of life 5. Dignity - seeing the results of their efforts, contributing to the community and being useful

	and has a recovery focus, meaning that the target groups are those who by some help could have the opportunity to return to school or working life. - masters' and bachelors' theses (or other written assignments on a lower level). - literature that did not provide any new information because they were more like status reports on Green Care in the different countries				- experiencing that you were needed - earning a living and giving something back: experience dignity and equal status 6. Social gains - share experiences and be accepted for who you are - not being "judged" - group work strengthened solidarity and self-efficacy - led to a more active social life outside of the service 7. Animals and nature - pleased with having a chance to be outside in nature - being part of something "greater" - being with animals therapeutic

Main study question	**Inclusion / Exclusion Criteria**	**Main Interventions**	**Principal Outcome Measures**	**Cost SP**	**Summary of Findings**
Webber (86) A review of social participation interventions for people with mental health problems. 2017. 19 studies. Narrative. UK & Ireland: Yes					
This review aims to summarise social participation intervention models which have at least some evidence of positive social network outcomes. Its purpose is to illustrate the diversity of approaches which practitioners use, highlight gaps in the evidence base and	Inclusion criteria: - Only psychosocial interventions - Intervention was neither with individuals or groups - Studies with or without a comparison intervention - Group interventions which measured social functioning and relationships within groups	6 categories: 1. Individual social skills training 2. Group skills training - Community reintegration programme for adults with severe chronic brain injury and depression -Groups for Health to increases connectedness (social identity theory and self-categorisation theory)	Outcomes of interest: - social networks or social participation	C: No SP: Yes	Mental health services: - require developing stronger connections with local community networks and activities - professionals needs time and flexibility to devlope local relationships and increase their knowledge of community engagement opportunities Interventions not delivered by mental health services: - more limited evidence of their effectiveness

suggest future directions for research.	Exclusion criteria: - The population was people with any diagnosed mental health problem, though those with a primary diagnosis of substance misuse - Pharmacological, physical or psychological interventions with no social components - online interventions which did not involve any face to- face contact - studies using participants' subjective appraisal or satisfaction with networks as outcomes - not written in English	- Social Cognition and Interaction Training (schizophrenia) 3. Supported community engagement - Volunteer befriending (Ireland) - Mental health professionals working with people who are difficult to engage with MH service, but more successful at engaging them with community and recreation facilities (Italy) - Connecting People Intervention (UK): engages people in activities, organsaiton and groups in local communities - Open Dialogue Approach (Finland) mental health prof engage with social worker 4. Group-based community activities - develop skills and increase confidence support the development of relationships with and beyond groups - Horticulture and arts-based projects - Ecotherapy in urban space - art projects 5. Employment interventions - matching people with enduring mental health problems with competitive jobs without extensive preparation - social enterprises 6. Peer Support Interventions			1. Individual social skills training - evidence suggests that it is effective in improving social functioning and social relations, particularly in community settings - social skills training increased participants' social network size and their care utlisation decreased - structured nature of skills training did not suit everyone Group skills training - improvement in emotional wellbeing, QOL, level of community integration and employability - positive effects on soical cognition and social functioning Supported community interventions: - exposes people to new social connections through mainstream opportunities within communities. - people need to be able and confident to engage - communities need to accept people with stigmatised identities and occasional behaviour challenges - potential to increase the number of weak ties within networks Group-based community activities - group activities resulted in stronger relationships within the group and more diverse connections beyond it. - higher levels of social inclusion over time and stronger mutuality within groups - help people build supportive, trusting relationships

		- building stronger ties with people of shared identity and experience - intensive case management0			- provide a supportive context for social engagement - build social networks unless they actively and purposively engage people in community activities alongside the general population - reductions in loneliness and improved social functioning for young people with depressions and anxiety Employment interventions - significantly increase levels of employment obtained during the trials - social network outcomes rarely evaluated - improvements in social life, social contacts and networks, but difficulties in maintaining close relationships Peer support interventions - minimally facilitated by a psychiatric nurse improved peer contact but no impact on relationships beyond mental health services - did not find significant differences across intervention conditions